

Appendix A

Notice of Preparation and NOP Comments

NOTICE OF PREPARATION AND SCOPING MEETING CITY OF LAKE FOREST

DATE: THURSDAY SEPTEMBER 5, 2019

SUBJECT: NOTICE OF PREPARATION (NOP) AND SCOPING MEETING FOR THE LAKE FOREST GENERAL PLAN UPDATE ENVIRONMENTAL IMPACT REPORT

TO: STATE CLEARINGHOUSE, STATE RESPONSIBLE AGENCIES, STATE TRUSTEE AGENCIES, OTHER PUBLIC AGENCIES, INTERESTED ORGANIZATIONS, MEMBERS OF THE PUBLIC, AND THE COUNTY CLERK

LEAD AGENCY: CITY OF LAKE FOREST, DEVELOPMENT SERVICES DEPARTMENT

PROJECT TITLE: CITY OF LAKE FOREST GENERAL PLAN UPDATE

NOTICE IS HEREBY GIVEN that the City of Lake Forest will prepare an Environmental Impact Report (EIR) for the City of Lake Forest General Plan Update. The City is the lead agency for the project. The purpose of this notice is (1) to serve as a Notice of Preparation (NOP) of an EIR pursuant to the State CEQA Guidelines § 15082, (2) to advise and solicit comments and suggestions regarding the scope and content of the EIR to be prepared for the proposed project, and (3) to notice the public scoping meeting.

The City determined that the proposed project would require preparation of a full-scope EIR; thus, an Initial Study was not prepared in conjunction with this Notice of Preparation (NOP). Consistent with § 15168 of the State CEQA Guidelines, the City will prepare an EIR to address the environmental impacts associated with the project at a programmatic level. The proposed project is a long-term plan consisting of policies that will guide future development activities and City actions. No specific development projects are proposed as part of this General Plan Update. However, the program EIR can serve to streamline environmental review of future projects.

Notice of Preparation 30-Day Comment Period: The City of Lake Forest, as Lead Agency, requests that responsible and trustee agencies, and the Office of Planning and Research, respond in a manner consistent with § 15082(b) of the CEQA Guidelines. Pursuant to Public Resources Code § 21080.4, responsible agencies, trustee agencies and the Office of Planning and Research must submit any comments in response to this notice no later than 30 days after receipt. In accordance with the time limits established by CEQA, the NOP public review period will begin on September 5, 2019 and end on October 4, 2019.

In the event that the City does not receive a response or request for additional review time from any Responsible or Trustee Agency by the end of the review period, the Lead Agency may presume that the Responsible Agency or Trustee Agency has no response to make (State CEQA Guidelines Section 15082(b)(2)).

Comments in response to this notice must be submitted in writing at the address below by the close of the 30-day NOP review period, which is 6:00 PM on October 4, 2019:

Gayle Ackerman, AICP, Director of Community Development
City of Lake Forest
25550 Commercentre Drive, Suite 100
Lake Forest, CA 92630

Scoping Meeting: The City will hold a scoping meeting in conjunction with this NOP in order to present the project and the EIR process and to provide an opportunity for agency representatives and the public to assist the lead agency in determining the scope and content of the environmental analysis for the EIR. The date, time and place of the meeting is as follows:

Tuesday September 24, 2019
6:00 p.m. to 7:00 p.m.
Lake Forest City Hall
25550 Commercentre Drive
Lake Forest, CA 92630

Project-Related Documents: Extensive outreach has been conducted with the Lake Forest community as part of the General Plan Update process, including coordination with the City’s General Plan Advisory Committee (GPAC). Additionally, the Lake Forest City Council has received six quarterly public briefings regarding the General Plan Update. Lake Forest’s existing General Plan documents and materials for the General Plan Update and Program EIR, including the Existing Conditions Report, Issues and Challenges Report, Land Use Themes Report, Vision and Values Summary Report, Community Vision Statement, GPAC meeting materials, and City Council Briefing presentations are available at: <https://lakeforest.generalplan.org/>.

Signature: Gayle Ackerman

Name: Gayle Ackerman, AICP, Director of Community Development

PROJECT LOCATION

As shown on Figure 1, the City of Lake Forest is located in the heart of South Orange County and the Saddleback Valley, approximately 47 miles southeast of Los Angeles. Lake Forest was incorporated as a city in 1991 to help ensure that it will always be an ideal place for business to prosper and people to live, work and play. Since being incorporated, Lake Forest has expanded its limits to include the communities of Foothill Ranch and Portola Hills. These newer communities are master planned developments that brought homes and commercial centers to the Eastern boundary of Lake Forest throughout the 1990s. The total land area of Lake Forest is approximately 16 square miles.

Lake Forest is bordered by the Santa Ana Mountains/County of Orange to the northeast, the City of Mission Viejo to the east, the City of Laguna Hills to the south, and the City of Irvine to the west. The city is accessed by Interstate 5 (I-5) and the Foothill Transportation Corridor/State Route 241 (SR-241).

PROJECT DESCRIPTION

The City of Lake Forest is in the process of preparing a comprehensive update to its existing General Plan. The update is expected to be completed in 2020 and will guide the City’s development and conservation for the next 20 years to 2040. As shown on Figure 2, the City limits and its Sphere of Influence (SOI) are contiguous, and together comprise what is referred to as the “Planning Area” for the General Plan.

State law requires that a general plan contain eight elements: land use, circulation, housing, open space, noise, safety, environmental justice, and conservation. The contents of these elements are outlined in

state law. At the discretion of each jurisdiction, the general plan may combine these elements and may add optional elements relevant to the physical features of the jurisdiction. The Lake Forest General Plan will include all of the State-mandated elements, as well as optional elements, including Community Design (combined with the Land Use Element), Public Facilities, Economic Development, and Community Health and Wellness.

The following objectives are identified for the General Plan Update:

1. Reflect the current goals and vision expressed by city residents, businesses, decision-makers, and other stakeholders;
2. Address issues and concerns identified by city residents, businesses, decision-makers, and other stakeholders;
3. Protect Lake Forest’s family-oriented environment, character, and sense of community;
4. Provide a range of high-quality housing options;
5. Attract and retain businesses and industries that provide high-quality and high-paying jobs so that residents can live and work in Lake Forest;
6. Expand retail shopping opportunities to provide better local services and increased sales tax revenues;
7. Continue to maintain the road network and improve multimodal transportation opportunities;
8. Maintain strong fiscal sustainability and continue to provide efficient and adequate public services; and
9. Address new requirements of State law.

GENERAL PLAN BUILDOUT SUMMARY

The EIR will evaluate the anticipated development that could occur within the Planning Area if every parcel developed at the densities and intensities expected under the General Plan. While no specific development projects are proposed as part of the General Plan Update, the General Plan will accommodate future growth in Lake Forest, including new businesses, expansion of existing businesses, and new residential uses; the land uses proposed for the Planning Area are illustrated on Figure 3, Benchmark Land Use Plan.

The buildout analysis utilizes a 20-year horizon, and 2040 is assumed to be the buildout year of the General Plan. Table 1 provides a statistical summary of the buildout potential associated with the Benchmark Land Use Plan compared to existing on-the-ground conditions and the currently adopted General Plan.

Table 1 Buildout Statistical Summary

	Housing Units	Population	Nonresidential Square Footage	Jobs	Jobs per Housing Unit
Existing Conditions (8/1/19)	28,928	81,888	15,315,700	38,039	1.31
Current General Plan	36,700	108,998	26,077,229	48,209	1.31
Benchmark Land Use Map	51,334	152,462	27,726,585	52,241	1.02
New Growth Potential Over Existing Conditions	22,406	70,574	12,410,885	14,202	-
New Growth Potential Over Current General Plan	14,634	43,464	1,649,356	4,032	-

PUBLIC AGENCY APPROVALS

The City Council is the final decision-making body for the General Plan Update. Before the City Council considers the proposed project, the Planning Commission will review it and make recommendations to City Council. While other agencies may be consulted during the General Plan Update process, their

approval is not required for adoption of the General Plan Update. However, subsequent development under the General Plan Update may require approval of state, federal and responsible trustee agencies that may rely on the programmatic EIR for decisions in their areas of expertise.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The proposed project could potentially affect the following environmental factors, and each will be addressed in the EIR:

- » Aesthetics
- » Air Quality
- » Agricultural & Forest Resources
- » Biological Resources
- » Cultural Resources
- » Energy
- » Geology/Soils
- » Greenhouse Gas Emissions
- » Hazards and Hazardous Materials
- » Hydrology/Water Quality
- » Land Use and Planning
- » Mineral Resources
- » Noise
- » Population and Housing
- » Public Services
- » Parks and Recreation
- » Transportation and Traffic
- » Tribal Cultural Resources
- » Utilities and Service Systems
- » Wildfires
- » Mandatory Findings of Significance

ATTACHMENTS

- » Figure 1: Regional Location
- » Figure 2: Aerial Photograph
- » Figure 3: Benchmark Land Use Plan (Planning Area)

Figure 1. Regional Location



Legend

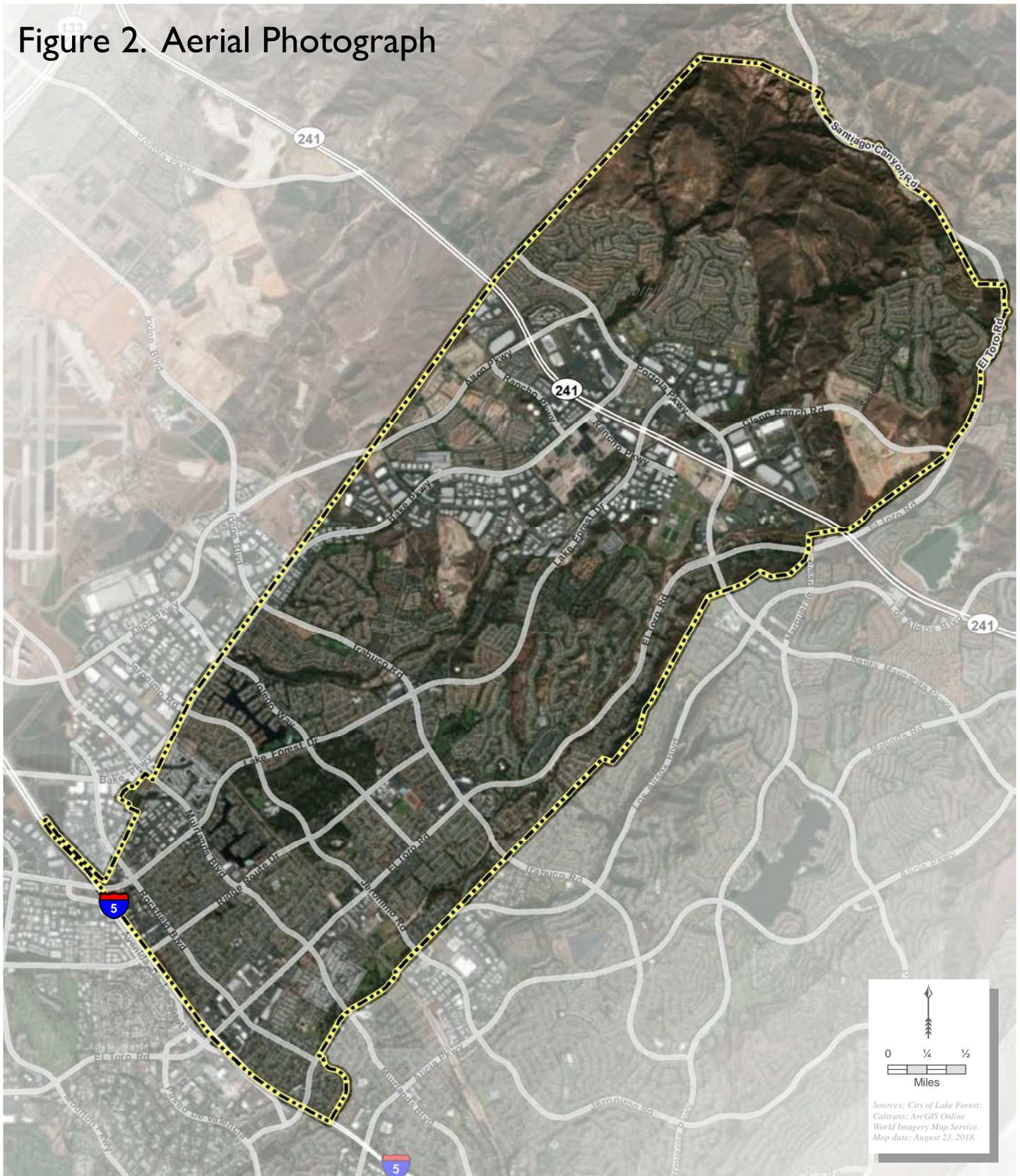
-  Orange County
-  City of Lake Forest



Lake Forest
2040

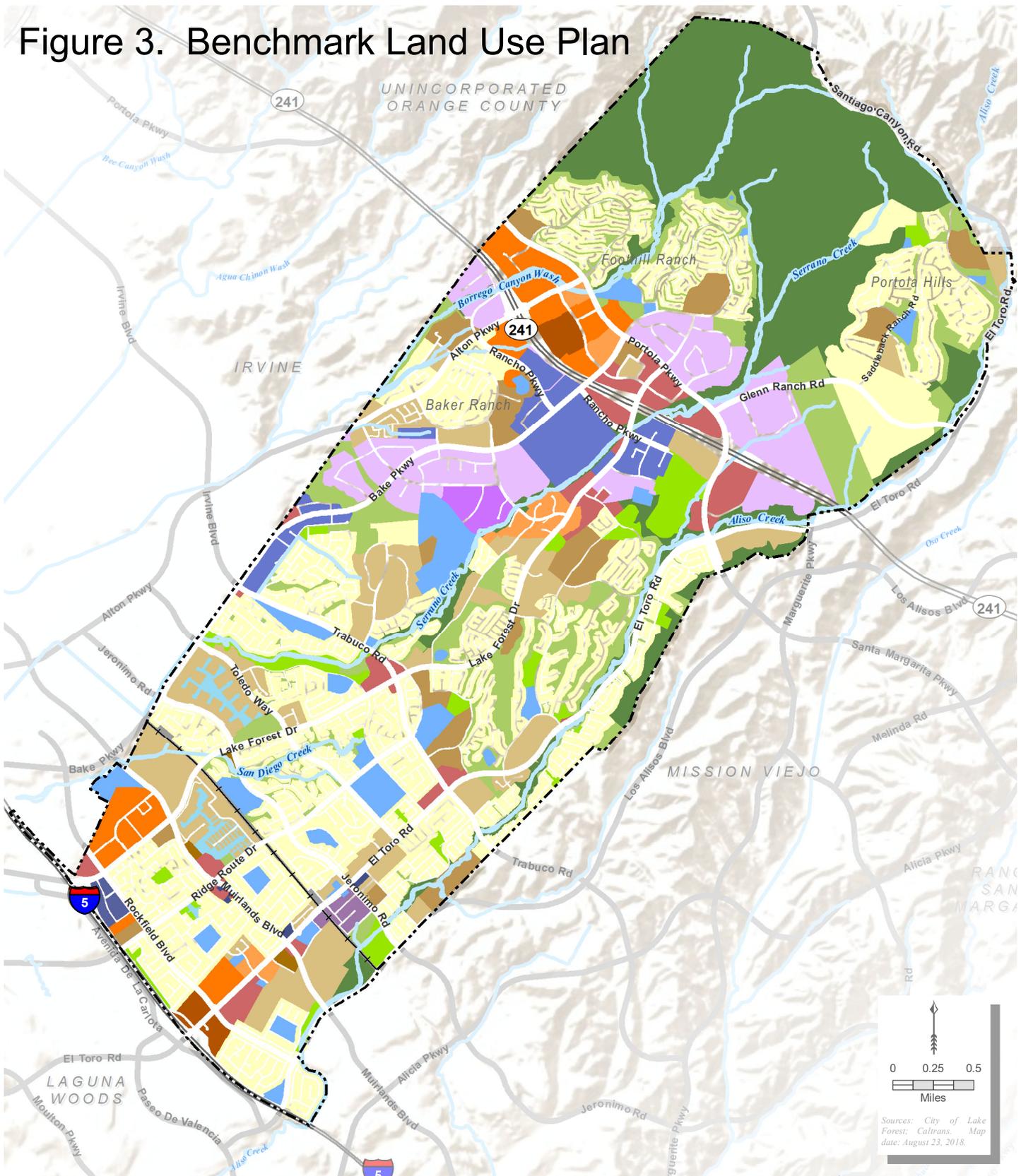
Our Vision.  Our Plan.

Figure 2. Aerial Photograph



Legend
 City of Lake Forest

Figure 3. Benchmark Land Use Plan



Legend

- | | | | | | |
|--|--------------------------------|--|---------------------|--|---------------------------|
| | LOW DENSITY RESIDENTIAL | | MIXED-USE 60 | | PUBLIC FACILITY |
| | LOW-MEDIUM DENSITY RESIDENTIAL | | BUSINESS PARK | | COMMUNITY PARK/OPEN SPACE |
| | MEDIUM DENSITY RESIDENTIAL | | MIXED-USE - OFFICE | | REGIONAL PARK/OPEN SPACE |
| | HIGH DENSITY RESIDENTIAL | | PROFESSIONAL OFFICE | | OPEN SPACE |
| | COMMERCIAL | | LIGHT INDUSTRIAL | | LAKE |
| | MIXED-USE 32 | | URBAN INDUSTRIAL 25 | | TRANSPORTATION CORRIDOR |
| | MIXED-USE 43 | | URBAN INDUSTRIAL 43 | | |

Sources: City of Lake Forest; Caltrans. Map date: August 23, 2018.

Lake Forest
2040

Our Vision. Our Plan.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

DEPARTMENT OF TRANSPORTATION

DISTRICT 12

1750 EAST FOURTH STREET, SUITE 100

SANTA ANA, CA 92705

PHONE (657) 328-6267

FAX (657) 328-6510

TTY 711

www.dot.ca.gov*Making Conservation
a California Way of Life.*

October 3, 2019

Gayle Ackerman
25550 Commercentre Drive, Suite 100
Lake Forest, CA 92630

File: IGR/CEQA
SCH#: 2019090102
12-ORA-2019-01223
SR 241
I-5

Dear Ms. Ackerman,

Thank you for including the California Department of Transportation (Caltrans) in the review of the Notice of Preparation for the General Plan Update for the City of Lake Forest. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

The General Plan update is expected to be completed in 2020 and will guide the City's development and conservation for the next 20 years to 2040. The City of Lake Forest is in proximity to the State Highway System (SHS). Caltrans is a responsible/commenting agency on this project and upon review, we have the following comments:

Office of Planning and Research 2017 General Plan Guidelines

1. As of 2017, the Governor's Office of Planning and Research (OPR) updated its General Plan Guidelines (GPG) as statutorily required by Government Code Section 65040.2. The GPG is used as a resource to assist communities and accomplish its community goals and priorities while meeting the goals and practices of the State. The updated GPG includes a free General Plan Mapping Tool which incorporates requirements for the mandatory elements and provides Geographic Information Systems tools necessary for cities and counties to use when drafting a General Plan. Social inequities are intimately tied to the environment. Therefore, the updated GPG also expands the equity and environmental justice section including new sections on healthy communities, equitable and resilient communities, economic development, and climate change. For information on the major changes, please refer to OPR website for more information:

<http://www.opr.ca.gov/planning/general-plan/>

Traffic Impact Study

2. In the next environmental document, please include a Traffic Impact Study (TIS) that analyzes short-term and long-term impacts to the SHS including on-ramps, off-ramps, and freeway mainline specifically for State Route 241 and Interstate 5.

Please include the following:

- Existing and Build-out Annual Average Daily traffic volumes.
- Existing and Build-out AM and PM Peak Hour traffic volumes.
- A discussion of trip generation methodology including any counts, traffic modeling and forecasting tools, distribution and assignments, justification of modal splits, etc.
- A discussion of any Transportation Demand Management measures including potential funding to support longevity of these measures.
- Traffic impact analysis methodology used and any specific assumptions used that are unique to the City of Lake Forest.
- Ninety-five percent queue information for all off-ramps on the SHS under the Build-out condition.
- Potentially significant adverse impacts and its associated mitigation measures. Any impacts to the SHS should not be deemed 'Significant and Unavoidable' without consultation with Caltrans to mitigate these impacts in the early development stages of the environmental document.

Multimodal Planning

3. Moving toward the State's SB 743 goals includes supporting infill land use, reducing greenhouse gas emissions, and supporting active transportation. Caltrans suggests that the General Plan Update includes a Vehicle Miles Travels (VMT) based transportation analysis that assesses impacts and mitigates with transportation demand management (TDM), multimodal, and operational efficiency projects.
4. In addition, the General Plan Update should also include an analysis of existing multimodal transportation system. Under the Complete Streets Act of 2008, Assembly Bill (AB) 1358, cities and counties are required to integrate multimodal transportation network policies into the circulation elements of its General Plans. These networks should allow for all citizens to effectively travel by motor vehicle, foot, bicycle, and transit to reach

destinations throughout the city. Prioritizing and allocating space to efficient modes of travel can allow streets to transport more people in a fixed amount of right-of-way. The goal is to encourage connectivity within the local and regional bicycle network. Poor connectivity can result in higher speed of traffic along local roads and a more hostile environment for pedestrians.

Freight

Please consider including the following in the General Plan where it would be deemed appropriate:

5. Please consider overnight parking and well-lit parking lots to accommodate truckers rather than empty lots or side streets. Ensure adequate truck parking is onsite for trucks or that there are nearby areas for trucks to stage and park while they are waiting for pick-ups/drop offs.
6. In order to reduce conflicts with traffic and bicycles, please consider directing deliveries to loading docks away from curbside. Please also consider redesigning outdated loading docks to accommodate new freight truck design. Utilize alley space, if available, to take trucks off street curbs.
7. For all freight designated on-street parking, ensure that the width of the parking lane is wide enough for freight trucks, so parked trucks do not take up space in bicycle lane or street lane. Designate on-street freight-only parking and delivery time windows and appropriate signage if building loading docks are not accessible or non-existent and ensure that this parking is close to business entryway to reduce distance needed to travel from the truck to business.
8. Please consider designing freight parking spaces to accommodate loading ramp and ensure that the maximum length of ramp (typically 40') will not interfere with vehicle parking, pedestrian paths, or bicycle lanes/bicycle parking.
9. We recommend commercial and residential developments to offer pick-up point services or automated parcel systems to allow for deliveries that can be made with one truck stop instead of multiple stops to individual residences.

10. Bicycle parking especially designed for cargo bikes, especially food delivery services, should be installed to encourage and facilitate the growing use of food delivery services and parcel deliveries.
11. Establish freight pick up and drop off times that do not coincide with peak commute hours.

Climate Change Reductions

12. Further, AB 32, also known as the California Global Warming Solutions Act of 2006 mandates Greenhouse Gas (GHG) emissions reduction in California. Senate Bill (SB) 375, also known as the Sustainable Communities and Climate Protection Act of 2008, capitalizes on the need for reducing GHG by directing the California Air Resources Board to set regional targets for reducing GHG emissions. SB 375 builds on AB 32 in coordinated efforts to address transportation and land use planning needs with an overall goal of promoting more sustainable communities. SB 375 sets emission reduction standards for the years 2020 and 2035. Consistent with the goals brought forth by AB 32, SB 375 encourages plans/projects consistent with to-be regional plan that achieves GHG reductions as those highlighted in the Southern California Association of Governments' (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). As noted by the updated GPG, it is important to address these environmental impacts.
13. It is our recommendation for the city of Lake Forest to incorporate these recommended practices and policies within the Lake Forest General Plan Update. By addressing impacts at the General Plan level, Caltrans and the City can ensure that those impacts are mitigated or avoided, while also providing streamlining benefits at the project level.

Americans with Disabilities Act

14. The Americans with Disabilities Act of 1990 (ADA) provides comprehensive rights and protections to individuals with disabilities. Please consult available accessibility Guidelines for public rights-of-way to implement the goal of ADA compliance.

Encroachment Permits

15. Please be advised that any project work proposed in the vicinity of the State Highway System (SHS) will require an Encroachment Permit and all environmental concerns must be adequately addressed. If the

environmental documentation for the project does not meet Caltrans' requirements, additional documentation would be required before the approval of the Encroachment Permit. For specific details for Encroachment Permits procedure, please refer to the Caltrans' Encroachment Permits Manual. The latest edition of the Manual is available on the web site:

<http://www.dot.ca.gov/hq/traffops/developserv/permits/>

Please continue to keep us informed of this project and any future developments which could potentially impact the SHS. If you have any questions, please do not hesitate to contact Joseph Jamoralin, at (657) 328-6276 or Joseph.Jamoralin@dot.ca.gov.

Sincerely,



SCOTT SHELLEY
Branch Chief, Regional-IGR-Transit Planning
District 12



October 2, 2019

VIA E-MAIL AND U.S. MAIL

Gail Ackerman, Director of Development Services
City of Lake Forest
25550 Commercentre Drive, Suite 100
Lake Forest, CA 92630
E-mail: gackerman@lakeforestca.gov

Re: Request for Notice of City of Lake Forest Projects Subject to CEQA Near SR 73, Lake Forest Drive, and/or El Toro Road

Dear Ms. Ackerman,

The City of Laguna Beach hereby requests timely written notice of all proposed projects within the City of Lake Forest, near SR 73, Lake Forest Drive, and/or El Toro Road, for which an Environmental Impact Report (EIR), Negative Declaration, or Mitigated Negative Declaration will be prepared. This request for notice also applies to the currently pending Lake Forest General Plan Update environmental review and adoption process for which a Notice of Preparation of a Draft EIR was recently released.

As an agency with jurisdiction over major local arterials that may be significantly impacted by development activities, Laguna Beach seeks inter-agency consultation with Lake Forest concerning each of the above-referenced proposed projects, pursuant to the CEQA statute and consistent with Lake Forest's Local Guidelines for Implementing CEQA.¹ More specifically, this request for notice and timely consultation is made pursuant to Public Resources Code, sections 21083.9, 21092.2, and 21092.4. Even though annual renewal of requests for notice is ordinarily required under Lake Forest's Local Guidelines for Implementing CEQA, because inter-agency consultation is required, please consider this request perpetual. Please confirm that annual renewal of this request is not necessary under the circumstances.

Pursuant to Public Resources Code, section 21092.2(a), such notice may be provided via e-mail, addressed to both me and Greg Pfof, Director of Community Development. Our respective e-mail addresses are: cjohnson@lagunabeachcity.net and gpfof@lagunabeachcity.net. In addition, please send a hard copy of such notice to:

City Manager's Office
City of Laguna Beach
505 Forest Avenue
Laguna Beach, CA 92651

¹ See Local Guidelines for Implementing CEQA, pp. 7-3, 7-8 – 7-10.

Request for Notice of City of Lake Forest Projects

October 2, 2019

Page 2 of 2

Please let me know if you have any questions or concerns regarding this request for notice and consultation. Thank you in advance for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read 'Christa Johnson', written in a cursive style.

Christa Johnson
Assistant City Manager

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: <http://www.nahc.ca.gov>

RECEIVED

SEP 16 2019

**CITY OF LAKE FOREST
COMMUNITY DEVELOPMENT**

September 10, 2019

Gayle Ackerman
Lake Forest, City of
25550 Commercentre Drive Suite 100
Lake Forest, CA 92630

RE: SCH# 2019090102, City of Lake Forest General Plan Update Project, Orange County

Dear Ms. Ackerman:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP) for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
 - a. A brief description of the project.
 - b. The lead agency contact information.
 - c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
 - d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).
2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
 - a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).
3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
 - a. Alternatives to the project.
 - b. Recommended mitigation measures.
 - c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).
4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
 - a. Type of environmental review necessary.
 - b. Significance of the tribal cultural resources.
 - c. Significance of the project's impacts on tribal cultural resources.
 - d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).
5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).
6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
 - a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
 - b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. **Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
 - a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
 - b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
8. **Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
9. **Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
10. **Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
 - a. Avoidance and preservation of the resources in place, including, but not limited to:
 - i. Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - i. Protecting the cultural character and integrity of the resource.
 - ii. Protecting the traditional use of the resource.
 - iii. Protecting the confidentiality of the resource.
 - c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 - d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
 - e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
 - f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).
11. **Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
 - a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
 - b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
 - c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. **No Statutory Time Limit on SB 18 Tribal Consultation.** There is no statutory time limit on SB 18 tribal consultation.
3. **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. **Conclusion of SB 18 Tribal Consultation:** Consultation should be concluded at the point in which:
 - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
 - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
 - a. If part or all of the APE has been previously surveyed for cultural resources.
 - b. If any known cultural resources have already been recorded on or adjacent to the APE.
 - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
 - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
 - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
 - a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
 - b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
 - a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
 - b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
 - c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:
Andrew.Green@nahc.ca.gov.

Sincerely,



Andrew Green
Staff Services Analyst

cc: State Clearinghouse



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October 4, 2019

Ms. Gayle Ackerman
Director of Community Development
City of Lake Forest
25550 Commercentre Drive, Suite 100
Lake Forest, CA 92630

Subject: City of Lake Forest General Plan Update Notice of Preparation

Dear Ms. Ackerman:

Thank you for providing the Orange County Transportation Authority (OCTA) with the Notice of Preparation for the City of Lake Forest General Plan Update (Project). The following comments regarding the Master Plan of Arterial Highways (MPAH) are provided for your consideration:

- On May 8, 2017, the OCTA Board of Directors (Board) conditionally approved a MPAH amendment to reclassify Santiago Canyon Road from the State Route 241 northbound off-ramps to Live Oak Canyon Road from a Primary Arterial (four-lane, divided) to a collector (two-lane, undivided). The Board's approval remains conditional until OCTA has received documentation that the City of Lake Forest and the County of Orange have amended their general plans and complied with the requirements of the California Environmental Quality Act.
- On July 23, 2012, the OCTA Board approved a MPAH amendment to:
 - remove Bake Parkway between Lake Forest Drive and SR-133,
 - remove Ridge Route from Santa Vittoria Drive to Bake Parkway,
 - remove Santa Maria Avenue from Santa Vittoria Drive to SR-133, and
 - add Santa Vittoria Drive from Lake Forest Drive to Santa Maria as a collector.

The MPAH Cooperative Study and traffic analysis determined that the following intersections could be impacted as a result of the MPAH amendment request:

- Bake Parkway/Research Drive (City of Irvine),
- Paseo de Valencia/Avenida de la Carlota (City of Laguna Hills),
- El Toro Road/Avenida de la Carlota (City of Laguna Hills), and
- Ridge Route Drive/Rockfield Boulevard (City of Lake Forest).

Ms. Gayle Ackerman
October 4, 2019
Page 2

Please note that a Memorandum of Understanding (MOU) was developed amongst the agencies to ensure that mitigations for these intersections, if needed in the future, would be implemented. Please see the attached MOU for the City of Lake Forest's responsibilities for Ridge Route Drive/Rockfield Boulevard.

- Please note that consistency with the MPAH is a prerequisite for local agencies to be eligible for Measure M2 Net Revenues as well as programs – including the Orange County Comprehensive Transportation Funding Program. For any potential changes to the Circulation Element in relation to arterials on the MPAH please take the following steps:
 - initiate an MPAH amendment request with OCTA,
 - coordinate with impacted agencies, and
 - conduct a traffic analysis using an OCTA certified model.More information and the MPAH guidelines may be accessed online: <http://www.octa.net/News-and-Resources/Open-Data/MPAH-Overview/>.

Throughout the development of this project, we encourage communication with OCTA on any matters discussed herein. If you have any questions or comments, please contact me at (714) 560-5907 or at dphu@octa.net.

Sincerely,



Dan Phu
Manager, Environmental Programs

Attachment

Distributed: 1/24/13
Accounting
CMM
FPA
PM J. Alcock, K. Alker
Vendor ✓
CA T. Krinke

1 **MEMORANDUM OF UNDERSTANDING NO. C-2-1592**

2 **BETWEEN**

3 **ORANGE COUNTY TRANSPORTATION AUTHORITY**

4 **AND**

5 **CITIES OF IRVINE, LAGUNA HILLS, LAGUNA WOODS, LAKE FOREST,**

6 **AND COUNTY OF ORANGE**

7 **FOR**

8 **AMENDMENT OF THE MASTER PLAN OF ARTERIAL HIGHWAYS**

9 **THIS MEMORANDUM OF UNDERSTANDING** (hereinafter referred to as "MOU") is effective
10 this 21st day of January, 2013, by and between the Orange County Transportation
11 Authority, 550 South Main Street, P.O. Box 14184, Orange, California 92863-1584 (hereinafter referred
12 to as "AUTHORITY"), and the City of Irvine, the City of Laguna Hills, the City of Laguna Woods, the
13 City of Lake Forest, and the County of Orange (hereinafter collectively referred to as "AGENCIES" and
14 individually as "AGENCY"). AUTHORITY and each AGENCY are sometimes referred to collectively in
15 this MOU as the "PARTIES" and individually as "PARTY."

16 **RECITALS**

17 **WHEREAS**, AUTHORITY administers the Master Plan of Arterial Highways (hereinafter
18 referred to as "MPAH") including the review and approval of amendments requested by local agencies;
19 and

20 **WHEREAS**, the City of Irvine has requested an Amendment to the MPAH to delete
21 Bake Parkway from Lake Forest Drive to State Route 133; to delete Ridge Route Drive from
22 Santa Vittoria Drive to Bake Parkway; to delete Santa Maria Avenue from Santa Vittoria Drive to
23 State Route 133; and to add Santa Vittoria Drive from Lake Forest Drive to Santa Maria Avenue as a
24 collector (two-lane, undivided) arterial (hereinafter referred to as the "Amendment to the MPAH"); and

25 /
26 /

1 **WHEREAS**, the City of Irvine in association with the City of Laguna Hills, the City of
2 Laguna Woods, the City of Lake Forest, the County of Orange, and AUTHORITY initiated the MPAH
3 Cooperative Study Process; and

4 **WHEREAS**, traffic analyses conducted as part of the MPAH Cooperative Study Process
5 determined that the Amendment to the MPAH would result in projected changes to future traffic
6 patterns; and

7 **WHEREAS**, these projected changes in future traffic patterns resulted in a determination that
8 appreciable impacts would occur at the intersections of Bake Parkway/Research Drive (City of Irvine),
9 Paseo de Valencia/Avenida de la Carlota (City of Laguna Hills), El Toro Road/Avenida de la Carlota
10 (City of Laguna Hills), and Ridge Route Drive/Rockfield Boulevard (City of Lake Forest); and

11 **WHEREAS**, an appreciable impact is defined in the AUTHORITY's Guidance for Administration
12 of the Orange County MPAH, as an increase in Intersection Capacity Utilization ("ICU") of 0.01 for
13 intersections exceeding Level of Service "D" or the General Plan standard adopted by the respective
14 jurisdiction; and

15 **WHEREAS**, Exhibit A titled "SUMMARY OF MPAH AMENDMENT APPRECIABLE IMPACTS
16 and TRAFFIC SHARE", provides a summary of the appreciable impacts occurring as a result of the
17 Amendment to the MPAH; and

18 **WHEREAS**, improvements have been identified to mitigate appreciable impacts and maintain
19 the operational integrity of the MPAH system; and

20 **WHEREAS**, AUTHORITY's Board of Directors approved this Amendment to the MPAH on
21 July 23, 2012, contingent upon full execution of this MOU, as well as amendments to appropriate
22 AGENCIES' general plans including California Environmental Quality Act requirements; and

23 **WHEREAS**, all PARTIES wish to enter into an MOU to identify the roles, responsibilities and
24 commitments of the PARTIES in processing the Amendment to the MPAH and mitigating the related
25 appreciable impacts; and

26 /

1 **NOW, THEREFORE**, it is mutually understood and agreed by the PARTIES as follows:

2 **ARTICLE 1. COMPLETE AGREEMENT:**

3 A. This MOU, including all exhibits and documents incorporated herein and made
4 applicable by reference, constitutes the complete and exclusive statement of the term(s) and
5 condition(s) of the MOU between the PARTIES concerning the Amendment to the MPAH and
6 supersedes all prior representations, understandings and communications between the PARTIES. The
7 invalidity, in whole or part, of any term or condition of this MOU shall not affect the validity of other
8 term(s) or conditions(s) of this MOU. The above referenced Recitals are true and correct and are
9 incorporated by reference herein.

10 B. AUTHORITY'S failure to insist on any instance(s) of any AGENCY'S performance of any
11 term(s) or condition(s) of this MOU shall not be construed as a waiver or relinquishment of
12 AUTHORITY's right to such performance or to future performance of such term(s) or condition(s), and
13 AGENCY'S obligation in respect thereto shall continue in full force and effect.

14 C. Any AGENCY'S failure to insist on any instance(s) of AUTHORITY's performance of any
15 term(s) or condition(s) of this MOU shall not be construed as a waiver or relinquishment of AGENCY's
16 right to such performance or to future performance of such term(s) or condition(s), and AUTHORITY's
17 obligation in respect thereto shall continue in full force and effect.

18 **ARTICLE 2. RESPONSIBILITIES OF AUTHORITY:**

19 AUTHORITY agrees to the following responsibilities:

20 A. AUTHORITY shall administer the MPAH, including updating the MPAH to reflect the
21 Amendment to the MPAH, upon fulfillment of all of the following conditions:

22 1. AUTHORITY's Board of Directors conditional approval of the Amendment to the
23 MPAH. The AUTHORITY's Board of Director approval of the Amendment to the MPAH will not
24 become final until conditions 2 and 3 below have been satisfied; and

25 2. Receipt of an original, fully executed MOU (signed by all PARTIES); and

26 3. Receipt of documentation that that the Cities of Irvine, Laguna Hills,

1 Laguna Woods, and County of Orange have amended their general plans to reflect the
2 Amendment to the MPAH.

3 B. AUTHORITY shall file a Notice of Exemption from the provisions of the California
4 Environmental Quality Act in support of the amendment to the MPAH.

5 **ARTICLE 3. RESPONSIBILITIES OF CITY OF IRVINE:**

6 The CITY of Irvine agrees to the following responsibilities:

7 A. The CITY of Irvine acknowledges that the AUTHORITY has determined the amendment
8 to the MPAH to be exempt from the California Environmental Quality Act, and that the AUTHORITY has
9 caused a Notice of Exemption to be filed, posted, and recorded.

10 B. The CITY of Irvine shall implement one of the two mitigation measures identified below.

11 1. Bake Parkway/Research Drive: conversion of a westbound through lane on
12 Research Drive to shared through/second right-turn lane; or

13 2. Bake Parkway/Research Drive: addition of a second westbound right-turn lane
14 on Research Drive.

15 C. This mitigation measure is to be implemented before the ICU at this intersection reaches
16 the pre-Amendment to the MPAH ICU of 0.94. These improvements are not meant to be prescriptive.
17 If the CITY of Irvine is able to identify alternative improvements which meet the overall objective of
18 achieving and/or maintaining the pre-Amendment to the MPAH ICU, then those improvements shall be
19 considered acceptable alternatives and shall be implemented as substitute solutions.

20 D. The CITY of Irvine shall amend the Circulation Element of its General Plan to reflect the
21 Amendment to the MPAH, and in doing so, shall comply with the requirements of the California
22 Environmental Quality Act.

23 E. The CITY of Irvine enters into this MOU in order for the above mitigation measure to be
24 implemented.

25 F. The Share Cost Allocation for this mitigation, as identified in Exhibit B titled "IMPACTED
26 INTERSECTIONS SHARE COST ALLOCATION," will be funded through the County of Orange's

1 Coastal Area Roadway Improvements and Traffic Signal Program (hereinafter referred to as the
2 "CARITS Program").

3 **ARTICLE 4. RESPONSIBILITIES OF CITY OF LAGUNA HILLS:**

4 The CITY of Laguna Hills agrees to the following responsibilities:

5 A. The CITY of Laguna Hills acknowledges that the AUTHORITY has determined the
6 amendment to the MPAH to be exempt from the California Environmental Quality Act, and that the
7 AUTHORITY has caused a Notice of Exemption to be filed, posted, and recorded.

8 B. The CITY of Laguna Hills shall implement the mitigation measures identified below.

9 1. Paseo de Valencia/Avenida de la Carlota: restripe the southbound approach on
10 Paseo de Valencia to provide 2.5 left-turn lanes, 1.5 through lanes and no right-turn lane, and
11 construct a third eastbound receiving lane on Avenida de la Carlota for the third southbound left-
12 turn lane; and

13 2. El Toro Road/Avenida de la Carlota: restripe the westbound approach on
14 Avenida de la Carlota to provide a shared left-turn/through lane and two right-turn lanes,
15 retaining the existing westbound right-turn overlap with the southbound left-turn movement.

16 C. These mitigation measures are to be implemented before the ICU at these intersections
17 reaches the pre-Amendment to the MPAH ICU of 1.01 for the Paseo de Valencia/Avenida de la Carlota
18 intersection and 1.02 for the El Toro Road/Avenida de la Carlota intersection, respectively. These
19 improvements are not meant to be prescriptive. If the CITY of Laguna Hills is able to identify alternative
20 improvements, which meet the overall objective of achieving and/or maintaining the pre-Amendment to
21 the MPAH ICU, then those improvements shall be considered acceptable alternatives and shall be
22 implemented as substitute solutions.

23 D. The CITY of Laguna Hills shall amend the Circulation Element of its General Plan to
24 reflect the Amendment to the MPAH, and comply with the requirements from the California
25 Environmental Quality Act.

26 E. The CITY of Laguna Hills enters into this MOU in order for the above mitigation

1 measures to be implemented.

2 F. The Share Cost Allocation for this mitigation is identified in Exhibit B, and will be funded
3 through the CARITS Program.

4 **ARTICLE 5. RESPONSIBILITIES OF CITY OF LAGUNA WOODS:**

5 The CITY of Laguna Woods agrees to the following responsibilities:

6 A. The CITY of Laguna Woods acknowledges that the AUTHORITY has determined the
7 amendment to the MPAH to be exempt from the California Environmental Quality ACT, and that the
8 AUTHORITY has caused a Notice of Exemption to be filed, posted, and recorded.

9 B. The CITY of Laguna Woods shall amend the Circulation Element of its General Plan to
10 reflect the Amendment to the MPAH, and comply with the requirements from the California
11 Environmental Quality Act.

12 **ARTICLE 6. RESPONSIBILITIES OF CITY OF LAKE FOREST:**

13 The CITY of Lake Forest agrees to the following responsibilities:

14 A. The CITY of Lake Forest acknowledges that the AUTHORITY has determined the
15 amendment to the MPAH to be exempt from the California Environmental Quality Act, and that the
16 AUTHORITY has caused a Notice of Exemption to be filed, posted, and recorded.

17 B. The CITY of Lake Forest shall implement the following mitigation measure identified
18 below.

19 1. Ridge Route Drive/Rockfield Boulevard: narrowing of the existing raised
20 median on Ridge Route Drive to four feet in both the northbound and southbound directions to
21 create left turn pockets, and also provide defacto right turn lanes in both directions.

22 C. This mitigation measure is to be implemented before the ICU at this intersection reaches
23 the pre-Amendment to the MPAH ICU of .98. This improvement is not meant to be prescriptive. If the
24 CITY of Lake Forest is able to identify alternative improvements which meet the overall objective of
25 achieving and/or maintaining the pre-Amendment to the MPAH ICU, then those improvements shall be
26 considered acceptable alternatives and shall be implemented as substitute solutions.

1 D. The CITY of Lake Forest enters into this MOU in order for the above mitigation measure
2 to be implemented.

3 E. The Share Cost Allocation for this mitigation is identified in Exhibit B and will be funded
4 through available CITY of Lake Forest non-general fund and/or grant sources.

5 **ARTICLE 7. RESPONSIBILITIES OF COUNTY OF ORANGE:**

6 The COUNTY of Orange agrees to the following responsibilities:

7 A. The COUNTY of Orange acknowledges that the AUTHORITY has determined the
8 amendment to the MPAH to be exempt from the California Environmental Quality Act, and that the
9 AUTHORITY has caused a Notice of Exemption to be filed, posted, and recorded.

10 B. The COUNTY of Orange, contingent upon the finalized Amendment to the MPAH, will
11 reprogram CARITS Program mitigation funds originally identified for the intersection of Bake
12 Parkway/Laguna Canyon Road as part of the Aliso Creek Road MPAH amendment (now being deleted
13 as a result of the Amendment to the MPAH).

14 C. These CARITS funds, when reprogrammed, will be allocated to the Share Cost
15 Allocations for improvements at the intersections of Bake Parkway/Research Drive (City of Irvine),
16 Paseo de Valencia/Avenida de la Carlota (City of Laguna Hills), and El Toro Road/Avenida de la
17 Carlota (City of Laguna Hills) as identified in Exhibit B.

18 D. The COUNTY of Orange shall amend the Transportation Element of the County of
19 Orange General Plan, including the Circulation Plan to reflect the Amendment to the MPAH, and
20 comply with the requirements from the California Environmental Quality Act.

21 E. The COUNTY of Orange enters into this MOU in order for the above mitigation
22 measures to be implemented.

23 F. Upon receipt of evidence of the finalized MPAH Amendment, the COUNTY, within 60
24 days, will make reprogrammed CARITS funding available to the eligible jurisdictions identified in this
25 MOU.

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1 **ARTICLE 8. DELEGATED AUTHORITY:**

2 The actions required to be taken by the CITIES of Irvine, Laguna Hills, Lake Forest, and Laguna
3 Woods in the implementation of this MOU are delegated to each CITY's City Manager, or designee.
4 The actions required to be taken by COUNTY in the implementation of this MOU are delegated to its
5 Chair of the Board, or designee. The actions required to be taken by AUTHORITY in the
6 implementation of this MOU are delegated to AUTHORITY's Chief Executive Officer, or designee.

7 **ARTICLE 9. INDEMNIFICATION:**

8 A. Each AGENCY shall indemnify, defend and hold harmless AUTHORITY, its officers,
9 directors, employees and agents from and against any and all claims (including attorney's fees and
10 reasonable expenses for litigation or settlement) for any loss or damages, bodily injuries, including
11 death, worker's compensation subrogation claims, damage to or loss of use of property, arising from the
12 negligent acts, omissions or willful misconduct by each AGENCY, its officers, directors, employees or
13 agents in connection with or arising out of the performance of this MOU.

14 B. AUTHORITY shall indemnify, defend and hold harmless each AGENCY, its officers,
15 directors, employees and agents from and against any and all claims (including attorney's fees and
16 reasonable expenses for litigation or settlement) for any loss or damages, bodily injuries, including
17 death, worker's compensation subrogation claims, damage to or loss of use of property, arising from the
18 negligent acts, omissions or willful misconduct by AUTHORITY, its officers, directors, employees or
19 agents in connection with or arising out of the performance of this MOU.

20 C. AGENCIES shall indemnify, defend and hold harmless each AGENCY, its officers,
21 directors, employees and agents from and against any and all claims (including attorney's fees and
22 reasonable expenses for litigation or settlement) for any loss or damages, bodily injuries, including
23 death, worker's compensation subrogation claims, damage to or loss of use of property, arising from the
24 negligent acts, omissions or will misconduct by AGENCIES, their officers, directors, employees or
25 agents in connection with or arising out of the performance of this MOU.

26 /

1 D. Indemnification and defense obligations of this MOU shall survive its expiration or
2 termination.

3 **ARTICLE 10. MUTUAL RESPONSIBILITIES OF ALL AGENCIES:**

4 A. Each PARTY to this MOU agrees to cooperate and coordinate with the other PARTIES
5 to this MOU and their respective staff, contractors, consultants, and vendors, etc. providing services
6 required under this MOU to the extent practicable.

7 B. All PARTIES to this MOU agree to work diligently together, and in good faith, toward the
8 resolution of any unforeseen issues and disputes arising out of the performance of this MOU.

9 **ARTICLE 11. ADDITIONAL PROVISIONS**

10 The PARTIES agree to the following:

11 A. Termination: This Agreement shall continue in full force and effect through
12 June 30, 2032. This MOU shall not be terminated without the written consent of all PARTIES.

13 B. This MOU may be amended in writing at any time by the consent of all PARTIES. No
14 amendment shall have any force or effect unless executed in writing by all PARTIES.

15 C. AUTHORITY and AGENCIES shall comply with all applicable federal, state, and local
16 laws, statues, ordinances and regulations in the performance of this MOU.

17 D. Successors in Interest: This MOU shall be binding upon and shall inure to the benefit
18 of the parties hereto and their respective heirs, personal representatives, successors, and assigns.

19 E. Attorney's Fees: In the event any action is brought between the parties hereto relating
20 to this MOU or the breach thereof, the prevailing party in such action shall be entitled to recover from
21 the other party reasonable expenses, attorneys' fees and costs in connection with such action or
22 proceeding.

23 F. Legal Authority: Each of the undersigned represents and warrants that they are
24 authorized to execute this MOU on behalf of said PARTIES and that, by so executing this MOU, the
25 PARTIES hereto are formally bound to the provisions of this MOU.

26 /

1 G. Severability: If any term, provision, covenant or condition of this MOU is held to be
2 invalid, void or otherwise unenforceable, to any extent, by any court of competent jurisdiction, the
3 remainder of this MOU shall not be affected thereby, and each term, provision, covenant or condition of
4 this MOU shall be valid and enforceable to the fullest extent permitted by law.

5 H. Counterparts of Agreement: This MOU may be executed and delivered in any number of
6 counterparts, each of which, when executed and delivered shall be deemed an original and all of which
7 together shall constitute the same agreement. Facsimile signatures will be permitted.

8 I. Force Majeure: Any PARTY shall be excused from performing its obligations under this
9 MOU during the time and to the extent that it is prevented from performing by an unforeseeable cause
10 beyond its control, including but not limited to: any incidence of fire, flood; acts of God; commandeering
11 of material, products, plants or facilities by the federal, state or local government; national fuel shortage;
12 or a material act or omission by any other PARTY; when satisfactory evidence of such cause is
13 presented to the other PARTIES, and provided further that such nonperformance is unforeseeable,
14 beyond the control and is not due to the fault or negligence of the PARTY not performing.

15 J. Assignment: Neither this MOU, nor any PARTY's rights, obligations, duties, or authority
16 hereunder may be assigned in whole or in part by any PARTY without the prior written consent of all
17 other PARTIES in their sole and absolute discretion. Any such attempted assignment shall be deemed
18 void and of no force and effect. Consent to one assignment shall not be deemed consent to any
19 subsequent assignment, nor the waiver of any right to consent to such subsequent assignment.

20 K. Obligations To Comply with Law: Nothing herein shall be deemed nor construed to
21 authorize or require any PARTY to issue bonds, notes or other evidence of indebtedness under terms,
22 in amounts, or for purposes other than as authorized by local, state or federal law.

23 L. Governing Law: The laws of the State of California and applicable local and federal
24 laws, regulations and guidelines shall govern this MOU.

25 M. Notices: Any notices, requests, or demands made between the PARTIES pursuant to
26 this MOU are to be directed as follows:

MEMORANDUM OF UNDERSTANDING NO. C-2-1592

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To CITY OF IRVINE:	To AUTHORITY:
City of Irvine	Orange County Transportation Authority
P.O. Box 19575 Irvine CA 92623	550 South Main Street P. O. Box 14184 Orange, CA 92863-1584
Attention: Manuel Gomez Director of Public Works Tel: (949) 724-7509 Email: mgomez@cityofirvine.org	Attention: Meena Katakia, Manager, Capital Programs Tel: (714) 560-5694 Email: mkatakia@octa.net

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To CITY OF LAGUNA HILLS:	To CITY OF LAGUNA WOODS:
City of Laguna Hills	City of Laguna Woods
24035 El Toro Road Laguna Hills, CA 92653	24264 El Toro Road Laguna Woods, CA 92637
Attention: Bruce Channing City Manager Tel: (949) 707-2610 Email:	Attention: Leslie A. Keane City Manager Tel: (949) 639-050 Email:

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11 N. Successors and Assigns: The provisions of this MOU shall bind and inure to the benefit
12 of each of PARTY hereto, and all successors or assigns of any PARTY hereto.

13 This MOU shall continue in full force and effect until all terms and conditions of this MOU are
14 implemented, unless terminated earlier by written consent of all the PARTIES.

15 The above understandings are a guide to the intent and policies of the PARTIES to this MOU.
16 This MOU shall be effective upon execution by all PARTIES.

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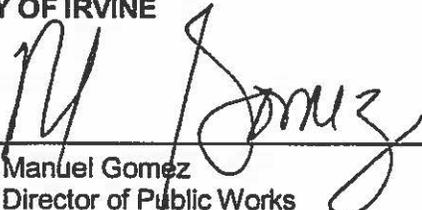
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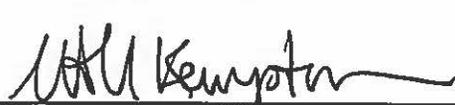
26 /

1 IN WITNESS WHEREOF, the PARTIES hereto have caused this Memorandum of
2 Understanding No. C-2-1592 to be executed on the date first written above.

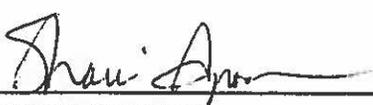
3 CITY OF IRVINE

ORANGE COUNTY TRANSPORTATION AUTHORITY

4
5 By: 
6 Manuel Gomez
Director of Public Works

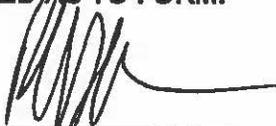
By: 
Will Kempton
Chief Executive Officer

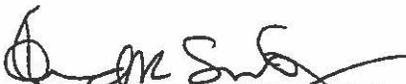
7
8 ATTEST:

9
10 By: 
11 Sharie Apodaca
City Clerk

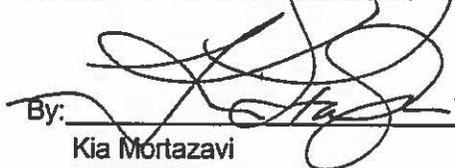
12 APPROVED AS TO FORM:

APPROVED AS TO FORM:

13
14 By: 
15 Phil Kohn
City Attorney

By: 
Kennard R. Smart, Jr.
General Counsel

16 APPROVAL RECOMMENDED:

17
18 By: 
19 Kia Mortazavi
Executive Director, Planning

20 Dated: 9/4/12

Dated: 1-9-13

21
22 Attachments:

23 Exhibit A: Summary of MPAH Amendment, Appreciable Impacts and Traffic Share

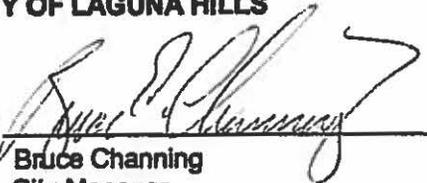
24 Exhibit B: Impacted Intersections Share Cost Allocation

25 Exhibit C: MPAH Amendment Map

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IN WITNESS WHEREOF, the PARTIES hereto have caused this Memorandum of Understanding No. C-2-1592 to be executed on the date first written above.

CITY OF LAGUNA HILLS

By: 
Bruce Channing
City Manager

APPROVED AS TO FORM:

By: N/A
Gregory E. Simonian
City Attorney

Dated: October 11, 2012

1 IN WITNESS WHEREOF, the PARTIES hereto have caused this Memorandum of
2 Understanding No. C-2-1592 to be executed on the date first written above.

3 **CITY OF LAGUNA WOODS**

4
5 By: Leslie A. Keane
6 Leslie A. Keane
7 City Manager

8 **APPROVED AS TO FORM:**

9
10 By: David B. Cosgrove
11 David B. Cosgrove
12 City Attorney

13
14 Dated: 10-15-12
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1 IN WITNESS WHEREOF, the PARTIES hereto have caused this Memorandum of
2 Understanding No. C-2-1592 to be executed on the date first written above.

3 **CITY OF LAKE FOREST**

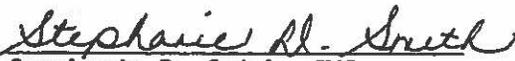
4
5 By: 
6 Robert Dunek
7 City Manager

8 **APPROVED AS TO FORM:**

9
10 By: 
11 Scott Smith
12 City Attorney

13
14
15 Dated: 10-17-2012

16
17
18 **ATTEST:**

19
20 By: 
21 Stephanie D. Smith, CMC
22 City Clerk

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IN WITNESS WHEREOF, the PARTIES hereto have caused this Memorandum of Understanding No. C-2-1592 to be executed on the date first written above.

COUNTY OF ORANGE
A political subdivision of the State of California

By:
Chair, Board of Supervisors

Date: 12-4-12

SIGNED AND CERTIFIED THAT A COPY OF THIS DOCUMENT HAS BEEN DELIVERED TO THE CHAIRMAN OF THE BOARD OF SUPERVISORS

By:
Susan Novak
Clerk of the Board of Supervisors
Orange County, CA



Date: 12-4-12

APPROVED AS TO FORM:
COUNTY COUNSEL
ORANGE COUNTY, CALIFORNIA

By:
Deputy

Date: 11/1/12



**EXHIBIT A: SUMMARY OF MPAH AMENDMENT
APPRECIABLE IMPACTS and TRAFFIC SHARE**

Intersection	Jurisdiction	Peak Hour	Post-2030 Level of Service				Difference in LOS (Level of Appreciable Impact)	Share ¹
			Current MPAH		Amendment to MPAH			
			ICU	LOS	ICU	LOS		
Bake Parkway/Research Drive	Irvine	PM	0.94	E	0.96	E	0.02	5%
Paseo de Valencia/Avenida de la Carlota	Laguna Hills	PM	1.01	E	1.04	F	0.03	15%
El Toro Road/Avenida de la Carlota	Laguna Hills	PM	1.02	F	1.03	F	0.01	15%
Ridge Route/Rockfield Boulevard	Lake Forest	PM	.98	F	1.01	F	0.03	7%

¹ Shares are based on the percentage of trips from the deleted Amendment to the MPAH roads, which are assigned onto the circulation system without these roads, to the total growth in traffic at the intersection from existing to Post-2030.



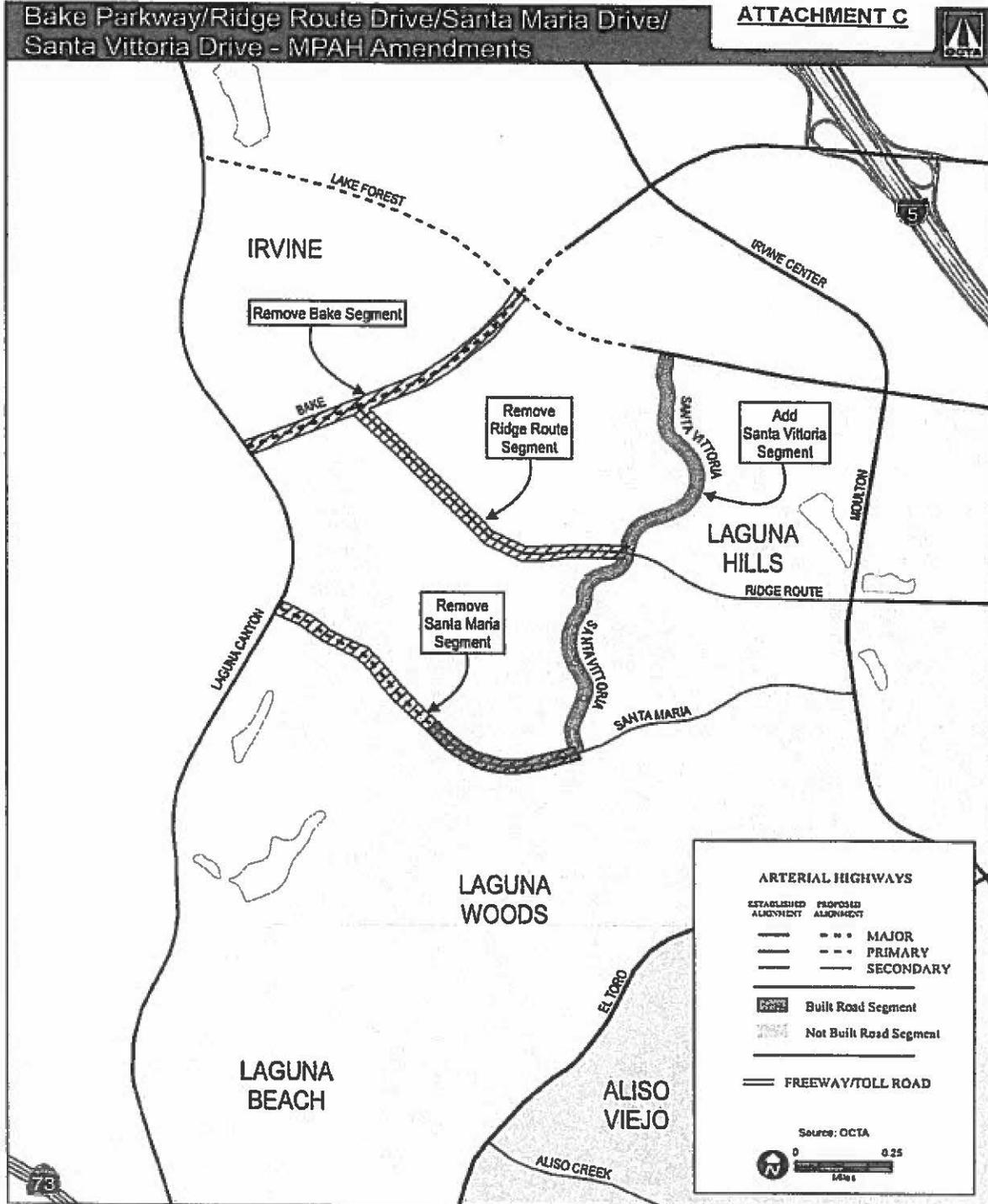
EXHIBIT B: IMPACTED INTERSECTIONS SHARE COST ALLOCATION

Impacted Intersection	Total Improvement Cost	Share	Share Cost Allocation
Bake Parkway/ Research Drive (City of Irvine)	\$1,184,000	5%	\$1,184,000 * .05 = \$59,200
Paseo de Valencia/ Avenida de la Carlota (City of Laguna Hills); and El Toro Road/ Avenida de la Carlota (City of Laguna Hills)	\$2,349,560	15%	\$2,349,560 * .15 = \$352,434
Ridge Route Drive/Rockfield Boulevard (City of Lake Forest)	\$190,000	7%	\$190,000 * .07 = \$13,300¹

¹ The City of Lake Forest is not a CARITS Program participant. As a result, funding for this mitigation is not available through the CARITS Program. Instead, the City of Lake Forest agrees that it will fund this improvement, if needed in the future, through non-General Fund, grant-funding sources.



EXHIBIT C: MPAH AMENDMENT MAP



Appendix B

Buildout Projection Calculations and Assumptions

Table B1: General Plan Land Use Assumptions

General Plan Designation	Maximum Density and/or Floor Area Ratio	Effective Target Density and/or Floor Area Ratio ¹	Persons Per Household ²	Jobs Ratio (SF/Job)	Residential Distribution		Nonresidential Distribution			
					Single-Family	Multifamily	Retail	Office	Industrial	Public Facilities
Residential Designation										
Very Low Density Residential	0-2 du/ac	1 du/ac	2.97	-	100%	-	-	-	-	-
Low Density Residential	2-7 du/ac	6.8 du/ac	2.97	-	100%	-	-	-	-	-
Low-Medium Density Residential	7-15 du/ac	10.9 du/ac	2.97	-	100%	-	-	-	-	-
Medium Density Residential	15-25 du/ac	22 du/ac	2.97	-	30%	70%	-	-	-	-
High Density Residential	25-43 du/ac	38 du/ac	2.97	-	-	100%	-	-	-	-
Nonresidential Designations										
Commercial	1.0:1 FAR	0.25 FAR	-	450	-	-	60%	30%	5%	5%
Professional Office	1.2:1 FAR	0.30 FAR	-	300	-	-	5%	95%	-	-
Mixed-Use ³²	32 du/ac 1.0:1 FAR	32 du/ac; 0.25 FAR	2.97	450	-	100%	40%	50%	-	10%
Mixed-Use ^{43 3}	43 du/ac 1.2:1 FAR	36 du/ac (2); 0.40 FAR	2.97	450	-	100%	40%	50%	-	10%
Mixed-Use ⁶⁰	60 du/ac 2.0:1 FAR	48 du/ac; 0.50 FAR	2.97	450	-	100%	40%	50%	-	10%
Business Park	1.0:1 FAR	0.35 FAR	-	600	-	-	10%	50%	30%	10%
Mixed-Use Office	1.5:1 FAR	0.50 FAR	-	400	-	-	10%	90%	-	-
Light Industrial	0.60:1 FAR	0.35 FAR	-	600	-	-	-	20%	70%	10%
Urban Industrial ²⁵	25 du/ac 1.0:1 FAR	22 du/ac; 0.40 FAR	2.97	600	30%	70%	10%	15%	65%	10%
Urban Industrial ⁴³	43 du/ac 1.2:1 FAR	36 du/ac; 0.40 FAR	2.97	600	-	100%	10%	15%	65%	10%
Public Facility	1.2:1 FAR	0.05 FAR	-	1,000	-	-	-	-	-	100%
Limited Development Designations										
Community Park/Open Space	0.40:1 FAR	0.0025 FAR	-	1,000	-	-	-	-	-	100%
Regional Park/Open Space	0.10:1 FAR	0.0001 FAR	-	1,000	-	-	-	-	-	100%
Open Space	0.40:1 FAR	-	-	-	-	-	-	-	-	-
Lake	-	-	-	-	-	-	-	-	-	-
Transportation Corridor	0.20:1 FAR	-	-	-	-	-	-	-	-	-

(1) The effective target density and/or floor area ratio represents an expected average density or intensity of development across all designated acreage of a specific land use type. These figures reflect reasonable expectations of development patterns in Lake Forest based on past development trends, market demand, and land use objectives. Parcels may develop above or below the effective target density or intensity. For land use designations where residential and nonresidential development are allowed (Mixed-Use and Urban Industrial designations), the density represents the effective number of dwelling units assumed per acre across all acreage associated with that land use designation and the FAR represents the amount of nonresidential development (i.e., nonresidential development in addition to residential units). For example, the potential development projected for a 10 acre site designated MU-32 would be 320 units and 174,240 square feet of nonresidential development.

(2) Department of Finance, 2018.

(3) Effective density of MU-43 applies to areas designated as MU-43 not currently subject to Development Agreements. For Alternative 1, No Project, the number of dwelling units and nonresidential development reflected in potential development totals is consistent with the General Plan Amendments approved for the Opportunity Study Areas.

Table B2: Existing Nonresidential Development Assumptions

Existing Nonresidential Development Type ¹	Average Floor Area Ratio ¹	Jobs Ratio (SF/Job)	Nonresidential Distribution		
			Retail	Office	Other ³
Commercial Recreation	0.30 FAR	418	100%		
Other Commercial	0.15 FAR	418	100%		
Retail Centers	0.15 FAR	418	100%		
Retail Stores and Commercial Services	0.15 FAR	418	100%		
Retail Strip Development	0.15 FAR	418	100%		
Commercial Storage	0.30 FAR	418			100%
General Office	0.30 FAR	315		100%	
Industrial	0.30 FAR	454			100%
Mixed Commercial and Industrial	0.25 FAR	425	30%	30%	40%
Hotels and Motels ²	N/A	418	100%		
Public Facilities ³	N/A	454			100%

(1) Existing Land Use Data, Southern California Association of Governments, 2016.

(2) Actual Hotel and Motel development of 520,000 square feet reflected in Existing Development totals, estimated FAR not applicable.

(3) For Existing Development estimates, a figure of 750,000 square feet of public facility development was used to allow for consistent comparisons against the Land Use Themes. Public facilities typically have very low development intensity and employment density compared to their total acreage. As part of the Environmental Impact Report, the analysis, including technical studies, will rely on actual employment and student population totals (not square footage) to measure and evaluate impacts associated with public facilities. This is a more accurate and appropriate way of evaluating impacts compared to intensity and square footage assumptions.

Appendix C

Air Quality, Greenhouse Gas, and Energy Modeling

Appendix B CalEEMod Non-Default Parameters and Assumptions

Proposed Project Scenario

Note: Non-default CalEEMod parameters are identified below:

- Project Location: Orange County
- Climate Zone: 8
- Land Use Setting: Urban
- Operational Year: 2040
- Utility Company: Southern California Edison

- Land Uses:

LAND USE TYPE AND SUBTYPE	SIZE	METRIC	LOT ACREAGE	SQUARE FOOTAGE	POPULATION
Single Family Housing	17,023.00	Dwelling Unit	2,499.00	30,641,400.00	50559
Condo/Townhouse	9,589.00	Dwelling Unit	880.00	9,589,000.00	28481
Apartments Mid Rise	7,931.00	Dwelling Unit	361.00	7,931,000.00	23555
Apartments High Rise	620.00	Dwelling Unit	16.00	620,000.00	1840
Strip Mall	3,054.33	1000sqft	280.00	3,054,326.00	0
General Office Building	110.40	1000sqft	8.00	110,398.00	0
Office Park	4,545.82	1000sqft	298.00	4,545,819.00	0
General Light Industry	9,565.60	1000sqft	627.00	9,565,602.00	0
Library	811.51	1000sqft	373.00	811,507.00	0
Apartments Mid Rise	3,234.00	Dwelling Unit	101.00	3,234,000.00	9605
Apartments Mid Rise	7,567.00	Dwelling Unit	295.00	7,567,000.00	22473
Apartments High Rise	3,265.00	Dwelling Unit	68.00	3,265,000.00	9696
General Office Building	513.72	1000sqft	24.00	513,715.00	0
Apartments Mid Rise	1,155.00	Dwelling Unit	52.00	1,155,000.00	3430
Apartments High Rise	950.00	Dwelling Unit	26.00	950,000.00	2823
City Park	249.00	Acre	249.00	10,846,440.00	0
City Park	1,939.00	Acre	1,939.00	84,462,840.00	0
City Park	877.00	Acre	877.00	38,202,120.00	0
TOTALS			8,973	217,065,167	152,462

Notes: Land uses, size, lot acreages, square footages, and population based on what was provided by project applicant for Planning Area Buildout Potential (see Chapter 2.0: Project Description, Table 2.0-3: Planning Area Buildout Potential). Land uses types and subtypes were selected based on best fit from the available options provided by CalEEMod. Mixed Use land uses were assumed to develop the residential land uses allowed under their land use, for the purposes of modeling. The following land uses were not modeled in CalEEMod, since their uses were captured by the model separately (e.g. within the other land uses that were modeled): Lake, Transportation Corridor, and Right-of-way land uses.

- Woodstoves - No hearths or fireplaces (not permitted in SCAQMD's jurisdiction).
- Construction:
 - Construction schedule assumes buildout by 12/31/2040.
 - Grading - Assumes grading occurs over entire Planning Area (10,742 acres).
 - Construction trips and VMT: For 'Building Construction' & 'Architectural Coating' phases: for residential uses, assumed 24 worker & 8 vendor trips per housing unit/day. For nonresidential uses, assumed 8 worker trips & 3 vendor trips per 1000 sf/day.
 - Construction schedule provided as follows (simplified for the purposes of modeling):

Phase Number	Phase Name	Start Date	End Date	Days/Week	Num Days
1	Site Preparation	6/1/2020	6/1/2021	5	262
2	Grading	6/2/2021	6/1/2022	5	261
3	Building Construction	6/2/2023	6/1/2038	5	3913
4	Paving	6/2/2022	6/1/2023	5	261
5	Architectural Coating	6/2/2038	12/31/2040	5	674

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

Lake Forest General Plan Buildout Year (2040)
Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	17,023.00	Dwelling Unit	2,499.00	30,641,400.00	50559
Condo/Townhouse	9,589.00	Dwelling Unit	880.00	9,589,000.00	28481
Apartments Mid Rise	7,931.00	Dwelling Unit	361.00	7,931,000.00	23555
Apartments High Rise	620.00	Dwelling Unit	16.00	620,000.00	1840
Strip Mall	3,054.33	1000sqft	280.00	3,054,326.00	0
General Office Building	110.40	1000sqft	8.00	110,398.00	0
Office Park	4,545.82	1000sqft	298.00	4,545,819.00	0
General Light Industry	9,565.60	1000sqft	627.00	9,565,602.00	0
Library	811.51	1000sqft	373.00	811,507.00	0
Apartments Mid Rise	3,234.00	Dwelling Unit	101.00	3,234,000.00	9605
Apartments Mid Rise	7,567.00	Dwelling Unit	295.00	7,567,000.00	22473
Apartments High Rise	3,265.00	Dwelling Unit	68.00	3,265,000.00	9696
General Office Building	513.72	1000sqft	24.00	513,715.00	0
Apartments Mid Rise	1,155.00	Dwelling Unit	52.00	1,155,000.00	3430
Apartments High Rise	950.00	Dwelling Unit	26.00	950,000.00	2823
City Park	249.00	Acre	249.00	10,846,440.00	0
City Park	1,939.00	Acre	1,939.00	84,462,840.00	0
City Park	877.00	Acre	877.00	38,202,120.00	0

1.2 Other Project Characteristics

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Values as provided by the City of Lake Forest. Land uses types were selected based on best proxy for the land use designations provided. Unit amounts, lot acreages, and population provided by the City.

Construction Phase - Construction schedule assumes buildout by 12/31/2040.

Grading - Assumes grading occurs over entire Planning Area (10,742 acres).

Trips and VMT - For 'Building Construction' & 'Architectural Coating' phases: for res. uses, assumes 24 worker & 8 vendor trips per housing unit/day. For non-res. uses, assumes 8 worker trips & 3 vendor trips per 1000 sf/day. =199 daily worker 68 daily vendor trips

Woodstoves - No hearths or fireplaces (not permitted in SCAQMD's jurisdiction).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	674.00
tblConstructionPhase	NumDays	155,000.00	3,913.00
tblConstructionPhase	NumDays	15,500.00	261.00
tblConstructionPhase	NumDays	11,000.00	261.00
tblConstructionPhase	NumDays	6,000.00	262.00
tblConstructionPhase	PhaseEndDate	8/9/2819	12/31/2040
tblConstructionPhase	PhaseEndDate	4/12/2735	6/1/2038
tblConstructionPhase	PhaseEndDate	2/24/2141	6/1/2022
tblConstructionPhase	PhaseEndDate	6/10/2777	6/1/2023
tblConstructionPhase	PhaseEndDate	9/26/2081	6/1/2021
tblConstructionPhase	PhaseStartDate	6/11/2777	6/2/2038

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

tblConstructionPhase	PhaseStartDate	2/25/2141	6/2/2023
tblConstructionPhase	PhaseStartDate	9/27/2081	6/2/2021
tblConstructionPhase	PhaseStartDate	4/13/2735	6/2/2022
tblConstructionPhase	PhaseStartDate	9/28/2058	6/1/2020
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	4,109.75	0.00
tblFireplaces	NumberGas	16,903.95	0.00
tblFireplaces	NumberGas	8,150.65	0.00
tblFireplaces	NumberGas	14,469.55	0.00
tblFireplaces	NumberNoFireplace	483.50	0.00
tblFireplaces	NumberNoFireplace	1,988.70	0.00
tblFireplaces	NumberNoFireplace	958.90	0.00
tblFireplaces	NumberNoFireplace	1,702.30	0.00
tblFireplaces	NumberWood	241.75	0.00
tblFireplaces	NumberWood	994.35	0.00
tblFireplaces	NumberWood	479.45	0.00
tblFireplaces	NumberWood	851.15	0.00
tblGrading	AcresOfGrading	652.50	10,742.00
tblLandUse	LandUseSquareFeet	3,054,330.00	3,054,326.00
tblLandUse	LandUseSquareFeet	110,400.00	110,398.00
tblLandUse	LandUseSquareFeet	4,545,820.00	4,545,819.00
tblLandUse	LandUseSquareFeet	9,565,600.00	9,565,602.00
tblLandUse	LotAcreage	5,526.95	2,499.00
tblLandUse	LotAcreage	599.31	880.00

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

tblLandUse	LotAcreage	208.71	361.00
tblLandUse	LotAcreage	10.00	16.00
tblLandUse	LotAcreage	70.12	280.00
tblLandUse	LotAcreage	2.53	8.00
tblLandUse	LotAcreage	104.36	298.00
tblLandUse	LotAcreage	219.60	627.00
tblLandUse	LotAcreage	18.63	373.00
tblLandUse	LotAcreage	85.11	101.00
tblLandUse	LotAcreage	199.13	295.00
tblLandUse	LotAcreage	52.66	68.00
tblLandUse	LotAcreage	11.79	24.00
tblLandUse	LotAcreage	30.39	52.00
tblLandUse	LotAcreage	15.32	26.00
tblLandUse	Population	48,686.00	50,559.00
tblLandUse	Population	27,425.00	28,481.00
tblLandUse	Population	22,683.00	23,555.00
tblLandUse	Population	1,773.00	1,840.00
tblLandUse	Population	9,249.00	9,605.00
tblLandUse	Population	21,642.00	22,473.00
tblLandUse	Population	9,338.00	9,696.00
tblLandUse	Population	3,303.00	3,430.00
tblLandUse	Population	2,717.00	2,823.00
tblTripsAndVMT	VendorTripNumber	30,419.00	68.00
tblTripsAndVMT	WorkerTripNumber	93,897.00	199.00
tblTripsAndVMT	WorkerTripNumber	18,779.00	199.00
tblWoodstoves	NumberCatalytic	241.75	0.00
tblWoodstoves	NumberCatalytic	994.35	0.00

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

tblWoodstoves	NumberCatalytic	479.45	0.00
tblWoodstoves	NumberCatalytic	851.15	0.00
tblWoodstoves	NumberNoncatalytic	241.75	0.00
tblWoodstoves	NumberNoncatalytic	994.35	0.00
tblWoodstoves	NumberNoncatalytic	479.45	0.00
tblWoodstoves	NumberNoncatalytic	851.15	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.3193	3.2699	1.6995	3.0700e-003	1.4063	0.1693	1.5756	0.7687	0.1558	0.9245	0.0000	270.5855	270.5855	0.0836	0.0000	272.6743
2021	0.5398	5.7426	3.5764	7.0500e-003	7.1597	0.2625	7.4221	1.4118	0.2415	1.6533	0.0000	620.3876	620.3876	0.1937	0.0000	625.2305
2022	0.2873	2.9480	2.7358	5.3000e-003	6.0455	0.1316	6.1771	0.8003	0.1211	0.9213	0.0000	466.3041	466.3041	0.1449	0.0000	469.9257
2023	0.2371	2.0207	2.5391	5.9600e-003	0.2062	0.0822	0.2884	0.0555	0.0767	0.1322	0.0000	537.6767	537.6767	0.0885	0.0000	539.8891
2024	0.2911	2.4039	2.9310	7.9400e-003	0.3423	0.0829	0.4251	0.0922	0.0779	0.1701	0.0000	721.1525	721.1525	0.0910	0.0000	723.4279

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.2725	2.2559	2.8662	7.8000e-003	0.3410	0.0713	0.4123	0.0918	0.0671	0.1589	0.0000	708.6841	708.6841	0.0897	0.0000	710.9273
2026	0.2690	2.2447	2.8300	7.7100e-003	0.3410	0.0712	0.4122	0.0918	0.0670	0.1588	0.0000	700.1355	700.1355	0.0892	0.0000	702.3664
2027	0.2657	2.2343	2.7983	7.6200e-003	0.3410	0.0711	0.4121	0.0918	0.0669	0.1587	0.0000	692.6325	692.6325	0.0888	0.0000	694.8524
2028	0.2612	2.2168	2.7602	7.5200e-003	0.3397	0.0707	0.4104	0.0915	0.0665	0.1580	0.0000	683.4846	683.4846	0.0881	0.0000	685.6861
2029	0.2584	2.2170	2.7447	7.4900e-003	0.3410	0.0709	0.4118	0.0918	0.0667	0.1585	0.0000	680.3911	680.3911	0.0880	0.0000	682.5922
2030	0.2469	1.6174	2.7300	7.9500e-003	0.3410	0.0213	0.3622	0.0918	0.0211	0.1129	0.0000	715.7432	715.7432	0.0303	0.0000	716.5015
2031	0.2425	1.6090	2.7074	7.9000e-003	0.3410	0.0212	0.3621	0.0918	0.0210	0.1128	0.0000	711.0233	711.0233	0.0300	0.0000	711.7744
2032	0.2396	1.6086	2.6976	7.8900e-003	0.3423	0.0211	0.3634	0.0922	0.0210	0.1132	0.0000	709.9969	709.9969	0.0299	0.0000	710.7447
2033	0.2346	1.5904	2.6597	7.7900e-003	0.3397	0.0209	0.3606	0.0915	0.0208	0.1123	0.0000	701.3735	701.3735	0.0295	0.0000	702.1101
2034	0.2318	1.5850	2.6432	7.7600e-003	0.3397	0.0208	0.3605	0.0915	0.0207	0.1122	0.0000	698.6292	698.6292	0.0293	0.0000	699.3610
2035	0.2183	1.4858	2.6340	7.7600e-003	0.3410	0.0133	0.3543	0.0918	0.0132	0.1050	0.0000	699.0027	699.0027	0.0282	0.0000	699.7084
2036	0.2191	1.4915	2.6441	7.7900e-003	0.3423	0.0134	0.3556	0.0922	0.0133	0.1054	0.0000	701.6808	701.6808	0.0283	0.0000	702.3893
2037	0.2183	1.4858	2.6340	7.7600e-003	0.3410	0.0133	0.3543	0.0918	0.0132	0.1050	0.0000	699.0027	699.0027	0.0282	0.0000	699.7084
2038	65.8271	0.6857	1.4216	4.4800e-003	0.3082	6.8000e-003	0.3150	0.0824	6.7200e-003	0.0891	0.0000	402.7943	402.7943	0.0134	0.0000	403.1284
2039	111.7096	0.1206	0.5636	2.1500e-003	0.2840	2.2000e-003	0.2862	0.0754	2.1300e-003	0.0776	0.0000	192.9639	192.9639	2.8600e-003	0.0000	193.0355
2040	112.1307	0.1138	0.5225	2.0900e-003	0.2851	1.6900e-003	0.2868	0.0757	1.6300e-003	0.0773	0.0000	187.6659	187.6659	2.5000e-003	0.0000	187.7285
Maximum	112.1307	5.7426	3.5764	7.9500e-003	7.1597	0.2625	7.4221	1.4118	0.2415	1.6533	0.0000	721.1525	721.1525	0.1937	0.0000	723.4279

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2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.3193	3.2699	1.6995	3.0700e-003	1.4063	0.1693	1.5756	0.7687	0.1558	0.9245	0.0000	270.5852	270.5852	0.0836	0.0000	272.6740
2021	0.5398	5.7426	3.5764	7.0500e-003	7.1597	0.2625	7.4221	1.4118	0.2415	1.6533	0.0000	620.3869	620.3869	0.1937	0.0000	625.2297
2022	0.2873	2.9480	2.7358	5.3000e-003	6.0455	0.1316	6.1771	0.8003	0.1211	0.9213	0.0000	466.3035	466.3035	0.1449	0.0000	469.9252
2023	0.2371	2.0207	2.5391	5.9600e-003	0.2062	0.0822	0.2884	0.0555	0.0767	0.1322	0.0000	537.6764	537.6764	0.0885	0.0000	539.8888
2024	0.2911	2.4039	2.9310	7.9400e-003	0.3423	0.0829	0.4251	0.0922	0.0779	0.1701	0.0000	721.1522	721.1522	0.0910	0.0000	723.4276
2025	0.2725	2.2559	2.8662	7.8000e-003	0.3410	0.0713	0.4123	0.0918	0.0671	0.1589	0.0000	708.6837	708.6837	0.0897	0.0000	710.9269
2026	0.2690	2.2447	2.8300	7.7100e-003	0.3410	0.0712	0.4122	0.0918	0.0670	0.1588	0.0000	700.1351	700.1351	0.0892	0.0000	702.3661
2027	0.2657	2.2343	2.7983	7.6200e-003	0.3410	0.0711	0.4121	0.0918	0.0669	0.1587	0.0000	692.6321	692.6321	0.0888	0.0000	694.8520
2028	0.2612	2.2168	2.7602	7.5200e-003	0.3397	0.0707	0.4104	0.0915	0.0665	0.1580	0.0000	683.4842	683.4842	0.0881	0.0000	685.6857
2029	0.2584	2.2170	2.7447	7.4900e-003	0.3410	0.0709	0.4118	0.0918	0.0667	0.1585	0.0000	680.3908	680.3908	0.0880	0.0000	682.5919
2030	0.2469	1.6174	2.7300	7.9500e-003	0.3410	0.0213	0.3622	0.0918	0.0211	0.1129	0.0000	715.7428	715.7428	0.0303	0.0000	716.5011
2031	0.2425	1.6090	2.7074	7.9000e-003	0.3410	0.0212	0.3621	0.0918	0.0210	0.1128	0.0000	711.0229	711.0229	0.0300	0.0000	711.7740
2032	0.2396	1.6086	2.6976	7.8900e-003	0.3423	0.0211	0.3634	0.0922	0.0210	0.1132	0.0000	709.9965	709.9965	0.0299	0.0000	710.7443
2033	0.2346	1.5904	2.6597	7.7900e-003	0.3397	0.0209	0.3606	0.0915	0.0208	0.1123	0.0000	701.3731	701.3731	0.0295	0.0000	702.1097
2034	0.2318	1.5850	2.6431	7.7600e-003	0.3397	0.0208	0.3605	0.0915	0.0207	0.1122	0.0000	698.6288	698.6288	0.0293	0.0000	699.3606

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2035	0.2183	1.4858	2.6340	7.7600e-003	0.3410	0.0133	0.3543	0.0918	0.0132	0.1050	0.0000	699.0023	699.0023	0.0282	0.0000	699.7080
2036	0.2191	1.4915	2.6441	7.7900e-003	0.3423	0.0134	0.3556	0.0922	0.0133	0.1054	0.0000	701.6804	701.6804	0.0283	0.0000	702.3888
2037	0.2183	1.4858	2.6340	7.7600e-003	0.3410	0.0133	0.3543	0.0918	0.0132	0.1050	0.0000	699.0023	699.0023	0.0282	0.0000	699.7080
2038	65.8271	0.6857	1.4216	4.4800e-003	0.3082	6.8000e-003	0.3150	0.0824	6.7200e-003	0.0891	0.0000	402.7941	402.7941	0.0134	0.0000	403.1283
2039	111.7096	0.1206	0.5636	2.1500e-003	0.2840	2.2000e-003	0.2862	0.0754	2.1300e-003	0.0776	0.0000	192.9639	192.9639	2.8600e-003	0.0000	193.0354
2040	112.1307	0.1138	0.5225	2.0900e-003	0.2851	1.6900e-003	0.2868	0.0757	1.6300e-003	0.0773	0.0000	187.6658	187.6658	2.5000e-003	0.0000	187.7285
Maximum	112.1307	5.7426	3.5764	7.9500e-003	7.1597	0.2625	7.4221	1.4118	0.2415	1.6533	0.0000	721.1522	721.1522	0.1937	0.0000	723.4276

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2020	8-31-2020	1.5314	1.5314
2	9-1-2020	11-30-2020	1.5150	1.5150
3	12-1-2020	2-28-2021	1.4539	1.4539
4	3-1-2021	5-31-2021	1.4619	1.4619
5	6-1-2021	8-31-2021	1.6639	1.6639
6	9-1-2021	11-30-2021	1.6483	1.6483
7	12-1-2021	2-28-2022	1.4590	1.4590
8	3-1-2022	5-31-2022	1.3991	1.3991
9	6-1-2022	8-31-2022	0.4152	0.4152
10	9-1-2022	11-30-2022	0.4002	0.4002

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11	12-1-2022	2-28-2023	0.3747	0.3747
12	3-1-2023	5-31-2023	0.3714	0.3714
13	6-1-2023	8-31-2023	0.7074	0.7074
14	9-1-2023	11-30-2023	0.7057	0.7057
15	12-1-2023	2-29-2024	0.6817	0.6817
16	3-1-2024	5-31-2024	0.6739	0.6739
17	6-1-2024	8-31-2024	0.6728	0.6728
18	9-1-2024	11-30-2024	0.6676	0.6676
19	12-1-2024	2-28-2025	0.6361	0.6361
20	3-1-2025	5-31-2025	0.6346	0.6346
21	6-1-2025	8-31-2025	0.6335	0.6335
22	9-1-2025	11-30-2025	0.6287	0.6287
23	12-1-2025	2-28-2026	0.6205	0.6205
24	3-1-2026	5-31-2026	0.6310	0.6310
25	6-1-2026	8-31-2026	0.6300	0.6300
26	9-1-2026	11-30-2026	0.6252	0.6252
27	12-1-2026	2-28-2027	0.6170	0.6170
28	3-1-2027	5-31-2027	0.6276	0.6276
29	6-1-2027	8-31-2027	0.6267	0.6267
30	9-1-2027	11-30-2027	0.6218	0.6218
31	12-1-2027	2-29-2028	0.6207	0.6207
32	3-1-2028	5-31-2028	0.6246	0.6246
33	6-1-2028	8-31-2028	0.6237	0.6237
34	9-1-2028	11-30-2028	0.6187	0.6187
35	12-1-2028	2-28-2029	0.6108	0.6108
36	3-1-2029	5-31-2029	0.6216	0.6216
37	6-1-2029	8-31-2029	0.6207	0.6207

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38	9-1-2029	11-30-2029	0.6157	0.6157
39	12-1-2029	2-28-2030	0.5111	0.5111
40	3-1-2030	5-31-2030	0.4678	0.4678
41	6-1-2030	8-31-2030	0.4670	0.4670
42	9-1-2030	11-30-2030	0.4635	0.4635
43	12-1-2030	2-28-2031	0.4571	0.4571
44	3-1-2031	5-31-2031	0.4646	0.4646
45	6-1-2031	8-31-2031	0.4639	0.4639
46	9-1-2031	11-30-2031	0.4603	0.4603
47	12-1-2031	2-29-2032	0.4593	0.4593
48	3-1-2032	5-31-2032	0.4621	0.4621
49	6-1-2032	8-31-2032	0.4614	0.4614
50	9-1-2032	11-30-2032	0.4577	0.4577
51	12-1-2032	2-28-2033	0.4518	0.4518
52	3-1-2033	5-31-2033	0.4598	0.4598
53	6-1-2033	8-31-2033	0.4591	0.4591
54	9-1-2033	11-30-2033	0.4554	0.4554
55	12-1-2033	2-28-2034	0.4497	0.4497
56	3-1-2034	5-31-2034	0.4578	0.4578
57	6-1-2034	8-31-2034	0.4572	0.4572
58	9-1-2034	11-30-2034	0.4534	0.4534
59	12-1-2034	2-28-2035	0.4296	0.4296
60	3-1-2035	5-31-2035	0.4276	0.4276
61	6-1-2035	8-31-2035	0.4271	0.4271
62	9-1-2035	11-30-2035	0.4236	0.4236
63	12-1-2035	2-29-2036	0.4241	0.4241
64	3-1-2036	5-31-2036	0.4276	0.4276

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65	6-1-2036	8-31-2036	0.4271	0.4271
66	9-1-2036	11-30-2036	0.4236	0.4236
67	12-1-2036	2-28-2037	0.4195	0.4195
68	3-1-2037	5-31-2037	0.4276	0.4276
69	6-1-2037	8-31-2037	0.4271	0.4271
70	9-1-2037	11-30-2037	0.4236	0.4236
71	12-1-2037	2-28-2038	0.4195	0.4195
72	3-1-2038	5-31-2038	0.4276	0.4276
73	6-1-2038	8-31-2038	27.9612	27.9612
74	9-1-2038	11-30-2038	27.9582	27.9582
75	12-1-2038	2-28-2039	27.6517	27.6517
76	3-1-2039	5-31-2039	28.2646	28.2646
77	6-1-2039	8-31-2039	28.2638	28.2638
78	9-1-2039	11-30-2039	27.9582	27.9582
79	12-1-2039	2-29-2040	27.9562	27.9562
80	3-1-2040	5-31-2040	28.2606	28.2606
81	6-1-2040	8-31-2040	28.2600	28.2600
82	9-1-2040	9-30-2040	9.2152	9.2152
		Highest	28.2646	28.2646

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	348.3199	6.1458	531.4281	0.0280		2.9216	2.9216		2.9216	2.9216	0.0000	865.2872	865.2872	0.8447	0.0000	886.4037
Energy	6.3162	54.7996	29.0155	0.3445		4.3639	4.3639		4.3639	4.3639	0.0000	216,638.6488	216,638.6488	7.5613	2.4625	217,561.5115
Mobile	185.3680	817.3934	2,473.0015	8.8023	765.1668	8.9151	774.0819	204.9122	8.3651	213.2774	0.0000	809,930.6533	809,930.6533	34.9735	0.0000	810,804.9902
Waste						0.0000	0.0000		0.0000	0.0000	11,651.6001	0.0000	11,651.6001	688.5898	0.0000	28,866.3460
Water						0.0000	0.0000		0.0000	0.0000	2,134.2200	50,925.8377	53,060.0577	221.3073	5.6109	60,264.7865
Total	540.0042	878.3388	3,033.4450	9.1748	765.1668	16.2006	781.3674	204.9122	15.6507	220.5629	13,785.8200	1,078,360.4270	1,092,146.2471	953.2766	8.0734	1,118,384.0379

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	348.3199	6.1458	531.4281	0.0280		2.9216	2.9216		2.9216	2.9216	0.0000	865.2872	865.2872	0.8447	0.0000	886.4037
Energy	6.3162	54.7996	29.0155	0.3445		4.3639	4.3639		4.3639	4.3639	0.0000	216,638.6488	216,638.6488	7.5613	2.4625	217,561.5115
Mobile	185.3680	817.3934	2,473.0015	8.8023	765.1668	8.9151	774.0819	204.9122	8.3651	213.2774	0.0000	809,930.6533	809,930.6533	34.9735	0.0000	810,804.9902
Waste						0.0000	0.0000		0.0000	0.0000	11,651.6001	0.0000	11,651.6001	688.5898	0.0000	28,866.3460
Water						0.0000	0.0000		0.0000	0.0000	2,134.2200	50,925.8377	53,060.0577	221.3073	5.6109	60,264.7865
Total	540.0042	878.3388	3,033.4450	9.1748	765.1668	16.2006	781.3674	204.9122	15.6507	220.5629	13,785.8200	1,078,360.4270	1,092,146.2471	953.2766	8.0734	1,118,384.0379

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2020	6/1/2021	5	262	
2	Grading	Grading	6/2/2021	6/1/2022	5	261	
3	Building Construction	Building Construction	6/2/2023	6/1/2038	5	3913	
4	Paving	Paving	6/2/2022	6/1/2023	5	261	
5	Architectural Coating	Architectural Coating	6/2/2038	12/31/2040	5	674	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10742

Acres of Paving: 0

Residential Indoor: 131,528,610; Residential Outdoor: 43,842,870; Non-Residential Indoor: 27,902,051; Non-Residential Outdoor: 9,300,684; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	199.00	68.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	199.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

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3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3911	0.0000	1.3911	0.7647	0.0000	0.7647	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3139	3.2661	1.6566	2.9300e-003		0.1692	0.1692		0.1557	0.1557	0.0000	257.4162	257.4162	0.0833	0.0000	259.4976
Total	0.3139	3.2661	1.6566	2.9300e-003	1.3911	0.1692	1.5603	0.7647	0.1557	0.9203	0.0000	257.4162	257.4162	0.0833	0.0000	259.4976

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-003	3.7800e-003	0.0430	1.5000e-004	0.0152	1.0000e-004	0.0153	4.0400e-003	9.0000e-005	4.1400e-003	0.0000	13.1692	13.1692	3.0000e-004	0.0000	13.1767
Total	5.4000e-003	3.7800e-003	0.0430	1.5000e-004	0.0152	1.0000e-004	0.0153	4.0400e-003	9.0000e-005	4.1400e-003	0.0000	13.1692	13.1692	3.0000e-004	0.0000	13.1767

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.2 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3911	0.0000	1.3911	0.7647	0.0000	0.7647	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3139	3.2661	1.6566	2.9300e-003		0.1692	0.1692		0.1557	0.1557	0.0000	257.4159	257.4159	0.0833	0.0000	259.4973
Total	0.3139	3.2661	1.6566	2.9300e-003	1.3911	0.1692	1.5603	0.7647	0.1557	0.9203	0.0000	257.4159	257.4159	0.0833	0.0000	259.4973

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-003	3.7800e-003	0.0430	1.5000e-004	0.0152	1.0000e-004	0.0153	4.0400e-003	9.0000e-005	4.1400e-003	0.0000	13.1692	13.1692	3.0000e-004	0.0000	13.1767
Total	5.4000e-003	3.7800e-003	0.0430	1.5000e-004	0.0152	1.0000e-004	0.0153	4.0400e-003	9.0000e-005	4.1400e-003	0.0000	13.1692	13.1692	3.0000e-004	0.0000	13.1767

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.9756	0.0000	0.9756	0.5363	0.0000	0.5363	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2100	2.1868	1.1423	2.0500e-003		0.1104	0.1104		0.1016	0.1016	0.0000	180.5529	180.5529	0.0584	0.0000	182.0127
Total	0.2100	2.1868	1.1423	2.0500e-003	0.9756	0.1104	1.0860	0.5363	0.1016	0.6378	0.0000	180.5529	180.5529	0.0584	0.0000	182.0127

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5600e-003	2.3900e-003	0.0279	1.0000e-004	0.0107	7.0000e-005	0.0107	2.8300e-003	6.0000e-005	2.9000e-003	0.0000	8.9151	8.9151	1.9000e-004	0.0000	8.9199
Total	3.5600e-003	2.3900e-003	0.0279	1.0000e-004	0.0107	7.0000e-005	0.0107	2.8300e-003	6.0000e-005	2.9000e-003	0.0000	8.9151	8.9151	1.9000e-004	0.0000	8.9199

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.9756	0.0000	0.9756	0.5363	0.0000	0.5363	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2100	2.1868	1.1423	2.0500e-003		0.1104	0.1104		0.1016	0.1016	0.0000	180.5527	180.5527	0.0584	0.0000	182.0125
Total	0.2100	2.1868	1.1423	2.0500e-003	0.9756	0.1104	1.0860	0.5363	0.1016	0.6378	0.0000	180.5527	180.5527	0.0584	0.0000	182.0125

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5600e-003	2.3900e-003	0.0279	1.0000e-004	0.0107	7.0000e-005	0.0107	2.8300e-003	6.0000e-005	2.9000e-003	0.0000	8.9151	8.9151	1.9000e-004	0.0000	8.9199
Total	3.5600e-003	2.3900e-003	0.0279	1.0000e-004	0.0107	7.0000e-005	0.0107	2.8300e-003	6.0000e-005	2.9000e-003	0.0000	8.9151	8.9151	1.9000e-004	0.0000	8.9199

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3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.1566	0.0000	6.1566	0.8683	0.0000	0.8683	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3206	3.5496	2.3622	4.7400e-003		0.1519	0.1519		0.1397	0.1397	0.0000	416.8866	416.8866	0.1348	0.0000	420.2574
Total	0.3206	3.5496	2.3622	4.7400e-003	6.1566	0.1519	6.3085	0.8683	0.1397	1.0080	0.0000	416.8866	416.8866	0.1348	0.0000	420.2574

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6100e-003	3.7700e-003	0.0440	1.6000e-004	0.0168	1.1000e-004	0.0169	4.4600e-003	1.0000e-004	4.5600e-003	0.0000	14.0330	14.0330	3.0000e-004	0.0000	14.0405
Total	5.6100e-003	3.7700e-003	0.0440	1.6000e-004	0.0168	1.1000e-004	0.0169	4.4600e-003	1.0000e-004	4.5600e-003	0.0000	14.0330	14.0330	3.0000e-004	0.0000	14.0405

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.1566	0.0000	6.1566	0.8683	0.0000	0.8683	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3206	3.5496	2.3622	4.7400e-003		0.1519	0.1519		0.1397	0.1397	0.0000	416.8861	416.8861	0.1348	0.0000	420.2569
Total	0.3206	3.5496	2.3622	4.7400e-003	6.1566	0.1519	6.3085	0.8683	0.1397	1.0080	0.0000	416.8861	416.8861	0.1348	0.0000	420.2569

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6100e-003	3.7700e-003	0.0440	1.6000e-004	0.0168	1.1000e-004	0.0169	4.4600e-003	1.0000e-004	4.5600e-003	0.0000	14.0330	14.0330	3.0000e-004	0.0000	14.0405
Total	5.6100e-003	3.7700e-003	0.0440	1.6000e-004	0.0168	1.1000e-004	0.0169	4.4600e-003	1.0000e-004	4.5600e-003	0.0000	14.0330	14.0330	3.0000e-004	0.0000	14.0405

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3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0211	0.0000	6.0211	0.7938	0.0000	0.7938	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1957	2.0976	1.5682	3.3500e-003		0.0883	0.0883		0.0812	0.0812	0.0000	294.4868	294.4868	0.0952	0.0000	296.8679
Total	0.1957	2.0976	1.5682	3.3500e-003	6.0211	0.0883	6.1094	0.7938	0.0812	0.8750	0.0000	294.4868	294.4868	0.0952	0.0000	296.8679

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7400e-003	2.4100e-003	0.0289	1.1000e-004	0.0119	8.0000e-005	0.0119	3.1500e-003	7.0000e-005	3.2200e-003	0.0000	9.5389	9.5389	1.9000e-004	0.0000	9.5437
Total	3.7400e-003	2.4100e-003	0.0289	1.1000e-004	0.0119	8.0000e-005	0.0119	3.1500e-003	7.0000e-005	3.2200e-003	0.0000	9.5389	9.5389	1.9000e-004	0.0000	9.5437

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3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0211	0.0000	6.0211	0.7938	0.0000	0.7938	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1957	2.0976	1.5682	3.3500e-003		0.0883	0.0883		0.0812	0.0812	0.0000	294.4865	294.4865	0.0952	0.0000	296.8676
Total	0.1957	2.0976	1.5682	3.3500e-003	6.0211	0.0883	6.1094	0.7938	0.0812	0.8750	0.0000	294.4865	294.4865	0.0952	0.0000	296.8676

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7400e-003	2.4100e-003	0.0289	1.1000e-004	0.0119	8.0000e-005	0.0119	3.1500e-003	7.0000e-005	3.2200e-003	0.0000	9.5389	9.5389	1.9000e-004	0.0000	9.5437
Total	3.7400e-003	2.4100e-003	0.0289	1.1000e-004	0.0119	8.0000e-005	0.0119	3.1500e-003	7.0000e-005	3.2200e-003	0.0000	9.5389	9.5389	1.9000e-004	0.0000	9.5437

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3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1187	1.0861	1.2264	2.0300e-003		0.0528	0.0528		0.0497	0.0497	0.0000	175.0126	175.0126	0.0416	0.0000	176.0534
Total	0.1187	1.0861	1.2264	2.0300e-003		0.0528	0.0528		0.0497	0.0497	0.0000	175.0126	175.0126	0.0416	0.0000	176.0534

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0100	0.3471	0.1227	1.2000e-003	0.0323	4.2000e-004	0.0327	9.3200e-003	4.1000e-004	9.7300e-003	0.0000	118.9702	118.9702	9.0000e-003	0.0000	119.1952
Worker	0.0494	0.0304	0.3748	1.4100e-003	0.1649	1.0500e-003	0.1660	0.0438	9.6000e-004	0.0448	0.0000	127.6045	127.6045	2.4300e-003	0.0000	127.6651
Total	0.0594	0.3776	0.4975	2.6100e-003	0.1973	1.4700e-003	0.1987	0.0531	1.3700e-003	0.0545	0.0000	246.5746	246.5746	0.0114	0.0000	246.8604

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3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1187	1.0861	1.2264	2.0300e-003		0.0528	0.0528		0.0497	0.0497	0.0000	175.0124	175.0124	0.0416	0.0000	176.0532
Total	0.1187	1.0861	1.2264	2.0300e-003		0.0528	0.0528		0.0497	0.0497	0.0000	175.0124	175.0124	0.0416	0.0000	176.0532

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0100	0.3471	0.1227	1.2000e-003	0.0323	4.2000e-004	0.0327	9.3200e-003	4.1000e-004	9.7300e-003	0.0000	118.9702	118.9702	9.0000e-003	0.0000	119.1952
Worker	0.0494	0.0304	0.3748	1.4100e-003	0.1649	1.0500e-003	0.1660	0.0438	9.6000e-004	0.0448	0.0000	127.6045	127.6045	2.4300e-003	0.0000	127.6651
Total	0.0594	0.3776	0.4975	2.6100e-003	0.1973	1.4700e-003	0.1987	0.0531	1.3700e-003	0.0545	0.0000	246.5746	246.5746	0.0114	0.0000	246.8604

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3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0168	0.5947	0.2083	2.0600e-003	0.0561	7.2000e-004	0.0568	0.0162	6.9000e-004	0.0169	0.0000	204.7958	204.7958	0.0154	0.0000	205.1801
Worker	0.0816	0.0481	0.6048	2.3500e-003	0.2862	1.7900e-003	0.2880	0.0760	1.6400e-003	0.0776	0.0000	212.6344	212.6344	3.8200e-003	0.0000	212.7299
Total	0.0984	0.6428	0.8132	4.4100e-003	0.3423	2.5100e-003	0.3448	0.0922	2.3300e-003	0.0945	0.0000	417.4302	417.4302	0.0192	0.0000	417.9100

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0168	0.5947	0.2083	2.0600e-003	0.0561	7.2000e-004	0.0568	0.0162	6.9000e-004	0.0169	0.0000	204.7958	204.7958	0.0154	0.0000	205.1801
Worker	0.0816	0.0481	0.6048	2.3500e-003	0.2862	1.7900e-003	0.2880	0.0760	1.6400e-003	0.0776	0.0000	212.6344	212.6344	3.8200e-003	0.0000	212.7299
Total	0.0984	0.6428	0.8132	4.4100e-003	0.3423	2.5100e-003	0.3448	0.0922	2.3300e-003	0.0945	0.0000	417.4302	417.4302	0.0192	0.0000	417.9100

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0163	0.5846	0.2050	2.0400e-003	0.0559	7.0000e-004	0.0566	0.0161	6.7000e-004	0.0168	0.0000	202.7641	202.7641	0.0151	0.0000	203.1417
Worker	0.0777	0.0439	0.5622	2.2500e-003	0.2851	1.7600e-003	0.2869	0.0757	1.6200e-003	0.0773	0.0000	203.2651	203.2651	3.4800e-003	0.0000	203.3521
Total	0.0940	0.6286	0.7672	4.2900e-003	0.3410	2.4600e-003	0.3434	0.0918	2.2900e-003	0.0941	0.0000	406.0292	406.0292	0.0186	0.0000	406.4938

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3.4 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0163	0.5846	0.2050	2.0400e-003	0.0559	7.0000e-004	0.0566	0.0161	6.7000e-004	0.0168	0.0000	202.7641	202.7641	0.0151	0.0000	203.1417
Worker	0.0777	0.0439	0.5622	2.2500e-003	0.2851	1.7600e-003	0.2869	0.0757	1.6200e-003	0.0773	0.0000	203.2651	203.2651	3.4800e-003	0.0000	203.3521
Total	0.0940	0.6286	0.7672	4.2900e-003	0.3410	2.4600e-003	0.3434	0.0918	2.2900e-003	0.0941	0.0000	406.0292	406.0292	0.0186	0.0000	406.4938

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3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.5768	0.2033	2.0200e-003	0.0559	6.8000e-004	0.0566	0.0161	6.5000e-004	0.0168	0.0000	201.5641	201.5641	0.0149	0.0000	201.9365
Worker	0.0747	0.0406	0.5276	2.1600e-003	0.2851	1.7100e-003	0.2868	0.0757	1.5700e-003	0.0773	0.0000	195.9165	195.9165	3.2000e-003	0.0000	195.9964
Total	0.0906	0.6174	0.7309	4.1800e-003	0.3410	2.3900e-003	0.3434	0.0918	2.2200e-003	0.0940	0.0000	397.4806	397.4806	0.0181	0.0000	397.9329

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3.4 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0159	0.5768	0.2033	2.0200e-003	0.0559	6.8000e-004	0.0566	0.0161	6.5000e-004	0.0168	0.0000	201.5641	201.5641	0.0149	0.0000	201.9365
Worker	0.0747	0.0406	0.5276	2.1600e-003	0.2851	1.7100e-003	0.2868	0.0757	1.5700e-003	0.0773	0.0000	195.9165	195.9165	3.2000e-003	0.0000	195.9964
Total	0.0906	0.6174	0.7309	4.1800e-003	0.3410	2.3900e-003	0.3434	0.0918	2.2200e-003	0.0940	0.0000	397.4806	397.4806	0.0181	0.0000	397.9329

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0156	0.5694	0.2019	2.0100e-003	0.0559	6.7000e-004	0.0565	0.0161	6.4000e-004	0.0168	0.0000	200.4574	200.4574	0.0147	0.0000	200.8250
Worker	0.0716	0.0376	0.4974	2.0900e-003	0.2851	1.6100e-003	0.2867	0.0757	1.4800e-003	0.0772	0.0000	189.5202	189.5202	2.9500e-003	0.0000	189.5939
Total	0.0872	0.6070	0.6993	4.1000e-003	0.3410	2.2800e-003	0.3432	0.0918	2.1200e-003	0.0940	0.0000	389.9776	389.9776	0.0177	0.0000	390.4189

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3.4 Building Construction - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0156	0.5694	0.2019	2.0100e-003	0.0559	6.7000e-004	0.0565	0.0161	6.4000e-004	0.0168	0.0000	200.4574	200.4574	0.0147	0.0000	200.8250
Worker	0.0716	0.0376	0.4974	2.0900e-003	0.2851	1.6100e-003	0.2867	0.0757	1.4800e-003	0.0772	0.0000	189.5202	189.5202	2.9500e-003	0.0000	189.5939
Total	0.0872	0.6070	0.6993	4.1000e-003	0.3410	2.2800e-003	0.3432	0.0918	2.1200e-003	0.0940	0.0000	389.9776	389.9776	0.0177	0.0000	390.4189

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671
Total	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4953	301.4953	0.0709	0.0000	303.2671

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0153	0.5610	0.2004	1.9900e-003	0.0557	6.5000e-004	0.0563	0.0161	6.2000e-004	0.0167	0.0000	198.7330	198.7330	0.0145	0.0000	199.0947
Worker	0.0682	0.0348	0.4688	2.0200e-003	0.2840	1.4800e-003	0.2855	0.0754	1.3700e-003	0.0768	0.0000	183.2563	183.2563	2.7200e-003	0.0000	183.3243
Total	0.0834	0.5958	0.6692	4.0100e-003	0.3397	2.1300e-003	0.3418	0.0915	1.9900e-003	0.0935	0.0000	381.9893	381.9893	0.0172	0.0000	382.4190

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3.4 Building Construction - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667
Total	0.1778	1.6211	2.0910	3.5000e-003		0.0686	0.0686		0.0645	0.0645	0.0000	301.4949	301.4949	0.0709	0.0000	303.2667

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0153	0.5610	0.2004	1.9900e-003	0.0557	6.5000e-004	0.0563	0.0161	6.2000e-004	0.0167	0.0000	198.7330	198.7330	0.0145	0.0000	199.0947
Worker	0.0682	0.0348	0.4688	2.0200e-003	0.2840	1.4800e-003	0.2855	0.0754	1.3700e-003	0.0768	0.0000	183.2563	183.2563	2.7200e-003	0.0000	183.3243
Total	0.0834	0.5958	0.6692	4.0100e-003	0.3397	2.1300e-003	0.3418	0.0915	1.9900e-003	0.0935	0.0000	381.9893	381.9893	0.0172	0.0000	382.4190

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0151	0.5573	0.2004	1.9900e-003	0.0559	6.4000e-004	0.0565	0.0161	6.1000e-004	0.0167	0.0000	198.6293	198.6293	0.0144	0.0000	198.9886
Worker	0.0649	0.0325	0.4453	1.9800e-003	0.2851	1.3800e-003	0.2865	0.0757	1.2700e-003	0.0770	0.0000	179.1069	179.1069	2.5300e-003	0.0000	179.1701
Total	0.0800	0.5897	0.6457	3.9700e-003	0.3410	2.0200e-003	0.3430	0.0918	1.8800e-003	0.0937	0.0000	377.7363	377.7363	0.0169	0.0000	378.1587

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3.4 Building Construction - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0151	0.5573	0.2004	1.9900e-003	0.0559	6.4000e-004	0.0565	0.0161	6.1000e-004	0.0167	0.0000	198.6293	198.6293	0.0144	0.0000	198.9886
Worker	0.0649	0.0325	0.4453	1.9800e-003	0.2851	1.3800e-003	0.2865	0.0757	1.2700e-003	0.0770	0.0000	179.1069	179.1069	2.5300e-003	0.0000	179.1701
Total	0.0800	0.5897	0.6457	3.9700e-003	0.3410	2.0200e-003	0.3430	0.0918	1.8800e-003	0.0937	0.0000	377.7363	377.7363	0.0169	0.0000	378.1587

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0148	0.5518	0.1997	1.9800e-003	0.0559	6.3000e-004	0.0565	0.0161	6.0000e-004	0.0167	0.0000	197.8464	197.8464	0.0142	0.0000	198.2022
Worker	0.0612	0.0302	0.4219	1.9300e-003	0.2851	1.2800e-003	0.2864	0.0757	1.1800e-003	0.0769	0.0000	174.8632	174.8632	2.3400e-003	0.0000	174.9216
Total	0.0760	0.5820	0.6215	3.9100e-003	0.3410	1.9100e-003	0.3429	0.0918	1.7800e-003	0.0936	0.0000	372.7096	372.7096	0.0166	0.0000	373.1238

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0148	0.5518	0.1997	1.9800e-003	0.0559	6.3000e-004	0.0565	0.0161	6.0000e-004	0.0167	0.0000	197.8464	197.8464	0.0142	0.0000	198.2022
Worker	0.0612	0.0302	0.4219	1.9300e-003	0.2851	1.2800e-003	0.2864	0.0757	1.1800e-003	0.0769	0.0000	174.8632	174.8632	2.3400e-003	0.0000	174.9216
Total	0.0760	0.5820	0.6215	3.9100e-003	0.3410	1.9100e-003	0.3429	0.0918	1.7800e-003	0.0936	0.0000	372.7096	372.7096	0.0166	0.0000	373.1238

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777
Total	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0336	343.0336	0.0138	0.0000	343.3777

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0147	0.5456	0.1994	1.9700e-003	0.0559	6.2000e-004	0.0565	0.0161	5.9000e-004	0.0167	0.0000	197.2386	197.2386	0.0141	0.0000	197.5918
Worker	0.0571	0.0280	0.3995	1.8800e-003	0.2851	1.1900e-003	0.2863	0.0757	1.1000e-003	0.0768	0.0000	170.7511	170.7511	2.1500e-003	0.0000	170.8049
Total	0.0717	0.5736	0.5989	3.8500e-003	0.3410	1.8100e-003	0.3428	0.0918	1.6900e-003	0.0935	0.0000	367.9897	367.9897	0.0163	0.0000	368.3967

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3.4 Building Construction - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773
Total	0.1708	1.0355	2.1085	4.0400e-003		0.0193	0.0193		0.0193	0.0193	0.0000	343.0332	343.0332	0.0138	0.0000	343.3773

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0147	0.5456	0.1994	1.9700e-003	0.0559	6.2000e-004	0.0565	0.0161	5.9000e-004	0.0167	0.0000	197.2386	197.2386	0.0141	0.0000	197.5918
Worker	0.0571	0.0280	0.3995	1.8800e-003	0.2851	1.1900e-003	0.2863	0.0757	1.1000e-003	0.0768	0.0000	170.7511	170.7511	2.1500e-003	0.0000	170.8049
Total	0.0717	0.5736	0.5989	3.8500e-003	0.3410	1.8100e-003	0.3428	0.0918	1.6900e-003	0.0935	0.0000	367.9897	367.9897	0.0163	0.0000	368.3967

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3479	344.3479	0.0138	0.0000	344.6933
Total	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3479	344.3479	0.0138	0.0000	344.6933

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0146	0.5430	0.2001	1.9800e-003	0.0561	6.1000e-004	0.0567	0.0162	5.9000e-004	0.0168	0.0000	197.4619	197.4619	0.0141	0.0000	197.8141
Worker	0.0536	0.0262	0.3809	1.8600e-003	0.2862	1.1200e-003	0.2873	0.0760	1.0300e-003	0.0770	0.0000	168.1871	168.1871	2.0100e-003	0.0000	168.2373
Total	0.0681	0.5692	0.5810	3.8400e-003	0.3423	1.7300e-003	0.3440	0.0922	1.6200e-003	0.0938	0.0000	365.6490	365.6490	0.0161	0.0000	366.0514

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3.4 Building Construction - 2032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3475	344.3475	0.0138	0.0000	344.6929
Total	0.1715	1.0394	2.1166	4.0600e-003		0.0194	0.0194		0.0194	0.0194	0.0000	344.3475	344.3475	0.0138	0.0000	344.6929

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0146	0.5430	0.2001	1.9800e-003	0.0561	6.1000e-004	0.0567	0.0162	5.9000e-004	0.0168	0.0000	197.4619	197.4619	0.0141	0.0000	197.8141
Worker	0.0536	0.0262	0.3809	1.8600e-003	0.2862	1.1200e-003	0.2873	0.0760	1.0300e-003	0.0770	0.0000	168.1871	168.1871	2.0100e-003	0.0000	168.2373
Total	0.0681	0.5692	0.5810	3.8400e-003	0.3423	1.7300e-003	0.3440	0.0922	1.6200e-003	0.0938	0.0000	365.6490	365.6490	0.0161	0.0000	366.0514

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3.4 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0143	0.5345	0.1987	1.9600e-003	0.0557	6.0000e-004	0.0563	0.0161	5.7000e-004	0.0166	0.0000	195.5022	195.5022	0.0139	0.0000	195.8496
Worker	0.0500	0.0244	0.3607	1.8100e-003	0.2840	1.0400e-003	0.2850	0.0754	9.6000e-004	0.0764	0.0000	164.1519	164.1519	1.8600e-003	0.0000	164.1984
Total	0.0644	0.5589	0.5593	3.7700e-003	0.3397	1.6400e-003	0.3413	0.0915	1.5300e-003	0.0930	0.0000	359.6541	359.6541	0.0158	0.0000	360.0481

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3.4 Building Construction - 2033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0143	0.5345	0.1987	1.9600e-003	0.0557	6.0000e-004	0.0563	0.0161	5.7000e-004	0.0166	0.0000	195.5022	195.5022	0.0139	0.0000	195.8496
Worker	0.0500	0.0244	0.3607	1.8100e-003	0.2840	1.0400e-003	0.2850	0.0754	9.6000e-004	0.0764	0.0000	164.1519	164.1519	1.8600e-003	0.0000	164.1984
Total	0.0644	0.5589	0.5593	3.7700e-003	0.3397	1.6400e-003	0.3413	0.0915	1.5300e-003	0.0930	0.0000	359.6541	359.6541	0.0158	0.0000	360.0481

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3.4 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621
Total	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7193	341.7193	0.0137	0.0000	342.0621

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5304	0.1985	1.9500e-003	0.0557	5.9000e-004	0.0562	0.0161	5.6000e-004	0.0166	0.0000	195.1294	195.1294	0.0138	0.0000	195.4750
Worker	0.0474	0.0231	0.3442	1.7900e-003	0.2840	9.7000e-004	0.2850	0.0754	9.0000e-004	0.0763	0.0000	161.7806	161.7806	1.7400e-003	0.0000	161.8240
Total	0.0616	0.5535	0.5427	3.7400e-003	0.3397	1.5600e-003	0.3412	0.0915	1.4600e-003	0.0929	0.0000	356.9099	356.9099	0.0156	0.0000	357.2990

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3.4 Building Construction - 2034

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617
Total	0.1702	1.0315	2.1004	4.0200e-003		0.0193	0.0193		0.0193	0.0193	0.0000	341.7189	341.7189	0.0137	0.0000	342.0617

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5304	0.1985	1.9500e-003	0.0557	5.9000e-004	0.0562	0.0161	5.6000e-004	0.0166	0.0000	195.1294	195.1294	0.0138	0.0000	195.4750
Worker	0.0474	0.0231	0.3442	1.7900e-003	0.2840	9.7000e-004	0.2850	0.0754	9.0000e-004	0.0763	0.0000	161.7806	161.7806	1.7400e-003	0.0000	161.8240
Total	0.0616	0.5535	0.5427	3.7400e-003	0.3397	1.5600e-003	0.3412	0.0915	1.4600e-003	0.0929	0.0000	356.9099	356.9099	0.0156	0.0000	357.2990

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530
Total	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5291	0.1990	1.9500e-003	0.0559	5.8000e-004	0.0565	0.0161	5.6000e-004	0.0167	0.0000	195.5829	195.5829	0.0138	0.0000	195.9282
Worker	0.0453	0.0221	0.3316	1.7700e-003	0.2851	9.2000e-004	0.2860	0.0757	8.5000e-004	0.0766	0.0000	160.3861	160.3861	1.6400e-003	0.0000	160.4272
Total	0.0595	0.5512	0.5307	3.7200e-003	0.3410	1.5000e-003	0.3425	0.0918	1.4100e-003	0.0932	0.0000	355.9690	355.9690	0.0155	0.0000	356.3553

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2035

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526
Total	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5291	0.1990	1.9500e-003	0.0559	5.8000e-004	0.0565	0.0161	5.6000e-004	0.0167	0.0000	195.5829	195.5829	0.0138	0.0000	195.9282
Worker	0.0453	0.0221	0.3316	1.7700e-003	0.2851	9.2000e-004	0.2860	0.0757	8.5000e-004	0.0766	0.0000	160.3861	160.3861	1.6400e-003	0.0000	160.4272
Total	0.0595	0.5512	0.5307	3.7200e-003	0.3410	1.5000e-003	0.3425	0.0918	1.4100e-003	0.0932	0.0000	355.9690	355.9690	0.0155	0.0000	356.3553

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1594	0.9381	2.1114	4.0600e-003		0.0118	0.0118		0.0118	0.0118	0.0000	344.3479	344.3479	0.0128	0.0000	344.6686
Total	0.1594	0.9381	2.1114	4.0600e-003		0.0118	0.0118		0.0118	0.0118	0.0000	344.3479	344.3479	0.0128	0.0000	344.6686

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5311	0.1998	1.9600e-003	0.0561	5.9000e-004	0.0567	0.0162	5.6000e-004	0.0167	0.0000	196.3323	196.3323	0.0139	0.0000	196.6789
Worker	0.0455	0.0222	0.3329	1.7800e-003	0.2862	9.2000e-004	0.2871	0.0760	8.5000e-004	0.0769	0.0000	161.0006	161.0006	1.6500e-003	0.0000	161.0418
Total	0.0597	0.5533	0.5327	3.7400e-003	0.3423	1.5100e-003	0.3438	0.0922	1.4100e-003	0.0936	0.0000	357.3329	357.3329	0.0155	0.0000	357.7207

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3.4 Building Construction - 2036

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1594	0.9381	2.1114	4.0600e-003		0.0118	0.0118		0.0118	0.0118	0.0000	344.3475	344.3475	0.0128	0.0000	344.6682
Total	0.1594	0.9381	2.1114	4.0600e-003		0.0118	0.0118		0.0118	0.0118	0.0000	344.3475	344.3475	0.0128	0.0000	344.6682

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5311	0.1998	1.9600e-003	0.0561	5.9000e-004	0.0567	0.0162	5.6000e-004	0.0167	0.0000	196.3323	196.3323	0.0139	0.0000	196.6789
Worker	0.0455	0.0222	0.3329	1.7800e-003	0.2862	9.2000e-004	0.2871	0.0760	8.5000e-004	0.0769	0.0000	161.0006	161.0006	1.6500e-003	0.0000	161.0418
Total	0.0597	0.5533	0.5327	3.7400e-003	0.3423	1.5100e-003	0.3438	0.0922	1.4100e-003	0.0936	0.0000	357.3329	357.3329	0.0155	0.0000	357.7207

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530
Total	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0336	343.0336	0.0128	0.0000	343.3530

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5291	0.1990	1.9500e-003	0.0559	5.8000e-004	0.0565	0.0161	5.6000e-004	0.0167	0.0000	195.5829	195.5829	0.0138	0.0000	195.9282
Worker	0.0453	0.0221	0.3316	1.7700e-003	0.2851	9.2000e-004	0.2860	0.0757	8.5000e-004	0.0766	0.0000	160.3861	160.3861	1.6400e-003	0.0000	160.4272
Total	0.0595	0.5512	0.5307	3.7200e-003	0.3410	1.5000e-003	0.3425	0.0918	1.4100e-003	0.0932	0.0000	355.9690	355.9690	0.0155	0.0000	356.3553

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2037

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526
Total	0.1588	0.9346	2.1034	4.0400e-003		0.0118	0.0118		0.0118	0.0118	0.0000	343.0332	343.0332	0.0128	0.0000	343.3526

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0142	0.5291	0.1990	1.9500e-003	0.0559	5.8000e-004	0.0565	0.0161	5.6000e-004	0.0167	0.0000	195.5829	195.5829	0.0138	0.0000	195.9282
Worker	0.0453	0.0221	0.3316	1.7700e-003	0.2851	9.2000e-004	0.2860	0.0757	8.5000e-004	0.0766	0.0000	160.3861	160.3861	1.6400e-003	0.0000	160.4272
Total	0.0595	0.5512	0.5307	3.7200e-003	0.3410	1.5000e-003	0.3425	0.0918	1.4100e-003	0.0932	0.0000	355.9690	355.9690	0.0155	0.0000	356.3553

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.4 Building Construction - 2038

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0657	0.3867	0.8704	1.6700e-003		4.8800e-003	4.8800e-003		4.8800e-003	4.8800e-003	0.0000	141.9450	141.9450	5.2900e-003	0.0000	142.0771
Total	0.0657	0.3867	0.8704	1.6700e-003		4.8800e-003	4.8800e-003		4.8800e-003	4.8800e-003	0.0000	141.9450	141.9450	5.2900e-003	0.0000	142.0771

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8600e-003	0.2189	0.0824	8.1000e-004	0.0231	2.4000e-004	0.0234	6.6700e-003	2.3000e-004	6.9000e-003	0.0000	80.9309	80.9309	5.7100e-003	0.0000	81.0737
Worker	0.0188	9.1600e-003	0.1372	7.3000e-004	0.1180	3.8000e-004	0.1184	0.0313	3.5000e-004	0.0317	0.0000	66.3667	66.3667	6.8000e-004	0.0000	66.3837
Total	0.0246	0.2281	0.2196	1.5400e-003	0.1411	6.2000e-004	0.1417	0.0380	5.8000e-004	0.0386	0.0000	147.2975	147.2975	6.3900e-003	0.0000	147.4574

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3.4 Building Construction - 2038

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0657	0.3867	0.8704	1.6700e-003		4.8800e-003	4.8800e-003		4.8800e-003	4.8800e-003	0.0000	141.9448	141.9448	5.2900e-003	0.0000	142.0770
Total	0.0657	0.3867	0.8704	1.6700e-003		4.8800e-003	4.8800e-003		4.8800e-003	4.8800e-003	0.0000	141.9448	141.9448	5.2900e-003	0.0000	142.0770

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.8600e-003	0.2189	0.0824	8.1000e-004	0.0231	2.4000e-004	0.0234	6.6700e-003	2.3000e-004	6.9000e-003	0.0000	80.9309	80.9309	5.7100e-003	0.0000	81.0737
Worker	0.0188	9.1600e-003	0.1372	7.3000e-004	0.1180	3.8000e-004	0.1184	0.0313	3.5000e-004	0.0317	0.0000	66.3667	66.3667	6.8000e-004	0.0000	66.3837
Total	0.0246	0.2281	0.2196	1.5400e-003	0.1411	6.2000e-004	0.1417	0.0380	5.8000e-004	0.0386	0.0000	147.2975	147.2975	6.3900e-003	0.0000	147.4574

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3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0838	0.8455	1.1081	1.7300e-003		0.0432	0.0432		0.0397	0.0397	0.0000	152.2094	152.2094	0.0492	0.0000	153.4401
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0838	0.8455	1.1081	1.7300e-003		0.0432	0.0432		0.0397	0.0397	0.0000	152.2094	152.2094	0.0492	0.0000	153.4401

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9500e-003	2.5400e-003	0.0305	1.1000e-004	0.0125	8.0000e-005	0.0126	3.3200e-003	7.0000e-005	3.4000e-003	0.0000	10.0689	10.0689	2.0000e-004	0.0000	10.0739
Total	3.9500e-003	2.5400e-003	0.0305	1.1000e-004	0.0125	8.0000e-005	0.0126	3.3200e-003	7.0000e-005	3.4000e-003	0.0000	10.0689	10.0689	2.0000e-004	0.0000	10.0739

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.5 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0838	0.8455	1.1081	1.7300e-003		0.0432	0.0432		0.0397	0.0397	0.0000	152.2093	152.2093	0.0492	0.0000	153.4399
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0838	0.8455	1.1081	1.7300e-003		0.0432	0.0432		0.0397	0.0397	0.0000	152.2093	152.2093	0.0492	0.0000	153.4399

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9500e-003	2.5400e-003	0.0305	1.1000e-004	0.0125	8.0000e-005	0.0126	3.3200e-003	7.0000e-005	3.4000e-003	0.0000	10.0689	10.0689	2.0000e-004	0.0000	10.0739
Total	3.9500e-003	2.5400e-003	0.0305	1.1000e-004	0.0125	8.0000e-005	0.0126	3.3200e-003	7.0000e-005	3.4000e-003	0.0000	10.0689	10.0689	2.0000e-004	0.0000	10.0739

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3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0563	0.5554	0.7948	1.2400e-003		0.0278	0.0278		0.0256	0.0256	0.0000	109.1464	109.1464	0.0353	0.0000	110.0289
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0563	0.5554	0.7948	1.2400e-003		0.0278	0.0278		0.0256	0.0256	0.0000	109.1464	109.1464	0.0353	0.0000	110.0289

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6900e-003	1.6600e-003	0.0204	8.0000e-005	8.9700e-003	6.0000e-005	9.0300e-003	2.3800e-003	5.0000e-005	2.4400e-003	0.0000	6.9431	6.9431	1.3000e-004	0.0000	6.9464
Total	2.6900e-003	1.6600e-003	0.0204	8.0000e-005	8.9700e-003	6.0000e-005	9.0300e-003	2.3800e-003	5.0000e-005	2.4400e-003	0.0000	6.9431	6.9431	1.3000e-004	0.0000	6.9464

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3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0563	0.5554	0.7948	1.2400e-003		0.0278	0.0278		0.0256	0.0256	0.0000	109.1463	109.1463	0.0353	0.0000	110.0288
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0563	0.5554	0.7948	1.2400e-003		0.0278	0.0278		0.0256	0.0256	0.0000	109.1463	109.1463	0.0353	0.0000	110.0288

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6900e-003	1.6600e-003	0.0204	8.0000e-005	8.9700e-003	6.0000e-005	9.0300e-003	2.3800e-003	5.0000e-005	2.4400e-003	0.0000	6.9431	6.9431	1.3000e-004	0.0000	6.9464
Total	2.6900e-003	1.6600e-003	0.0204	8.0000e-005	8.9700e-003	6.0000e-005	9.0300e-003	2.3800e-003	5.0000e-005	2.4400e-003	0.0000	6.9431	6.9431	1.3000e-004	0.0000	6.9464

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.6 Architectural Coating - 2038

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	65.7013					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0200e-003	0.0580	0.1373	2.3000e-004		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	19.5324	19.5324	7.2000e-004	0.0000	19.5504
Total	65.7103	0.0580	0.1373	2.3000e-004		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	19.5324	19.5324	7.2000e-004	0.0000	19.5504

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0266	0.0130	0.1944	1.0400e-003	0.1671	5.4000e-004	0.1677	0.0444	5.0000e-004	0.0449	0.0000	94.0195	94.0195	9.6000e-004	0.0000	94.0435
Total	0.0266	0.0130	0.1944	1.0400e-003	0.1671	5.4000e-004	0.1677	0.0444	5.0000e-004	0.0449	0.0000	94.0195	94.0195	9.6000e-004	0.0000	94.0435

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.6 Architectural Coating - 2038

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	65.7013					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0200e-003	0.0580	0.1373	2.3000e-004		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	19.5324	19.5324	7.2000e-004	0.0000	19.5504
Total	65.7103	0.0580	0.1373	2.3000e-004		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	19.5324	19.5324	7.2000e-004	0.0000	19.5504

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0266	0.0130	0.1944	1.0400e-003	0.1671	5.4000e-004	0.1677	0.0444	5.0000e-004	0.0449	0.0000	94.0195	94.0195	9.6000e-004	0.0000	94.0435
Total	0.0266	0.0130	0.1944	1.0400e-003	0.1671	5.4000e-004	0.1677	0.0444	5.0000e-004	0.0449	0.0000	94.0195	94.0195	9.6000e-004	0.0000	94.0435

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.6 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	111.6492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0153	0.0985	0.2333	3.9000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	33.1923	33.1923	1.2300e-003	0.0000	33.2230
Total	111.6645	0.0985	0.2333	3.9000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	33.1923	33.1923	1.2300e-003	0.0000	33.2230

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0451	0.0220	0.3304	1.7600e-003	0.2840	9.2000e-004	0.2849	0.0754	8.4000e-004	0.0763	0.0000	159.7716	159.7716	1.6400e-003	0.0000	159.8125
Total	0.0451	0.0220	0.3304	1.7600e-003	0.2840	9.2000e-004	0.2849	0.0754	8.4000e-004	0.0763	0.0000	159.7716	159.7716	1.6400e-003	0.0000	159.8125

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.6 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	111.6492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0153	0.0985	0.2333	3.9000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	33.1923	33.1923	1.2300e-003	0.0000	33.2229
Total	111.6645	0.0985	0.2333	3.9000e-004		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	33.1923	33.1923	1.2300e-003	0.0000	33.2229

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0451	0.0220	0.3304	1.7600e-003	0.2840	9.2000e-004	0.2849	0.0754	8.4000e-004	0.0763	0.0000	159.7716	159.7716	1.6400e-003	0.0000	159.8125
Total	0.0451	0.0220	0.3304	1.7600e-003	0.2840	9.2000e-004	0.2849	0.0754	8.4000e-004	0.0763	0.0000	159.7716	159.7716	1.6400e-003	0.0000	159.8125

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.6 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	112.0786					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0150	0.0949	0.2339	3.9000e-004		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	33.3200	33.3200	1.1700e-003	0.0000	33.3493
Total	112.0936	0.0949	0.2339	3.9000e-004		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	33.3200	33.3200	1.1700e-003	0.0000	33.3493

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0371	0.0189	0.2886	1.7000e-003	0.2851	7.2000e-004	0.2858	0.0757	6.7000e-004	0.0764	0.0000	154.3459	154.3459	1.3300e-003	0.0000	154.3792
Total	0.0371	0.0189	0.2886	1.7000e-003	0.2851	7.2000e-004	0.2858	0.0757	6.7000e-004	0.0764	0.0000	154.3459	154.3459	1.3300e-003	0.0000	154.3792

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

3.6 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	112.0786					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0150	0.0949	0.2339	3.9000e-004		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	33.3199	33.3199	1.1700e-003	0.0000	33.3492
Total	112.0936	0.0949	0.2339	3.9000e-004		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	33.3199	33.3199	1.1700e-003	0.0000	33.3492

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0371	0.0189	0.2886	1.7000e-003	0.2851	7.2000e-004	0.2858	0.0757	6.7000e-004	0.0764	0.0000	154.3459	154.3459	1.3300e-003	0.0000	154.3792
Total	0.0371	0.0189	0.2886	1.7000e-003	0.2851	7.2000e-004	0.2858	0.0757	6.7000e-004	0.0764	0.0000	154.3459	154.3459	1.3300e-003	0.0000	154.3792

4.0 Operational Detail - Mobile

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	185.3680	817.3934	2,473.0015	8.8023	765.1668	8.9151	774.0819	204.9122	8.3651	213.2774	0.0000	809,930.6533	809,930.6533	34.9735	0.0000	810,804.9902
Unmitigated	185.3680	817.3934	2,473.0015	8.8023	765.1668	8.9151	774.0819	204.9122	8.3651	213.2774	0.0000	809,930.6533	809,930.6533	34.9735	0.0000	810,804.9902

4.2 Trip Summary Information

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	2,604.00	3,087.60	2263.00	8,967,876	8,967,876
Apartments High Rise	13,713.00	16,259.70	11917.25	47,225,991	47,225,991
Apartments High Rise	3,990.00	4,731.00	3467.50	13,741,100	13,741,100
Apartments Mid Rise	52,741.15	50,679.09	46475.66	176,159,307	176,159,307
Apartments Mid Rise	21,506.10	20,665.26	18951.24	71,831,951	71,831,951
Apartments Mid Rise	50,320.55	48,353.13	44342.62	168,074,326	168,074,326
Apartments Mid Rise	7,680.75	7,380.45	6768.30	25,654,268	25,654,268
Condo/Townhouse	55,712.09	54,369.63	46410.76	185,180,754	185,180,754
Single Family Housing	162,058.96	168,697.93	146738.26	549,541,973	549,541,973
General Office Building	1,217.71	271.58	115.92	2,980,341	2,980,341
General Office Building	5,666.28	1,263.74	539.40	13,868,169	13,868,169
Office Park	51,913.26	7,455.14	3454.82	130,549,274	130,549,274
Strip Mall	135,367.91	128,404.03	62399.96	235,824,920	235,824,920
General Light Industry	66,672.25	12,626.59	6504.61	222,990,616	222,990,616
Library	45,639.15	37,775.65	20685.31	103,388,312	103,388,312
City Park	470.61	5,664.75	4168.26	5,009,411	5,009,411
City Park	3,664.71	44,112.25	32458.86	39,009,027	39,009,027
City Park	1,657.53	19,951.75	14680.98	17,643,588	17,643,588
Total	682,596.01	631,749.29	472,342.72	2,017,641,204	2,017,641,204

4.3 Trip Type Information

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Library	16.60	8.40	6.90	52.00	43.00	5.00	44	44	12
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Apartments Mid Rise	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Condo/Townhouse	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Single Family Housing	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
General Office Building	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Office Park	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Strip Mall	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
General Light Industry	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Library	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
City Park	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	0.0000	154,129.8218	154,129.8218	6.3632	1.3165	154,681.2258
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	0.0000	154,129.8218	154,129.8218	6.3632	1.3165	154,681.2258
NaturalGas Mitigated	6.3162	54.7996	29.0155	0.3445			4.3639	4.3639		4.3639	4.3639	0.0000	62,508.8270	62,508.8270	1.1981	1.1460	62,880.2857
NaturalGas Unmitigated	6.3162	54.7996	29.0155	0.3445			4.3639	4.3639		4.3639	4.3639	0.0000	62,508.8270	62,508.8270	1.1981	1.1460	62,880.2857

5.2 Energy by Land Use - NaturalGas

Unmitigated

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	3.73107e+007	0.2012	1.7192	0.7316	0.0110		0.1390	0.1390		0.1390	0.1390	0.0000	1,991.0387	1,991.0387	0.0382	0.0365	2,002.8705
Apartments High Rise	7.08503e+006	0.0382	0.3265	0.1389	2.0800e-003		0.0264	0.0264		0.0264	0.0264	0.0000	378.0839	378.0839	7.2500e-003	6.9300e-003	380.3307
Apartments High Rise	1.08561e+007	0.0585	0.5002	0.2129	3.1900e-003		0.0404	0.0404		0.0404	0.0404	0.0000	579.3221	579.3221	0.0111	0.0106	582.7648
Apartments Mid Rise	1.31987e+007	0.0712	0.6082	0.2588	3.8800e-003		0.0492	0.0492		0.0492	0.0492	0.0000	704.3338	704.3338	0.0135	0.0129	708.5193
Apartments Mid Rise	3.69564e+007	0.1993	1.7029	0.7246	0.0109		0.1377	0.1377		0.1377	0.1377	0.0000	1,972.1345	1,972.1345	0.0378	0.0362	1,983.8540
Apartments Mid Rise	8.64716e+007	0.4663	3.9845	1.6955	0.0254		0.3222	0.3222		0.3222	0.3222	0.0000	4,614.4533	4,614.4533	0.0884	0.0846	4,641.8747
Apartments Mid Rise	9.06312e+007	0.4887	4.1761	1.7771	0.0267		0.3377	0.3377		0.3377	0.3377	0.0000	4,836.4252	4,836.4252	0.0927	0.0887	4,865.1657
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.69204e+008	0.9124	7.7967	3.3177	0.0498		0.6304	0.6304		0.6304	0.6304	0.0000	9,029.3669	9,029.3669	0.1731	0.1655	9,083.0239
General Light Industry	1.99921e+008	1.0780	9.8001	8.2320	0.0588		0.7448	0.7448		0.7448	0.7448	0.0000	10,668.5503	10,668.5503	0.2045	0.1956	10,731.9481
General Office Building	1.00904e+006	5.4400e-003	0.0495	0.0416	3.0000e-004		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	53.8461	53.8461	1.0300e-003	9.9000e-004	54.1661
General Office Building	4.69536e+006	0.0253	0.2302	0.1933	1.3800e-003		0.0175	0.0175		0.0175	0.0175	0.0000	250.5620	250.5620	4.8000e-003	4.5900e-003	252.0510
Library	1.69605e+007	0.0915	0.8314	0.6984	4.9900e-003		0.0632	0.0632		0.0632	0.0632	0.0000	905.0767	905.0767	0.0174	0.0166	910.4551
Office Park	5.1686e+007	0.2787	2.5336	2.1283	0.0152		0.1926	0.1926		0.1926	0.1926	0.0000	2,758.1598	2,758.1598	0.0529	0.0506	2,774.5501
Single Family Housing	4.39277e+008	2.3687	20.2412	8.6133	0.1292		1.6365	1.6365		1.6365	1.6365	0.0000	23,441.4927	23,441.4927	0.4493	0.4298	23,580.7938
Strip Mall	6.10865e+006	0.0329	0.2994	0.2515	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	325.9809	325.9809	6.2500e-003	5.9800e-003	327.9181
Total		6.3162	54.7996	29.0155	0.3445		4.3639	4.3639		4.3639	4.3639	0.0000	62,508.8270	62,508.8270	1.1981	1.1460	62,880.2857

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

5.2 Energy by Land Use - Natural Gas

Mitigated

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	1.08561e+007	0.0585	0.5002	0.2129	3.1900e-003		0.0404	0.0404		0.0404	0.0404	0.0000	579.3221	579.3221	0.0111	0.0106	582.7648
Apartments High Rise	3.73107e+007	0.2012	1.7192	0.7316	0.0110		0.1390	0.1390		0.1390	0.1390	0.0000	1,991.0387	1,991.0387	0.0382	0.0365	2,002.8705
Apartments High Rise	7.08503e+006	0.0382	0.3265	0.1389	2.0800e-003		0.0264	0.0264		0.0264	0.0264	0.0000	378.0839	378.0839	7.2500e-003	6.9300e-003	380.3307
Apartments Mid Rise	1.31987e+007	0.0712	0.6082	0.2588	3.8800e-003		0.0492	0.0492		0.0492	0.0492	0.0000	704.3338	704.3338	0.0135	0.0129	708.5193
Apartments Mid Rise	3.69564e+007	0.1993	1.7029	0.7246	0.0109		0.1377	0.1377		0.1377	0.1377	0.0000	1,972.1345	1,972.1345	0.0378	0.0362	1,983.8540
Apartments Mid Rise	8.64716e+007	0.4663	3.9845	1.6955	0.0254		0.3222	0.3222		0.3222	0.3222	0.0000	4,614.4533	4,614.4533	0.0884	0.0846	4,641.8747
Apartments Mid Rise	9.06312e+007	0.4887	4.1761	1.7771	0.0267		0.3377	0.3377		0.3377	0.3377	0.0000	4,836.4252	4,836.4252	0.0927	0.0887	4,865.1657
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	1.69204e+008	0.9124	7.7967	3.3177	0.0498		0.6304	0.6304		0.6304	0.6304	0.0000	9,029.3669	9,029.3669	0.1731	0.1655	9,083.0239
General Light Industry	1.99921e+008	1.0780	9.8001	8.2320	0.0588		0.7448	0.7448		0.7448	0.7448	0.0000	10,668.5503	10,668.5503	0.2045	0.1956	10,731.9481
General Office Building	1.00904e+006	5.4400e-003	0.0495	0.0416	3.0000e-004		3.7600e-003	3.7600e-003		3.7600e-003	3.7600e-003	0.0000	53.8461	53.8461	1.0300e-003	9.9000e-004	54.1661
General Office Building	4.69536e+006	0.0253	0.2302	0.1933	1.3800e-003		0.0175	0.0175		0.0175	0.0175	0.0000	250.5620	250.5620	4.8000e-003	4.5900e-003	252.0510
Library	1.69605e+007	0.0915	0.8314	0.6984	4.9900e-003		0.0632	0.0632		0.0632	0.0632	0.0000	905.0767	905.0767	0.0174	0.0166	910.4551
Office Park	5.1686e+007	0.2787	2.5336	2.1283	0.0152		0.1926	0.1926		0.1926	0.1926	0.0000	2,758.1598	2,758.1598	0.0529	0.0506	2,774.5501
Single Family Housing	4.39277e+008	2.3687	20.2412	8.6133	0.1292		1.6365	1.6365		1.6365	1.6365	0.0000	23,441.4927	23,441.4927	0.4493	0.4298	23,580.7938
Strip Mall	6.10865e+006	0.0329	0.2994	0.2515	1.8000e-003		0.0228	0.0228		0.0228	0.0228	0.0000	325.9809	325.9809	6.2500e-003	5.9800e-003	327.9181
Total		6.3162	54.7996	29.0155	0.3445		4.3639	4.3639		4.3639	4.3639	0.0000	62,508.8270	62,508.8270	1.1981	1.1460	62,880.2857

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

5.3 Energy by Land Use - Electricity

Unmitigated

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.29794e+007	4,135.5004	0.1707	0.0353	4,150.2953
Apartments High Rise	2.46469e+006	785.3018	0.0324	6.7100e-003	788.1112
Apartments High Rise	3.77653e+006	1,203.2850	0.0497	0.0103	1,207.5898
Apartments Mid Rise	1.28561e+007	4,096.2353	0.1691	0.0350	4,110.8897
Apartments Mid Rise	3.00811e+007	9,584.4814	0.3957	0.0819	9,618.7701
Apartments Mid Rise	3.15281e+007	10,045.5295	0.4147	0.0858	10,081.4677
Apartments Mid Rise	4.59147e+006	1,462.9412	0.0604	0.0125	1,468.1749
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	4.76431e+007	15,180.1246	0.6267	0.1297	15,234.4319
General Light Industry	8.08293e+007	25,753.9585	1.0632	0.2200	25,846.0940
General Office Building	1.54447e+006	492.1006	0.0203	4.2000e-003	493.8611
General Office Building	7.18687e+006	2,289.8917	0.0945	0.0196	2,298.0838
Library	6.85723e+006	2,184.8617	0.0902	0.0187	2,192.6781
Office Park	6.99602e+007	22,290.8041	0.9203	0.1904	22,370.5501
Single Family Housing	1.365e+008	43,491.6990	1.7955	0.3715	43,647.2919
Strip Mall	3.49415e+007	11,133.1071	0.4596	0.0951	11,172.9362
Total		154,129.8218	6.3632	1.3165	154,681.2258

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

5.3 Energy by Land Use - Electricity

Mitigated

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.29794e+007	4,135.5004	0.1707	0.0353	4,150.2953
Apartments High Rise	2.46469e+006	785.3018	0.0324	6.7100e-003	788.1112
Apartments High Rise	3.77653e+006	1,203.2850	0.0497	0.0103	1,207.5898
Apartments Mid Rise	1.28561e+007	4,096.2353	0.1691	0.0350	4,110.8897
Apartments Mid Rise	3.00811e+007	9,584.4814	0.3957	0.0819	9,618.7701
Apartments Mid Rise	3.15281e+007	10,045.5295	0.4147	0.0858	10,081.4677
Apartments Mid Rise	4.59147e+006	1,462.9412	0.0604	0.0125	1,468.1749
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	4.76431e+007	15,180.1246	0.6267	0.1297	15,234.4319
General Light Industry	8.08293e+007	25,753.9585	1.0632	0.2200	25,846.0940
General Office Building	1.54447e+006	492.1006	0.0203	4.2000e-003	493.8611
General Office Building	7.18687e+006	2,289.8917	0.0945	0.0196	2,298.0838
Library	6.85723e+006	2,184.8617	0.0902	0.0187	2,192.6781
Office Park	6.99602e+007	22,290.8041	0.9203	0.1904	22,370.5501
Single Family Housing	1.365e+008	43,491.6990	1.7955	0.3715	43,647.2919
Strip Mall	3.49415e+007	11,133.1071	0.4596	0.0951	11,172.9362
Total		154,129.8218	6.3632	1.3165	154,681.2258

6.0 Area Detail

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	348.3199	6.1458	531.4281	0.0280		2.9216	2.9216		2.9216	2.9216	0.0000	865.2872	865.2872	0.8447	0.0000	886.4037
Unmitigated	348.3199	6.1458	531.4281	0.0280		2.9216	2.9216		2.9216	2.9216	0.0000	865.2872	865.2872	0.8447	0.0000	886.4037

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	28.9429					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	303.1769					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	16.2002	6.1458	531.4281	0.0280		2.9216	2.9216		2.9216	2.9216	0.0000	865.2872	865.2872	0.8447	0.0000	886.4037
Total	348.3199	6.1458	531.4281	0.0280		2.9216	2.9216		2.9216	2.9216	0.0000	865.2872	865.2872	0.8447	0.0000	886.4037

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	28.9429					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	303.1769					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	16.2002	6.1458	531.4281	0.0280		2.9216	2.9216		2.9216	2.9216	0.0000	865.2872	865.2872	0.8447	0.0000	886.4037
Total	348.3199	6.1458	531.4281	0.0280		2.9216	2.9216		2.9216	2.9216	0.0000	865.2872	865.2872	0.8447	0.0000	886.4037

7.0 Water Detail

7.1 Mitigation Measures Water

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	53,060.05 77	221.3073	5.6109	60,264.78 65
Unmitigated	53,060.05 77	221.3073	5.6109	60,264.78 65

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	315.02 / 198.599	2,109.904 2	10.3479	0.2596	2,445.946 3
Apartments Mid Rise	1295.72 / 816.866	8,678.317 5	42.5623	1.0676	10,060.50 35
City Park	0 / 3651.89	12,927.26 83	0.5337	0.1104	12,973.51 60
Condo/Townhouse	624.762 / 393.872	4,184.461 5	20.5225	0.5147	4,850.916 1
General Light Industry	2212.05 / 0	9,879.044 8	72.4584	1.7803	12,221.04 69
General Office Building	110.927 / 67.9876	736.0717	3.6435	0.0913	854.3769
Library	25.3913 / 39.7145	253.9828	0.8375	0.0216	281.3688
Office Park	807.946 / 495.192	5,361.228 1	26.5377	0.6652	6,222.9114
Single Family Housing	1109.12 / 699.226	7,428.5211	36.4328	0.9138	8,611.6534
Strip Mall	226.242 / 138.664	1,501.257 7	7.4311	0.1863	1,742.547 3
Total		53,060.05 77	221.3073	5.6109	60,264.78 65

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	315.02 / 198.599	2,109.904 2	10.3479	0.2596	2,445.946 3
Apartments Mid Rise	1295.72 / 816.866	8,678.317 5	42.5623	1.0676	10,060.50 35
City Park	0 / 3651.89	12,927.26 83	0.5337	0.1104	12,973.51 60
Condo/Townhouse	624.762 / 393.872	4,184.461 5	20.5225	0.5147	4,850.916 1
General Light Industry	2212.05 / 0	9,879.044 8	72.4584	1.7803	12,221.04 69
General Office Building	110.927 / 67.9876	736.0717	3.6435	0.0913	854.3769
Library	25.3913 / 39.7145	253.9828	0.8375	0.0216	281.3688
Office Park	807.946 / 495.192	5,361.228 1	26.5377	0.6652	6,222.9114
Single Family Housing	1109.12 / 699.226	7,428.5211	36.4328	0.9138	8,611.6534
Strip Mall	226.242 / 138.664	1,501.257 7	7.4311	0.1863	1,742.547 3
Total		53,060.05 77	221.3073	5.6109	60,264.78 65

8.0 Waste Detail

8.1 Mitigation Measures Waste

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11,651.600 1	688.5898	0.0000	28,866.34 60
Unmitigated	11,651.600 1	688.5898	0.0000	28,866.34 60

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	2224.1	451.4722	26.6812	0.0000	1,118.5033
Apartments Mid Rise	9148.02	1,856.9654	109.7435	0.0000	4,600.5532
City Park	263.59	53.5064	3.1621	0.0000	132.5598
Condo/Townhouse	4410.94	895.3810	52.9155	0.0000	2,218.2684
General Light Industry	11861.3	2,407.7448	142.2936	0.0000	5,965.0859
General Office Building	580.43	117.8220	6.9631	0.0000	291.8991
Library	747.33	151.7012	8.9653	0.0000	375.8334
Office Park	4227.61	858.1666	50.7162	0.0000	2,126.0715
Single Family Housing	20729.2	4,207.8382	248.6761	0.0000	10,424.7411
Strip Mall	3207.05	651.0022	38.4731	0.0000	1,612.8303
Total		11,651.6001	688.5898	0.0000	28,866.3460

Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	2224.1	451.4722	26.6812	0.0000	1,118.5033
Apartments Mid Rise	9148.02	1,856.9654	109.7435	0.0000	4,600.5532
City Park	263.59	53.5064	3.1621	0.0000	132.5598
Condo/Townhouse	4410.94	895.3810	52.9155	0.0000	2,218.2684
General Light Industry	11861.3	2,407.7448	142.2936	0.0000	5,965.0859
General Office Building	580.43	117.8220	6.9631	0.0000	291.8991
Library	747.33	151.7012	8.9653	0.0000	375.8334
Office Park	4227.61	858.1666	50.7162	0.0000	2,126.0715
Single Family Housing	20729.2	4,207.8382	248.6761	0.0000	10,424.7411
Strip Mall	3207.05	651.0022	38.4731	0.0000	1,612.8303
Total		11,651.6001	688.5898	0.0000	28,866.3460

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Lake Forest General Plan Buildout Year (2040) - Orange County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

Lake Forest General Plan Buildout Year (2040)
Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	17,023.00	Dwelling Unit	2,499.00	30,641,400.00	50559
Condo/Townhouse	9,589.00	Dwelling Unit	880.00	9,589,000.00	28481
Apartments Mid Rise	7,931.00	Dwelling Unit	361.00	7,931,000.00	23555
Apartments High Rise	620.00	Dwelling Unit	16.00	620,000.00	1840
Strip Mall	3,054.33	1000sqft	280.00	3,054,326.00	0
General Office Building	110.40	1000sqft	8.00	110,398.00	0
Office Park	4,545.82	1000sqft	298.00	4,545,819.00	0
General Light Industry	9,565.60	1000sqft	627.00	9,565,602.00	0
Library	811.51	1000sqft	373.00	811,507.00	0
Apartments Mid Rise	3,234.00	Dwelling Unit	101.00	3,234,000.00	9605
Apartments Mid Rise	7,567.00	Dwelling Unit	295.00	7,567,000.00	22473
Apartments High Rise	3,265.00	Dwelling Unit	68.00	3,265,000.00	9696
General Office Building	513.72	1000sqft	24.00	513,715.00	0
Apartments Mid Rise	1,155.00	Dwelling Unit	52.00	1,155,000.00	3430
Apartments High Rise	950.00	Dwelling Unit	26.00	950,000.00	2823
City Park	249.00	Acre	249.00	10,846,440.00	0
City Park	1,939.00	Acre	1,939.00	84,462,840.00	0
City Park	877.00	Acre	877.00	38,202,120.00	0

1.2 Other Project Characteristics

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Values as provided by the City of Lake Forest. Land uses types were selected based on best proxy for the land use designations provided. Unit amounts, lot acreages, and population provided by the City.

Construction Phase - Construction schedule assumes buildout by 12/31/2040.

Grading - Assumes grading occurs over entire Planning Area (10,742 acres).

Trips and VMT - For 'Building Construction' & 'Architectural Coating' phases: for res. uses, assumes 24 worker & 8 vendor trips per housing unit/day. For non-res. uses, assumes 8 worker trips & 3 vendor trips per 1000 sf/day. =199 daily worker 68 daily vendor trips

Woodstoves - No hearths or fireplaces (not permitted in SCAQMD's jurisdiction).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	674.00
tblConstructionPhase	NumDays	155,000.00	3,913.00
tblConstructionPhase	NumDays	15,500.00	261.00
tblConstructionPhase	NumDays	11,000.00	261.00
tblConstructionPhase	NumDays	6,000.00	262.00
tblConstructionPhase	PhaseEndDate	8/9/2819	12/31/2040
tblConstructionPhase	PhaseEndDate	4/12/2735	6/1/2038
tblConstructionPhase	PhaseEndDate	2/24/2141	6/1/2022
tblConstructionPhase	PhaseEndDate	6/10/2777	6/1/2023
tblConstructionPhase	PhaseEndDate	9/26/2081	6/1/2021
tblConstructionPhase	PhaseStartDate	6/11/2777	6/2/2038

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

tblConstructionPhase	PhaseStartDate	2/25/2141	6/2/2023
tblConstructionPhase	PhaseStartDate	9/27/2081	6/2/2021
tblConstructionPhase	PhaseStartDate	4/13/2735	6/2/2022
tblConstructionPhase	PhaseStartDate	9/28/2058	6/1/2020
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	4,109.75	0.00
tblFireplaces	NumberGas	16,903.95	0.00
tblFireplaces	NumberGas	8,150.65	0.00
tblFireplaces	NumberGas	14,469.55	0.00
tblFireplaces	NumberNoFireplace	483.50	0.00
tblFireplaces	NumberNoFireplace	1,988.70	0.00
tblFireplaces	NumberNoFireplace	958.90	0.00
tblFireplaces	NumberNoFireplace	1,702.30	0.00
tblFireplaces	NumberWood	241.75	0.00
tblFireplaces	NumberWood	994.35	0.00
tblFireplaces	NumberWood	479.45	0.00
tblFireplaces	NumberWood	851.15	0.00
tblGrading	AcresOfGrading	652.50	10,742.00
tblLandUse	LandUseSquareFeet	3,054,330.00	3,054,326.00
tblLandUse	LandUseSquareFeet	110,400.00	110,398.00
tblLandUse	LandUseSquareFeet	4,545,820.00	4,545,819.00
tblLandUse	LandUseSquareFeet	9,565,600.00	9,565,602.00
tblLandUse	LotAcreage	5,526.95	2,499.00
tblLandUse	LotAcreage	599.31	880.00

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

tblLandUse	LotAcreage	208.71	361.00
tblLandUse	LotAcreage	10.00	16.00
tblLandUse	LotAcreage	70.12	280.00
tblLandUse	LotAcreage	2.53	8.00
tblLandUse	LotAcreage	104.36	298.00
tblLandUse	LotAcreage	219.60	627.00
tblLandUse	LotAcreage	18.63	373.00
tblLandUse	LotAcreage	85.11	101.00
tblLandUse	LotAcreage	199.13	295.00
tblLandUse	LotAcreage	52.66	68.00
tblLandUse	LotAcreage	11.79	24.00
tblLandUse	LotAcreage	30.39	52.00
tblLandUse	LotAcreage	15.32	26.00
tblLandUse	Population	48,686.00	50,559.00
tblLandUse	Population	27,425.00	28,481.00
tblLandUse	Population	22,683.00	23,555.00
tblLandUse	Population	1,773.00	1,840.00
tblLandUse	Population	9,249.00	9,605.00
tblLandUse	Population	21,642.00	22,473.00
tblLandUse	Population	9,338.00	9,696.00
tblLandUse	Population	3,303.00	3,430.00
tblLandUse	Population	2,717.00	2,823.00
tblTripsAndVMT	VendorTripNumber	30,419.00	68.00
tblTripsAndVMT	WorkerTripNumber	93,897.00	199.00
tblTripsAndVMT	WorkerTripNumber	18,779.00	199.00
tblWoodstoves	NumberCatalytic	241.75	0.00
tblWoodstoves	NumberCatalytic	994.35	0.00

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

tblWoodstoves	NumberCatalytic	479.45	0.00
tblWoodstoves	NumberCatalytic	851.15	0.00
tblWoodstoves	NumberNoncatalytic	241.75	0.00
tblWoodstoves	NumberNoncatalytic	994.35	0.00
tblWoodstoves	NumberNoncatalytic	479.45	0.00
tblWoodstoves	NumberNoncatalytic	851.15	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1456	42.4609	22.1028	0.0400	18.2675	2.1987	20.4662	9.9840	2.0228	12.0069	0.0000	3,881.3094	3,881.3094	1.1963	0.0000	3,911.2171
2021	4.2634	46.4435	31.4859	0.0641	49.8927	2.0458	51.8795	9.9840	1.8821	11.8661	0.0000	6,217.4823	6,217.4823	1.9473	0.0000	6,266.1649
2022	3.6930	38.8830	29.6085	0.0641	49.8927	1.6363	51.5291	8.0824	1.5054	9.5878	0.0000	6,214.0508	6,214.0508	1.9483	0.0000	6,262.7584
2023	2.3455	19.2976	23.0641	0.0624	2.6588	0.7191	3.3779	0.7149	0.6764	1.3914	0.0000	6,248.8189	6,248.8189	0.7739	0.0000	6,268.1652
2024	2.2080	18.2677	22.5908	0.0615	2.6588	0.6323	3.2911	0.7149	0.5946	1.3095	0.0000	6,158.5412	6,158.5412	0.7650	0.0000	6,177.6666

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	2.0734	17.2084	22.1655	0.0606	2.6588	0.5463	3.2051	0.7149	0.5137	1.2286	0.0000	6,073.239 4	6,073.239 4	0.7571	0.0000	6,092.166 5
2026	2.0468	17.1273	21.8755	0.0599	2.6588	0.5458	3.2046	0.7149	0.5132	1.2281	0.0000	5,998.260 8	5,998.260 8	0.7530	0.0000	6,017.085 0
2027	2.0211	17.0514	21.6221	0.0592	2.6588	0.5450	3.2038	0.7149	0.5125	1.2274	0.0000	5,932.503 4	5,932.503 4	0.7492	0.0000	5,951.234 3
2028	1.9947	16.9863	21.4017	0.0586	2.6588	0.5439	3.2027	0.7149	0.5115	1.2264	0.0000	5,875.368 5	5,875.368 5	0.7459	0.0000	5,894.016 0
2029	1.9659	16.9258	21.1927	0.0581	2.6588	0.5430	3.2018	0.7149	0.5106	1.2256	0.0000	5,825.254 2	5,825.254 2	0.7429	0.0000	5,843.826 8
2030	1.8779	12.3342	21.0719	0.0617	2.6588	0.1628	2.8215	0.7149	0.1618	0.8767	0.0000	6,122.342 3	6,122.342 3	0.2554	0.0000	6,128.728 0
2031	1.8451	12.2731	20.8917	0.0613	2.6588	0.1620	2.8208	0.7149	0.1610	0.8760	0.0000	6,081.063 9	6,081.063 9	0.2530	0.0000	6,087.388 2
2032	1.8163	12.2254	20.7304	0.0609	2.6588	0.1613	2.8201	0.7149	0.1604	0.8753	0.0000	6,048.401 8	6,048.401 8	0.2509	0.0000	6,054.673 7
2033	1.7917	12.1820	20.5914	0.0607	2.6588	0.1607	2.8195	0.7149	0.1599	0.8748	0.0000	6,020.305 0	6,020.305 0	0.2490	0.0000	6,026.531 2
2034	1.7706	12.1427	20.4580	0.0604	2.6588	0.1601	2.8189	0.7149	0.1593	0.8743	0.0000	5,996.251 4	5,996.251 4	0.2474	0.0000	6,002.436 0
2035	1.6605	11.3373	20.3051	0.0602	2.6588	0.1019	2.7607	0.7149	0.1011	0.8161	0.0000	5,976.0511	5,976.0511	0.2376	0.0000	5,981.991 5
2036	1.6605	11.3373	20.3051	0.0602	2.6588	0.1019	2.7607	0.7149	0.1011	0.8161	0.0000	5,976.0511	5,976.0511	0.2376	0.0000	5,981.991 5
2037	1.6605	11.3373	20.3051	0.0602	2.6588	0.1019	2.7607	0.7149	0.1011	0.8161	0.0000	5,976.0511	5,976.0511	0.2376	0.0000	5,981.991 5
2038	859.2951	11.3373	20.3051	0.0602	2.6588	0.1019	2.7607	0.7149	0.1011	0.8161	0.0000	5,976.0511	5,976.0511	0.2376	0.0000	5,981.991 5
2039	859.2951	0.9082	4.5126	0.0171	2.2244	0.0170	2.2413	0.5899	0.0164	0.6063	0.0000	1,691.578 6	1,691.578 6	0.0250	0.0000	1,692.202 3
2040	859.2303	0.8556	4.1655	0.0166	2.2244	0.0130	2.2373	0.5899	0.0125	0.6024	0.0000	1,638.579 7	1,638.579 7	0.0217	0.0000	1,639.123 3
Maximum	859.2951	46.4435	31.4859	0.0641	49.8927	2.1987	51.8795	9.9840	2.0228	12.0069	0.0000	6,248.818 9	6,248.818 9	1.9483	0.0000	6,268.165 2

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1456	42.4609	22.1028	0.0400	18.2675	2.1987	20.4662	9.9840	2.0228	12.0069	0.0000	3,881.309 4	3,881.309 4	1.1963	0.0000	3,911.2171
2021	4.2634	46.4435	31.4859	0.0641	49.8927	2.0458	51.8795	9.9840	1.8821	11.8661	0.0000	6,217.482 3	6,217.482 3	1.9473	0.0000	6,266.164 9
2022	3.6930	38.8830	29.6085	0.0641	49.8927	1.6363	51.5291	8.0824	1.5054	9.5878	0.0000	6,214.050 8	6,214.050 8	1.9483	0.0000	6,262.758 4
2023	2.3455	19.2976	23.0641	0.0624	2.6588	0.7191	3.3779	0.7149	0.6764	1.3914	0.0000	6,248.818 9	6,248.818 9	0.7739	0.0000	6,268.165 2
2024	2.2080	18.2677	22.5908	0.0615	2.6588	0.6323	3.2911	0.7149	0.5946	1.3095	0.0000	6,158.541 2	6,158.541 2	0.7650	0.0000	6,177.666 6
2025	2.0734	17.2084	22.1655	0.0606	2.6588	0.5463	3.2051	0.7149	0.5137	1.2286	0.0000	6,073.239 4	6,073.239 4	0.7571	0.0000	6,092.166 5
2026	2.0468	17.1273	21.8755	0.0599	2.6588	0.5458	3.2046	0.7149	0.5132	1.2281	0.0000	5,998.260 8	5,998.260 8	0.7530	0.0000	6,017.085 0
2027	2.0211	17.0514	21.6221	0.0592	2.6588	0.5450	3.2038	0.7149	0.5125	1.2274	0.0000	5,932.503 4	5,932.503 4	0.7492	0.0000	5,951.234 3
2028	1.9947	16.9863	21.4017	0.0586	2.6588	0.5439	3.2027	0.7149	0.5115	1.2264	0.0000	5,875.368 5	5,875.368 5	0.7459	0.0000	5,894.016 0
2029	1.9659	16.9258	21.1927	0.0581	2.6588	0.5430	3.2018	0.7149	0.5106	1.2256	0.0000	5,825.254 2	5,825.254 2	0.7429	0.0000	5,843.826 8
2030	1.8779	12.3342	21.0719	0.0617	2.6588	0.1628	2.8215	0.7149	0.1618	0.8767	0.0000	6,122.342 3	6,122.342 3	0.2554	0.0000	6,128.728 0
2031	1.8451	12.2731	20.8917	0.0613	2.6588	0.1620	2.8208	0.7149	0.1610	0.8760	0.0000	6,081.063 9	6,081.063 9	0.2530	0.0000	6,087.388 2
2032	1.8163	12.2254	20.7304	0.0609	2.6588	0.1613	2.8201	0.7149	0.1604	0.8753	0.0000	6,048.401 8	6,048.401 8	0.2509	0.0000	6,054.673 7
2033	1.7917	12.1820	20.5914	0.0607	2.6588	0.1607	2.8195	0.7149	0.1599	0.8748	0.0000	6,020.305 0	6,020.305 0	0.2490	0.0000	6,026.531 2
2034	1.7706	12.1427	20.4580	0.0604	2.6588	0.1601	2.8189	0.7149	0.1593	0.8743	0.0000	5,996.251 4	5,996.251 4	0.2474	0.0000	6,002.436 0

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425
Energy	34.6094	300.2718	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230
Mobile	1,249.4115	5,024.8906	16,409.9231	58.7091	5,021.0924	57.4359	5,078.5284	1,342.6783	53.8911	1,396.5694		5,951,684.7910	5,951,684.7910	250.1266		5,957,937.9551
Total	3,233.4566	5,374.3287	20,820.3365	60.8207	5,021.0924	104.7209	5,125.8133	1,342.6783	101.1761	1,443.8543	0.0000	6,336,872.5077	6,336,872.5077	264.8117	6.9219	6,345,555.5205

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425
Energy	34.6094	300.2718	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230
Mobile	1,249.4115	5,024.8906	16,409.9231	58.7091	5,021.0924	57.4359	5,078.5284	1,342.6783	53.8911	1,396.5694		5,951,684.7910	5,951,684.7910	250.1266		5,957,937.9551
Total	3,233.4566	5,374.3287	20,820.3365	60.8207	5,021.0924	104.7209	5,125.8133	1,342.6783	101.1761	1,443.8543	0.0000	6,336,872.5077	6,336,872.5077	264.8117	6.9219	6,345,555.5205

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2020	6/1/2021	5	262	
2	Grading	Grading	6/2/2021	6/1/2022	5	261	
3	Building Construction	Building Construction	6/2/2023	6/1/2038	5	3913	
4	Paving	Paving	6/2/2022	6/1/2023	5	261	
5	Architectural Coating	Architectural Coating	6/2/2038	12/31/2040	5	674	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10742

Acres of Paving: 0

Residential Indoor: 131,528,610; Residential Outdoor: 43,842,870; Non-Residential Indoor: 27,902,051; Non-Residential Outdoor: 9,300,684; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	199.00	68.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	199.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523		3,685.1016	3,685.1016	1.1918		3,714.8975

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0692	0.0436	0.5892	1.9700e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2300e-003	0.0546		196.2079	196.2079	4.4700e-003		196.3197
Total	0.0692	0.0436	0.5892	1.9700e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2300e-003	0.0546		196.2079	196.2079	4.4700e-003		196.3197

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.2 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0692	0.0436	0.5892	1.9700e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2300e-003	0.0546		196.2079	196.2079	4.4700e-003		196.3197
Total	0.0692	0.0436	0.5892	1.9700e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2300e-003	0.0546		196.2079	196.2079	4.4700e-003		196.3197

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	18.0663	2.0445	20.1107	9.9307	1.8809	11.8116		3,685.6569	3,685.6569	1.1920		3,715.4573

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0650	0.0393	0.5467	1.9000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		189.3950	189.3950	4.0600e-003		189.4963
Total	0.0650	0.0393	0.5467	1.9000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		189.3950	189.3950	4.0600e-003		189.4963

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	18.0663	2.0445	20.1107	9.9307	1.8809	11.8116	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0650	0.0393	0.5467	1.9000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		189.3950	189.3950	4.0600e-003		189.4963
Total	0.0650	0.0393	0.5467	1.9000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		189.3950	189.3950	4.0600e-003		189.4963

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					49.6692	0.0000	49.6692	8.0231	0.0000	8.0231			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	4.1912	46.3998	30.8785	0.0620	49.6692	1.9853	51.6545	8.0231	1.8265	9.8496		6,007.043 4	6,007.043 4	1.9428		6,055.613 4

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0722	0.0437	0.6075	2.1100e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		210.4388	210.4388	4.5100e-003		210.5515
Total	0.0722	0.0437	0.6075	2.1100e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		210.4388	210.4388	4.5100e-003		210.5515

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					49.6692	0.0000	49.6692	8.0231	0.0000	8.0231			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	4.1912	46.3998	30.8785	0.0620	49.6692	1.9853	51.6545	8.0231	1.8265	9.8496	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0722	0.0437	0.6075	2.1100e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		210.4388	210.4388	4.5100e-003		210.5515
Total	0.0722	0.0437	0.6075	2.1100e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		210.4388	210.4388	4.5100e-003		210.5515

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					49.6692	0.0000	49.6692	8.0231	0.0000	8.0231			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	3.6248	38.8435	29.0415	0.0621	49.6692	1.6349	51.3041	8.0231	1.5041	9.5272		6,011.4105	6,011.4105	1.9442		6,060.0158

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426
Total	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					49.6692	0.0000	49.6692	8.0231	0.0000	8.0231			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	3.6248	38.8435	29.0415	0.0621	49.6692	1.6349	51.3041	8.0231	1.5041	9.5272	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426
Total	0.0682	0.0396	0.5670	2.0300e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		202.6403	202.6403	4.0900e-003		202.7426

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1298	4.5552	1.5592	0.0160	0.4344	5.4800e-003	0.4399	0.1250	5.2400e-003	0.1303		1,754.8525	1,754.8525	0.1291		1,758.0792
Worker	0.6429	0.3575	5.2609	0.0194	2.2244	0.0139	2.2382	0.5899	0.0128	0.6027		1,938.7565	1,938.7565	0.0369		1,939.6799
Total	0.7727	4.9127	6.8201	0.0355	2.6588	0.0194	2.6782	0.7149	0.0180	0.7329		3,693.6090	3,693.6090	0.1660		3,697.7591

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1298	4.5552	1.5592	0.0160	0.4344	5.4800e-003	0.4399	0.1250	5.2400e-003	0.1303		1,754.8525	1,754.8525	0.1291		1,758.0792
Worker	0.6429	0.3575	5.2609	0.0194	2.2244	0.0139	2.2382	0.5899	0.0128	0.6027		1,938.7565	1,938.7565	0.0369		1,939.6799
Total	0.7727	4.9127	6.8201	0.0355	2.6588	0.0194	2.6782	0.7149	0.0180	0.7329		3,693.6090	3,693.6090	0.1660		3,697.7591

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1254	4.4983	1.5268	0.0159	0.4344	5.3700e-003	0.4398	0.1250	5.1300e-003	0.1302		1,740.9126	1,740.9126	0.1271		1,744.0908
Worker	0.6109	0.3256	4.8971	0.0187	2.2244	0.0136	2.2380	0.5899	0.0126	0.6025		1,861.9296	1,861.9296	0.0335		1,862.7682
Total	0.7364	4.8239	6.4239	0.0346	2.6588	0.0190	2.6778	0.7149	0.0177	0.7326		3,602.8423	3,602.8423	0.1607		3,606.8590

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1254	4.4983	1.5268	0.0159	0.4344	5.3700e-003	0.4398	0.1250	5.1300e-003	0.1302		1,740.9126	1,740.9126	0.1271		1,744.0908
Worker	0.6109	0.3256	4.8971	0.0187	2.2244	0.0136	2.2380	0.5899	0.0126	0.6025		1,861.9296	1,861.9296	0.0335		1,862.7682
Total	0.7364	4.8239	6.4239	0.0346	2.6588	0.0190	2.6778	0.7149	0.0177	0.7326		3,602.8423	3,602.8423	0.1607		3,606.8590

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1222	4.4401	1.5092	0.0158	0.4344	5.2600e-003	0.4397	0.1250	5.0300e-003	0.1300		1,730.122 2	1,730.122 2	0.1255		1,733.258 6
Worker	0.5837	0.2986	4.5716	0.0179	2.2244	0.0135	2.2378	0.5899	0.0124	0.6023		1,786.642 9	1,786.642 9	0.0307		1,787.409 8
Total	0.7060	4.7387	6.0808	0.0337	2.6588	0.0187	2.6775	0.7149	0.0174	0.7323		3,516.765 0	3,516.765 0	0.1561		3,520.668 4

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1222	4.4401	1.5092	0.0158	0.4344	5.2600e-003	0.4397	0.1250	5.0300e-003	0.1300		1,730.122 2	1,730.122 2	0.1255		1,733.258 6
Worker	0.5837	0.2986	4.5716	0.0179	2.2244	0.0135	2.2378	0.5899	0.0124	0.6023		1,786.642 9	1,786.642 9	0.0307		1,787.409 8
Total	0.7060	4.7387	6.0808	0.0337	2.6588	0.0187	2.6775	0.7149	0.0174	0.7323		3,516.765 0	3,516.765 0	0.1561		3,520.668 4

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1194	4.3819	1.4975	0.0157	0.4344	5.1400e-003	0.4396	0.1250	4.9200e-003	0.1299		1,719.763 8	1,719.763 8	0.1238		1,722.859 2
Worker	0.5601	0.2757	4.2933	0.0173	2.2244	0.0131	2.2374	0.5899	0.0120	0.6019		1,722.022 6	1,722.022 6	0.0282		1,722.727 8
Total	0.6794	4.6576	5.7908	0.0329	2.6588	0.0182	2.6770	0.7149	0.0169	0.7319		3,441.786 4	3,441.786 4	0.1520		3,445.586 9

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1194	4.3819	1.4975	0.0157	0.4344	5.1400e-003	0.4396	0.1250	4.9200e-003	0.1299		1,719.763 8	1,719.763 8	0.1238		1,722.859 2
Worker	0.5601	0.2757	4.2933	0.0173	2.2244	0.0131	2.2374	0.5899	0.0120	0.6019		1,722.022 6	1,722.022 6	0.0282		1,722.727 8
Total	0.6794	4.6576	5.7908	0.0329	2.6588	0.0182	2.6770	0.7149	0.0169	0.7319		3,441.786 4	3,441.786 4	0.1520		3,445.586 9

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1169	4.3263	1.4882	0.0156	0.4344	5.0400e-003	0.4395	0.1250	4.8200e-003	0.1298		1,710.221 4	1,710.221 4	0.1223		1,713.278 2
Worker	0.5368	0.2554	4.0493	0.0167	2.2244	0.0124	2.2367	0.5899	0.0114	0.6013		1,665.807 6	1,665.807 6	0.0260		1,666.458 0
Total	0.6537	4.5817	5.5374	0.0323	2.6588	0.0174	2.6762	0.7149	0.0162	0.7311		3,376.029 0	3,376.029 0	0.1483		3,379.736 2

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1169	4.3263	1.4882	0.0156	0.4344	5.0400e-003	0.4395	0.1250	4.8200e-003	0.1298		1,710.221 4	1,710.221 4	0.1223		1,713.278 2
Worker	0.5368	0.2554	4.0493	0.0167	2.2244	0.0124	2.2367	0.5899	0.0114	0.6013		1,665.807 6	1,665.807 6	0.0260		1,666.458 0
Total	0.6537	4.5817	5.5374	0.0323	2.6588	0.0174	2.6762	0.7149	0.0162	0.7311		3,376.029 0	3,376.029 0	0.1483		3,379.736 2

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1149	4.2793	1.4831	0.0155	0.4344	4.9400e-003	0.4394	0.1250	4.7300e-003	0.1297		1,701.920 8	1,701.920 8	0.1209		1,704.942 2
Worker	0.5124	0.2373	3.8339	0.0162	2.2244	0.0114	2.2358	0.5899	0.0105	0.6004		1,616.973 3	1,616.973 3	0.0241		1,617.575 8
Total	0.6273	4.5166	5.3170	0.0317	2.6588	0.0164	2.6751	0.7149	0.0152	0.7302		3,318.894 1	3,318.894 1	0.1450		3,322.518 0

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1149	4.2793	1.4831	0.0155	0.4344	4.9400e-003	0.4394	0.1250	4.7300e-003	0.1297		1,701.920 8	1,701.920 8	0.1209		1,704.942 2
Worker	0.5124	0.2373	3.8339	0.0162	2.2244	0.0114	2.2358	0.5899	0.0105	0.6004		1,616.973 3	1,616.973 3	0.0241		1,617.575 8
Total	0.6273	4.5166	5.3170	0.0317	2.6588	0.0164	2.6751	0.7149	0.0152	0.7302		3,318.894 1	3,318.894 1	0.1450		3,322.518 0

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1130	4.2354	1.4779	0.0154	0.4344	4.8600e-003	0.4393	0.1250	4.6400e-003	0.1297		1,694.428 5	1,694.428 5	0.1197		1,697.419 9
Worker	0.4854	0.2207	3.6302	0.0158	2.2244	0.0106	2.2349	0.5899	9.7400e-003	0.5997		1,574.351 4	1,574.351 4	0.0223		1,574.908 9
Total	0.5985	4.4561	5.1080	0.0312	2.6588	0.0154	2.6742	0.7149	0.0144	0.7293		3,268.779 8	3,268.779 8	0.1420		3,272.328 7

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1130	4.2354	1.4779	0.0154	0.4344	4.8600e-003	0.4393	0.1250	4.6400e-003	0.1297		1,694.428 5	1,694.428 5	0.1197		1,697.419 9
Worker	0.4854	0.2207	3.6302	0.0158	2.2244	0.0106	2.2349	0.5899	9.7400e-003	0.5997		1,574.351 4	1,574.351 4	0.0223		1,574.908 9
Total	0.5985	4.4561	5.1080	0.0312	2.6588	0.0154	2.6742	0.7149	0.0144	0.7293		3,268.779 8	3,268.779 8	0.1420		3,272.328 7

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1113	4.1944	1.4731	0.0153	0.4344	4.7700e-003	0.4392	0.1250	4.5600e-003	0.1296		1,687.6909	1,687.6909	0.1185		1,690.6540
Worker	0.4574	0.2052	3.4419	0.0154	2.2244	9.8400e-003	2.2342	0.5899	9.0500e-003	0.5990		1,537.1047	1,537.1047	0.0207		1,537.6212
Total	0.5687	4.3996	4.9149	0.0307	2.6588	0.0146	2.6734	0.7149	0.0136	0.7285		3,224.7956	3,224.7956	0.1392		3,228.2752

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1113	4.1944	1.4731	0.0153	0.4344	4.7700e-003	0.4392	0.1250	4.5600e-003	0.1296		1,687.6909	1,687.6909	0.1185		1,690.6540
Worker	0.4574	0.2052	3.4419	0.0154	2.2244	9.8400e-003	2.2342	0.5899	9.0500e-003	0.5990		1,537.1047	1,537.1047	0.0207		1,537.6212
Total	0.5687	4.3996	4.9149	0.0307	2.6588	0.0146	2.6734	0.7149	0.0136	0.7285		3,224.7956	3,224.7956	0.1392		3,228.2752

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1099	4.1483	1.4715	0.0153	0.4344	4.6900e-003	0.4391	0.1250	4.4900e-003	0.1295		1,682.4659	1,682.4659	0.1177		1,685.4082
Worker	0.4261	0.1902	3.2632	0.0150	2.2244	9.1400e-003	2.2335	0.5899	8.4100e-003	0.5983		1,501.0512	1,501.0512	0.0190		1,501.5271
Total	0.5360	4.3385	4.7347	0.0303	2.6588	0.0138	2.6726	0.7149	0.0129	0.7278		3,183.5171	3,183.5171	0.1367		3,186.9353

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1099	4.1483	1.4715	0.0153	0.4344	4.6900e-003	0.4391	0.1250	4.4900e-003	0.1295		1,682.4659	1,682.4659	0.1177		1,685.4082
Worker	0.4261	0.1902	3.2632	0.0150	2.2244	9.1400e-003	2.2335	0.5899	8.4100e-003	0.5983		1,501.0512	1,501.0512	0.0190		1,501.5271
Total	0.5360	4.3385	4.7347	0.0303	2.6588	0.0138	2.6726	0.7149	0.0129	0.7278		3,183.5171	3,183.5171	0.1367		3,186.9353

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1088	4.1133	1.4713	0.0152	0.4344	4.6300e-003	0.4391	0.1250	4.4200e-003	0.1294		1,677.9258	1,677.9258	0.1169		1,680.8494
Worker	0.3984	0.1775	3.1021	0.0148	2.2244	8.5400e-003	2.2329	0.5899	7.8500e-003	0.5978		1,472.9293	1,472.9293	0.0177		1,473.3715
Total	0.5072	4.2908	4.5734	0.0300	2.6588	0.0132	2.6720	0.7149	0.0123	0.7272		3,150.8551	3,150.8551	0.1346		3,154.2208

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1088	4.1133	1.4713	0.0152	0.4344	4.6300e-003	0.4391	0.1250	4.4200e-003	0.1294		1,677.9258	1,677.9258	0.1169		1,680.8494
Worker	0.3984	0.1775	3.1021	0.0148	2.2244	8.5400e-003	2.2329	0.5899	7.8500e-003	0.5978		1,472.9293	1,472.9293	0.0177		1,473.3715
Total	0.5072	4.2908	4.5734	0.0300	2.6588	0.0132	2.6720	0.7149	0.0123	0.7272		3,150.8551	3,150.8551	0.1346		3,154.2208

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1079	4.0807	1.4720	0.0152	0.4344	4.5600e-003	0.4390	0.1250	4.3600e-003	0.1294		1,674.0560	1,674.0560	0.1163		1,676.9629
Worker	0.3747	0.1667	2.9624	0.0145	2.2244	8.0000e-003	2.2324	0.5899	7.3600e-003	0.5973		1,448.7022	1,448.7022	0.0165		1,449.1155
Total	0.4826	4.2474	4.4344	0.0297	2.6588	0.0126	2.6714	0.7149	0.0117	0.7266		3,122.7582	3,122.7582	0.1328		3,126.0783

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1079	4.0807	1.4720	0.0152	0.4344	4.5600e-003	0.4390	0.1250	4.3600e-003	0.1294		1,674.0560	1,674.0560	0.1163		1,676.9629
Worker	0.3747	0.1667	2.9624	0.0145	2.2244	8.0000e-003	2.2324	0.5899	7.3600e-003	0.5973		1,448.7022	1,448.7022	0.0165		1,449.1155
Total	0.4826	4.2474	4.4344	0.0297	2.6588	0.0126	2.6714	0.7149	0.0117	0.7266		3,122.7582	3,122.7582	0.1328		3,126.0783

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1071	4.0507	1.4710	0.0152	0.4344	4.4900e-003	0.4389	0.1250	4.3000e-003	0.1293		1,670.8829	1,670.8829	0.1157		1,673.7751
Worker	0.3544	0.1575	2.8300	0.0143	2.2244	7.5000e-003	2.2319	0.5899	6.8900e-003	0.5968		1,427.8218	1,427.8218	0.0155		1,428.2080
Total	0.4615	4.2081	4.3010	0.0294	2.6588	0.0120	2.6708	0.7149	0.0112	0.7261		3,098.7047	3,098.7047	0.1311		3,101.9832

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2034

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1071	4.0507	1.4710	0.0152	0.4344	4.4900e-003	0.4389	0.1250	4.3000e-003	0.1293		1,670.8829	1,670.8829	0.1157		1,673.7751
Worker	0.3544	0.1575	2.8300	0.0143	2.2244	7.5000e-003	2.2319	0.5899	6.8900e-003	0.5968		1,427.8218	1,427.8218	0.0155		1,428.2080
Total	0.4615	4.2081	4.3010	0.0294	2.6588	0.0120	2.6708	0.7149	0.0112	0.7261		3,098.7047	3,098.7047	0.1311		3,101.9832

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1063	4.0255	1.4690	0.0151	0.4344	4.4400e-003	0.4389	0.1250	4.2400e-003	0.1293		1,668.3739	1,668.3739	0.1151		1,671.2524
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.4437	4.1760	4.1873	0.0292	2.6588	0.0115	2.6703	0.7149	0.0107	0.7257		3,078.5044	3,078.5044	0.1297		3,081.7467

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2035

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1063	4.0255	1.4690	0.0151	0.4344	4.4400e-003	0.4389	0.1250	4.2400e-003	0.1293		1,668.3739	1,668.3739	0.1151		1,671.2524
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.4437	4.1760	4.1873	0.0292	2.6588	0.0115	2.6703	0.7149	0.0107	0.7257		3,078.5044	3,078.5044	0.1297		3,081.7467

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1063	4.0255	1.4690	0.0151	0.4344	4.4400e-003	0.4389	0.1250	4.2400e-003	0.1293		1,668.3739	1,668.3739	0.1151		1,671.2524
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.4437	4.1760	4.1873	0.0292	2.6588	0.0115	2.6703	0.7149	0.0107	0.7257		3,078.5044	3,078.5044	0.1297		3,081.7467

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2036

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1063	4.0255	1.4690	0.0151	0.4344	4.4400e-003	0.4389	0.1250	4.2400e-003	0.1293		1,668.3739	1,668.3739	0.1151		1,671.2524
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.4437	4.1760	4.1873	0.0292	2.6588	0.0115	2.6703	0.7149	0.0107	0.7257		3,078.5044	3,078.5044	0.1297		3,081.7467

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1063	4.0255	1.4690	0.0151	0.4344	4.4400e-003	0.4389	0.1250	4.2400e-003	0.1293		1,668.3739	1,668.3739	0.1151		1,671.2524
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.4437	4.1760	4.1873	0.0292	2.6588	0.0115	2.6703	0.7149	0.0107	0.7257		3,078.5044	3,078.5044	0.1297		3,081.7467

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2037

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1063	4.0255	1.4690	0.0151	0.4344	4.4400e-003	0.4389	0.1250	4.2400e-003	0.1293		1,668.3739	1,668.3739	0.1151		1,671.2524
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.4437	4.1760	4.1873	0.0292	2.6588	0.0115	2.6703	0.7149	0.0107	0.7257		3,078.5044	3,078.5044	0.1297		3,081.7467

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2038

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1063	4.0255	1.4690	0.0151	0.4344	4.4400e-003	0.4389	0.1250	4.2400e-003	0.1293		1,668.3739	1,668.3739	0.1151		1,671.2524
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.4437	4.1760	4.1873	0.0292	2.6588	0.0115	2.6703	0.7149	0.0107	0.7257		3,078.5044	3,078.5044	0.1297		3,081.7467

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.4 Building Construction - 2038

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1063	4.0255	1.4690	0.0151	0.4344	4.4400e-003	0.4389	0.1250	4.2400e-003	0.1293		1,668.3739	1,668.3739	0.1151		1,671.2524
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.4437	4.1760	4.1873	0.0292	2.6588	0.0115	2.6703	0.7149	0.0107	0.7257		3,078.5044	3,078.5044	0.1297		3,081.7467

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0512	0.0297	0.4252	1.5200e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		151.9802	151.9802	3.0700e-003		152.0569
Total	0.0512	0.0297	0.4252	1.5200e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		151.9802	151.9802	3.0700e-003		152.0569

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.5 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0512	0.0297	0.4252	1.5200e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		151.9802	151.9802	3.0700e-003		152.0569
Total	0.0512	0.0297	0.4252	1.5200e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		151.9802	151.9802	3.0700e-003		152.0569

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0270	0.3966	1.4600e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		146.1374	146.1374	2.7800e-003		146.2070
Total	0.0485	0.0270	0.3966	1.4600e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		146.1374	146.1374	2.7800e-003		146.2070

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0270	0.3966	1.4600e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		146.1374	146.1374	2.7800e-003		146.2070
Total	0.0485	0.0270	0.3966	1.4600e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		146.1374	146.1374	2.7800e-003		146.2070

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.6 Architectural Coating - 2038

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081
Total	858.9578	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.6 Architectural Coating - 2038

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081
Total	858.9578	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.6 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081
Total	858.9578	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.6 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081
Total	858.9578	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943
Total	0.3373	0.1505	2.7183	0.0141	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,410.1305	1,410.1305	0.0146		1,410.4943

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.6 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1149	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003		281.4481	281.4481	9.9000e-003		281.6957
Total	858.9548	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003		281.4481	281.4481	9.9000e-003		281.6957

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2755	0.1286	2.3732	0.0136	2.2244	5.5400e-003	2.2299	0.5899	5.1000e-003	0.5950		1,357.1317	1,357.1317	0.0118		1,357.4277
Total	0.2755	0.1286	2.3732	0.0136	2.2244	5.5400e-003	2.2299	0.5899	5.1000e-003	0.5950		1,357.1317	1,357.1317	0.0118		1,357.4277

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

3.6 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1149	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003	0.0000	281.4481	281.4481	9.9000e-003		281.6957
Total	858.9548	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003	0.0000	281.4481	281.4481	9.9000e-003		281.6957

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2755	0.1286	2.3732	0.0136	2.2244	5.5400e-003	2.2299	0.5899	5.1000e-003	0.5950		1,357.1317	1,357.1317	0.0118		1,357.4277
Total	0.2755	0.1286	2.3732	0.0136	2.2244	5.5400e-003	2.2299	0.5899	5.1000e-003	0.5950		1,357.1317	1,357.1317	0.0118		1,357.4277

4.0 Operational Detail - Mobile

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1,249.4115	5,024.8906	16,409.9231	58.7091	5,021.0924	57.4359	5,078.5284	1,342.6783	53.8911	1,396.5694		5,951,684.7910	5,951,684.7910	250.1266		5,957,937.9551
Unmitigated	1,249.4115	5,024.8906	16,409.9231	58.7091	5,021.0924	57.4359	5,078.5284	1,342.6783	53.8911	1,396.5694		5,951,684.7910	5,951,684.7910	250.1266		5,957,937.9551

4.2 Trip Summary Information

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	2,604.00	3,087.60	2263.00	8,967,876	8,967,876
Apartments High Rise	13,713.00	16,259.70	11917.25	47,225,991	47,225,991
Apartments High Rise	3,990.00	4,731.00	3467.50	13,741,100	13,741,100
Apartments Mid Rise	52,741.15	50,679.09	46475.66	176,159,307	176,159,307
Apartments Mid Rise	21,506.10	20,665.26	18951.24	71,831,951	71,831,951
Apartments Mid Rise	50,320.55	48,353.13	44342.62	168,074,326	168,074,326
Apartments Mid Rise	7,680.75	7,380.45	6768.30	25,654,268	25,654,268
Condo/Townhouse	55,712.09	54,369.63	46410.76	185,180,754	185,180,754
Single Family Housing	162,058.96	168,697.93	146738.26	549,541,973	549,541,973
General Office Building	1,217.71	271.58	115.92	2,980,341	2,980,341
General Office Building	5,666.28	1,263.74	539.40	13,868,169	13,868,169
Office Park	51,913.26	7,455.14	3454.82	130,549,274	130,549,274
Strip Mall	135,367.91	128,404.03	62399.96	235,824,920	235,824,920
General Light Industry	66,672.25	12,626.59	6504.61	222,990,616	222,990,616
Library	45,639.15	37,775.65	20685.31	103,388,312	103,388,312
City Park	470.61	5,664.75	4168.26	5,009,411	5,009,411
City Park	3,664.71	44,112.25	32458.86	39,009,027	39,009,027
City Park	1,657.53	19,951.75	14680.98	17,643,588	17,643,588
Total	682,596.01	631,749.29	472,342.72	2,017,641,204	2,017,641,204

4.3 Trip Type Information

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Library	16.60	8.40	6.90	52.00	43.00	5.00	44	44	12
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Apartments Mid Rise	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Condo/Townhouse	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Single Family Housing	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
General Office Building	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Office Park	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Strip Mall	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
General Light Industry	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Library	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
City Park	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	34.6094	300.2718	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230
NaturalGas Unmitigated	34.6094	300.2718	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230

5.2 Energy by Land Use - NaturalGas

Unmitigated

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	29742.7	0.3208	2.7410	1.1664	0.0175		0.2216	0.2216		0.2216	0.2216		3,499.1417	3,499.1417	0.0671	0.0642	3,519.9353
Apartments High Rise	102221	1.1024	9.4204	4.0087	0.0601		0.7617	0.7617		0.7617	0.7617		12,025.9974	12,025.9974	0.2305	0.2205	12,097.4619
Apartments High Rise	19411	0.2093	1.7889	0.7612	0.0114		0.1446	0.1446		0.1446	0.1446		2,283.6504	2,283.6504	0.0438	0.0419	2,297.2209
Apartments Mid Rise	101250	1.0919	9.3309	3.9706	0.0596		0.7544	0.7544		0.7544	0.7544		11,911.8149	11,911.8149	0.2283	0.2184	11,982.6008
Apartments Mid Rise	236908	2.5549	21.8327	9.2905	0.1394		1.7652	1.7652		1.7652	1.7652		27,871.5842	27,871.5842	0.5342	0.5110	28,037.2110
Apartments Mid Rise	248305	2.6778	22.8830	9.7374	0.1461		1.8501	1.8501		1.8501	1.8501		29,212.3079	29,212.3079	0.5599	0.5356	29,385.9020
Apartments Mid Rise	36160.9	0.3900	3.3325	1.4181	0.0213		0.2694	0.2694		0.2694	0.2694		4,254.2196	4,254.2196	0.0815	0.0780	4,279.5003
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	463572	4.9993	42.7214	18.1793	0.2727		3.4541	3.4541		3.4541	3.4541		54,537.9359	54,537.9359	1.0453	0.9999	54,862.0276
General Light Industry	547729	5.9069	53.6989	45.1071	0.3222		4.0811	4.0811		4.0811	4.0811		64,438.7049	64,438.7049	1.2351	1.1814	64,821.6319
General Office Building	12864	0.1387	1.2612	1.0594	7.5700e-003		0.0959	0.0959		0.0959	0.0959		1,513.4102	1,513.4102	0.0290	0.0278	1,522.4036
General Office Building	2764.49	0.0298	0.2710	0.2277	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.2338	325.2338	6.2300e-003	5.9600e-003	327.1665
Library	46467.1	0.5011	4.5556	3.8267	0.0273		0.3462	0.3462		0.3462	0.3462		5,466.7192	5,466.7192	0.1048	0.1002	5,499.2052
Office Park	141605	1.5271	13.8829	11.6616	0.0833		1.0551	1.0551		1.0551	1.0551		16,659.4559	16,659.4559	0.3193	0.3054	16,758.4548
Single Family Housing	1.2035e+006	12.9789	110.9107	47.1960	0.7079		8.9672	8.9672		8.9672	8.9672		141,588.0686	141,588.0686	2.7138	2.5958	142,429.4557
Strip Mall	16736	0.1805	1.6408	1.3783	9.8400e-003		0.1247	0.1247		0.1247	0.1247		1,968.9450	1,968.9450	0.0377	0.0361	1,980.6455
Total		34.6094	300.2717	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

5.2 Energy by Land Use - Natural Gas

Mitigated

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	102.221	1.1024	9.4204	4.0087	0.0601		0.7617	0.7617		0.7617	0.7617		12,025.9974	12,025.9974	0.2305	0.2205	12,097.4619
Apartments High Rise	19.411	0.2093	1.7889	0.7612	0.0114		0.1446	0.1446		0.1446	0.1446		2,283.6504	2,283.6504	0.0438	0.0419	2,297.2209
Apartments High Rise	29.7427	0.3208	2.7410	1.1664	0.0175		0.2216	0.2216		0.2216	0.2216		3,499.1417	3,499.1417	0.0671	0.0642	3,519.9353
Apartments Mid Rise	101.25	1.0919	9.3309	3.9706	0.0596		0.7544	0.7544		0.7544	0.7544		11,911.8149	11,911.8149	0.2283	0.2184	11,982.6008
Apartments Mid Rise	236.908	2.5549	21.8327	9.2905	0.1394		1.7652	1.7652		1.7652	1.7652		27,871.5842	27,871.5842	0.5342	0.5110	28,037.2110
Apartments Mid Rise	248.305	2.6778	22.8830	9.7374	0.1461		1.8501	1.8501		1.8501	1.8501		29,212.3079	29,212.3079	0.5599	0.5356	29,385.9020
Apartments Mid Rise	36.1609	0.3900	3.3325	1.4181	0.0213		0.2694	0.2694		0.2694	0.2694		4,254.2196	4,254.2196	0.0815	0.0780	4,279.5003
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	463.572	4.9993	42.7214	18.1793	0.2727		3.4541	3.4541		3.4541	3.4541		54,537.9359	54,537.9359	1.0453	0.9999	54,862.0276
General Light Industry	547.729	5.9069	53.6989	45.1071	0.3222		4.0811	4.0811		4.0811	4.0811		64,438.7049	64,438.7049	1.2351	1.1814	64,821.6319
General Office Building	12.864	0.1387	1.2612	1.0594	7.5700e-003		0.0959	0.0959		0.0959	0.0959		1,513.4102	1,513.4102	0.0290	0.0278	1,522.4036
General Office Building	2.76449	0.0298	0.2710	0.2277	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.2338	325.2338	6.2300e-003	5.9600e-003	327.1665
Library	46.4671	0.5011	4.5556	3.8267	0.0273		0.3462	0.3462		0.3462	0.3462		5,466.7192	5,466.7192	0.1048	0.1002	5,499.2052
Office Park	141.605	1.5271	13.8829	11.6616	0.0833		1.0551	1.0551		1.0551	1.0551		16,659.4559	16,659.4559	0.3193	0.3054	16,758.4548
Single Family Housing	1203.5	12.9789	110.9107	47.1960	0.7079		8.9672	8.9672		8.9672	8.9672		141,588.0686	141,588.0686	2.7138	2.5958	142,429.4557
Strip Mall	16.736	0.1805	1.6408	1.3783	9.8400e-003		0.1247	0.1247		0.1247	0.1247		1,968.9450	1,968.9450	0.0377	0.0361	1,980.6455
Total		34.6094	300.2717	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230

6.0 Area Detail

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425
Unmitigated	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	158.5913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1,661.2431					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	129.6013	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730		7,630.5273	7,630.5273	7.4486		7,816.7425
Total	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	158.5913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1,661.2431					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	129.6013	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730		7,630.5273	7,630.5273	7.4486		7,816.7425
Total	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Lake Forest General Plan Buildout Year (2040) - Orange County, Summer

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

Lake Forest General Plan Buildout Year (2040)
Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	17,023.00	Dwelling Unit	2,499.00	30,641,400.00	50559
Condo/Townhouse	9,589.00	Dwelling Unit	880.00	9,589,000.00	28481
Apartments Mid Rise	7,931.00	Dwelling Unit	361.00	7,931,000.00	23555
Apartments High Rise	620.00	Dwelling Unit	16.00	620,000.00	1840
Strip Mall	3,054.33	1000sqft	280.00	3,054,326.00	0
General Office Building	110.40	1000sqft	8.00	110,398.00	0
Office Park	4,545.82	1000sqft	298.00	4,545,819.00	0
General Light Industry	9,565.60	1000sqft	627.00	9,565,602.00	0
Library	811.51	1000sqft	373.00	811,507.00	0
Apartments Mid Rise	3,234.00	Dwelling Unit	101.00	3,234,000.00	9605
Apartments Mid Rise	7,567.00	Dwelling Unit	295.00	7,567,000.00	22473
Apartments High Rise	3,265.00	Dwelling Unit	68.00	3,265,000.00	9696
General Office Building	513.72	1000sqft	24.00	513,715.00	0
Apartments Mid Rise	1,155.00	Dwelling Unit	52.00	1,155,000.00	3430
Apartments High Rise	950.00	Dwelling Unit	26.00	950,000.00	2823
City Park	249.00	Acre	249.00	10,846,440.00	0
City Park	1,939.00	Acre	1,939.00	84,462,840.00	0
City Park	877.00	Acre	877.00	38,202,120.00	0

1.2 Other Project Characteristics

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Values as provided by the City of Lake Forest. Land uses types were selected based on best proxy for the land use designations provided. Unit amounts, lot acreages, and population provided by the City.

Construction Phase - Construction schedule assumes buildout by 12/31/2040.

Grading - Assumes grading occurs over entire Planning Area (10,742 acres).

Trips and VMT - For 'Building Construction' & 'Architectural Coating' phases: for res. uses, assumes 24 worker & 8 vendor trips per housing unit/day. For non-res. uses, assumes 8 worker trips & 3 vendor trips per 1000 sf/day. =199 daily worker 68 daily vendor trips

Woodstoves - No hearths or fireplaces (not permitted in SCAQMD's jurisdiction).

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	11,000.00	674.00
tblConstructionPhase	NumDays	155,000.00	3,913.00
tblConstructionPhase	NumDays	15,500.00	261.00
tblConstructionPhase	NumDays	11,000.00	261.00
tblConstructionPhase	NumDays	6,000.00	262.00
tblConstructionPhase	PhaseEndDate	8/9/2819	12/31/2040
tblConstructionPhase	PhaseEndDate	4/12/2735	6/1/2038
tblConstructionPhase	PhaseEndDate	2/24/2141	6/1/2022
tblConstructionPhase	PhaseEndDate	6/10/2777	6/1/2023
tblConstructionPhase	PhaseEndDate	9/26/2081	6/1/2021
tblConstructionPhase	PhaseStartDate	6/11/2777	6/2/2038

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

tblConstructionPhase	PhaseStartDate	2/25/2141	6/2/2023
tblConstructionPhase	PhaseStartDate	9/27/2081	6/2/2021
tblConstructionPhase	PhaseStartDate	4/13/2735	6/2/2022
tblConstructionPhase	PhaseStartDate	9/28/2058	6/1/2020
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	4,109.75	0.00
tblFireplaces	NumberGas	16,903.95	0.00
tblFireplaces	NumberGas	8,150.65	0.00
tblFireplaces	NumberGas	14,469.55	0.00
tblFireplaces	NumberNoFireplace	483.50	0.00
tblFireplaces	NumberNoFireplace	1,988.70	0.00
tblFireplaces	NumberNoFireplace	958.90	0.00
tblFireplaces	NumberNoFireplace	1,702.30	0.00
tblFireplaces	NumberWood	241.75	0.00
tblFireplaces	NumberWood	994.35	0.00
tblFireplaces	NumberWood	479.45	0.00
tblFireplaces	NumberWood	851.15	0.00
tblGrading	AcresOfGrading	652.50	10,742.00
tblLandUse	LandUseSquareFeet	3,054,330.00	3,054,326.00
tblLandUse	LandUseSquareFeet	110,400.00	110,398.00
tblLandUse	LandUseSquareFeet	4,545,820.00	4,545,819.00
tblLandUse	LandUseSquareFeet	9,565,600.00	9,565,602.00
tblLandUse	LotAcreage	5,526.95	2,499.00
tblLandUse	LotAcreage	599.31	880.00

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

tblLandUse	LotAcreage	208.71	361.00
tblLandUse	LotAcreage	10.00	16.00
tblLandUse	LotAcreage	70.12	280.00
tblLandUse	LotAcreage	2.53	8.00
tblLandUse	LotAcreage	104.36	298.00
tblLandUse	LotAcreage	219.60	627.00
tblLandUse	LotAcreage	18.63	373.00
tblLandUse	LotAcreage	85.11	101.00
tblLandUse	LotAcreage	199.13	295.00
tblLandUse	LotAcreage	52.66	68.00
tblLandUse	LotAcreage	11.79	24.00
tblLandUse	LotAcreage	30.39	52.00
tblLandUse	LotAcreage	15.32	26.00
tblLandUse	Population	48,686.00	50,559.00
tblLandUse	Population	27,425.00	28,481.00
tblLandUse	Population	22,683.00	23,555.00
tblLandUse	Population	1,773.00	1,840.00
tblLandUse	Population	9,249.00	9,605.00
tblLandUse	Population	21,642.00	22,473.00
tblLandUse	Population	9,338.00	9,696.00
tblLandUse	Population	3,303.00	3,430.00
tblLandUse	Population	2,717.00	2,823.00
tblTripsAndVMT	VendorTripNumber	30,419.00	68.00
tblTripsAndVMT	WorkerTripNumber	93,897.00	199.00
tblTripsAndVMT	WorkerTripNumber	18,779.00	199.00
tblWoodstoves	NumberCatalytic	241.75	0.00
tblWoodstoves	NumberCatalytic	994.35	0.00

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

tblWoodstoves	NumberCatalytic	479.45	0.00
tblWoodstoves	NumberCatalytic	851.15	0.00
tblWoodstoves	NumberNoncatalytic	241.75	0.00
tblWoodstoves	NumberNoncatalytic	994.35	0.00
tblWoodstoves	NumberNoncatalytic	479.45	0.00
tblWoodstoves	NumberNoncatalytic	851.15	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1546	42.4652	22.0582	0.0399	18.2675	2.1987	20.4662	9.9840	2.0228	12.0069	0.0000	3,870.7934	3,870.7934	1.1961	0.0000	3,900.6952
2021	4.2729	46.4478	31.4390	0.0640	49.8927	2.0458	51.8795	9.9840	1.8821	11.8661	0.0000	6,206.2099	6,206.2099	1.9471	0.0000	6,254.8865
2022	3.7023	38.8870	29.5639	0.0640	49.8927	1.6363	51.5291	8.0824	1.5054	9.5878	0.0000	6,203.2063	6,203.2063	1.9481	0.0000	6,251.9084
2023	2.4410	19.3067	22.7652	0.0610	2.6588	0.7194	3.3782	0.7149	0.6768	1.3917	0.0000	6,102.6080	6,102.6080	0.7771	0.0000	6,122.0363
2024	2.3012	18.2743	22.3128	0.0601	2.6588	0.6326	3.2914	0.7149	0.5949	1.3098	0.0000	6,017.0064	6,017.0064	0.7682	0.0000	6,036.2101

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	2.1644	17.2128	21.9078	0.0593	2.6588	0.5466	3.2053	0.7149	0.5139	1.2289	0.0000	5,936.365 7	5,936.365 7	0.7601	0.0000	5,955.367 7
2026	2.1362	17.1299	21.6349	0.0586	2.6588	0.5460	3.2048	0.7149	0.5134	1.2283	0.0000	5,865.404 5	5,865.404 5	0.7559	0.0000	5,884.300 7
2027	2.1084	17.0521	21.3966	0.0580	2.6588	0.5452	3.2040	0.7149	0.5127	1.2276	0.0000	5,803.103 6	5,803.103 6	0.7520	0.0000	5,821.903 7
2028	2.0794	16.9857	21.1896	0.0574	2.6588	0.5441	3.2029	0.7149	0.5117	1.2266	0.0000	5,748.993 9	5,748.993 9	0.7486	0.0000	5,767.708 4
2029	2.0475	16.9237	20.9930	0.0569	2.6588	0.5432	3.2020	0.7149	0.5108	1.2257	0.0000	5,701.478 8	5,701.478 8	0.7455	0.0000	5,720.1165
2030	1.9560	12.3307	20.8837	0.0605	2.6588	0.1629	2.8217	0.7149	0.1619	0.8768	0.0000	6,000.780 8	6,000.780 8	0.2580	0.0000	6,007.230 2
2031	1.9190	12.2678	20.7135	0.0601	2.6588	0.1621	2.8209	0.7149	0.1612	0.8761	0.0000	5,961.525 7	5,961.525 7	0.2555	0.0000	5,967.913 0
2032	1.8863	12.2187	20.5621	0.0598	2.6588	0.1614	2.8202	0.7149	0.1605	0.8755	0.0000	5,930.433 4	5,930.433 4	0.2534	0.0000	5,936.767 5
2033	1.8585	12.1741	20.4319	0.0595	2.6588	0.1608	2.8196	0.7149	0.1600	0.8749	0.0000	5,903.647 3	5,903.647 3	0.2515	0.0000	5,909.935 1
2034	1.8345	12.1339	20.3067	0.0593	2.6588	0.1602	2.8190	0.7149	0.1594	0.8743	0.0000	5,880.679 6	5,880.679 6	0.2498	0.0000	5,886.925 5
2035	1.7221	11.3276	20.1609	0.0591	2.6588	0.1020	2.7608	0.7149	0.1012	0.8161	0.0000	5,861.380 6	5,861.380 6	0.2401	0.0000	5,867.381 9
2036	1.7221	11.3276	20.1609	0.0591	2.6588	0.1020	2.7608	0.7149	0.1012	0.8161	0.0000	5,861.380 6	5,861.380 6	0.2401	0.0000	5,867.381 9
2037	1.7221	11.3276	20.1609	0.0591	2.6588	0.1020	2.7608	0.7149	0.1012	0.8161	0.0000	5,861.380 6	5,861.380 6	0.2401	0.0000	5,867.381 9
2038	859.3517	11.3276	20.1609	0.0591	2.6588	0.1020	2.7608	0.7149	0.1012	0.8161	0.0000	5,861.380 6	5,861.380 6	0.2401	0.0000	5,867.381 9
2039	859.3517	0.9226	4.2647	0.0163	2.2244	0.0170	2.2413	0.5899	0.0164	0.6063	0.0000	1,615.761 7	1,615.761 7	0.0240	0.0000	1,616.362 4
2040	859.2780	0.8678	3.9403	0.0158	2.2244	0.0130	2.2373	0.5899	0.0125	0.6024	0.0000	1,565.471 4	1,565.471 4	0.0210	0.0000	1,565.995 2
Maximum	859.3517	46.4478	31.4390	0.0640	49.8927	2.1987	51.8795	9.9840	2.0228	12.0069	0.0000	6,206.209 9	6,206.209 9	1.9481	0.0000	6,254.886 5

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.1546	42.4652	22.0582	0.0399	18.2675	2.1987	20.4662	9.9840	2.0228	12.0069	0.0000	3,870.793 4	3,870.793 4	1.1961	0.0000	3,900.695 2
2021	4.2729	46.4478	31.4390	0.0640	49.8927	2.0458	51.8795	9.9840	1.8821	11.8661	0.0000	6,206.209 9	6,206.209 9	1.9471	0.0000	6,254.886 5
2022	3.7023	38.8870	29.5639	0.0640	49.8927	1.6363	51.5291	8.0824	1.5054	9.5878	0.0000	6,203.206 3	6,203.206 3	1.9481	0.0000	6,251.908 4
2023	2.4410	19.3067	22.7652	0.0610	2.6588	0.7194	3.3782	0.7149	0.6768	1.3917	0.0000	6,102.608 0	6,102.608 0	0.7771	0.0000	6,122.036 3
2024	2.3012	18.2743	22.3128	0.0601	2.6588	0.6326	3.2914	0.7149	0.5949	1.3098	0.0000	6,017.006 4	6,017.006 4	0.7682	0.0000	6,036.210 1
2025	2.1644	17.2128	21.9078	0.0593	2.6588	0.5466	3.2053	0.7149	0.5139	1.2289	0.0000	5,936.365 7	5,936.365 7	0.7601	0.0000	5,955.367 7
2026	2.1362	17.1299	21.6349	0.0586	2.6588	0.5460	3.2048	0.7149	0.5134	1.2283	0.0000	5,865.404 5	5,865.404 5	0.7559	0.0000	5,884.300 7
2027	2.1084	17.0521	21.3966	0.0580	2.6588	0.5452	3.2040	0.7149	0.5127	1.2276	0.0000	5,803.103 6	5,803.103 6	0.7520	0.0000	5,821.903 7
2028	2.0794	16.9857	21.1896	0.0574	2.6588	0.5441	3.2029	0.7149	0.5117	1.2266	0.0000	5,748.993 9	5,748.993 9	0.7486	0.0000	5,767.708 4
2029	2.0475	16.9237	20.9930	0.0569	2.6588	0.5432	3.2020	0.7149	0.5108	1.2257	0.0000	5,701.478 8	5,701.478 8	0.7455	0.0000	5,720.1165
2030	1.9560	12.3307	20.8837	0.0605	2.6588	0.1629	2.8217	0.7149	0.1619	0.8768	0.0000	6,000.780 8	6,000.780 8	0.2580	0.0000	6,007.230 2
2031	1.9190	12.2678	20.7135	0.0601	2.6588	0.1621	2.8209	0.7149	0.1612	0.8761	0.0000	5,961.525 7	5,961.525 7	0.2555	0.0000	5,967.913 0
2032	1.8863	12.2187	20.5621	0.0598	2.6588	0.1614	2.8202	0.7149	0.1605	0.8755	0.0000	5,930.433 4	5,930.433 4	0.2534	0.0000	5,936.767 5
2033	1.8585	12.1741	20.4319	0.0595	2.6588	0.1608	2.8196	0.7149	0.1600	0.8749	0.0000	5,903.647 3	5,903.647 3	0.2515	0.0000	5,909.935 1
2034	1.8345	12.1339	20.3067	0.0593	2.6588	0.1602	2.8190	0.7149	0.1594	0.8743	0.0000	5,880.679 6	5,880.679 6	0.2498	0.0000	5,886.925 5

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425
Energy	34.6094	300.2718	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230
Mobile	1,231.0463	5,178.2347	15,739.6228	56.0490	5,021.0924	57.6827	5,078.7752	1,342.6783	54.1273	1,396.8055		5,685,314.5483	5,685,314.5483	249.1708		5,691,543.8175
Total	3,215.0914	5,527.6728	20,150.0363	58.1606	5,021.0924	104.9676	5,126.0601	1,342.6783	101.4122	1,444.0904	0.0000	6,070,502.2650	6,070,502.2650	263.8559	6.9219	6,079,161.3830

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425
Energy	34.6094	300.2718	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230
Mobile	1,231.0463	5,178.2347	15,739.6228	56.0490	5,021.0924	57.6827	5,078.7752	1,342.6783	54.1273	1,396.8055		5,685,314.5483	5,685,314.5483	249.1708		5,691,543.8175
Total	3,215.0914	5,527.6728	20,150.0363	58.1606	5,021.0924	104.9676	5,126.0601	1,342.6783	101.4122	1,444.0904	0.0000	6,070,502.2650	6,070,502.2650	263.8559	6.9219	6,079,161.3830

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2020	6/1/2021	5	262	
2	Grading	Grading	6/2/2021	6/1/2022	5	261	
3	Building Construction	Building Construction	6/2/2023	6/1/2038	5	3913	
4	Paving	Paving	6/2/2022	6/1/2023	5	261	
5	Architectural Coating	Architectural Coating	6/2/2038	12/31/2040	5	674	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10742

Acres of Paving: 0

Residential Indoor: 131,528,610; Residential Outdoor: 43,842,870; Non-Residential Indoor: 27,902,051; Non-Residential Outdoor: 9,300,684; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	199.00	68.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	199.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523		3,685.1016	3,685.1016	1.1918		3,714.8975

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0782	0.0479	0.5446	1.8600e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2300e-003	0.0546		185.6918	185.6918	4.2400e-003		185.7977
Total	0.0782	0.0479	0.5446	1.8600e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2300e-003	0.0546		185.6918	185.6918	4.2400e-003		185.7977

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.2 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0782	0.0479	0.5446	1.8600e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2300e-003	0.0546		185.6918	185.6918	4.2400e-003		185.7977
Total	0.0782	0.0479	0.5446	1.8600e-003	0.2012	1.3300e-003	0.2025	0.0534	1.2300e-003	0.0546		185.6918	185.6918	4.2400e-003		185.7977

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	18.0663	2.0445	20.1107	9.9307	1.8809	11.8116		3,685.6569	3,685.6569	1.1920		3,715.4573

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0736	0.0432	0.5045	1.8000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		179.2498	179.2498	3.8400e-003		179.3458
Total	0.0736	0.0432	0.5045	1.8000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		179.2498	179.2498	3.8400e-003		179.3458

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	3.8882	40.4971	21.1543	0.0380	18.0663	2.0445	20.1107	9.9307	1.8809	11.8116	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0736	0.0432	0.5045	1.8000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		179.2498	179.2498	3.8400e-003		179.3458
Total	0.0736	0.0432	0.5045	1.8000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		179.2498	179.2498	3.8400e-003		179.3458

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					49.6692	0.0000	49.6692	8.0231	0.0000	8.0231			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	4.1912	46.3998	30.8785	0.0620	49.6692	1.9853	51.6545	8.0231	1.8265	9.8496		6,007.0434	6,007.0434	1.9428		6,055.6134

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0817	0.0480	0.5605	2.0000e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		199.1664	199.1664	4.2600e-003		199.2731
Total	0.0817	0.0480	0.5605	2.0000e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		199.1664	199.1664	4.2600e-003		199.2731

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					49.6692	0.0000	49.6692	8.0231	0.0000	8.0231			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	4.1912	46.3998	30.8785	0.0620	49.6692	1.9853	51.6545	8.0231	1.8265	9.8496	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0817	0.0480	0.5605	2.0000e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		199.1664	199.1664	4.2600e-003		199.2731
Total	0.0817	0.0480	0.5605	2.0000e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		199.1664	199.1664	4.2600e-003		199.2731

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					49.6692	0.0000	49.6692	8.0231	0.0000	8.0231			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	3.6248	38.8435	29.0415	0.0621	49.6692	1.6349	51.3041	8.0231	1.5041	9.5272		6,011.4105	6,011.4105	1.9442		6,060.0158

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925
Total	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					49.6692	0.0000	49.6692	8.0231	0.0000	8.0231			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	3.6248	38.8435	29.0415	0.0621	49.6692	1.6349	51.3041	8.0231	1.5041	9.5272	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925
Total	0.0774	0.0435	0.5224	1.9200e-003	0.2236	1.4200e-003	0.2250	0.0593	1.3100e-003	0.0606		191.7958	191.7958	3.8700e-003		191.8925

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1364	4.5291	1.6817	0.0157	0.4344	5.8200e-003	0.4403	0.1250	5.5700e-003	0.1306		1,712.3029	1,712.3029	0.1344		1,715.6626
Worker	0.7319	0.3927	4.8395	0.0184	2.2244	0.0139	2.2382	0.5899	0.0128	0.6027		1,835.0952	1,835.0952	0.0349		1,835.9676
Total	0.8683	4.9218	6.5212	0.0341	2.6588	0.0197	2.6785	0.7149	0.0183	0.7333		3,547.3981	3,547.3981	0.1693		3,551.6302

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1364	4.5291	1.6817	0.0157	0.4344	5.8200e-003	0.4403	0.1250	5.5700e-003	0.1306		1,712.3029	1,712.3029	0.1344		1,715.6626
Worker	0.7319	0.3927	4.8395	0.0184	2.2244	0.0139	2.2382	0.5899	0.0128	0.6027		1,835.0952	1,835.0952	0.0349		1,835.9676
Total	0.8683	4.9218	6.5212	0.0341	2.6588	0.0197	2.6785	0.7149	0.0183	0.7333		3,547.3981	3,547.3981	0.1693		3,551.6302

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1317	4.4730	1.6457	0.0155	0.4344	5.6700e-003	0.4401	0.1250	5.4200e-003	0.1304		1,698.9116	1,698.9116	0.1321		1,702.2151
Worker	0.6979	0.3575	4.5003	0.0177	2.2244	0.0136	2.2380	0.5899	0.0126	0.6025		1,762.3959	1,762.3959	0.0317		1,763.1874
Total	0.8296	4.8305	6.1460	0.0332	2.6588	0.0193	2.6781	0.7149	0.0180	0.7329		3,461.3075	3,461.3075	0.1638		3,465.4025

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1317	4.4730	1.6457	0.0155	0.4344	5.6700e-003	0.4401	0.1250	5.4200e-003	0.1304		1,698.9116	1,698.9116	0.1321		1,702.2151
Worker	0.6979	0.3575	4.5003	0.0177	2.2244	0.0136	2.2380	0.5899	0.0126	0.6025		1,762.3959	1,762.3959	0.0317		1,763.1874
Total	0.8296	4.8305	6.1460	0.0332	2.6588	0.0193	2.6781	0.7149	0.0180	0.7329		3,461.3075	3,461.3075	0.1638		3,465.4025

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1283	4.4153	1.6249	0.0154	0.4344	5.5300e-003	0.4400	0.1250	5.2800e-003	0.1303		1,688.673 5	1,688.673 5	0.1302		1,691.928 3
Worker	0.6687	0.3279	4.1982	0.0170	2.2244	0.0135	2.2378	0.5899	0.0124	0.6023		1,691.217 8	1,691.217 8	0.0289		1,691.941 3
Total	0.7970	4.7432	5.8231	0.0324	2.6588	0.0190	2.6778	0.7149	0.0177	0.7326		3,379.891 3	3,379.891 3	0.1591		3,383.869 7

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1283	4.4153	1.6249	0.0154	0.4344	5.5300e-003	0.4400	0.1250	5.2800e-003	0.1303		1,688.673 5	1,688.673 5	0.1302		1,691.928 3
Worker	0.6687	0.3279	4.1982	0.0170	2.2244	0.0135	2.2378	0.5899	0.0124	0.6023		1,691.217 8	1,691.217 8	0.0289		1,691.941 3
Total	0.7970	4.7432	5.8231	0.0324	2.6588	0.0190	2.6778	0.7149	0.0177	0.7326		3,379.891 3	3,379.891 3	0.1591		3,383.869 7

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1252	4.3575	1.6106	0.0153	0.4344	5.3800e-003	0.4398	0.1250	5.1400e-003	0.1302		1,678.843 9	1,678.843 9	0.1283		1,682.051 6
Worker	0.6436	0.3027	3.9396	0.0163	2.2244	0.0131	2.2374	0.5899	0.0120	0.6019		1,630.086 2	1,630.086 2	0.0266		1,630.751 0
Total	0.7688	4.6602	5.5502	0.0316	2.6588	0.0185	2.6772	0.7149	0.0172	0.7321		3,308.930 1	3,308.930 1	0.1549		3,312.802 6

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1252	4.3575	1.6106	0.0153	0.4344	5.3800e-003	0.4398	0.1250	5.1400e-003	0.1302		1,678.843 9	1,678.843 9	0.1283		1,682.051 6
Worker	0.6436	0.3027	3.9396	0.0163	2.2244	0.0131	2.2374	0.5899	0.0120	0.6019		1,630.086 2	1,630.086 2	0.0266		1,630.751 0
Total	0.7688	4.6602	5.5502	0.0316	2.6588	0.0185	2.6772	0.7149	0.0172	0.7321		3,308.930 1	3,308.930 1	0.1549		3,312.802 6

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1226	4.3020	1.5992	0.0152	0.4344	5.2500e-003	0.4397	0.1250	5.0200e-003	0.1300		1,669.764 5	1,669.764 5	0.1266		1,672.928 1
Worker	0.6184	0.2804	3.7128	0.0158	2.2244	0.0124	2.2367	0.5899	0.0114	0.6013		1,576.864 7	1,576.864 7	0.0245		1,577.477 5
Total	0.7410	4.5824	5.3120	0.0310	2.6588	0.0176	2.6764	0.7149	0.0164	0.7313		3,246.629 2	3,246.629 2	0.1511		3,250.405 7

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1226	4.3020	1.5992	0.0152	0.4344	5.2500e-003	0.4397	0.1250	5.0200e-003	0.1300		1,669.764 5	1,669.764 5	0.1266		1,672.928 1
Worker	0.6184	0.2804	3.7128	0.0158	2.2244	0.0124	2.2367	0.5899	0.0114	0.6013		1,576.864 7	1,576.864 7	0.0245		1,577.477 5
Total	0.7410	4.5824	5.3120	0.0310	2.6588	0.0176	2.6764	0.7149	0.0164	0.7313		3,246.629 2	3,246.629 2	0.1511		3,250.405 7

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1204	4.2555	1.5923	0.0151	0.4344	5.1300e-003	0.4396	0.1250	4.9000e-003	0.1299		1,661.917 7	1,661.917 7	0.1249		1,665.0411
Worker	0.5916	0.2605	3.5127	0.0153	2.2244	0.0114	2.2358	0.5899	0.0105	0.6004		1,530.601 8	1,530.601 8	0.0227		1,531.169 2
Total	0.7120	4.5160	5.1050	0.0305	2.6588	0.0166	2.6753	0.7149	0.0154	0.7303		3,192.519 6	3,192.519 6	0.1476		3,196.210 3

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1204	4.2555	1.5923	0.0151	0.4344	5.1300e-003	0.4396	0.1250	4.9000e-003	0.1299		1,661.917 7	1,661.917 7	0.1249		1,665.0411
Worker	0.5916	0.2605	3.5127	0.0153	2.2244	0.0114	2.2358	0.5899	0.0105	0.6004		1,530.601 8	1,530.601 8	0.0227		1,531.169 2
Total	0.7120	4.5160	5.1050	0.0305	2.6588	0.0166	2.6753	0.7149	0.0154	0.7303		3,192.519 6	3,192.519 6	0.1476		3,196.210 3

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1185	4.2119	1.5856	0.0151	0.4344	5.0200e-003	0.4395	0.1250	4.8000e-003	0.1298		1,654.807 6	1,654.807 6	0.1236		1,657.896 9
Worker	0.5616	0.2421	3.3228	0.0149	2.2244	0.0106	2.2349	0.5899	9.7400e-003	0.5997		1,490.196 8	1,490.196 8	0.0210		1,490.721 5
Total	0.6801	4.4540	4.9084	0.0300	2.6588	0.0156	2.6744	0.7149	0.0145	0.7295		3,145.004 4	3,145.004 4	0.1446		3,148.618 4

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1
Total	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.474 4	2,556.474 4	0.6010		2,571.498 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1185	4.2119	1.5856	0.0151	0.4344	5.0200e-003	0.4395	0.1250	4.8000e-003	0.1298		1,654.807 6	1,654.807 6	0.1236		1,657.896 9
Worker	0.5616	0.2421	3.3228	0.0149	2.2244	0.0106	2.2349	0.5899	9.7400e-003	0.5997		1,490.196 8	1,490.196 8	0.0210		1,490.721 5
Total	0.6801	4.4540	4.9084	0.0300	2.6588	0.0156	2.6744	0.7149	0.0145	0.7295		3,145.004 4	3,145.004 4	0.1446		3,148.618 4

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1166	4.1709	1.5795	0.0150	0.4344	4.9100e-003	0.4393	0.1250	4.6900e-003	0.1297		1,648.3665	1,648.3665	0.1223		1,651.4241
Worker	0.5302	0.2251	3.1472	0.0146	2.2244	9.8400e-003	2.2342	0.5899	9.0500e-003	0.5990		1,454.8676	1,454.8676	0.0194		1,455.3533
Total	0.6468	4.3961	4.7267	0.0296	2.6588	0.0148	2.6735	0.7149	0.0137	0.7287		3,103.2340	3,103.2340	0.1417		3,106.7774

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1166	4.1709	1.5795	0.0150	0.4344	4.9100e-003	0.4393	0.1250	4.6900e-003	0.1297		1,648.3665	1,648.3665	0.1223		1,651.4241
Worker	0.5302	0.2251	3.1472	0.0146	2.2244	9.8400e-003	2.2342	0.5899	9.0500e-003	0.5990		1,454.8676	1,454.8676	0.0194		1,455.3533
Total	0.6468	4.3961	4.7267	0.0296	2.6588	0.0148	2.6735	0.7149	0.0137	0.7287		3,103.2340	3,103.2340	0.1417		3,106.7774

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1151	4.1245	1.5770	0.0149	0.4344	4.8200e-003	0.4393	0.1250	4.6100e-003	0.1296		1,643.3581	1,643.3581	0.1214		1,646.3921
Worker	0.4947	0.2086	2.9795	0.0142	2.2244	9.1400e-003	2.2335	0.5899	8.4100e-003	0.5983		1,420.6209	1,420.6209	0.0179		1,421.0680
Total	0.6099	4.3331	4.5566	0.0292	2.6588	0.0140	2.6728	0.7149	0.0130	0.7279		3,063.9790	3,063.9790	0.1393		3,067.4601

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1151	4.1245	1.5770	0.0149	0.4344	4.8200e-003	0.4393	0.1250	4.6100e-003	0.1296		1,643.3581	1,643.3581	0.1214		1,646.3921
Worker	0.4947	0.2086	2.9795	0.0142	2.2244	9.1400e-003	2.2335	0.5899	8.4100e-003	0.5983		1,420.6209	1,420.6209	0.0179		1,421.0680
Total	0.6099	4.3331	4.5566	0.0292	2.6588	0.0140	2.6728	0.7149	0.0130	0.7279		3,063.9790	3,063.9790	0.1393		3,067.4601

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1139	4.0895	1.5762	0.0149	0.4344	4.7400e-003	0.4392	0.1250	4.5300e-003	0.1296		1,638.9605	1,638.9605	0.1205		1,641.9733
Worker	0.4633	0.1946	2.8290	0.0140	2.2244	8.5400e-003	2.2329	0.5899	7.8500e-003	0.5978		1,393.9262	1,393.9262	0.0166		1,394.3413
Total	0.5772	4.2841	4.4051	0.0288	2.6588	0.0133	2.6721	0.7149	0.0124	0.7273		3,032.8867	3,032.8867	0.1371		3,036.3146

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1139	4.0895	1.5762	0.0149	0.4344	4.7400e-003	0.4392	0.1250	4.5300e-003	0.1296		1,638.9605	1,638.9605	0.1205		1,641.9733
Worker	0.4633	0.1946	2.8290	0.0140	2.2244	8.5400e-003	2.2329	0.5899	7.8500e-003	0.5978		1,393.9262	1,393.9262	0.0166		1,394.3413
Total	0.5772	4.2841	4.4051	0.0288	2.6588	0.0133	2.6721	0.7149	0.0124	0.7273		3,032.8867	3,032.8867	0.1371		3,036.3146

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1130	4.0569	1.5765	0.0148	0.4344	4.6700e-003	0.4391	0.1250	4.4600e-003	0.1295		1,635.1725	1,635.1725	0.1198		1,638.1665
Worker	0.4364	0.1826	2.6984	0.0137	2.2244	8.0000e-003	2.2324	0.5899	7.3600e-003	0.5973		1,370.9280	1,370.9280	0.0155		1,371.3157
Total	0.5493	4.2395	4.2749	0.0286	2.6588	0.0127	2.6715	0.7149	0.0118	0.7267		3,006.1005	3,006.1005	0.1353		3,009.4822

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1130	4.0569	1.5765	0.0148	0.4344	4.6700e-003	0.4391	0.1250	4.4600e-003	0.1295		1,635.1725	1,635.1725	0.1198		1,638.1665
Worker	0.4364	0.1826	2.6984	0.0137	2.2244	8.0000e-003	2.2324	0.5899	7.3600e-003	0.5973		1,370.9280	1,370.9280	0.0155		1,371.3157
Total	0.5493	4.2395	4.2749	0.0286	2.6588	0.0127	2.6715	0.7149	0.0118	0.7267		3,006.1005	3,006.1005	0.1353		3,009.4822

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481		2,897.5468	2,897.5468	0.1162		2,900.4529

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1121	4.0267	1.5751	0.0148	0.4344	4.5800e-003	0.4390	0.1250	4.3800e-003	0.1294		1,632.0273	1,632.0273	0.1191		1,635.0051
Worker	0.4133	0.1725	2.5746	0.0135	2.2244	7.5000e-003	2.2319	0.5899	6.8900e-003	0.5968		1,351.1056	1,351.1056	0.0145		1,351.4676
Total	0.5254	4.1992	4.1497	0.0283	2.6588	0.0121	2.6709	0.7149	0.0113	0.7262		2,983.1329	2,983.1329	0.1336		2,986.4726

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2034

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529
Total	1.3091	7.9346	16.1570	0.0310		0.1481	0.1481		0.1481	0.1481	0.0000	2,897.5468	2,897.5468	0.1162		2,900.4529

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1121	4.0267	1.5751	0.0148	0.4344	4.5800e-003	0.4390	0.1250	4.3800e-003	0.1294		1,632.0273	1,632.0273	0.1191		1,635.0051
Worker	0.4133	0.1725	2.5746	0.0135	2.2244	7.5000e-003	2.2319	0.5899	6.8900e-003	0.5968		1,351.1056	1,351.1056	0.0145		1,351.4676
Total	0.5254	4.1992	4.1497	0.0283	2.6588	0.0121	2.6709	0.7149	0.0113	0.7262		2,983.1329	2,983.1329	0.1336		2,986.4726

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1113	4.0015	1.5728	0.0148	0.4344	4.5100e-003	0.4390	0.1250	4.3100e-003	0.1293		1,629.5202	1,629.5202	0.1185		1,632.4828
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.5053	4.1663	4.0432	0.0281	2.6588	0.0116	2.6704	0.7149	0.0108	0.7257		2,963.8338	2,963.8338	0.1321		2,967.1372

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2035

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1113	4.0015	1.5728	0.0148	0.4344	4.5100e-003	0.4390	0.1250	4.3100e-003	0.1293		1,629.5202	1,629.5202	0.1185		1,632.4828
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.5053	4.1663	4.0432	0.0281	2.6588	0.0116	2.6704	0.7149	0.0108	0.7257		2,963.8338	2,963.8338	0.1321		2,967.1372

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1113	4.0015	1.5728	0.0148	0.4344	4.5100e-003	0.4390	0.1250	4.3100e-003	0.1293		1,629.5202	1,629.5202	0.1185		1,632.4828
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.5053	4.1663	4.0432	0.0281	2.6588	0.0116	2.6704	0.7149	0.0108	0.7257		2,963.8338	2,963.8338	0.1321		2,967.1372

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2036

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1113	4.0015	1.5728	0.0148	0.4344	4.5100e-003	0.4390	0.1250	4.3100e-003	0.1293		1,629.5202	1,629.5202	0.1185		1,632.4828
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.5053	4.1663	4.0432	0.0281	2.6588	0.0116	2.6704	0.7149	0.0108	0.7257		2,963.8338	2,963.8338	0.1321		2,967.1372

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1113	4.0015	1.5728	0.0148	0.4344	4.5100e-003	0.4390	0.1250	4.3100e-003	0.1293		1,629.5202	1,629.5202	0.1185		1,632.4828
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.5053	4.1663	4.0432	0.0281	2.6588	0.0116	2.6704	0.7149	0.0108	0.7257		2,963.8338	2,963.8338	0.1321		2,967.1372

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2037

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1113	4.0015	1.5728	0.0148	0.4344	4.5100e-003	0.4390	0.1250	4.3100e-003	0.1293		1,629.5202	1,629.5202	0.1185		1,632.4828
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.5053	4.1663	4.0432	0.0281	2.6588	0.0116	2.6704	0.7149	0.0108	0.7257		2,963.8338	2,963.8338	0.1321		2,967.1372

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2038

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904		2,897.5468	2,897.5468	0.1079		2,900.2448

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1113	4.0015	1.5728	0.0148	0.4344	4.5100e-003	0.4390	0.1250	4.3100e-003	0.1293		1,629.5202	1,629.5202	0.1185		1,632.4828
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.5053	4.1663	4.0432	0.0281	2.6588	0.0116	2.6704	0.7149	0.0108	0.7257		2,963.8338	2,963.8338	0.1321		2,967.1372

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.4 Building Construction - 2038

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448
Total	1.2168	7.1613	16.1178	0.0310		0.0904	0.0904		0.0904	0.0904	0.0000	2,897.5468	2,897.5468	0.1079		2,900.2448

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1113	4.0015	1.5728	0.0148	0.4344	4.5100e-003	0.4390	0.1250	4.3100e-003	0.1293		1,629.5202	1,629.5202	0.1185		1,632.4828
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.5053	4.1663	4.0432	0.0281	2.6588	0.0116	2.6704	0.7149	0.0108	0.7257		2,963.8338	2,963.8338	0.1321		2,967.1372

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0581	0.0326	0.3918	1.4400e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		143.8468	143.8468	2.9000e-003		143.9194
Total	0.0581	0.0326	0.3918	1.4400e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		143.8468	143.8468	2.9000e-003		143.9194

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.5 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0581	0.0326	0.3918	1.4400e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		143.8468	143.8468	2.9000e-003		143.9194
Total	0.0581	0.0326	0.3918	1.4400e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		143.8468	143.8468	2.9000e-003		143.9194

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0552	0.0296	0.3648	1.3900e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		138.3238	138.3238	2.6300e-003		138.3895
Total	0.0552	0.0296	0.3648	1.3900e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		138.3238	138.3238	2.6300e-003		138.3895

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0552	0.0296	0.3648	1.3900e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		138.3238	138.3238	2.6300e-003		138.3895
Total	0.0552	0.0296	0.3648	1.3900e-003	0.1677	1.0500e-003	0.1687	0.0445	9.6000e-004	0.0454		138.3238	138.3238	2.6300e-003		138.3895

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.6 Architectural Coating - 2038

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081
Total	858.9578	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.6 Architectural Coating - 2038

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081
Total	858.9578	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.6 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081
Total	858.9578	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.6 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081
Total	858.9578	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543
Total	0.3940	0.1648	2.4704	0.0134	2.2244	7.0500e-003	2.2314	0.5899	6.4800e-003	0.5964		1,334.3137	1,334.3137	0.0136		1,334.6543

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.6 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1149	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003		281.4481	281.4481	9.9000e-003		281.6957
Total	858.9548	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003		281.4481	281.4481	9.9000e-003		281.6957

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3232	0.1408	2.1480	0.0129	2.2244	5.5400e-003	2.2299	0.5899	5.1000e-003	0.5950		1,284.0233	1,284.0233	0.0111		1,284.2996
Total	0.3232	0.1408	2.1480	0.0129	2.2244	5.5400e-003	2.2299	0.5899	5.1000e-003	0.5950		1,284.0233	1,284.0233	0.0111		1,284.2996

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

3.6 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	858.8399					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1149	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003	0.0000	281.4481	281.4481	9.9000e-003		281.6957
Total	858.9548	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003	0.0000	281.4481	281.4481	9.9000e-003		281.6957

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3232	0.1408	2.1480	0.0129	2.2244	5.5400e-003	2.2299	0.5899	5.1000e-003	0.5950		1,284.0233	1,284.0233	0.0111		1,284.2996
Total	0.3232	0.1408	2.1480	0.0129	2.2244	5.5400e-003	2.2299	0.5899	5.1000e-003	0.5950		1,284.0233	1,284.0233	0.0111		1,284.2996

4.0 Operational Detail - Mobile

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1,231.046 3	5,178.234 7	15,739.62 28	56.0490	5,021.092 4	57.6827	5,078.775 2	1,342.678 3	54.1273	1,396.8055		5,685,314. 5483	5,685,314. 5483	249.1708		5,691,543. 8175
Unmitigated	1,231.046 3	5,178.234 7	15,739.62 28	56.0490	5,021.092 4	57.6827	5,078.775 2	1,342.678 3	54.1273	1,396.8055		5,685,314. 5483	5,685,314. 5483	249.1708		5,691,543. 8175

4.2 Trip Summary Information

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	2,604.00	3,087.60	2263.00	8,967,876	8,967,876
Apartments High Rise	13,713.00	16,259.70	11917.25	47,225,991	47,225,991
Apartments High Rise	3,990.00	4,731.00	3467.50	13,741,100	13,741,100
Apartments Mid Rise	52,741.15	50,679.09	46475.66	176,159,307	176,159,307
Apartments Mid Rise	21,506.10	20,665.26	18951.24	71,831,951	71,831,951
Apartments Mid Rise	50,320.55	48,353.13	44342.62	168,074,326	168,074,326
Apartments Mid Rise	7,680.75	7,380.45	6768.30	25,654,268	25,654,268
Condo/Townhouse	55,712.09	54,369.63	46410.76	185,180,754	185,180,754
Single Family Housing	162,058.96	168,697.93	146738.26	549,541,973	549,541,973
General Office Building	1,217.71	271.58	115.92	2,980,341	2,980,341
General Office Building	5,666.28	1,263.74	539.40	13,868,169	13,868,169
Office Park	51,913.26	7,455.14	3454.82	130,549,274	130,549,274
Strip Mall	135,367.91	128,404.03	62399.96	235,824,920	235,824,920
General Light Industry	66,672.25	12,626.59	6504.61	222,990,616	222,990,616
Library	45,639.15	37,775.65	20685.31	103,388,312	103,388,312
City Park	470.61	5,664.75	4168.26	5,009,411	5,009,411
City Park	3,664.71	44,112.25	32458.86	39,009,027	39,009,027
City Park	1,657.53	19,951.75	14680.98	17,643,588	17,643,588
Total	682,596.01	631,749.29	472,342.72	2,017,641,204	2,017,641,204

4.3 Trip Type Information

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Condo/Townhouse	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Office Park	16.60	8.40	6.90	33.00	48.00	19.00	82	15	3
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Library	16.60	8.40	6.90	52.00	43.00	5.00	44	44	12
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Apartments Mid Rise	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Condo/Townhouse	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Single Family Housing	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
General Office Building	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Office Park	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Strip Mall	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
General Light Industry	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
Library	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002
City Park	0.555968	0.043848	0.210359	0.116378	0.016765	0.005795	0.025008	0.016160	0.001677	0.001586	0.004867	0.000586	0.001002

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	34.6094	300.2718	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230
NaturalGas Unmitigated	34.6094	300.2718	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230

5.2 Energy by Land Use - NaturalGas

Unmitigated

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	19411	0.2093	1.7889	0.7612	0.0114		0.1446	0.1446		0.1446	0.1446		2,283.6504	2,283.6504	0.0438	0.0419	2,297.2209
Apartments High Rise	29742.7	0.3208	2.7410	1.1664	0.0175		0.2216	0.2216		0.2216	0.2216		3,499.1417	3,499.1417	0.0671	0.0642	3,519.9353
Apartments High Rise	102221	1.1024	9.4204	4.0087	0.0601		0.7617	0.7617		0.7617	0.7617		12,025.9974	12,025.9974	0.2305	0.2205	12,097.4619
Apartments Mid Rise	101250	1.0919	9.3309	3.9706	0.0596		0.7544	0.7544		0.7544	0.7544		11,911.8149	11,911.8149	0.2283	0.2184	11,982.6008
Apartments Mid Rise	236908	2.5549	21.8327	9.2905	0.1394		1.7652	1.7652		1.7652	1.7652		27,871.5842	27,871.5842	0.5342	0.5110	28,037.2110
Apartments Mid Rise	248305	2.6778	22.8830	9.7374	0.1461		1.8501	1.8501		1.8501	1.8501		29,212.3079	29,212.3079	0.5599	0.5356	29,385.9020
Apartments Mid Rise	36160.9	0.3900	3.3325	1.4181	0.0213		0.2694	0.2694		0.2694	0.2694		4,254.2196	4,254.2196	0.0815	0.0780	4,279.5003
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	463572	4.9993	42.7214	18.1793	0.2727		3.4541	3.4541		3.4541	3.4541		54,537.9359	54,537.9359	1.0453	0.9999	54,862.0276
General Light Industry	547729	5.9069	53.6989	45.1071	0.3222		4.0811	4.0811		4.0811	4.0811		64,438.7049	64,438.7049	1.2351	1.1814	64,821.6319
General Office Building	12864	0.1387	1.2612	1.0594	7.5700e-003		0.0959	0.0959		0.0959	0.0959		1,513.4102	1,513.4102	0.0290	0.0278	1,522.4036
General Office Building	2764.49	0.0298	0.2710	0.2277	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.2338	325.2338	6.2300e-003	5.9600e-003	327.1665
Library	46467.1	0.5011	4.5556	3.8267	0.0273		0.3462	0.3462		0.3462	0.3462		5,466.7192	5,466.7192	0.1048	0.1002	5,499.2052
Office Park	141605	1.5271	13.8829	11.6616	0.0833		1.0551	1.0551		1.0551	1.0551		16,659.4559	16,659.4559	0.3193	0.3054	16,758.4548
Single Family Housing	1.2035e+006	12.9789	110.9107	47.1960	0.7079		8.9672	8.9672		8.9672	8.9672		141,588.0686	141,588.0686	2.7138	2.5958	142,429.4557
Strip Mall	16736	0.1805	1.6408	1.3783	9.8400e-003		0.1247	0.1247		0.1247	0.1247		1,968.9450	1,968.9450	0.0377	0.0361	1,980.6455
Total		34.6094	300.2717	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

5.2 Energy by Land Use - Natural Gas

Mitigated

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	102.221	1.1024	9.4204	4.0087	0.0601		0.7617	0.7617		0.7617	0.7617		12,025.9974	12,025.9974	0.2305	0.2205	12,097.4619
Apartments High Rise	19.411	0.2093	1.7889	0.7612	0.0114		0.1446	0.1446		0.1446	0.1446		2,283.6504	2,283.6504	0.0438	0.0419	2,297.2209
Apartments High Rise	29.7427	0.3208	2.7410	1.1664	0.0175		0.2216	0.2216		0.2216	0.2216		3,499.1417	3,499.1417	0.0671	0.0642	3,519.9353
Apartments Mid Rise	101.25	1.0919	9.3309	3.9706	0.0596		0.7544	0.7544		0.7544	0.7544		11,911.8149	11,911.8149	0.2283	0.2184	11,982.6008
Apartments Mid Rise	236.908	2.5549	21.8327	9.2905	0.1394		1.7652	1.7652		1.7652	1.7652		27,871.5842	27,871.5842	0.5342	0.5110	28,037.2110
Apartments Mid Rise	248.305	2.6778	22.8830	9.7374	0.1461		1.8501	1.8501		1.8501	1.8501		29,212.3079	29,212.3079	0.5599	0.5356	29,385.9020
Apartments Mid Rise	36.1609	0.3900	3.3325	1.4181	0.0213		0.2694	0.2694		0.2694	0.2694		4,254.2196	4,254.2196	0.0815	0.0780	4,279.5003
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	463.572	4.9993	42.7214	18.1793	0.2727		3.4541	3.4541		3.4541	3.4541		54,537.9359	54,537.9359	1.0453	0.9999	54,862.0276
General Light Industry	547.729	5.9069	53.6989	45.1071	0.3222		4.0811	4.0811		4.0811	4.0811		64,438.7049	64,438.7049	1.2351	1.1814	64,821.6319
General Office Building	12.864	0.1387	1.2612	1.0594	7.5700e-003		0.0959	0.0959		0.0959	0.0959		1,513.4102	1,513.4102	0.0290	0.0278	1,522.4036
General Office Building	2.76449	0.0298	0.2710	0.2277	1.6300e-003		0.0206	0.0206		0.0206	0.0206		325.2338	325.2338	6.2300e-003	5.9600e-003	327.1665
Library	46.4671	0.5011	4.5556	3.8267	0.0273		0.3462	0.3462		0.3462	0.3462		5,466.7192	5,466.7192	0.1048	0.1002	5,499.2052
Office Park	141.605	1.5271	13.8829	11.6616	0.0833		1.0551	1.0551		1.0551	1.0551		16,659.4559	16,659.4559	0.3193	0.3054	16,758.4548
Single Family Housing	1203.5	12.9789	110.9107	47.1960	0.7079		8.9672	8.9672		8.9672	8.9672		141,588.0686	141,588.0686	2.7138	2.5958	142,429.4557
Strip Mall	16.736	0.1805	1.6408	1.3783	9.8400e-003		0.1247	0.1247		0.1247	0.1247		1,968.9450	1,968.9450	0.0377	0.0361	1,980.6455
Total		34.6094	300.2717	158.9890	1.8878		23.9120	23.9120		23.9120	23.9120		377,557.1894	377,557.1894	7.2365	6.9219	379,800.8230

6.0 Area Detail

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425
Unmitigated	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	158.5913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1,661.2431					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	129.6013	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730		7,630.5273	7,630.5273	7.4486		7,816.7425
Total	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	158.5913					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1,661.2431					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	129.6013	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730		7,630.5273	7,630.5273	7.4486		7,816.7425
Total	1,949.4357	49.1664	4,251.4245	0.2238		23.3730	23.3730		23.3730	23.3730	0.0000	7,630.5273	7,630.5273	7.4486	0.0000	7,816.7425

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Lake Forest General Plan Buildout Year (2040) - Orange County, Winter

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Off-road Mobile (Construction) Energy Usage

Note: For the sake of simplicity, and as a conservative estimation, it was assumed that all off-road vehicles use diesel fuel as an energy source. Site preparation and grading off-road mobile vehicle on-site gallons of fuel are calculated below.

Given Factor:	1,149.34 metric tons	CO2	(provided in CalEEMod Output File)
Conversion Factor:	2204.62 pounds	per metric ton	
Intermediate Result:	2,533,863 pounds	CO2	
Conversion Factor:	22.38 pounds	CO2 per 1 gallon of diesel fuel	(Source: U.S. EIA, 2019).
Final Result:	113,219.99 gallons	diesel fuel	Website: http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11)

On-road Mobile (Operational) Energy Usage

Note: For the sake of simplicity, it was assumed that passenger vehicles, light duty trucks, motorcycles, and mobile homes use gasoline, and all medium-duty trucks, heavy-duty trucks, and buses use diesel fuel.

Unmitigated:

Step 1: **Average Daily VMT:**
3,958,507

Step 2: Given:

Fleet Mix (provided by CalEEMod v2016.3.2)

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
55.6%	4.4%	21.0%	11.6%	1.7%	0.6%	2.5%	1.6%	0.2%	0.2%	0.5%	0.1%	0.1%

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2040

LDA	LDT1	LDT2	MDV	MCY	MH	OBUS	UBUS
42.47833975	36.227955	36.672969	29.96929692	36.74076401	6.439471274	6.3865722	4.9785029

Diesel MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2040

LHD1	LHD2	MHD	HHD	SBUS
26.4144441	23.761873	12.54155	8.878116218	10.0665604

Therefore:

Weighted Average MPG Factors

Gasoline: **39.1** Diesel: **16.2**

Step 3: Therefore:

94,332 daily gallons of gasoline **16,486** daily gallons of diesel

or

34,431,177 annual gallons of gasoline	6,017,510 annual gallons of diesel
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On-road Mobile (Construction) Energy Usage - Site Preparation - Phase 1

Step 1: **Total Daily Worker Trips (provided by CalEEMod)**

18

Worker Trip Length (miles) (provided by CalEEMod)

14.7

Therefore:

Average Worker Daily VMT:

265

Step 2: Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2017) - Year 2020

LDA	LDT1	LDT2
42.47834	36.227955	36.672969

Therefore:

Weighted Average Worker MPG Factor

38.5

Step 3: **Therefore:**

6.9 Worker daily gallons of gasoline

Step 4: 262 # of Days (see CalEEMod)

Therefore:

Result: 1,803 Total gallons of gasoline

On-road Mobile (Construction) Energy Usage - Grading 1

Step 1: **Total Daily Worker Trips (provided by CalEEMod)**

20

Worker Trip Length (miles) (provided by CalEEMod)

14.7

Therefore:

Average Worker Daily VMT:

294

Step 2: Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2014) - Year 2020

LDA	LDT1	LDT2
42.47834	36.227955	36.672969

Therefore:

Weighted Average Worker MPG Factor

38.5

Step 3: **Therefore:**

7.6 Worker daily gallons of gasoline

Step 4: 261 # of Days (see CalEEMod)

Therefore:

Result: 1,995 Total gallons of gasoline

On-road Mobile (Construction) Energy Usage - Paving 1

Step 1: **Total Daily Worker Trips (provided by CalEEMod)**

15

Worker Trip Length (miles) (provided by CalEEMod)

14.7

Therefore:

Average Worker Daily VMT:

221

Step 2: Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2014) - Year 2020

LDA	LDT1	LDT2
42.47834	36.227955	36.672969

Therefore:

Weighted Average Worker MPG Factor

38.5

Step 3: **Therefore:**

5.7 Worker daily gallons of gasoline

Step 4: 261 # of Days (see CalEEMod)

Therefore:

Result: 1,496 Total gallons of gasoline

On-road Mobile (Construction) Energy Usage - Building Construction 1

Step 1:	Total Daily Worker Trips (provided by CalEEMod) 199	Total Daily Vendor Trips (provided by CalEEMod) 68	Total Daily Hauler Trips (provided by CalEEMod) 0
	Worker Trip Length (miles) (provided by CalEEMod) 14.7	Vendor Trip Length (miles) (provided by CalEEMod) 6.9	Hauling Trip Length (miles) (provided by CalEEMod) 0
	Therefore: Average Worker Daily VMT: 2,925.30	Average Vendor Daily VMT: 469	Average Hauling Daily VMT: -

Step 2: Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.33333333	0.33333333	0.33333333

Assumed Fleet Mix for Vendors

	MHD	HHD
	0.5	0.5

And:

MPG Factors for each Vehicle Class (from EMFAC2014) - Year 2020

Gasoline:

LDA	LDT1	LDT2
42.4783397	36.227955	36.672969

Diesel:

MHD	HHD
12.54155002	8.8781162

Therefore:

Weighted Average Worker (Gasoline) MPG Factor
38.5

Weighted Average Vendor (Diesel) MPG Factor
10.7

Weighted Average Hauling MPG Factor
0.0

Step 3:	Therefore: 76 Worker daily gallons of gasoline	Therefore: 44 Vendor daily gallons of diesel	Therefore: 0.0
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Step 4: 3913 # of Days (see CalEEMod)

Therefore:
297,628 Total gallons of gasoline

Therefore:
171,429 Total gallons of diesel

On-road Mobile (Construction) Energy Usage - Architectural Coating 1

Step 1: **Total Daily Worker Trips (provided by CalEEMod)**

199

Worker Trip Length (miles) (provided by CalEEMod)

14.7

Therefore:

Average Worker Daily VMT:

2,925

Step 2: Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.3333333	0.3333333	0.3333333

And:

Gasoline MPG Factors for each Vehicle Class (from EMFAC2014) - Year 2020

LDA	LDT1	LDT2
42.47834	36.227955	36.672969

Therefore:

Weighted Average Worker MPG Factor

38.5

Step 3: **Therefore:**

76.1 Worker daily gallons of gasoline

Step 4: 674 # of Days (see CalEEMod)

Therefore:

Result: 51,265 Total gallons of gasoline

EMFAC2017 (v1.0.2) Emissions Inventory

Region Type: County

Region: ORANGE

Calendar Year: 2040

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

MPG Factor (Derived)

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VMT	Fuel Consumption	MPG Factor (Derived)
ORANGE	2040	All Other Buses	Aggregated	Aggregated	DSL	40267.56	3.105236812	12.97
ORANGE	2040	LDA	Aggregated	Aggregated	GAS	52652247	1239.508109	42.48
ORANGE	2040	LDA	Aggregated	Aggregated	DSL	653803	10.08528217	64.83
ORANGE	2040	LDA	Aggregated	Aggregated	ELEC	3504424	0	
ORANGE	2040	LDT1	Aggregated	Aggregated	GAS	6110029	168.6551034	36.23
ORANGE	2040	LDT1	Aggregated	Aggregated	DSL	827.2651	0.02430945	34.03
ORANGE	2040	LDT1	Aggregated	Aggregated	ELEC	237054.4	0	
ORANGE	2040	LDT2	Aggregated	Aggregated	GAS	17096889	466.1986518	36.67
ORANGE	2040	LDT2	Aggregated	Aggregated	DSL	175287.3	3.605853981	48.61
ORANGE	2040	LDT2	Aggregated	Aggregated	ELEC	547642.4	0	
ORANGE	2040	LHD1	Aggregated	Aggregated	GAS	1167778	90.24091498	12.94
ORANGE	2040	LHD1	Aggregated	Aggregated	DSL	1322787	50.07816859	26.41
ORANGE	2040	LHD2	Aggregated	Aggregated	GAS	206607.2	18.41786512	11.22
ORANGE	2040	LHD2	Aggregated	Aggregated	DSL	517672.3	21.78583882	23.76
ORANGE	2040	MCY	Aggregated	Aggregated	GAS	478890.3	13.03430357	36.74
ORANGE	2040	MDV	Aggregated	Aggregated	GAS	10660563	355.7161676	29.97
ORANGE	2040	MDV	Aggregated	Aggregated	DSL	382113	10.23349127	37.34
ORANGE	2040	MDV	Aggregated	Aggregated	ELEC	395657.9	0	
ORANGE	2040	MH	Aggregated	Aggregated	GAS	63292.33	9.828808191	6.44
ORANGE	2040	MH	Aggregated	Aggregated	DSL	29119.5	2.320180833	12.55
ORANGE	2040	Motor Coach	Aggregated	Aggregated	DSL	22762.52	2.684602934	8.48
ORANGE	2040	OBUS	Aggregated	Aggregated	GAS	44315.21	6.938809888	6.39
ORANGE	2040	PTO	Aggregated	Aggregated	DSL	46381.77	7.229930439	6.42
ORANGE	2040	SBUS	Aggregated	Aggregated	GAS	34439.47	3.213103843	10.72
ORANGE	2040	SBUS	Aggregated	Aggregated	DSL	39043.12	3.878496407	10.07
ORANGE	2040	T6 CAIRP heavy	Aggregated	Aggregated	DSL	23517.26	1.503766466	15.64
ORANGE	2040	T6 CAIRP small	Aggregated	Aggregated	DSL	3089.708	0.221448459	MHD
ORANGE	2040	T6 instate construct	Aggregated	Aggregated	DSL	25115	1.995169966	12.54
ORANGE	2040	T6 instate construct	Aggregated	Aggregated	DSL	133151.8	9.748968514	
ORANGE	2040	T6 instate heavy	Aggregated	Aggregated	DSL	917923.7	63.19083734	
ORANGE	2040	T6 instate small	Aggregated	Aggregated	DSL	1226308	89.75727559	
ORANGE	2040	T6 OOS heavy	Aggregated	Aggregated	DSL	13324.28	0.851415144	
ORANGE	2040	T6 OOS small	Aggregated	Aggregated	DSL	1870.435	0.134310531	
ORANGE	2040	T6 Public	Aggregated	Aggregated	DSL	12360.52	1.147083033	
ORANGE	2040	T6 utility	Aggregated	Aggregated	DSL	6520.302	0.511431206	
ORANGE	2040	T6TS	Aggregated	Aggregated	GAS	246613	39.03012115	
ORANGE	2040	T7 Ag	Aggregated	Aggregated	DSL	5.305284	0.001155523	HHD
ORANGE	2040	T7 CAIRP	Aggregated	Aggregated	DSL	221007.2	21.50224286	8.88
ORANGE	2040	T7 CAIRP construct	Aggregated	Aggregated	DSL	18040.33	1.790028659	
ORANGE	2040	T7 NNOOS	Aggregated	Aggregated	DSL	269440.2	27.60416499	
ORANGE	2040	T7 NOOS	Aggregated	Aggregated	DSL	86836.12	8.658432978	
ORANGE	2040	T7 POLA	Aggregated	Aggregated	DSL	348244.3	35.41496102	
ORANGE	2040	T7 Public	Aggregated	Aggregated	DSL	23199.93	2.844005366	
ORANGE	2040	T7 Single	Aggregated	Aggregated	DSL	233587.9	26.15688766	
ORANGE	2040	T7 single construct	Aggregated	Aggregated	DSL	44754.73	4.95455887	
ORANGE	2040	T7 SWCV	Aggregated	Aggregated	DSL	2164.226	1.054709279	
ORANGE	2040	T7 SWCV	Aggregated	Aggregated	NG	67158.55	23.52591724	
ORANGE	2040	T7 tractor	Aggregated	Aggregated	DSL	322326.7	30.86182473	
ORANGE	2040	T7 tractor construct	Aggregated	Aggregated	DSL	36918.71	4.000932283	
ORANGE	2040	T7 utility	Aggregated	Aggregated	DSL	1554.186	0.177286368	
ORANGE	2040	T7IS	Aggregated	Aggregated	GAS	2174.646	0.390846175	
ORANGE	2040	UBUS	Aggregated	Aggregated	GAS	22183.71	4.455899165	4.98
ORANGE	2040	UBUS	Aggregated	Aggregated	DSL	0	0	
ORANGE	2040	UBUS	Aggregated	Aggregated	NG	95702.31	24.77659869	3.86

Appendix D

Paleontological and Cultural Resources Assessment



**PALEONTOLOGICAL AND CULTURAL RESOURCES
ASSESSMENT FOR THE CITY OF LAKE FOREST
GENERAL PLAN UPDATE, CITY OF LAKE FOREST,
ORANGE COUNTY, CALIFORNIA**

Prepared for:

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Authors:

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Principal Investigators:

Desireé Martinez, M.A., Principal Archaeologist
Kim Scott, M.S., Principal Paleontologist

Date:

September 2018, revised July 2019

Cogstone Project Number: 4050

Type of Study: Paleontological and Cultural Resources Assessment

USGS 7.5' Quadrangle: El Toro, San Juan Capistrano, Santiago Peak

Area: 10,748.5 acres

Paleontological Localities (rock unit and number of localities): Silverado Formation 18, Santiago Formation 20, Sespe Formation 26, Vaqueros-Sespe Undifferentiated 122, Vaqueros Formation 24, Topanga Group 37, Monterey Formation 31, Puente Formation 32, Capistrano Formation 63, Niguel Formation 4, Niguel Formations/Quaternary Terrace 2, Pleistocene deposits 29

Archaeological Sites: P-30-000016, P-30-000037, P-30-000038, P-30-000039, P-30-000040, P-30-000042, P-30-000176, P-30-000438 through P-30-000456, P-30-000460, P-30-000489, P-30-000490, P-30-000491, P-30-000510, P-30-000514, P-30-000536, P-30-000544, P-30-000566, P-30-000579, P-30-000594, P-30-000602, P-30-000612, P-30-000628, P-30-000647, P-30-000648, P-30-000693 through P-30-000699, P-30-000739, P-30-000742, P-30-000743, P-30-000741, P-30-000756, P-30-000773, P-30-000825, P-30-000826, P-30-000827, P-30-000828, P-30-000905, P-30-000949, P-30-000950, P-30-000951, P-30-000952, P-30-000953, P-30-000954, P-30-000955, P-30-000957, P-30-000958, P-30-000959, P-30-000960, P-30-001004, P-30-001057, P-30-001058, P-30-001063, P-30-001064, P-30-001066, P-30-001097, P-30-001100, P-30-001145 through P-30-001150, P-30-001171, P-30-001242, P-30-001345, P-30-001362, P-30-001373, P-30-001430, P-30-001496, P-30-001497, P-30-001498, P-30-001500, P-30-001501, P-30-001728, P-30-001741, P-30-100186, P-30-100187, P-30-100188, P-30-100219, P-30-100220, P-30-100276, P-30-100278, P-30-100279, P-30-100280, P-30-100281, P-30-100282, P-30-100283, P-30-100285, P-30-100288, P-30-100289, P-30-100290, P-30-100294, P-30-100295, P-30-100296, P-30-100305, P-30-100309 through P-30-100313, P-30-100371, P-30-100438, P-30-100439, P-30-100444 through P-30-100449, P-30-100453, P-30-100463, P-30-100464, P-30-100491, P-30-156547, P-30-176663

Key Words: Copious fossils from 50 million to 11 thousand years old, Acjachemen, Tongva, Serrano Adobe, El Toro

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SUMMARY OF FINDINGS

The objective of this study is to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of Lake Forest (City) to support an update of the City's General Plan. The proposed project is an update to the City of Lake Forest General Plan and is intended to provide guidance for long-term growth, maintenance, preservation, and decision-making in the City over the next 20-plus years. Following its incorporation in 1991, the City of Lake Forest adopted its current General Plan in 1994. Since that time, the City has revised some of its elements to respond to changing circumstances and state legislation (Land Use in 2016, Housing in 2014, Circulation in 2008, and Recreation and Resources in 2015). The General Plan Update is expected to consist of the following elements: Land Use and Community Design; Circulation, Economic Development; Recreation and Resources; Public Safety and Noise; and Public Facilities.

The City has a complicated paleoenvironmental history which began at the age of dinosaurs about 66 million (Ma) years old. The past 66 Ma has seen the City transition from coastal lowlands during the Paleocene to Oligocene, to shallow marine during the early Miocene, to deep marine during the early to early-late Miocene, back to shallow marine in the latest Miocene through the Pliocene, and finally to increasingly arid terrestrial deposits from the Pleistocene to the Holocene. A search for paleontological records was completed by the Natural History Museum of Los Angeles County. Published literature, unpublished paleontological reports, and online databases were also searched for fossil records. Databases included the Natural History Museum of Los Angeles County Invertebrate Paleontology, the Paleobiology Database, and the University of California Museum of Paleontology.

Cogstone conducted a search of the California Historic Resources Inventory System (CHRIS) at the South Central Coastal Information Center (SCCIC) on March 28, 2018. Results of the record search indicate that 167 previous cultural resources studies have been completed within the boundaries of the City. The records search also determined 138 previously recorded cultural resources are located within the City boundaries. Of these 138 resources, 87 are prehistoric archaeological sites, 36 are prehistoric isolated artifacts, five are multicomponent sites, one is a historic archaeological site, two are isolated historic isolates, six are historic resources, and one, Heritage Hill, is an archaeological district and is also recorded on the Nation Register of Historic Places and designated as a California Historical Landmark as well as Orange County Historical Landmark.

A Sacred Lands File (SLF) search was requested from the Native American Heritage Commission (NAHC) on March 23, 2018. On March 23, 2018, the NAHC responded that a search of the SFL was completed with positive results. According to the NAHC, a site has been recorded in the Santiago Peak 7.5' United States Geographical Survey topographic quadrangle

that may be impacted by the project and to contact the Juaneño Band of Mission Indians for more information. The NAHC recommended that 11 Native American tribal organizations be contacted , in addition to the four tribal organization who had previously requested AB52 consultation with the City, as they may have additional knowledge of the religious and cultural significance of cultural resources within or immediately adjacent to the City of Lake Forest. The City of Lake Forest sent information and consultation to 15 tribal organizations to meet the requirements of Senate Bill 18 and Assembly Bill 52.

A general analysis of impacts of future projects within the City of Lake Forest that may adversely affect paleontological, archaeological, or historic resources is provided along with mitigation recommendations.

INTRODUCTION

PURPOSE OF STUDY

The objective of this study is to review and summarize available information regarding known paleontological, archaeological, and historical resources within the boundaries of the City of Lake Forest (City) to support an update of the City’s General Plan. The City of Lake Forest covers 10,240 acres and is located in southern Orange County (Figure 1).

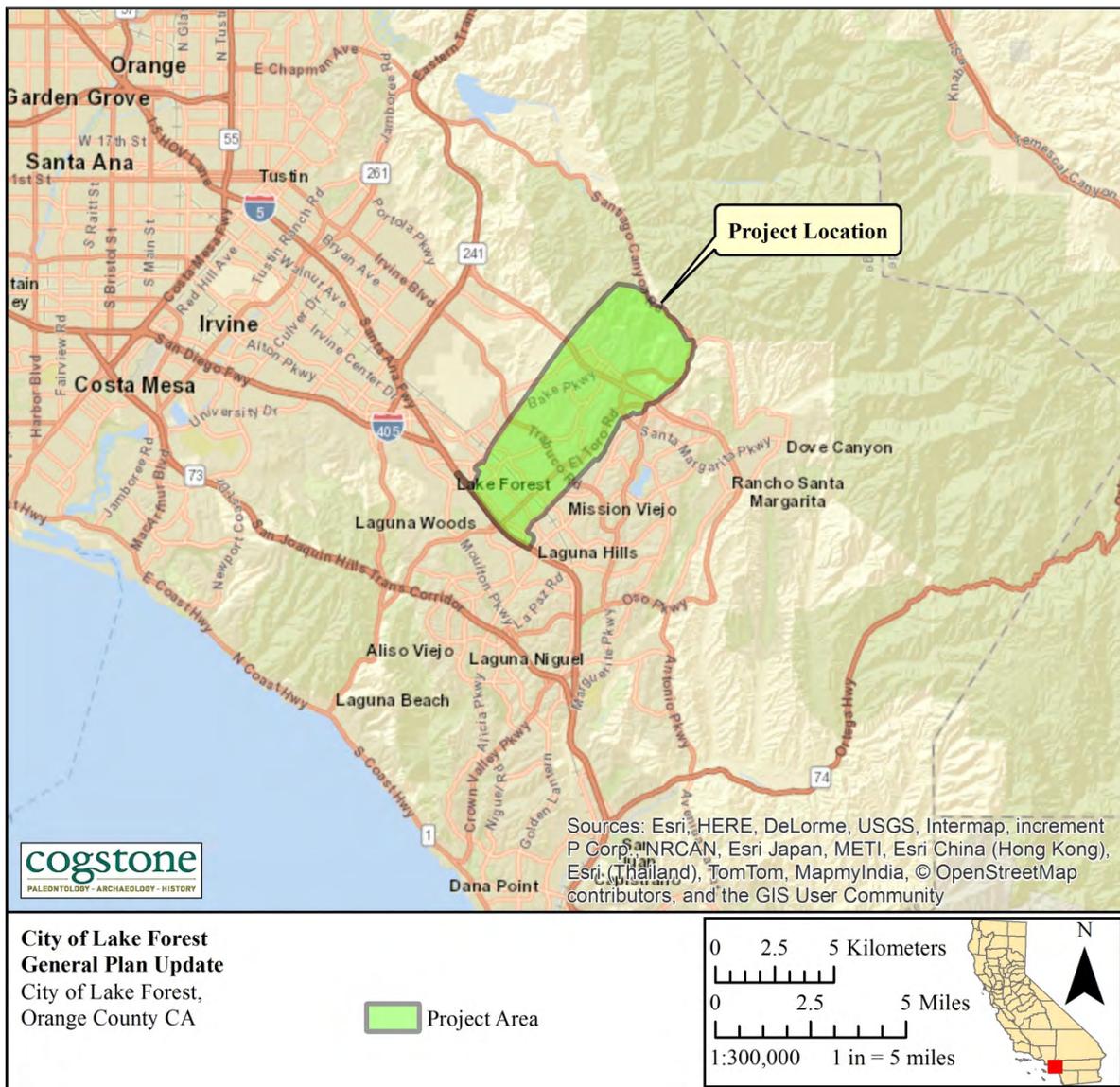


Figure 1. Project Vicinity Map

PROJECT LOCATION AND DESCRIPTION

Located in Orange County, the City of Lake Forest is located in the Saddleback Valley, southwest of Modjeska Canyon and the Santa Ana Mountains (Figures 2a and 2b). The City is bounded on the west by the Cities of Laguna Hills and Laguna Woods, on the south by the City of Mission Viejo, on the north by the Saddleback Mountains, and on the east by the City of Irvine. Oriented northwest-southeast within the Saddleback Valley, the City’s northwestern portion is located within the Aliso Creek Watershed that originates from the Santa Ana Mountains while its southeastern portions occupy portions of the Tustin Plain. Specifically, the City of Lake Forest is located primarily within the El Toro United States Geographical Survey (USGS) 7.5’ topographic map, and includes portions of the San Juan Capistrano and Santiago Peak USGS 7.5’ topographic maps (Table 1).

Table 1. City of Lake Forest Cadastral Information

USGS 7.5 Topographic Quad(s)	Township	Range	Section(s)
El Toro	5S	7W	29, 30, 31, 32
		8W	25, 36
	6S	7W	05, 06, 07, 08, 18
		8W	01, 02, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24
El Toro and San Juan Capistrano	6W	8W	26, 27, 28
San Juan Capistrano	6W	8W	34, 35
Santiago Peak	6W	7W	04, 33

The proposed project (project) is an update to the City of Lake Forest General Plan and is intended to provide guidance for long-term growth, maintenance, preservation, and decision-making in the City over the next 20-plus years. Following its incorporation in 1991, the City of Lake Forest adopted its current General Plan in 1994; since that time, the City has revised some of its elements to respond to changing circumstances and state legislation (Land Use in 2016, Housing in 2014, Circulation in 2008, and Recreation and Resources in 2015). The General Plan Update is expected to consist of the following elements: Land Use and Community Design; Circulation, Economic Development; Recreation and Resources; Public Safety and Noise; and Public Facilities. Because the Housing Element Update is certified through 2021, it is not included in this General Plan Update.

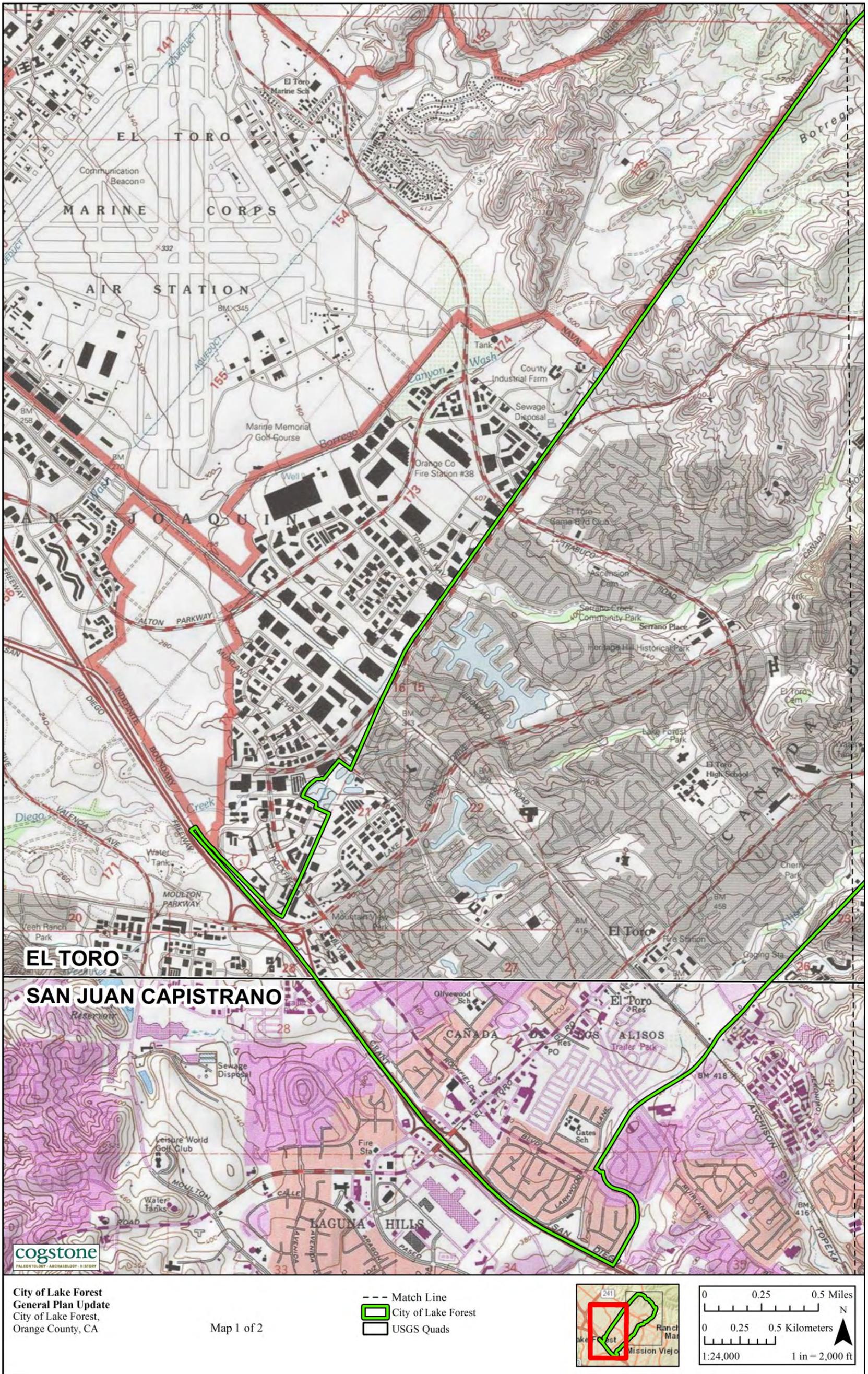


Figure 2a. Project Location, Map 1 of 2

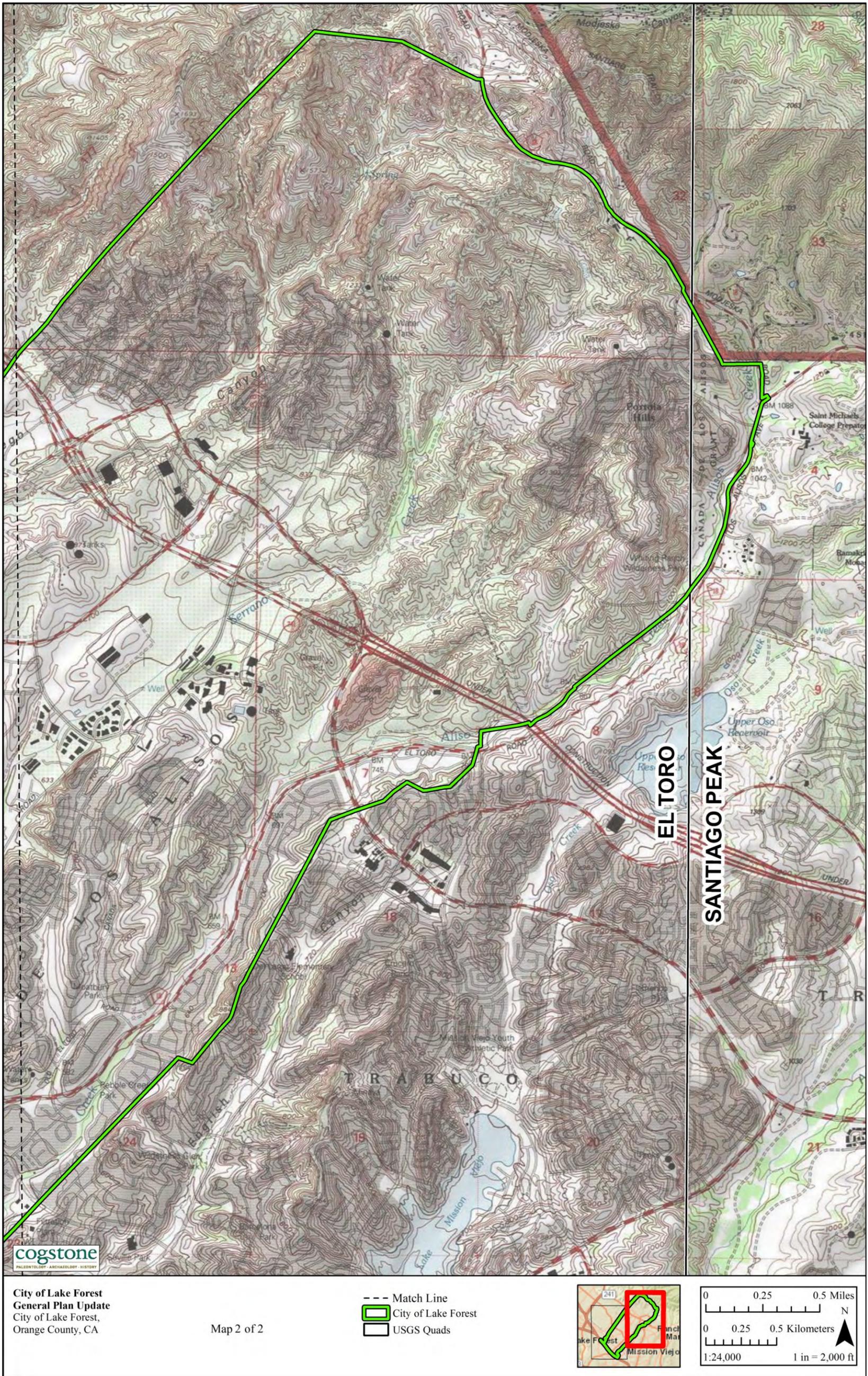


Figure 2b. Project Location, Map 2 of 2

PROJECT PERSONNEL

Cogstone Resource Management Inc. (Cogstone) conducted the cultural and paleontological resources studies. Qualifications of Cogstone personnel are provided (Appendix A).

- Desireé Martinez served as the Principal Archaeologist for this Project. Ms. Martinez has an M.A. in Anthropology from Harvard University, Cambridge, and more than 21 years of experience in southern California archaeology.
- Kim Scott served as the Principal Paleontologist for the Project and wrote the geological and paleontological portions of this report. Scott has a M.S. in Biology with paleontology emphasis from California State University, San Bernardino, a B.S. in Geology with paleontology emphasis from the University of California, Los Angeles, and over 23 years of experience in California paleontology and geology.
- Sherri Gust served as the Task Manager for this Project and wrote the prehistoric and ethnographic sections. Gust is a Registered Professional Archaeologist and has an M.S. in Anatomy (Evolutionary Morphology) from the University of Southern California, a B.S. in Anthropology from the University of California at Davis and over 36 years of experience in California.
- Megan Wilson prepared the maps, conducted the archaeological and historic records search, wrote the historic context, and drafted portions of the report. Wilson has a M.A. in Anthropology from California State University, Fullerton and has over seven years of experience in southern California archaeology.

REGULATORY ENVIRONMENT

CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970 (CEQA) (PRC § SECTION 21000 ET SEQ.)

CEQA states that: It is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required are intended to assist public agencies in systematically identifying both the significant effects of proposed project and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.

CEQA declares that it is state policy to: "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered. If archaeological or paleontological resources are identified as being within the proposed project study area, the sponsoring agency must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource.

TRIBAL CULTURAL RESOURCES

In 2015, CEQA was amended and established that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resources Code [PRC] § 21084.2). In order to be considered, a "tribal cultural resource" must be a site, feature, place, cultural landscape, sacred place, or object, which is of cultural value to a California Native American Tribe and is either:

- (1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or
- (2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource.

To help determine whether a project may have such an effect, the lead agency must consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. Consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project (PRC § 21080.3.1).

In applying those criteria, a lead agency must consider the value of the resource to the tribe. For example, in considering the criterion that a resource is "associated with the lives of persons important in our past," a lead agency would ask whether the resource is associated with the lives of persons important to the relevant tribe's past. That determination must be supported with substantial evidence.

If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. PRC §20184.3 (b) (2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES (PRC § 5024.1)

The California Register of Historical Resources (CRHR) is a listing of all properties considered to be significant historical resources in the state. The California Register includes all properties listed or determined eligible for listing on the National Register, including properties evaluated under Section 106, and State Historical Landmarks number No. 770 and above. The California Register statute specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources which must be given consideration under CEQA (see above). Other resources, such as resources listed on local registers of historic registers or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to be adopted by the Commission and are nominated; their listing in the California Register, is not automatic.

Resources eligible for listing include buildings, sites, structures, objects, or historic districts that retain historical integrity and are historically significant at the local, state or national level under one or more of the following four criteria:

- 1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- 2) It is associated with the lives of persons important to local, California, or national history;
- 3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
- 4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance.

Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data.

PUBLIC RESOURCES CODE SECTION § 5097.5

Section 5097.5: No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands (lands under state, county, city, district or public authority jurisdiction, or the jurisdiction of a public corporation), except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

NATIVE AMERICAN HUMAN REMAINS

Sites that may contain human remains important to Native Americans must be identified and treated in a sensitive manner, consistent with state law (i.e., Health and Safety Code §7050.5 and Public Resources Code §5097.98), as reviewed below:

In the event that human remains are encountered during project development and in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.

CALIFORNIA ADMINISTRATIVE CODE, TITLE 14, SECTION 4307

This section states that “No person shall remove, injure, deface or destroy any object of paleontological, archeological or historical interest or value.”

ATTACHMENT A, CITY OF LAKE FOREST LOCAL GUIDELINES FOR IMPLEMENTING THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

In 2017, the City of Lake Forest adopted procedures to implement the California Environmental Quality Act (“CEQA”), Public Resources Code Section 21000 et seq., and the State CEQA Guidelines (“State CEQA Guidelines”), 14 California Code of Regulations Section 15000 et seq. The procedures established herein implement and tailor the general provisions of the State CEQA Guidelines to the specific operations of the City of Lake Forest (“City”). These Local Guidelines are intended to supplement the State CEQA Guidelines” (City of Lake Forest 2017). Section 5-1 specifically identifies the evaluation of impacts to historic (Section 5-1, l) and archaeological (Section 5-1, m) resources:

L) EVALUATING IMPACTS ON HISTORIC RESOURCES

Projects that may cause a substantial adverse change in the significance of a historical resource, as defined in Local Guidelines Section 10.28, are projects that may have a significant effect on the environment, thus requiring consideration under CEQA. Particular attention and care should be given when considering such projects, especially projects involving the demolition of a historical resource, since such demolitions have been determined to cause as significant effect on the environment.

Substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings, such that the significance of a historical resource would be materially impaired The significance of a historical resource is materially impaired when a project:

- (1) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register of Historical Resources;
- (2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources or its identification in a historical resources survey, unless the Lead Agency establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- (3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by the Lead Agency for purposes of CEQA.

Generally, a project that follows either one of the following sets of standards and guidelines will

be considered mitigated to a level of less than significant: (a) the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings; or (b) the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), Weeks and Grimmer.

In the event of an accidental discovery of a possible historical resource during construction of the project, the City may provide for the evaluation of the find by a qualified archaeologist or other professional. If the find is determined to be a historical resource, the City should take appropriate steps to implement appropriate avoidance or mitigation measures. Work on non-affected portions of the project, as determined by the City, may continue during the process. Curation may be an appropriate mitigation measure for an artifact that must be removed during project excavation or testing.

M) EVALUATING IMPACTS ON ARCHAEOLOGICAL SITES

When a project will impact an archaeological site, the City shall first determine whether the site is a historical resource, as defined in Local Guidelines Section 10.28. If the archaeological site is a historical resource, it shall be treated and evaluated as such, and not as an archaeological resource. If the archaeological site does not meet the definition of a historical resource, but does meet the definition of a unique archaeological resource set forth in Public Resources Code Section 21083.2, the site shall be treated in accordance with said provisions of the Public Resources Code. The time and cost limitations described in Section 21083.2(c-f) do not apply to surveys and site evaluation activities intended to determine whether the project site contains unique archaeological resources.

If the archaeological resource is neither a unique archaeological resource nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

In the event of an accidental discovery of a possible unique archaeological resource during construction of the project, the City may provide for the evaluation of the find by a qualified archaeologist. If the find is determined to be a unique archaeological resource, the City should take appropriate steps to implement appropriate avoidance or mitigation measures. Work on non-affected portions of the project, as determined by the City, may continue during the process. Curation may be an appropriate mitigation measure for an artifact that must be removed during project excavation or testing.

When an Initial Study identifies the existence of, or the probable likelihood of, Native American human remains within the Project, the City shall comply with the provisions of State

CEQA Guidelines Section 15064.5(d). In the event of an accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the City shall comply with the provisions of State CEQA Guidelines Section 15064.5(e)

BACKGROUND

GEOLOGICAL SETTING

The project area is in the northern extent of the California Geomorphic Province known as the Peninsular Ranges. The Peninsular Ranges geomorphic province extends from Mount San Jacinto in the north, through the tip of Baja, Mexico in the south. Subparallel to these ranges on the east is the San Andreas Fault Zone. The northwestwards motion of the Pacific Plate has created these ranges and their corresponding valleys (Wagner 2002).

PALEONTOLOGICAL SETTING

The City has a complicated paleoenvironmental history which began at the age of dinosaurs about 66 million years old (66 Ma; Table 2). The past 66 Ma has seen the City transition from coastal lowlands during the Paleocene to Oligocene, to shallow marine during the early Miocene, to deep marine during the early to early-late Miocene, back to shallow marine in the latest Miocene through the Pliocene, and finally to increasingly arid terrestrial deposits from the Pleistocene to the Holocene. Detail on each geological unit is in the Stratigraphy Section below.

STRATIGRAPHY

Geologic mapping by Morton and Miller (2006) maps the area as 28 separate units ranging from modern deposits to Paleocene sediments (Table 2; Figures 3a and 3b). Geological units are discussed in order from oldest to youngest.

Table 2. Geologic units within the City

Epoch	Age Range	Unit Name	Paleoenvironment
modern	<200 years	artificial fill (Qaf)	man-made
late Holocene	<5,000 years (<5 ka)	very young colluvial deposits (Qc)	slope deposit
		very young landslide deposits (Qls, Qls?)	landslide
		very young slope wash deposits (Qsw)	slope wash
late Pleistocene to Holocene	<120 ka	young axial-channel deposits (Qya)	flood-plains
		young alluvial-fan deposits (Qyf)	alluvial fan
		young landslide deposits (Qyls)	landslide
early to middle Pleistocene	~11.7 ka - ~2.6 million years (Ma)	very old axial-channel deposits (Qvoa, Qvoa ₂ , Qvoa ₃)	flood-plains
		very old alluvial-fan deposits (Qvof)	alluvial fan
Pliocene	~2.6 Ma - ~5.3 Ma	Niguel Formation (Tn)	shallow marine
late Miocene to early Pliocene	~3.6 Ma - ~11.6 Ma	Capistrano Formation (Tc, Tco, Tcs)	shallow-marine
late Miocene	~5.3 Ma - ~11.6 Ma	Puente Formation (Tp, Tplv, Tpsq)	deep marine, submarine fan
		Monterey Formation (Tm)	deep marine
middle Miocene	~11.6 Ma - ~16 Ma	Topanga Group (Tt)	shallow to deeper marine
latest Oligocene to latest early Miocene	~16 Ma - ~23 Ma	Vaqueros Formation (Tv)	shallow marine
		Vaqueros-Sespe Formation (Tvs)	shallow marine - nonmarine
late Eocene to early Miocene	~16 Ma - ~41.2 Ma	Sespe Formation (Ts)	nonmarine
Paleocene	~56 Ma - ~66 Ma	Santiago Formation (Tsa)	coastal lowland
		Silverado Formation (Tsi, Tsicg, Tsis)	coastal nonmarine to very shallow-marine

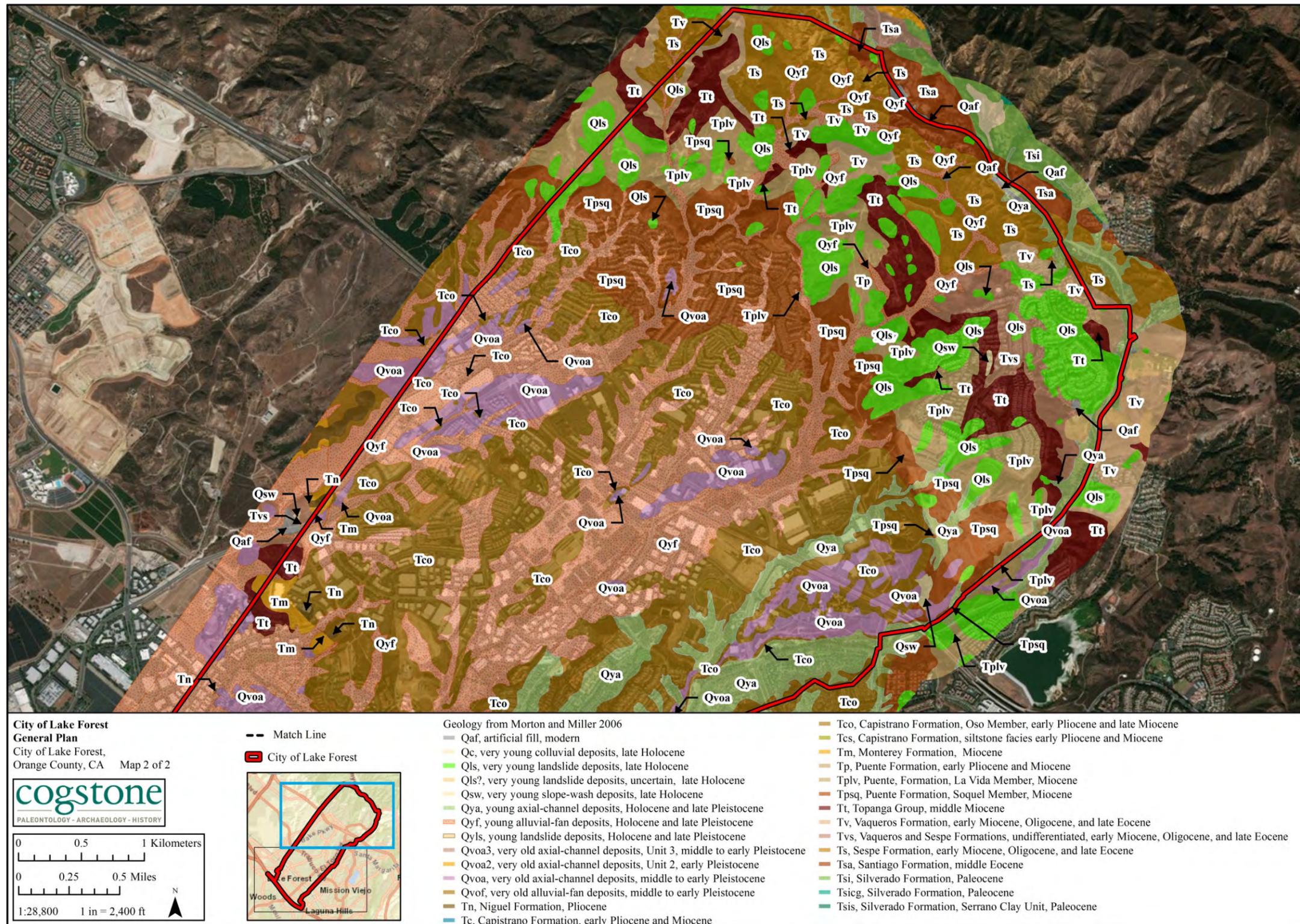


Figure 3a. Geology Map, 1 of 2

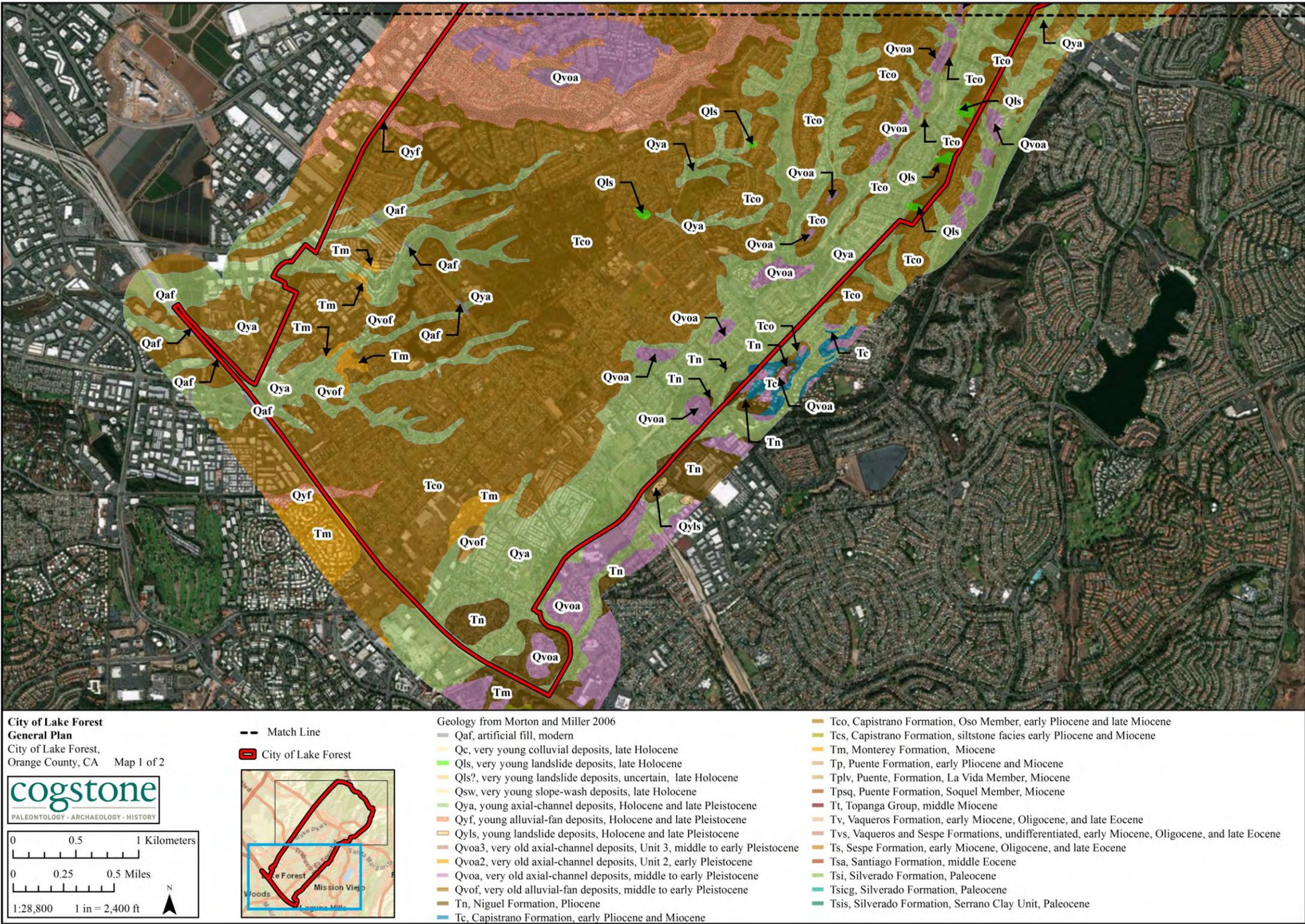


Figure 3b. Geology Map, 2 of 2

PALEOCENE ROCKS (~66 MILLION YEARS OLD [MA] TO ~56 MA)

Silverado Formation (Tsicg, Tsi, Tsis)

Thickness of these coastal nonmarine swamp and slough to very shallow-marine delta and bay, sandstone and siltstone deposits range from 200 m to 450 m in the Santa Ana Mountains. This formation is divided into a basal conglomerate (Tsicg) overlain by sandstone and siltstone of the undifferentiated Silverado Formation (Tsi) that locally includes the Serrano Clay bed (Tsis). The basal conglomerate is typically between 2 m and 12 m thick but can reach a thickness of 40 m. It is typically massive, pale gray to reddish-brown, nonfossiliferous, pebble to cobble conglomerate. In some areas, clast sizes increase to a boulder conglomerate (Schoellhamer et al. 1981, Morton and Miller 2006).

Above the basal conglomerate, the Silverado Formation consists of marine and nonmarine, sandstone and siltstone. Clasts are largely of quartz and clay with some conglomerate. In the Robinson Ranch area, a prolific flora of fossil land plants has been recovered. The Serrano Clay is present within the upper Silverado Formation. It is a 1 m thick marker bed composed of pale gray to white, soft and plastic clay and quartz with carbonaceous shale and lignite beds. Marine mollusks can be abundant and include the distinctive and diagnostic Paleocene marine snail, *Turritella pachecoensis* in some eastern exposures (Schoellhamer et al. 1981, Eisentraut and Cooper 2002, Morton and Miller 2006).

MIDDLE EOCENE DEPOSITS (~47.8 MA TO ~37.8 MA)

Santiago Formation (Tsa)

Sediments consist of marine and nonmarine deposits from a coastal lowland paleoenvironment. At the base is a conglomerate with the clasts that originated from western central Mexico where the Santiago Formation was originally deposited. The north-westerly movement of the Pacific Plate by the San Andreas Fault Zone brought these sediments into southern California. Pale gray sandstone and some interbedded siltstone occurs above the conglomerate. Marine invertebrates and petrified wood are present in this unit (Schoellhamer et al. 1981, Morton and Miller 2006).

LATE EOCENE TO LATEST EARLY MIOCENE DEPOSITS (~41.2 MA TO ~17.4 MA)

Sespe Formation (Ts)

This red to grey, non-marine mudstone to conglomerate occurs as massive to thick bedded deposits with poorly developed bedforms (Eisentraut and Cooper 2002, Morton and Miller 2006). This terrestrial deposit includes fluvial, floodplain, and alluvial fan deposits. This formation also reflects a major drop in global sea levels (Eisentraut and Cooper 2002, McCulloch and Bayer 2004). Fossils of the late Uintan (middle Eocene - 44.5 Ma to 39.5 Ma) North American Land Mammal Age (NALMA) to latest Hemingfordian (middle Miocene ~17.5 Ma) NALMA are present within the Sespe Formation (Lander 1983, Lucas et al. 1997, Whistler and Lander 2003).

MIOCENE EPOCH (~23 MA TO ~5.3 MA)

The Miocene Epoch was a dramatic time in southern California. The San Andreas Fault began bringing Pacific Plate lands from the south, volcanoes erupted, mountains grew, and numerous coastal marine basins were formed. Orange County rests in one of these basins - the Los Angeles Basin. During the Miocene, the Los Angeles Basin was tectonically active. Opening of the basin began about 17.4 Ma (McCulloch and Bayer 2004) and was followed by subsidence and creation of a deep marine depositional basin (Figure 4). Sediments are estimated to be up to six miles thick, one of the thickest Neogene stratigraphic successions in the world (Eisentraut and Cooper 2002).

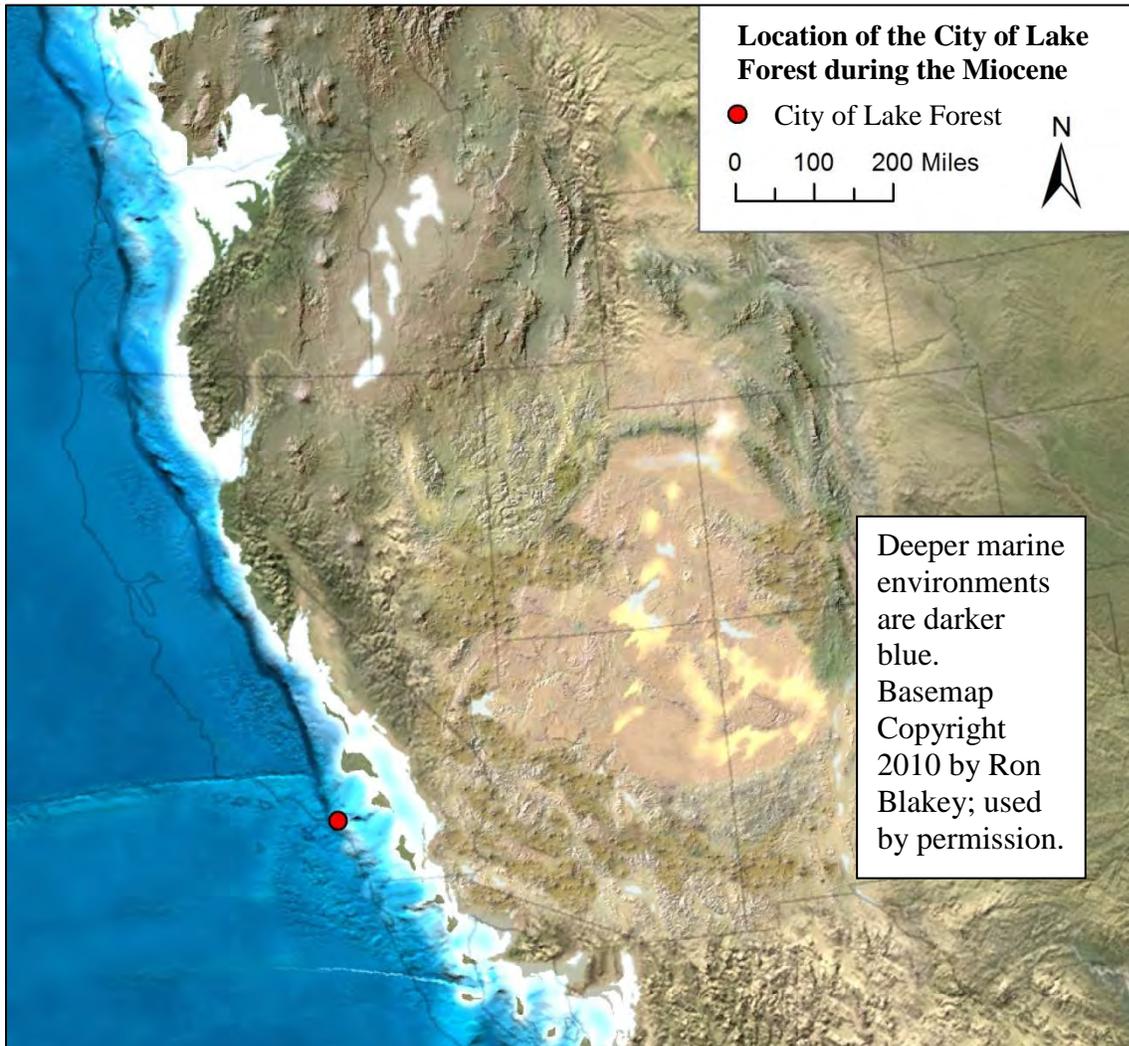


Figure 4. City in late to middle Miocene at the edge of a deep marine environment

LATEST OLIGOCENE TO LATEST EARLY MIOCENE (~19.5 MA TO ~17.4 MA)

Vaqueros-Sespe Formation (Tvs)

These two formations interfinger so much in many areas of California that they are mapped together. Sespe Formation sediments are generally coarser than those of the Vaqueros Formation. The Vaqueros-Sespe section can reach thicknesses between 1,500 and 2,000 feet in the Lake Forest area (McCulloch and Bayer 2004). See the individual descriptions for each for more information.

Vaqueros Formation (Tv)

The shallow marine Vaqueros Formation occurs as greenish-gray to very dark gray, massive- to thick-bedded silty sandstone. Sandstone beds interfinger with thin-bedded siltstone and shale, mudstone, and minor conglomerate (Morton and Miller 2006, McCulloch and Bayer 2004). Deposition of the Vaqueros Formation began about 24 Ma and ended in most of the Los Angeles area between 17.5 Ma and 17.4 Ma based on the dating of volcanics, marine mollusks, benthic foraminifera, magnetic polarity stratigraphy, and other methods (Nagle and Parker 1971, Yerkes and Campbell 1979, Schoellhamer et al. 1981, Blake 1983, Mason and Swisher 1989, Nourse et al. 1998, Prothero et al. 1996, Lucas et al. 1997, Liddicoat 2001, McCulloch et al. 2001, Prothero and Donohoo 2001, McCulloch et al. 2002, Ludtke and Prothero 2003, Lander et al. 2003, Whistler and Lander 2003, McCulloch and Bayer 2004). The appearance of marine sediments after the non-marine Sespe Formation indicates rising global sea levels.

MIDDLE MIOCENE DEPOSITS (~17.4 MA TO ~11.6 MA)

Topanga Group (Tt)

Undifferentiated Topanga Group sediments consist primarily of coarse-grained, massive to thick-bedded sandstone and conglomerate. A tan to grey, well indurated, basal sandy conglomerate bed ranging from 2 m to 9 m is present (Schoellhamer et al. 1981). Clasts in the conglomerate are predominantly granitic and gneissic with some volcanics. Above the basal conglomerate, are interfingering, thinly bedded, fine to coarse-grained sandstone, siltstone, and minor amounts of diatomaceous and partially silicified shale. While the shale is grey to greyish-white, coarser sediments are yellow to yellowish-tan (Morton and Miller 2006). Deposition began about 17.4 Ma and ended about 15.9 Ma based on dating of underlying and overlying volcanics (Turner and Campbell 1979, McCulloch et al. 2002, McCulloch and Bayer 2004).

The shallow to deep marine Topanga Group was one of the first units to be deposited in the rapidly deepening Los Angeles Basin. Much of these deep submarine fan and plain deposits occurred between 13 Ma and 5 Ma and corresponds with deposition of the Topanga and Monterey formations (Redin 1991, McCulloch and Bayer 2004). The Los Angeles Basin – Tustin Plain continues to be filled by modern deposition today.

LATE MIOCENE DEPOSITS (~11.6 MA TO ~5.3 MA)

Monterey Formation (Tm)

This siliceous and diatomaceous marine mudstone, shale, diatomite, and some chert is primarily white to pale brown and thinly laminated or bedded. In the San Juan Capistrano area, lower part of Puente Formation grades laterally southward into Monterey Formation (Morton and Miller 2006). Sediments are part of a deep submarine fan and plain deposits that was deposited between 13 Ma and 5 Ma (Redin 1991). Locally named “Pecten Reef”, a limestone in the Aliso Viejo area has produced abundant invertebrate and vertebrate fossils. The Monterey Formation was deposited at the same time as the Soquel Member, La Vida Member, and the lower portion of the undifferentiated Puente Formation (Morton and Miller 2006).

Puente Formation (Tp, Tpsq, Tplv)

The deep marine Puente Formation has produced numerous fossil localities of marine animals and algae as well as terrestrial plants and animals that were washed in. Fossils are found primarily in the finer grained deposits, but can occur in all sediments. These sediments were deposited at the same time as the Monterey Formation. Within the City are three units: the undifferentiated Puente Formation, the younger Soquel Member, and the basal La Vida Member (Morton and Miller 2006).

The undifferentiated Puente Formation consists of sandstone, siltstone, and shale. The Soquel Member is primarily a marine sandstone with minor amounts of shale. Beds are yellowish grey to grey, massive to well-bedded, silts to very coarse grained sandstone, interbedded with matrix supported pebble conglomerate (Morton and Miller 2006). The member ranges from 200 to 310 feet thick in the eastern Puente Hills and the sediments have been interpreted to be middle to inner submarine fan facies (Cooper 1981).

The basal La Vida Member sediments are primarily light-gray to black, massive to well bedded, generally friable siltstone with some sandstone beds from a 2 cm to over 1 meter thick. Fish remains are common and include deep water species (Morton and Miller 2006).

LATE MIOCENE TO EARLY PLIOCENE DEPOSITS (~11.6 MA TO ~3.6 MA)

Capistrano Formation, undifferentiated (Tc)

The undifferentiated Capistrano Formation consists of marine siltstone and sandstone which is widespread in the San Joaquin Hills (Morton and Miller 2006).

Capistrano Formation, Siltstone Facies (Tcs)

The informal siltstone facies of the Capistrano Formation appear as white to pale gray, massive to crudely bedded, friable, siltstone and mudstone. Locally this unit contains sandstone,

calcareous mudstone beds, and sparse diatomaceous and tuffaceous beds (Morton and Miller 2006).

Capistrano Formation, Oso Sand (Tco)

The Oso Sand of the Capistrano Formation consists of white to light gray, massive, medium- to coarse-grained, friable, marine sandstone with scattered matrix-supported pebbles, cobbles, and concretions (Morton and Miller 2006). The bay that occupied the region was named the Capistrano Embayment (Reed and Hollister 1936). This embayment was a broad flat-bottomed structural trough that extended at least 22 miles inland from the present-day shoreline. How far offshore it extended is undetermined because of its merging with the deep offshore basins. Water depths in the Capistrano Embayment reached nearly 2,000 meters at its deepest point (Ingle 1979). Marine fossils are typically well preserved and provide an excellent look into this time period in California.

PLIOCENE DEPOSITS (~5.3 MA TO ~2.6 MA)

Niguel Formation (Tn)

These very near-shore marine, brownish-gray, poorly sorted, coarse-grained sandstone is interbedded with conglomeratic sandstone and conglomerates. Marine mollusks recovered previously indicates water of a sublittoral-depth (Vedder 1960, Morton and Miller 2006).

EARLY TO MIDDLE PLEISTOCENE DEPOSITS (2.6 MA TO 120,000 YEARS OLD [120 KA])

Axial channel deposits were emplaced adjacent to streams in through-going stream valleys. Undifferentiated very old axial channel sediments are dominated by sand, but contain scattered gravel and pebble layers, as well as silt and clay-bearing alluvium. These deposits are moderately to well-indurated, reddish-brown, and are highly pigmented in upper parts. Upper surfaces are mostly very dissected (Morton and Miller 2006).

Two subunits are present within the project area, the early to middle Pleistocene unit 3 (Qvoa₃) and the early Pleistocene unit 2 (Qvoa₂). Both descriptions are essentially the same as that of the undifferentiated very old axial channel (Morton and Miller 2006).

Very old alluvial fan deposits (Qvof)

Alluvial fan deposits are deposited into our valleys from local mountains via the mouths of canyons. Sediments are moderately to well indurated, silts to bouldery conglomerates, with slightly to moderately dissected fan surfaces. In much of Peninsular Ranges these sediments are moderately well indurated, orangish brown sand and silt with well dissected fan surfaces (Morton and Miller 2006). Clasts coarsen upstream with boulders up to several meters across being deposited near the mountains during flash floods

LATE PLEISTOCENE TO HOLOCENE DEPOSITS (LESS THAN 120 KA)

Young axial channel deposits (Qya)

Axial channel deposits were emplaced adjacent to streams in through-going stream valleys. Sediments are slightly to moderately indurated and consist of silts to pebbles (Morton and Miller 2006).

Young alluvial fan deposits (Qyf)

Alluvial fan deposits are deposited into our valleys from local mountains via the mouths of canyons. Sediments are unindurated to moderately indurated, silts to bouldery conglomerates, with slightly to moderately dissected fan surfaces (Morton and Miller 2006). Clasts coarsen upstream with boulders up to several meters across being deposited near the mountains during flash floods.

Young landslide deposits (Qyls)

Landslides are the result of slope failures and typically result in chaotically emplaced sediments. Slides may or may not be active and have slightly dissected or modified surfaces (Morton and Miller 2006). In less chaotic slides and slumps beds can sometimes be traced and given stratigraphic context.

LATE HOLOCENE DEPOSITS (LESS THAN 5 KA)

Very young colluvial deposits (Qc)

Colluvium is present as unconsolidated scree, soils, or other materials and are primarily found at the base of hills. These sediments have been emplaced by rain wash or slow continuous downslope creep (Morton and Miller 2006).

Very young landslide deposits (Qls, Qls?)

Landslides are the result of slope failures and typically result in chaotically emplaced sediments. Slides may or may not be active and have well preserved morphology (Morton and Miller 2006). In less chaotic slides and slumps beds can sometimes be traced and given stratigraphic context.

Very young slope wash deposits (Qsw)

Very similar to the colluvial deposits, slope wash is also associated with hillsides. The unconsolidated, typically angular, sand to boulder sized clasts have been emplaced by water not confined to channels (Morton and Miller 2006).

MODERN DEPOSITS (LESS THAN 200 YEARS OLD)

Artificial fill (Qaf)

Modern fill is frequently not mapped on geologic maps due to its ubiquitous nature. Although fill is typically less than a few feet thick, it can be substantially thicker in the areas of overpasses, freeways, and other large earthworks. Any fossils that may be encountered therein are not scientifically significant.

ETHNOGRAPHY

The City is mostly located within the traditional territory of the Tongva (Gabrielino) but along the boundary of the territory of the Acjachemen (Juaneño) (McCawley 1996; Figure 5). Ethnographically, Aliso Creek was recorded as the boundary between the Gabrielino to the northeast and the Juaneño to the southwest (Kroeber 1976). The names Juaneño and Gabrielino were names imposed on Native Americans by Spanish missionaries to identify the indigenous peoples who occupied the surrounding areas of Mission San Juan Capistrano and Mission San Gabriel Arcángel, respectively.

TONGVA

The Tongva speak a language that is part of the Takic language family. At the time of Spanish contact, their territory encompassed a vast area stretching from Topanga Canyon in the northwest, to the base of Mount Wilson in the north, to San Bernardino in the east, Aliso Creek in the southeast and the four Southern Channel Islands, in all an area of more than 2,500 square miles (Bean and Smith 1978, McCawley 1996).

The Tongva are considered to have been one of the wealthiest tribes and to have greatly influenced tribes they traded with (Kroeber 1976:621). Houses were domed and circular structures thatched with tule or similar materials (Bean and Smith 1978:542). The best known artifacts were made of steatite and were highly prized. Many common everyday items were decorated with inlaid shell or carvings reflecting an elaborately developed artisanship (Bean and Smith 1978:542).

The main food zones utilized were marine, woodland, and grassland (Bean and Smith 1978). Plant foods were, by far, the greatest part of the traditional diet at contact. Acorns were the most important single food source. Villages were located near water sources necessary for the leaching of acorns, which was a daily occurrence. Grass seeds were the next most abundant plant food used along with chia. Seeds were parched, ground, and cooked as mush in various combinations according to taste and availability. Greens and fruits were eaten raw or cooked or sometimes dried for storage. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Mushrooms and tree fungus were prized as delicacies. Various teas were

made from flowers, fruits, stems and roots for medicinal cures as well as beverages (Bean and Smith 1978:538-540).

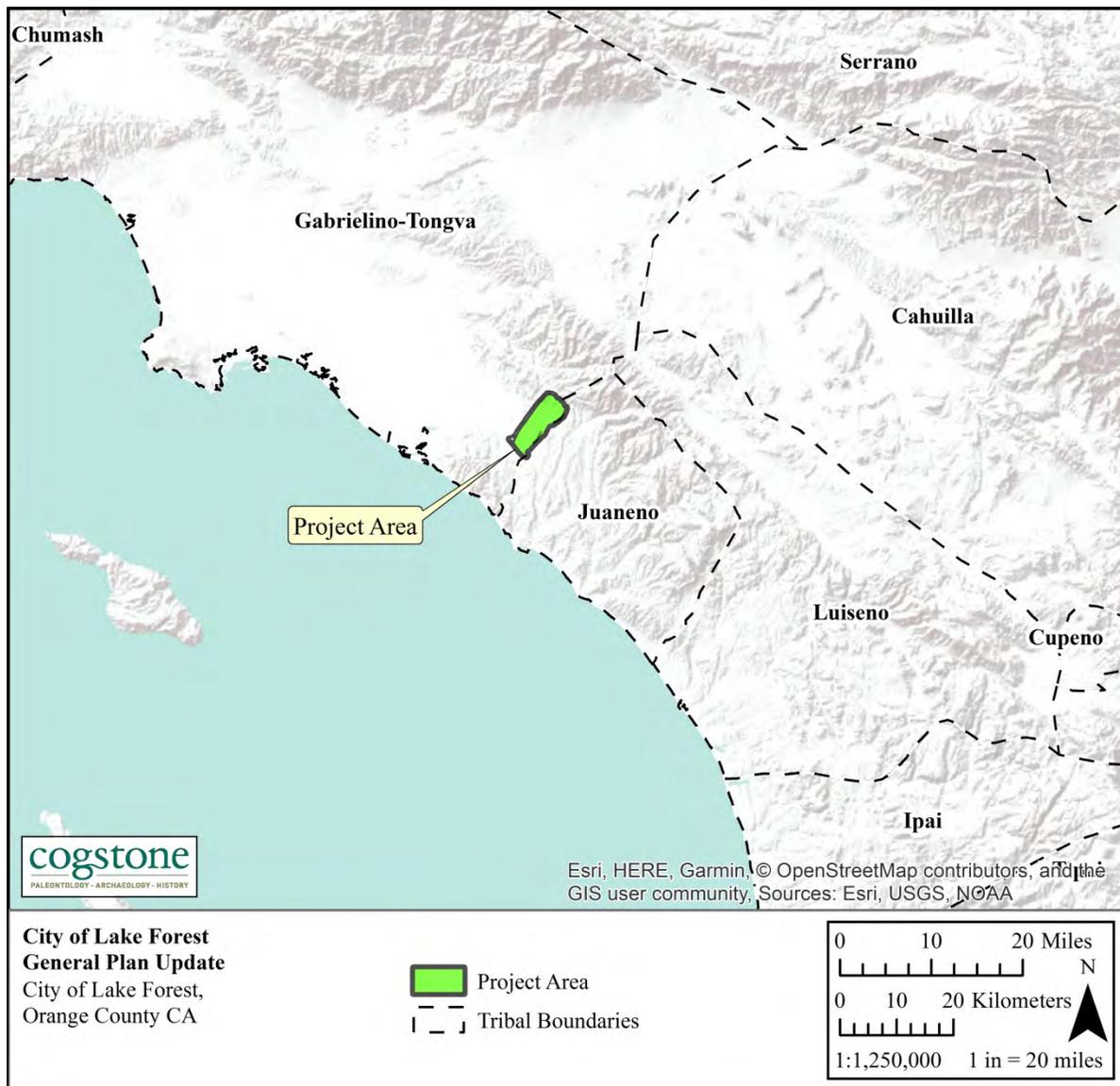


Figure 5. Ethnographic Tribal Boundaries.

The principal game animals were deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, dove, ducks and other birds. Most predators were avoided as food, as were tree squirrels and most reptiles. Trout and other fish were caught in the streams, while salmon were available when they ran in the larger creeks. Marine foods were extensively utilized. Sea mammals, fish and crustaceans were hunted and gathered from both the shoreline and the open ocean, using reed and dugout canoes. Shellfish were the most common resource, including abalone, turban, mussels, clams, scallops, bubble shells, and others (Bean and Smith 1978:538-540).

Acjachemen

The Acjachemen (Juaneño) speak a language that is part of the Takic language family also. Their traditional tribal territory was situated partly in northern San Diego County and partly in southern Orange County (Figure 5). The boundaries were Las Pulgas Creek (south), Aliso Creek (north), the Pacific Ocean (west) and the Santa Ana Mountains (east). Villages were mostly along San Juan Creek, Aliso Creek, Trabuco Creek and San Mateo Creek (O'Neil and Evans 1980).

In prehistory, the Acjachemen had a patrilineal society and lived in groups with other relatives. These groups had established claims to places including the sites of their villages and resource areas. Marriages were usually arranged from outside villages establishing a social network of related peoples in the region. There was a well-developed political system including a hereditary chief. Religion was an important aspect of their society. Religious ceremonies included rites of passage at puberty and mourning rituals (Kroeber 1925:636-647).

Houses were typically conical in shape and thatched with locally available plant materials. Work areas were often shaded by rectangular brush-covered roofs (ramada). Each village had a ceremonial structure in the center enclosed by a circular fence where all religious activities were performed (Bean and Shippek 1978:553).

Women are known to have been the primary gatherers of plants foods, but also gathered shellfish and trapped small game animals. Men hunted large game, most small game, fished, and assisted with plant food gathering, especially of acorns. Adults were actively involved in making tools including nets, arrows, bows, traps, food preparation items, pottery and ornaments. Tribal elders had important political and religious responsibilities and were involved in education of younger members (Bean and Shippek 1978:555).

PREHISTORIC SETTING

Approaches to prehistoric frameworks have changed over the years from being based on material attributes to radiocarbon chronologies to association with cultural traditions. Recently the fact that generalized terminology is suppressing the identification of cultural, spatial and temporal

variation and the movement of peoples throughout space and time was noted. These factors are critical to understanding adaptation and change (Sutton and Gardner 2010:1-2; Table 3).

The older Encinitas Cultural Tradition characteristics are abundant metates and manos, crudely made core and flake tools, bone tools, shell ornaments, very few projectile points with subsistence focusing on collecting (plants, shellfish, etc.). Faunal remains vary by location but include shellfish, land animals, marine mammals and fish (Sutton and Gardner 2010:7). The Encinitas Tradition pattern in coastal Los Angeles and Orange Counties has is represented by the Topanga Phase (Sutton and Gardner 2010: 8-25; Table 3).

In Topanga Phase I typical characteristics were a few mortars and pestles, abundant core tools (scraper planes, choppers and hammerstones), relatively few large, leaf-shaped projectile points, cogged stones, and early discoidals (Table 3). Secondary inhumation under cairns was the common mortuary practice. In Orange County as many as 600 flexed burials were present at one site and dated 6, 435 radiocarbon years before present (Sutton and Gardner 2010:9, 13).

In Topanga Phase II, flexed burials and secondary burial under cairns continued. Adoption of the mortar and pestle is a marker of this phase. Other typical artifacts include manos, mutates, scrapers, core tools, discoidals, charmstones, cogged stones and an increase in the number of projectile points. In Orange County stabilization of sea level during this time period resulted in increased use of estuary, near shore and local terrestrial food sources (Sutton and Gardner 2010:14-16).

In Topanga Phase III, there was continuing abundance of mutates, manos, and core tools plus increasing amounts of mortars and pestles. More numerous and varied types of projectile points are observed along with the introduction of stone-line earthen ovens. Cooking features such as these were possibly used to bake yucca or agave. Both flexed and extended burials are known (Sutton and Gardner 2010:17).

The younger Cultural Traditions consist of two roughly contemporaneous patterns called Angeles in Los Angeles and northern Orange Counties and Palomar in southern Orange and San Diego Counties. They are marked by a series of changes in the archaeological record, including bow and arrow, new rock art styles, settlement and subsistence systems, and perhaps ideology. The Angeles Phase appears to have been less technologically conservative and more ecologically diverse, with a largely terrestrial focus and greater emphases on hunting and nearshore fishing.

Table 3. Culture Change Chronology

Pattern	Phase	Dates (BP)	Material Traits	Other Traits
Encinitas	Topanga I	8,500 to 5,000	Abundant manos and metates, many core tools and scrapers, few but large points, charmstones, cogged stones, early discoidals, faunal remains rare	Shellfish and hunting important, secondary burials under metate cairns (some with long bones only), some extended inhumations, no cremations
	Topanga II	5,000 to 3,500	Abundant but decreasing manos and metates, adoption of mortars and pestles, smaller points, cogged stones, late discoidals, fewer scraper planes and core tools, some stone balls and charmstones	Shellfish important, addition of acorns, reburial of long bones only, addition of flexed inhumations (some beneath metate cairns), cremations rare
	Topanga III	3,500 to 1,500	Abundant but decreasing manos and metates, increasing use of mortars and pestles, wider variety of small projectile points, stone-lined ovens	Hunting and gathering important, flexed inhumations (some under rock cairns), cremations rare, possible subsistence focus on yucca/agave
Angeles/ Palomar	Angeles III & IV/ San Luis Rey I	1,500 to 500	Appearance of bow and arrow technology, bone awls and stone/shell ornaments; changes in <i>Olivella</i> beads; asphaltum becomes important; reduction in obsidian use; Obsidian Butte obsidian largely replaces Coso	Small game hunting and the gathering of seeds and nuts, especially acorns important. Some small major villages, some focus on coastal resources; larger seasonal villages; flexed primary inhumations but no extended inhumations and an increase in cremations; appearance of obsidian grave goods
	Angeles V & VI/ San Luis Rey II	500 to 150	Ceramic pipes definitely present, addition of Tizon Brown pottery and ceramic figurines, Addition of Euroamerican material culture (e.g., glass beads and metal tools), locally made pottery, metal needle-drilled <i>Olivella</i> beads	Primary pit cremation as the principal mortuary practice, no formal cemeteries, summer villages near water with winter villages in mountains, use of domesticated species from Euroamericans; apparent adoption of Chingichngish religion

Angeles and San Luis Rey Phases demonstrate formation of major village sites along with small satellite villages. Angeles III & IV and San Luis Rey I Phases reflect a number of changes including a decrease in the use of scrapers, occasional mortars with associated manos and pestles, the appearance of bow and arrow technology, bone awls, and stone/shell ornaments. Conspicuous black midden appears also. Primary inhumation was common with primary pit cremation used more through time (Sutton 2010).

Angeles V & VI and San Luis Rey II Phases reflect important changes including appearance of Tizon Brown pottery and ceramic figurines, steatite shaft straighteners, and introduction of Euroamerican materials such as glass beads and metal knives. Other characteristics include an increase in bedrock milling features with mortars and slicks, and the appearance of cupule boulders and rock rings. Primary cremation in pits appears to have been the principal mortuary practice. Locations of cremations were not marked and there were no formal cemeteries (Sutton 2010).

HISTORIC SETTING

SPANISH EXPLORATION

Juan Cabrillo was the first European to sail along the coast of California in 1542 and was followed in 1602 by Sebastian Vizcaino (Bean and Rawls 1993). The Spanish colonization of what was then known as Alta California began with the 1769 overland expedition led by Gaspar de Portolá with a crew of 63 men in order to explore the land between San Diego and Monterey (Fox 1939). Between 1769 and 1822 the Spanish had colonized California and established missions, presidios, and pueblos and documented the people and landscape along the way (McCawley 1996).

Portola and his expedition crossed the area north of Lake Forest in July 1769, naming the perennial creek that empties from the Santa Ana Mountains “*aliso*”, the Spanish word alder; an error on the Spanish identifier, since they were in fact, referring to the sycamore tree, which still grow along the creek. It should be noted that the Juaneño term for the creek was *Seeevenga*, meaning “at the sycamores” (O’Neil 1988). However, historically, alder and sycamore trees were much more prominent, particularly in the riparian and floodplain areas where an oak-woodland habitat existed. During the Mission period, many of the trees along the creek, including alder, oak, sycamore, and other species were cut down for the construction of ships and structures, charcoal production, and other uses (Nasser 2003).

Following the Portolá Expedition, vast tracts of land were granted to the Missions. The seventh of the Franciscan missions in California was Mission San Juan Capistrano, founded in 1776; shortly after Portolá’s visit to the area. The goals of the missions were tri-fold: they helped establish a Spanish presence on the west coast, allowed for a means to Christianize the native peoples, and served to exploit the native population as laborers. The Spanish also hoped each mission would become a town center, whereas, “the pueblo would receive a ground of four square leagues of land... and other property would be parceled out among the Indians”. The missionaries, or padres, would essentially serve as a mayor, or head of the town (Bean 1968:29-30).

MEXICAN PERIOD

In 1821 Mexico won its independence from Spain and worked to lessen the wealth and power held by the missions. The Secularization Act was passed in 1833, appropriating the vast mission lands to the Mexican governor and downgrading the missions’ status to that of parish churches. The governor then redistributed the former mission lands, in the form of land grants, to private owners (Bean and Rawls 1993; Robinson 1948). The lands were typically granted to soldiers who proved their loyalty to the Mexican government once liberated from the Spanish crown.

One these Mexican soldiers was José Antonio Fernando Serrano who was the youngest son of Francisco Serrano, former Alcalde (mayor) of the Pueblo of Los Angeles (Fox 1939). José Antonio Fernando Serrano was granted the 10,688 acre Rancho Canada De Los Alisos, or “glen of the alders” by Governor Juan Bautista Alvarado in 1842. The grant was enlarged in 1846 by a second grant by Pio Pico in 1846 (Robinson 1948). The two combined grants that made the rancho closely mirror the shape of present day City of Lake Forest (Figure 6). The boundaries of the land grant were El Camino Real to the west, Aliso Creek and Rancho Trabuco to the south, Santiago Road and the Santa Ana Foothills to the east, and Rancho San Juan and Lomas Santiago to the north.

Rancho Canada de Los Alisos, like the other ranchos in what would become Orange County was centered on cattle husbandry and was a self-sustaining operation at its conception (Irons 1976). Cattle dominated and transformed the landscape. As the hide and tallow industry grew, and rancheros began trading their raw goods for manufactured good that came by the way of ship in the Bay (Bahía) of San Juan Capistrano, what is now present day Dana Point. Steer hides and tallow were traded for manufactured goods (hides-harnesses, shoes, saddles, door hinges, tallow-candles, horns-buttons) often made from, in many cases, from the same hide the rancheros were trading. The trade in cow hides was so ubiquitous that a steer hide, dried and folded in half (worth between one-and-a-half to two-and-a-half dollars) was referred to a “California bank note”, or a “leather dollar”, or “one buck”, hence the popular American slang term (Dana 1840). The area was long known as “El Toro” after the steers who roamed Canada de Los Alisos, whose loud, bellowing sounds could be heard from great distances (Irons 1976).

José Serrano used the local Native American population as well as the mestizo (Spanish and Native) population to build, plant, plow, and tend to the livestock of the rancho, resembling the feudal system (Osterman 1992). In addition to cattle, Serrano bred Mustangs and sheep, he also grew grain, corn, watermelons, and grapes. José Serrano acted as the *Juez de Campo*, or judge of the fields, an official role that was tasked with settling disputes between rancheros over livestock ownership as well as presiding over (Irons 1976).

AMERICAN PERIOD

Following the cession of California to the United States after the Mexican-American War, a claim for the Rancho was filed with the Public Land Commission in 1852 as required by the Land Act of 1851, and the grant was eventually patented to Serrano in 1871 after much litigation (Carpenter 2003).

After the cession of California to the United States, a stagecoach route passed through the El Toro as early as the late 1850s and a stagecoach stop was established just south of El Toro (Fox

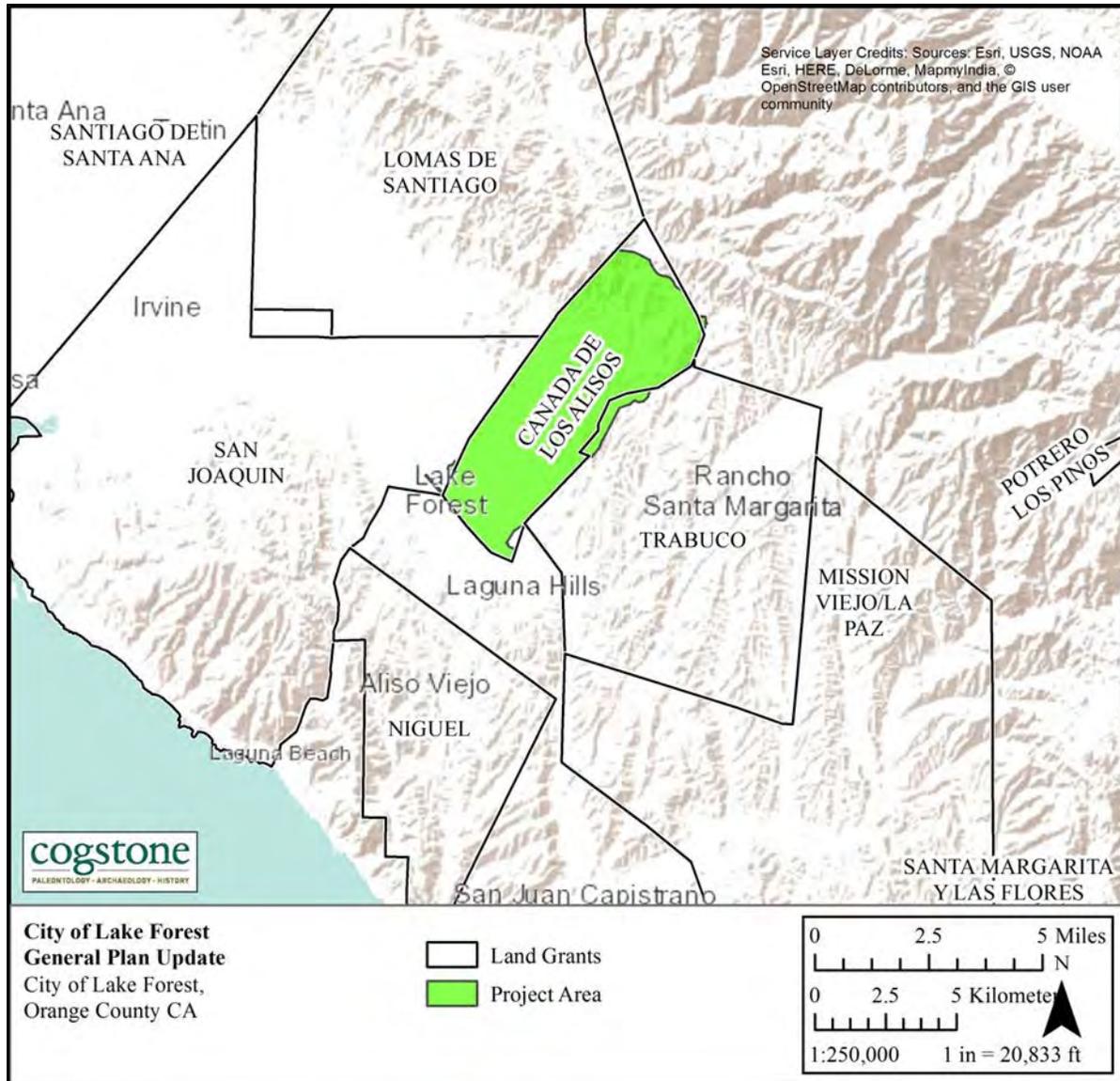


Figure 6. Mexican Land Grants.

1979). Stagecoaches primarily carried mail, but carried passengers as well. The El Toro stop became a popular holdover for passengers traveling to the coast via Laguna Canyon.

A series of droughts affected the area from 1863 until 1883 causing the death of Serrano’s herds as well as the herds of the surrounding ranchos (Fox 1939). Serrano borrowed money at outrageous interest rates, using his land as collateral. Serrano eventually went bankrupt and was forced to mortgage and ultimately foreclose the ranch to J.S. Slauson, a Los Angeles banker. Losing control of the Rancho Canada de Los Alisos, Serrano and his family were evicted from their land (Irons 1976). Serrano purchased U.S. government claims just north of their former

rancho near Cooks Corner at the intersection of El Toro, Santiago Canyon, and Live Oak Canyon where some of his descendants still live (Osterman 1992).

Slauson subdivided the land into ten parcels and leased a portion of the rancho lands to Juan Gless and his sons who raised sheep during the drought. When the drought subsided, more families settled into the Saddleback Valley. Settlers raised cattle and sheep, planted vineyards and fruit trees. By 1886 the majority of the Saddleback Valley was planted in grapes, until plant disease called the “Anaheim Disease” decimated the vineyards. Orange and walnuts trees soon replaced the failed vineyards (Irons 1976).

By the time Bostonian Dwight Whiting purchased 10,000 acres of the former Rancho de Los Alisos in 1884, the area was already a stagecoach stop that connected San Diego and Los Angeles, with later diversions to Santa Ana and Laguna Beach (Figure 7). Whiting intended to establish a new town inhabited by English gentlemen farmers. Whiting was able bring the San Bernardino and San Diego Railway Co. through his land in 1887, thus founding the town of Aliso City (Irons 1976). The railroad “boom” brought an influx of people into southern California and numerous cities were proposed. On paper, many of these cities were absorbed by larger ones, while most, like Aliso City, remained small towns (Osterman 1992).

The young Aliso City was laid out just north of the railroad tracks, and some of those original streets remain on the map today. Front, Second, and Third Streets run parallel to the railroad tracks, while Orange, Olive, and Cherry Street run parallel to El Toro Road. At the time, El Toro Road was originally Los Alisos Avenue and present day Los Alisos Boulevard was formally Lemon Avenue (Osterman 1992). The “boom” never attached the hordes of people to Aliso City that its founders had hoped for and the name Aliso City was too similar to a nearby place, so the local residents of the area held a meeting in a freight room of the railroad depot and voted to permanently rename their small town to El Toro (Osterman 1992).

Determined to attract “gentlemen farmers” of English heritage, Whiting used his vast land holding to experiment on a number of agricultural ventures to attract the second and third born English sons who could not inherit land, but could use their family’s wealth to sponsor careers in farming (Osterman 1992). Whiting experimented with multiple crops including fruit trees like apricots, peaches, plums, prunes, and olives; all with little success. Another unsuccessful, but lasting contribution to the area was Whiting’s investment in the Eucalyptus craze that struck the lumber starved southern California. Whiting established a 400 acre of dense Eucalyptus tree forest located between present day Ridge Route, Jeronimo, Lake Forest and Serrano Roads. However, when it was discovered that the grain twisted and cracked as it dried, rendering it worthless for construction and furnishings the hopeful cash crop busted. While the failed project was later referred to as “Whiting’s Folly”, the Eucalyptus is now a ubiquitous characteristic of

the present day Lake Forest, the city's name originating from Whiting's man-made forest (Irons 1976).

In the 1890s, the Saddleback Valley was dry framed by tenant farming, in which farmers did not own their land, but rented it from their landlords, also known as sharecropping (Osterman 1992). Dry farming crops included barley (the major grain crop), and hay for the livestock. Black-eyed beans were also dry farmed and, while more difficult to farm, turned a higher profit (Osterman 1992). It wasn't until the 1920s that citrus came to the Saddleback Valley. Charles Bennet, an early pioneer attracted to the former Aliso City, pioneered the citrus industry in El Toro by drilling deeper wells (Osterman 1992). Despite the success in citrus in El Toro, the City remained small, serving as the Saddleback Valley's shipping and social center (Osterman 1992).

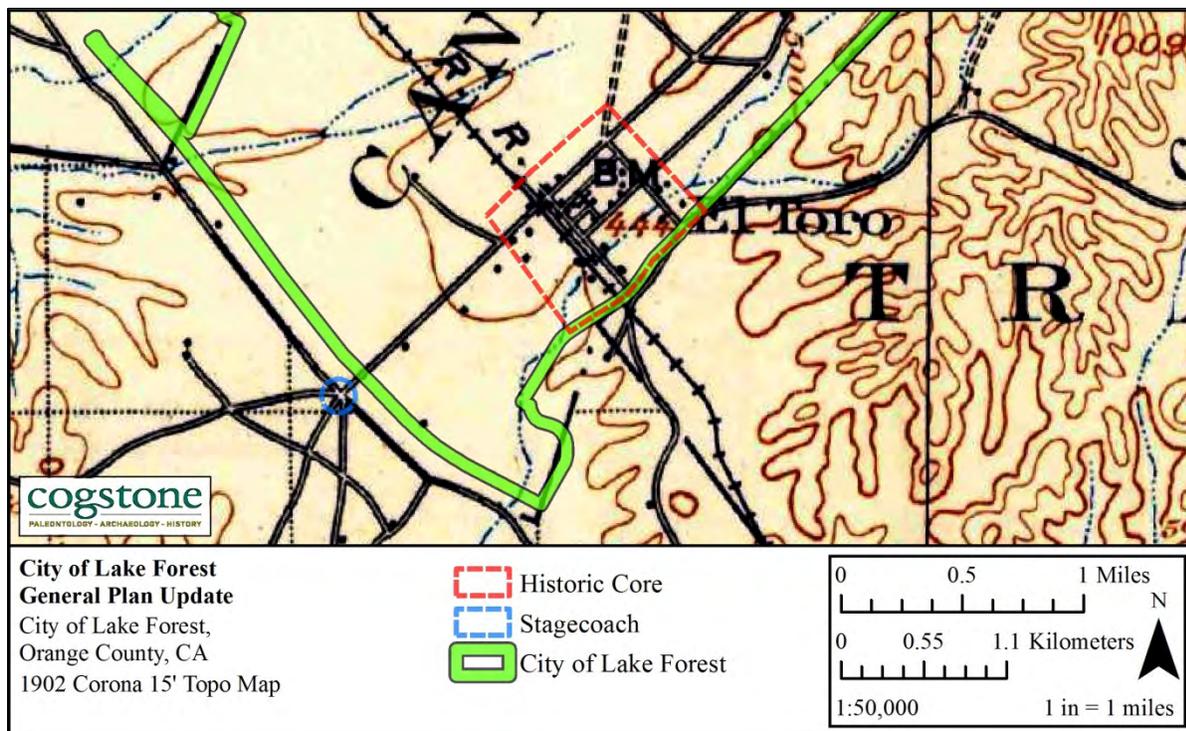


Figure 7. 1902 Corona 15' USGS topographic map showing historic core and stagecoach stop.

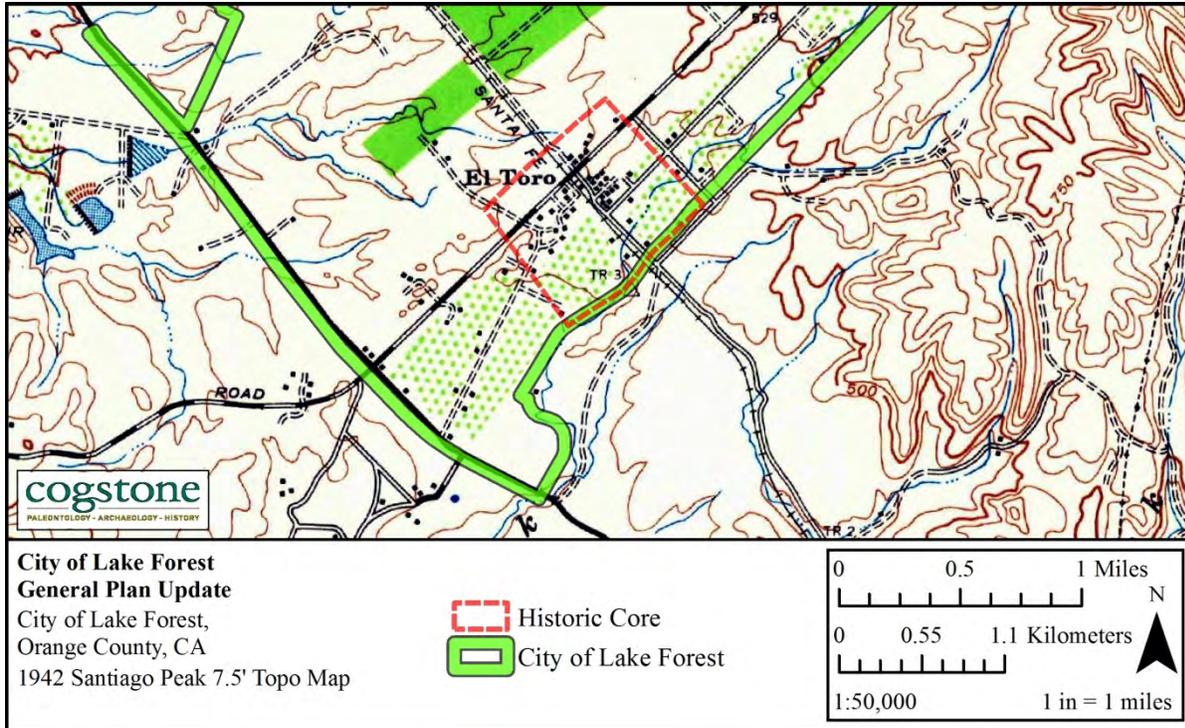


Figure 8. 1942 Santiago Peak 7.5' USGS topographic map showing Historic Core.

MODERN PERIOD

In 1942, El Toro Marine Corps Air Station was established and was designated as a Master Jet Station and after World War II all United States Presidents landed in Air Force One at this base. After World War II the agricultural land was developed into residential, commercial, and industrial areas. In 1999 the Marine Corps Air Station El Toro was decommissioned.

In 1958, Whiting sold the Rancho to V.P. Baker and associates. In 1969, the Bakers sold the property to the Deane Bros. who later incorporated into the Occidental Petroleum, Land Development Division. They started the residential development of the area, executing a master planned community that eventually became the City of Lake Forest. During the 1960s, a steady supply of water brought in by aqueducts from Northern California, as well as from the Colorado River, facilitated the transformation of the Saddleback Valley from an agricultural community to the multi-city, suburban sprawl it is known as today (Osterman 1992). The City of Lake Forest was incorporated in 1991 and is named for the two man-made lakes within the city as well as the man-made Eucalyptus forest.

LITERATURE REVIEW AND RECORD SEARCHES

PALEONTOLOGICAL RECORD AND LITERATURE SEARCHES

A search for paleontological records was completed by the Natural History Museum of Los Angeles County (LACM; McLeod 2018; Appendix B). Published literature, unpublished paleontological reports, and online databases were also searched for fossil records (Appendix C). Databases included the Natural History Museum of Los Angeles County Invertebrate Paleontology (LACMIP 2018), the Paleobiology Database (PBDB 2018), and the University of California Museum of Paleontology (UCMP 2018).

The artificial fill and Holocene sediments do not contain fossil resources due to their age, by nature of their formation, or paleoenvironment. Although the Paleocene Silverado Formation and Santiago Formation, as well as the Pleistocene alluvial deposits have produced fossils within Orange County, there are no records of fossils from these formations from within the City. The rest of the formations have produced fossils from within the City. Formations are discussed from oldest to youngest (Appendix C).

PALEOCENE: SILVERADO FORMATION

At least 25 fossils of marine snails and bivalves have been recovered from the northwestern Santa Ana Mountains in Orange County (Schoellhamer et al. 1981). Sixteen localities were recovered from the Black Star Canyon 7.5' USGS topographic quadrangle and a single locality was recovered from the Orange 7.5' USGS topographic quadrangle. The Eastern Transportation Corridor (ETC) database listed one potential Silverado Formation locality from the El Toro 7.5' USGS topographic quadrangle which produced plant fossils (Appendix C).

PALEOCENE: SANTIAGO FORMATION

At least 100 fossils of marine snails and bivalves have been recovered from this formation in the northwestern Santa Ana Mountains in Orange County. Eleven localities was recovered from the Black Star Canyon 7.5' USGS topographic quadrangle, four localities were recovered from the El Toro 7.5' USGS topographic quadrangle, three localities were recovered from the Orange 7.5' USGS topographic quadrangle, and a single locality was recovered from the Tustin 7.5' USGS topographic quadrangle (Schoellhamer et al. 1981). The Orange County Paleontological Database (OCPC 2018) listed one locality from the Black Star Canyon 7.5' USGS topographic quadrangle which produced a crocodile and plant fossils (Appendix C).

LATE EOCENE TO LATEST EARLY MIOCENE: SESPE FORMATION

At least 25 fossils of terrestrial animals have been recovered from 17 localities in the Sespe Formation in Orange County. Two localities were recovered from the Lower Bowerman Landfill, nine localities were recovered from the Upper Bowerman Landfill, four localities were recovered from the Foothill Transportation Corridor-Oso segment, a locality was recovered from the San Joaquin Hills, and a locality was recovered from the San Joaquin Hills (Whistler and Lander 2003). The OCPC listed one locality from the El Toro 7.5' USGS topographic quadrangle (Appendix C). These localities have produced fossils of canine, weasel, peccary, oreodont, camel, musk deer, opossum, shrew, pika, squirrel, rodent, and iguana (Appendix C).

EARLY MIOCENE: VAQUEROS-SESPE FORMATION

At least 2400 fossils of terrestrial animals and plants have been recovered from 122 localities in the Vaqueros-Sespe Formation in Orange County (OCPC 2018, Whistler and Lander 2003, McLeod 2018). These localities have produced fossils of canine, bear, weasel, rhinoceros, horse, peccary, pig-like artiodactyl, oreodont, camel, deer-like artiodactyl, musk deer, hedgehog, shrew, pika, rabbit, squirrel, rodent, opossum, and reptile (Appendix C).

EARLY MIOCENE: VAQUEROS FORMATION

At least 150 fossils of marine animals have been recovered from 24 localities in the Vaqueros Formation in Orange County (LACMIP 2018, SDNHM 2018, UCMP 2018). These localities have produced fossils of baleen and toothed whales, sea cows, birds, sea turtles, bony fish, sharks and rays, and invertebrates (Appendix C).

MIDDLE MIOCENE: TOPANGA GROUP

At least 375 fossils of marine and terrestrial animals have been recovered from 37 localities in the Topanga Group in Orange County (McLeod 2018, UCMP 2018, OCPC 2018). These localities have produced fossils of pinnipeds, baleen and toothed whales, dugongs, sea cows, desmostylians, proboscideans, rodents, birds, sea turtles, bony fish, sharks, rays, and invertebrates (Appendix C).

LATE MIOCENE: MONTEREY FORMATION

At least 150 fossils of marine animals have been recovered from 31 localities within and near to the City of Lake Forest (McLeod 2018, OCPC 2018, SDNHM 2018, UCMP 2018). These localities have produced fossils of pinnipeds, baleen and toothed whales, dugongs, desmostylians, birds, crocodile, sea turtles, bony fish, sharks and rays, and invertebrates. Numerous species of land plants and algae have also been recovered from these localities (Appendix C).

LATE MIOCENE: PUENTE FORMATION

At least 275 fossils of marine animals have been recovered from 32 localities from the La Vida Member (OCPC 2018). These localities have produced fossils of sea lions, desmostylians, bony fish, sharks and rays, and invertebrates. Numerous species of land plants and algae have also been recovered from these localities. A fossil of a herring have been recovered a locality in the Soquel Member (OCPC 2018). Two fossils of bony fish have been recovered two localities in undifferentiated Puente Formation (OCPC 2018, Appendix C).

LATE MIOCENE TO EARLY PLIOCENE: CAPISTRANO FORMATION

At least 375 fossils of marine and terrestrial animals have been recovered from 33 localities from the Oso Sand of the Capistrano Formation (OCPC 2018, SDNHM 2018). These localities have produced fossils of pinnipeds, rodents, camels, baleen and toothed whales, horses, rhinoceros, mastodon, dugong, sea cows, desmostylians, birds, sea turtles, tortoise, bony fish, sharks and rays, and invertebrates. Numerous species of land plants and algae have also been recovered from these localities (Appendix C).

At least 100 fossils of marine and terrestrial animals have been recovered from 30 localities from undifferentiated deposits of Capistrano Formation (McLeod 2018, UCMP 2018). These localities have produced fossils of pinnipeds, camels, baleen and toothed whales, horses, birds, sea turtles, tortoise, crocodile, bony fish, sharks and rays, and invertebrates (Appendix C).

PLIOCENE: NIGUEL FORMATION

An unknown number of fossils of marine and terrestrial animals have been recovered from four localities from undifferentiated deposits of Niguel Formation (McLeod 2018). These localities have produced fossils of camels, baleen whales, dugongs, and bony fish (Appendix C).

PLIOCENE TO PLEISTOCENE: NIGUEL FORMATION- QUATERNARY TERRACE

A fossil of a sea lion and a camel have been recovered two localities in Niguel Formation – Quaternary terrace deposits (McLeod 2018; Appendix C).

PLEISTOCENE DEPOSITS

At least 225 fossils of terrestrial animals have been recovered from 29 localities from Pleistocene deposits outside of the City of Lake Forest (McLeod 2018, OCPC 2018, Jefferson 1991b). These localities have produced fossils of ground sloth, short faced bear, American lion, mammoth, mastodon, horses, ancient bison, shrews, reptiles, and amphibians (Appendix C). The most significant of these localities is Costeau Pit located in the City of Laguna Hills, just south of Lake Forest which has additionally produced coyote, dire wolf, saber-toothed cat, camel, llama, diminutive pronghorn, long-horned bison, rabbits, rodents, and birds.

The following units include Pleistocene sediments:

- Quaternary very old axial channel deposits (Qvoa, Qvoa₂, Qvoa₃); early to middle

Pleistocene

- Quaternary very old alluvial fan deposit (Qvof); early to middle Pleistocene
- Quaternary young axial channel deposit (Qya); late Pleistocene to Holocene
- Quaternary young alluvial fan deposit (Qyf); late Pleistocene to Holocene
- Quaternary young landslide deposit (Qyls); late Pleistocene to Holocene

HOLOCENE DEPOSITS

No fossils are known from any of the Holocene deposits as they are all too young to contain fossils. The following units are Holocene in age:

- Very young colluvial deposits (Qc); late Holocene
- Very young slope wash deposits (Qsw); late Holocene
- Very young landslide deposits (Qls); late Holocene
- Artificial fill; modern

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM

A search of the California Historic Resources Inventory System (CHRIS) at the South Central Coastal Information Center (SCCIC) located on the campus of California State University, Fullerton (CSUF) was conducted on March 28, 2018 by Cogstone archaeologist Megan Wilson. The records search covered the entire 10,748.50 acres of the City of Lake Forest and covered portions of the El Toro, San Juan Capistrano, and Santiago Peak USGS 7.5 topographic maps. Results of the record search indicate that 167 previous cultural resources studies have been completed within the boundaries of the City of Lake Forest (Appendix D).

The records search determined that 138 previously recorded cultural resources are located within the City boundaries (Table 4). Of these 138 resources, one resource includes a portion of the Upper Aliso Creek Archaeological District, 87 prehistoric archaeological sites, 36 prehistoric archaeological isolates, five multicomponent sites, one historic archaeological site, two historic isolates, six historic resources, one historic district listed (Heritage Hill Historical Park) on the NRHP and CHL.

P- 30-156547. This site consists of a historic district, the Heritage Hill Historical Park located at 25151 Serrano Road, Lake Forest CA 92630-2534. This site is registered on the National Register of Historic Places (NR No. 7600050), California Historical Landmark (No. 199), and is registered as an Orange County Historical Landmark. The Site consists of the original location of the Serrano Adobe (1868) as well as the relocated Bennet Ranch House (1908), the El Toro Grammar School (1890), and the St. George's Episcopal Mission (1891).

Table 4. Previously Recorded Cultural Resources within the City of Lake Forest

Primary No.	Other Identifier	Site Type	Site Description	Year Recorded	Maps
P-30-000016	CA-ORA-000016	Prehistoric Archaeological Site	Lithic scatter	1949	San Juan Capistrano
P-30-000037	CA-ORA-000037	Prehistoric Archaeological Site	Unidentified	1949	El Toro
P-30-000038	CA-ORA-000038	Multicomponent Site	Multicomponent	1949	El Toro
P-30-000039	CA-ORA-000039	Prehistoric Archaeological Site	Lithic scatter	1949, 1976, 1978	El Toro
P-30-000040	CA-ORA-000040	Prehistoric Archaeological Site	Lithic scatter	1949	El Toro
P-30-000042	CA-ORA-000042	Prehistoric Archaeological Site	Lithic scatter	1949, 1980	El Toro
P-30-000176	CA-ORA-000176	Prehistoric Archaeological Site	Lithic scatter	1966, 1991	El Toro
P-30-000438	CA-ORA-000438	Prehistoric Archaeological Site	Lithic scatter	1973, 1995, 1997, 2001	El Toro
P-30-000439	CA-ORA-000439	Prehistoric Archaeological Site	Lithic scatter	1973, 2001	El Toro, Santiago Peak
P-30-000440	CA-ORA-000440	Prehistoric Archaeological Site	Lithic scatter	1973, 2001	El Toro
P-30-000441	CA-ORA-000441	Prehistoric Archaeological Site	Lithic scatter, cairn	1973, 2001, 2007, 2014	El Toro
P-30-000442	CA-ORA-000442	Prehistoric Archaeological Site	Lithic scatter	1973, 2007	El Toro
P-30-000443	CA-ORA-000443	Prehistoric Archaeological Site	Lithic scatter	1973, 2001, 2007	El Toro
P-30-000444	CA-ORA-000444	Prehistoric Archaeological Site	Lithic scatter	1974, 1994, 20017	El Toro
P-30-000445	CA-ORA-000445	Prehistoric Archaeological Site	Lithic scatter	1973, 2001, 2007	El Toro
P-30-000446	CA-ORA-000446	Prehistoric Archaeological Site	Lithic scatter	1973, 2001, 2007	El Toro
P-30-000447	CA-ORA-000447	Prehistoric Archaeological Site	Lithic scatter	1973, 1978, 2007	El Toro
P-30-000448	CA-ORA-000448/H	Multicomponent Site	Lithic scatter, foundations	1974, 2001	El Toro
P-30-000449	CA-ORA-000449	Prehistoric Archaeological Site	Lithic scatter	1974, 2001	El Toro, Santiago Peak
P-30-000450	CA-ORA-450	Prehistoric Archaeological Site	Lithic scatter	1974, 2001	El Toro, Santiago Peak
P-30-000451	CA-ORA-000451	Prehistoric Archaeological Site	Lithic scatter	1973, 1982	Santiago Peak
P-30-000452	CA-ORA-000452	Prehistoric Archaeological Site	Lithic scatter, projectile points	1974, 2001	El Toro
P-30-000453	CA-ORA-000453	Multicomponent Site	Rockshelter, lithic scatter, historic carving "1887/4"	1974, 2001	El Toro

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Primary No.	Other Identifier	Site Type	Site Description	Year Recorded	Maps
P-30-000454	CA-ORA-000454	Prehistoric Archaeological Site	Lithic scatter	1974, 2001	El Toro
P-30-000455	CA-ORA-000455	Prehistoric Archaeological Site	Lithic scatter	1974, 2001	El Toro
P-30-000456	CA-ORA-000456	Prehistoric Archaeological Site	Lithic scatter	1974, 1978, 2001	El Toro
P-30-000460	CA-ORA-000460	Prehistoric Archaeological Site	Lithic scatter	1974	El Toro
P-30-000489	CA-ORA-000489	Prehistoric Archaeological Site	Lithic scatter	1973, 1980, 2004	El Toro
P-30-000490	CA-ORA-000490	Prehistoric Archaeological Site	Lithic scatter	1973, 1982	El Toro
P-30-000491	CA-ORA-000491	Prehistoric Archaeological Site	Lithic scatter	1973, 1980, 1980	El Toro
P-30-000510	CA-ORA-000510	Prehistoric Archaeological Site	Lithic scatter	1975, 1994	El Toro
P-30-000514	CA-ORA-000514	Prehistoric Archaeological Site	Habitation site, discoidal	1976, 1977	El Toro
P-30-000536	CA-ORA-000536	Prehistoric Archaeological Site	Lithic scatter	1976	El Toro
P-30-000544	CA-ORA-000544	Prehistoric Archaeological Site	Lithic scatter	1976, 1977	El Toro
P-30-000566	CA-ORA-000566	Prehistoric Archaeological Site	Lithic scatter	1973, 1977	El Toro
P-30-000579	CA-ORA-000579	Prehistoric Archaeological Site	Shell scatter	1975	San Juan Capistrano
P-30-000594	CA-ORA-000594	Prehistoric Archaeological Site	Lithic scatter	1977	El Toro
P-30-000602	CA-ORA-000602	Prehistoric Archaeological Site	Lithic scatter	1976, 2002	El Toro
P-30-000612	CA-ORA-000612/H	Multicomponent Site	Lithic scatter, habitation debris, and historic refuse scatter. Serrano-Whiting Adobe Site	1977	El Toro
P-30-000628	CA-ORA-000628	Prehistoric Archaeological Site	Lithic scatter	1977	El Toro
P-30-000647	CA-ORA-000647	Prehistoric Archaeological Site	Quarry site, lithic tools and scatter	1977, 1986, 1994	El Toro
P-30-000648	CA-ORA-000648	Prehistoric Archaeological Site	Temporary habitation area	1977, 1994	El Toro
P-30-000693	CA-ORA-693	Prehistoric Archaeological Site	Lithic Scatter	1977, 1978	
P-30-000694	CA-ORA-000694	Prehistoric Archaeological Site	Lithic Scatter	1977, 1978	El Toro
P-30-000695	CA-ORA-000695	Prehistoric Archaeological Site	Lithic Scatter	1977, 1978	El Toro
P-30-000696	CA-ORA-000696	Prehistoric Archaeological Site	Habitation area, lithic scatter	1977, 1978	El Toro
P-30-000697	CA-ORA-000697	Prehistoric Archaeological Site	Lithic scatter	1977, 1978	El Toro
P-30-000698	CA-ORA-000698	Prehistoric Archaeological Site	Lithic scatter	1977	El Toro

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Primary No.	Other Identifier	Site Type	Site Description	Year Recorded	Maps
P-30-000699	CA-ORA-000699	Prehistoric Archaeological Site	Lithic scatter	1977, 1978	El Toro
P-30-000739	CA-ORA-000739	Prehistoric Archaeological Site	Lithic scatter	1978	El Toro
P-30-000742	CA-ORA-000742	Prehistoric Archaeological Site	Lithic scatter	1978	El Toro
P-30-000743	CA-ORA-000743	Prehistoric Archaeological Site	Lithic scatter	1978	El Toro
P-30-000741	CA-ORA-000741	Prehistoric Archaeological Site	Lithic scatter	1978	El Toro
P-30-000756	CA-ORA-000756	Prehistoric Archaeological Site	Lithic scatter	1978, 1996	El Toro
P-30-000773	CA-ORA-000773	Prehistoric Archaeological Site	Lithic scatter	1978	El Toro
P-30-000825	CA-ORA-000825	Prehistoric Archaeological Site	Lithic scatter	1979, 1997, 2014	El Toro
P-30-000826	CA-ORA-000826	Prehistoric Archaeological Site	Lithic scatter	1979, 1982, 1997	El Toro
P-30-000827	CA-ORA-000827	Prehistoric Archaeological Site	Lithic scatter	1979, 1995	El Toro
P-30-000828	CA-ORA-000828	Prehistoric Archaeological Site	Lithic scatter	1979, 1980	El Toro
P-30-000905	CA-ORA-000905	Prehistoric Archaeological Site	Lithic scatter	1980, 1982	El Toro
P-30-000949	CA-ORA-000949	Prehistoric Archaeological Site	Lithic scatter	1980	El Toro
P-30-000950	CA-ORA-000950	Prehistoric Archaeological Site	Lithic scatter	1980	El Toro
P-30-000951	CA-ORA-000951	Prehistoric Archaeological Site	Rockshelter, habitation area, midden, lithic scatter, hearth	1980	El Toro
P-30-000952	CA-ORA-000952	Prehistoric Archaeological Site	Lithic scatter	1980	El Toro
P-30-000953	CA-ORA-000953	Prehistoric Archaeological Site	Lithic scatter	1980	El Toro
P-30-000954	CA-ORA-000954	Prehistoric Archaeological Site	Lithic scatter, shell scatter	1980	El Toro
P-30-000955	CA-ORA-000955	Prehistoric Archaeological Site	Bedrock milling features	1980	El Toro
P-30-000957	CA-ORA-000957	Prehistoric Archaeological Site	Lithic scatter	1980	El Toro
P-30-000958	CA-ORA-000958	Prehistoric Archaeological Site	Lithic scatter	1980	El Toro
P-30-000959	CA-ORA-000959	Prehistoric Archaeological Site	Lithic scatter	1980	El Toro
P-30-000960	CA-ORA-000960	Prehistoric Archaeological Site	Lithic scatter	1980	El Toro
P-30-001004	CA-ORA-001004	Prehistoric Archaeological Site	Lithic scatter	1981	El Toro
P-30-001057	CA-ORA-001057	Prehistoric Archaeological Site	Rock cairn, lithic scatter	1984	El Toro

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Primary No.	Other Identifier	Site Type	Site Description	Year Recorded	Maps
P-30-001058	CA-ORA-001058	Prehistoric Archaeological Site	Rock cairn, lithic scatter	1984	El Toro
P-30-001063	CA-ORA-001063	Prehistoric Archaeological Site	Projectile point, lithic scatter	1984, 1994	El Toro
P-30-001064	CA-ORA-001064	Prehistoric Archaeological Site	Lithic scatter, hearth	1984, 1994	El Toro
P-30-001066	CA-ORA-001066	Prehistoric Archaeological Site	Lithic scatter, hearth	1984, 1994	El Toro
P-30-001097	CA-ORA-001097/H	Multicomponent Site	Lithic scatter, ruins of the Henry Serrano Adobe, and historic refuse deposit	1985	Santiago Peak
P-30-001100	CA-ORA-001100	Prehistoric Archaeological Site	Lithic scatter	1985, 1991	El Toro
P-30-001145	CA-ORA-001145	Prehistoric Archaeological Site	Lithic scatter	1988	El Toro
P-30-001146	CA-ORA-001146	Prehistoric Archaeological Site	Lithic scatter, hearth	1988	El Toro
P-30-001147	CA-ORA-001147	Prehistoric Archaeological Site	Quarry, lithic scatter	1988	El Toro
P-30-001148	CA-ORA-001148	Prehistoric Archaeological Site	Lithic scatter	1988	El Toro
P-30-001149	CA-ORA-001149	Prehistoric Archaeological Site	Lithic scatter, hearth	1988	El Toro
P-30-001150	CA-ORA-001150	Prehistoric Archaeological Site	Lithic scatter, hearth	1988	El Toro
P-30-001171	CA-ORA-001171	Prehistoric Archaeological Site	Lithic scatter	1988, 1994	El Toro
P-30-001242	CA-ORA-001242	Prehistoric Archaeological Site	Lithic scatter	1990	El Toro
P-30-001345	CA-ORA-001345	Prehistoric Archaeological Site	23 hearths	1992	El Toro
P-30-001362	CA-ORA-001362	Prehistoric Archaeological Site	Lithic scatter	1994	El Toro
P-30-001373	CA-ORA-001373	Prehistoric Archaeological Site	Lithic scatter	1994	El Toro
P-30-001430	CA-ORA-001430	Prehistoric Archaeological Site	Lithic scatter	1995	El Toro
P-30-001496		Historic Resource	Concrete and metal troughs, holding pen	1980	El Toro
P-30-001497		Historic Resource	Water tower	1980	El Toro
P-30-001498		Historic Resource	Metal shed	1998	El Toro
P-30-001500	CA-ORA-001500H	Historic Resource	Wood water tank	1998	El Toro
P-30-001501	CA-ORA-001501H	Historic Archaeological Site	Collapsed shed and structural debris	1998	El Toro
P-30-001728		Archaeological District	Upper Aliso Creek Archaeological District	1978, 2001	El Toro, Santiago Peak
P-30-001741	CA-ORA-001741	Prehistoric Archaeological Site	Lithic scatter	1986	El Toro

City of Lake Forest Paleontological and Cultural Resources Assessment Report

Primary No.	Other Identifier	Site Type	Site Description	Year Recorded	Maps
P-30-100186	N/A	Prehistoric Isolate	Utilized chert flake	1977	El Toro
P-30-100187	N/A	Prehistoric Isolate	Scraper-core fragment and flake	1977	El Toro
P-30-100188	N/A	Prehistoric Isolate	Cobble and debitage	1977	El Toro
P-30-100219	N/A	Prehistoric Isolate	Granitic mano	2014	El Toro
P-30-100220	N/A	Prehistoric Isolate	Chert flake	2014	El Toro
P-30-100276	N/A	Prehistoric Isolate	Core tool	1980	El Toro
P-30-100278	N/A	Prehistoric Isolate	Hammerstone	1980	El Toro
P-30-100279	N/A	Prehistoric Isolate	Mano	1980	El Toro
P-30-100280	N/A	Prehistoric Isolate	Core tool	1980	El Toro
P-30-100281	N/A	Prehistoric Isolate	Flake tool	1980	El Toro
P-30-100282	N/A	Prehistoric Isolate	Mano	1980	El Toro
P-30-100283	N/A	Prehistoric Isolate	Core tool	1980	El Toro
P-30-100285	N/A	Prehistoric Isolate	Flake tool	1980	El Toro
P-30-100288	N/A	Prehistoric Isolate	Flake tool	1980	El Toro
P-30-100289	N/A	Prehistoric Isolate	Metate	1980	El Toro
P-30-100290	N/A	Prehistoric Isolate	Core tool	1980	El Toro
P-30-100294	N/A	Prehistoric Isolate	Core tool	1980	El Toro
P-30-100295	N/A	Prehistoric Isolate	Core	1980	El Toro
P-30-100296	N/A	Prehistoric Isolate	Flake tool	1980	El Toro
P-30-100305	N/A	Prehistoric Isolate	Utilized flake	1980	El Toro
P-30-100309	N/A	Historic Isolate	Concrete foundation/slab	1984	El Toro
P-30-100310	N/A	Prehistoric Isolate	Chert flake	1998	El Toro
P-30-100311	N/A	Prehistoric Isolate	Chopper/scraper	1984	El Toro
P-30-100312	N/A	Historic Isolate	Concrete trough	1980	El Toro
P-30-100313	N/A	Prehistoric Isolate	Quartzite core	1993	El Toro
P-30-100371	N/A	Prehistoric Isolate	Abalone shell fragment	2006	El Toro

City of Lake Forest Paleontological and Cultural Resources Assessment Report

Primary No.	Other Identifier	Site Type	Site Description	Year Recorded	Maps
P-30-100438	N/A	Prehistoric Isolate	Chert scraper	1984	El Toro
P-30-100439	N/A	Prehistoric Isolate	Mano fragment	1984	El Toro
P-30-100444	N/A	Prehistoric Isolate	Quartzite chopper	1989	El Toro
P-30-100445	N/A	Prehistoric Isolate	Chert flake	1991	El Toro
P-30-100446	N/A	Prehistoric Isolate	Metate fragment	1991	El Toro
P-30-100447	N/A	Prehistoric Isolate	Core	1991	El Toro
P-30-100448	N/A	Prehistoric Isolate	Mortar and core	1991	El Toro
P-30-100449	N/A	Prehistoric Isolate	Chert flake	1991	El Toro
P-30-100453	N/A	Prehistoric Isolate	Flake	1994	El Toro
P-30-100463	N/A	Prehistoric Isolate	2 utilized chert flakes	1991	El Toro
P-30-100464	N/A	Prehistoric Isolate	Chert flake	1991	El Toro
P-30-100491	N/A	Prehistoric Isolate	Mano fragment	2011	El Toro
P-30-156547	NR. No 76000505, CHL No. 199, HRI No. 035907, OC Historical Landmark	Historic Resource	Heritage Hill Historic Site; Serrano Adobe, :1856-1860, Bennet House (1908), El Toro School (1890), St. George's Church (1891).	1935, 1959, 1976, 1980	El Toro
P-30-176663	N/A	Historic Resource	Railroad, Aitchison-Topeka-Santa Fe	2002, 2002, 2007, 2012, 2016	El Toro, San Juan Capistrano

OTHER SOURCES

In addition to the SCCIC records search, a variety of sources were consulted in February and May 2018 to obtain information regarding the cultural context of the City of Lake Forest (Table 5). Sources included the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR) which includes the California Historical Resources Inventory (CHRI), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). The Bureau of Land Management (BLM) General Land Office records were also searched (Table 6).

Table 5. Additional Sources Consulted

Source	Results
National Register of Historic Places (NRHP/NR; 1979-2002 & supplements)	Positive: one listing, the Serrano Adobe, NR. 76000505
Historic USGS Topographic (Topo) Maps	Positive: The earliest USGS Topo map for the area is the 1901 30' Southern California Sheet no. 1 that shows the Canada de Ls Alisos Rancho the then Southern California Railroad, El Toro Road (then Los Alisos Avenue), El Camino Real, as well as the town of El Toro and the old stagecoach stop can be inferred from this Topo map. No new information can be gleaned from following Topo maps until the 1942 Santiago Peak 7.5' Topo map that shows El Toro Road (still Los Alisos Avenue at that time) as a secondary highway and shows Highway 101 as a primary highway. More development is present at old El Toro's historic downtown core. The area around Aliso Creek is symbolized as agricultural enterprises and likely included citrus orchards. The 1968 El Toro and San Juan Capistrano 7.5' Topo maps show the completed of Interstate 5 at the former location of Highway 101 and the beginning of small housing tracts near the old El Toro downtown area.
Historic US Department of Agriculture Aerial Photographs	The earliest historical aerial for the City dates to 1938 and shows numerous agricultural fields surrounding El Toro Road, then Los Alisos Avenue. Development is concentrated with old El Toro's Historic downtown core and near the area of the Serrano Adobe/Heritage Hill Area. A conspicuous feature on the landscape is Whiting experimental Eucalyptus forest, which can be seen spanning the area north of the railroad to Jeronimo Road, centered along Ridge Route. The landscape dramatically changes in the 1967 aerial with the replacement of Highway 101 with Interstate 5 and the aggressive commercial and residential development south of Jeronimo Road and north of Interstate 5. Development creeps northwest in later years.
California Historical Resources Inventory (CHRI/HRI; 1976-2014)	Positive: one listing, the Serrano Adobe HRI No. 035907
California Historical Landmarks (CHL; 1995 & supplements to 2014)	Positive: one listing, the Serrano Adobe, CHL 199

Source	Results
California Points of Historical Interest (CPHI; 1992 to 2014)	Negative
Orange County Historical Sites	Positive: one listing, Heritage Hill Historical Park
Mills Act Property Contract Program	Negative
Historic Bridges	Positive: 55C0212, Ridge Route Drive, Union Pacific:1967
Bureau of Land Management (BLM) General Land Office Records (GLO)	Positive: See Table 6
Local Historical Society, Saddleback Valley Historical Society (SVHS)	Positive: 3572 Prothero, Lake Forest. "Prothero House": 1920 23512 El Toro Rd, Lake Forest, CA 92630, Big Shots Pool Hall and El Toro Meat Market, original location of the El Toro General Store (1890s) (Figure 9).

Table 6. BLM General Land Office records.

USGS 7.5 Topographic Quad(s)	Township	Range	Section(s)	Year, Name	
El Toro	5S	7W	29,	1866, Southern Pacific Railroad; 1871, Jose Serrano; 1878, Samuel Shrewsbury	
			30, 31,	1871, Jose Serrano;	
			32	18591, Joaquin Serrano	
	6S	7W	8W	36	1871, Jose Serrano
			8W	07, 08, 18	1866, Juan Forster
		01		1871, Jose Serrano; 1868 Theodocio Yorba	
		13, 23, 24		1866, Juan Forster; 1871, Jose Serrano	
		22		1867 Jose Sepulveda; 1871 Jose Serrano	
				01, 02, 10, 11, 12, 14, 15, 16, 21	1871, Jose Serrano
El Toro and San Juan Capistrano	6W	8W	26	1866 Juan Forster; 1871, Jose Serrano; 1875 & 1666, George Y. Barry; 1892 Charles M. Salter	
			27	1871, Jose Serrano	
			28	1871, Jose Serrano; 1877, 1882, State of California;	
San Juan Capistrano	6W	8W	34	1871, Jose Serrano; 1883 Hiram H. & Cyrus Rawson, J.E. Bacon	
			35	1871 Jose Serrano	

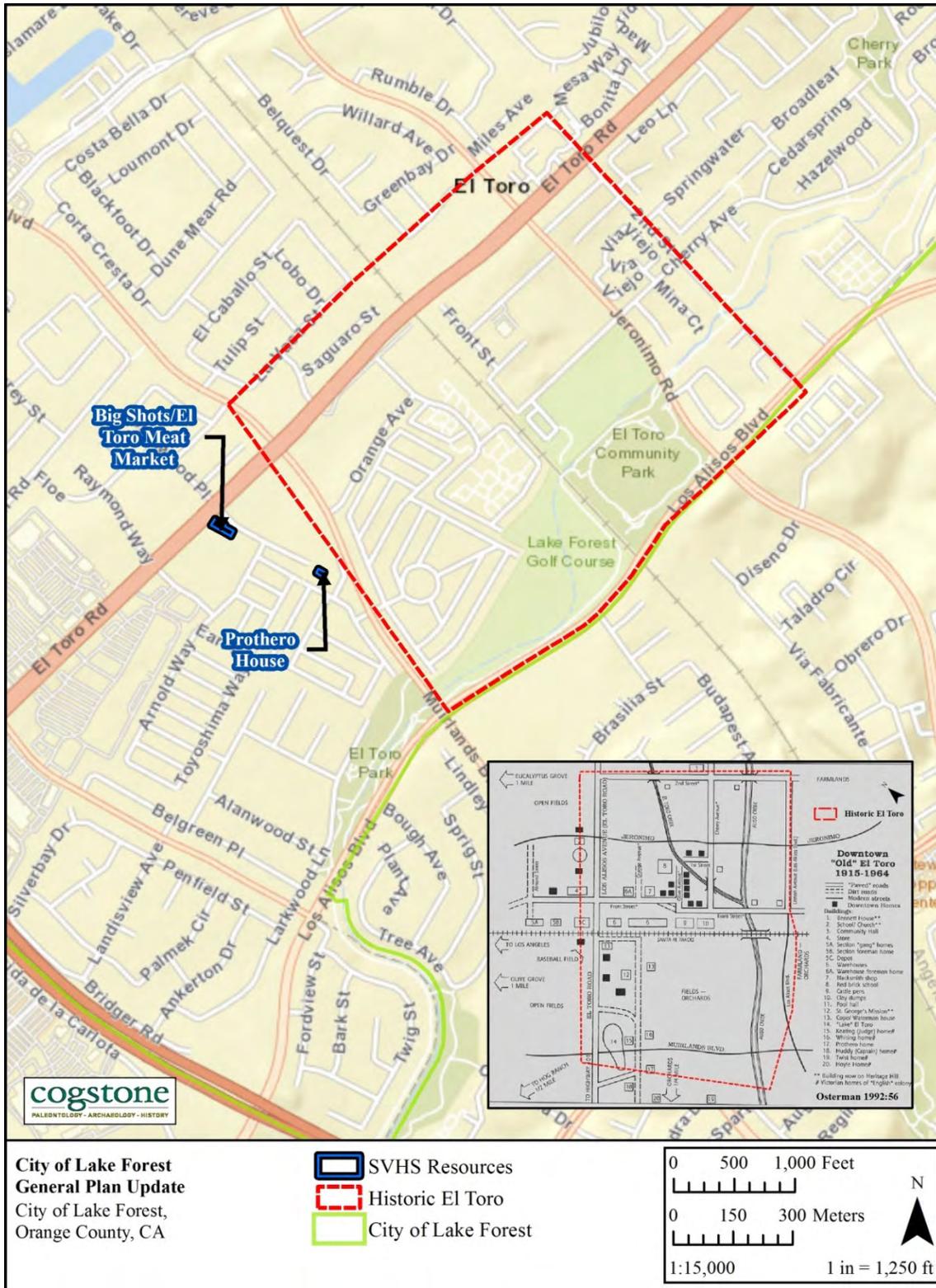


Figure 9. Historic core of "Old El Toro" showing SVHS proposed resources.

NATIVE AMERICAN CONSULTATION

A Sacred Lands File (SLF) search was requested from the Native American Heritage Commission (NAHC) on March 23, 2018, the NAHC replied the same day and indicated that a search of the SFL was completed with positive results in the Santiago Peak USGS Quadrangle and that the Juaneño Band of Mission Indians should be contacted for more information about the site (Appendix F).

The City of Lake Forest conducted Native American consultations under Senate Bill 18 (Chapter 905, Statutes of 2004), also known as SB18, which requires local governments to consult with Tribes prior to making certain planning decisions and requires consultation and notice for a general and specific plan adoption or amendments in order to preserve, or mitigate impacts to, cultural places that may be affected. In addition to SB18 consultation, the City conducted tribal consultations under the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21080.3.1 subdivisions (b), (d) and (e)), also known as AB 52, which requires consulting for projects within the City of Lake Forest's jurisdiction and within the traditional territory of the Tribal Organizations who have previously requested AB52 consultations with the City. Three Tribal Organizations were contacted under AB52 and 13 were contacted under SB18.

The City of Lake Forest sent letters to all 15 Tribal Organizations on June 4, 2018 via certified mail. Follow up emails were sent on June 26, 2018, and follow up phone calls were made on July 18, 2018; however, additional contact attempts were made to the Juaneño Band of Mission Indians Acjachemen Nation. To date, four responses have been received and are summarized below, a log of all tribal consultations and related documents are located in Appendix F.

- On August 31, 2018 Ms. Joyce Perry of the Juaneño Band of Mission Indians Acjachemen Nation, via phone conversation, requested that the City of Lake Forest notify the Tribe regarding any development projects located within the City limits. She informed that the Santa Ana foothills and area around the Aliso Creek watershed are extremely sensitive for tribal cultural resources including ancestor remains.
- On August 31, 2018, Mr. Marcos Guerrero indicated that he believed the UAIC was placed on the City of Forest /Orange County list by accident.
- On June 12, 2018 Mr. Ray Teran indicated that Viejas Tribe has determined that the project has little cultural significance to the Viejas Tribe. He recommended that local Tribes be consulted.
- On July 18, 2018 the receptionist of the Jamul Indian Village indicated that the City of Lake Forest is off their reservation and outside of their traditional tribal territory and defers to local Tribes.

IMPACT ANALYSIS AND MITIGATION

The potential impacts to paleontological and cultural resources within the City of Lake Forest are discussed below. Because the General Plan Update for the City of Lake Forest does not directly address specific future projects, these impacts are described generically.

PALEONTOLOGICAL SENSITIVITY

A multilevel ranking system was developed by professional resource managers within the Bureau of Land Management (BLM) as a practical tool to assess the sensitivity of sediments for fossils. The Potential Fossil Yield Classification (PFYC) system (BLM 2008; Appendix E) has a multi-level scale based on demonstrated yield of fossils. The PFYC system provides additional guidance regarding assessment and management for different fossil yield rankings.

Fossil resources occur in geologic units (e.g., formations or members). The probability for finding significant fossils in a project area can be broadly predicted from previous records of fossils recovered from the geologic units present in and/or adjacent to the study area. The geological setting and the number of known fossil localities help determine the paleontological sensitivity according to PFYC criteria.

Sediments that are close to their basement rock source are typically coarse; those farther from the basement rock source are finer. The chance of fossils being preserved greatly increases once the average size of the sediment particles is reduced to 5 mm in diameter or less. Moreover, fossil preservation also greatly increases after natural burial in rivers, lakes, or oceans. Remains left on the ground surface become weathered by the sun or consumed by scavengers and bacterial activity, usually within 20 years or less. So the sands, silts, and clays of rivers, lakes, and oceans are the most likely sediments to contain fossils.

Using the PFYC system, geologic units are classified according to the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts within the known extent of the geological unit. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher PFYC value; instead, the relative abundance of localities is intended to be the major determinant for the value assignment.

No formations are assigned a very high sensitivity (PFYC 5; Figures 10a and 10b). The late Eocene to early Miocene Vaqueros, Vaqueros-Sespe, and Sespe formations; the late Miocene

Monterey Formation; the late Miocene La Vida Member of the Puente Formation; and the late Miocene to early Pliocene Capistrano Formation are assigned a high sensitivity (PFYC 4).

Formations assigned a moderate but patchy sensitivity (PFYC 3a) include the Paleocene Santiago Formation, the middle Miocene Topanga Group, the Pliocene Niguel Formation, the early to middle Pleistocene very old axial-channel deposits, and the Pleistocene sections of the young axial-channel deposits. No formations are assigned a potential but not determined sensitivity (PFYC 3b).

Formations assigned a low sensitivity (PFYC 2) include the Paleocene Silverado Formation, the late Miocene Puente Formation (exclusive of the La Vida Member), Pleistocene and Holocene alluvial fan and landslide deposits, and all Holocene deposits exclusive of the modern artificial fill. Only the modern artificial fill is assigned a very low sensitivity (PFYC 1) (Table 7).

Table 7. Paleontological Sensitivity Rankings.

Age	Formation	Member	# of localities	Group										PFYC						
				terrestrial mammals	marine mammals	birds	reptiles	amphibians	bony fish	sharks and rats	invertebrates	land plants	algae	1: none	2: low	3b: potential but not determined	3a: moderate but patchy	4: high	5: very high	
modern	artificial fill (Qaf)		0												X					
late Holocene	very young colluvial deposits (Qc)		0													X				
	very young landslide deposits (Qls, Qls?)		0													X				
	very young slope wash deposits (Qsw)		0													X				
Pleistocene	unlisted		29	X		X	X	X											X	
late Pleistocene to Holocene	young axial-channel deposits (Qya)		*																X	
	young alluvial-fan deposits (Qyf)		*													X				
	young landslide deposits (Qyls)		*													X				
early to middle Pleistocene	very old axial-channel deposits (Qvoa, Qvoa ₂ , Qvoa ₃)		*																X	
	very old alluvial-fan deposits (Qvof)		*													X				
Pliocene	Niguel Formation (Tn)		4	X	X				X										X	
late Miocene to early Pliocene	Capistrano Formation	Oso Sand (Tco)	33	X	X	X	X		X	X	X	X	X							X
		Siltstone Member (Tcs)	*																	X
		undifferentiated (Tc)	30	X	X	X	X		X	X	X									X
late Miocene	Puente Formation	La Vida Member (Tplv)	32		X				X	X	X	X	X						X	
		Soquel Member (Tpsq)	1						X						X					
		undifferentiated (Tp)	2						X						X					
	Monterey Formation (Tm)		31		X	X	X		X	X	X	X	X						X	
middle Miocene	Topanga Group (Tt)		37	X	X	X			X	X	X							X		
latest Oligocene to latest early Miocene	Vaqueros Formation (Tv)		24		X	X	X		X	X	X							X		
	Vaqueros-Sespe Formation (Tvs)		122	X			X											X		

Age	Formation	Member	# of localities	Group										PFYC					
				terrestrial mammals	marine mammals	birds	reptiles	amphibians	bony fish	sharks and rats	invertebrates	land plants	algae	1: none	2: low	3b: potential but not determined	3a: moderate but patchy	4: high	5: very high
late Eocene to latest early Miocene	Sespe Formation (Ts)		17	X			X											X	
Paleocene	Santiago (Tsa)		15				X				X	X					X		
	Silverado	Serrano Clay bed (Tsis)	*								*	*			X				
		basal conglomerate (Tsicg)	*								*	*			X				
		undifferentiated (Tsi)	16								X	X			X				

* indicates that the number of fossils from the unit is unknown as paleontology collections may not list the unit in some cases

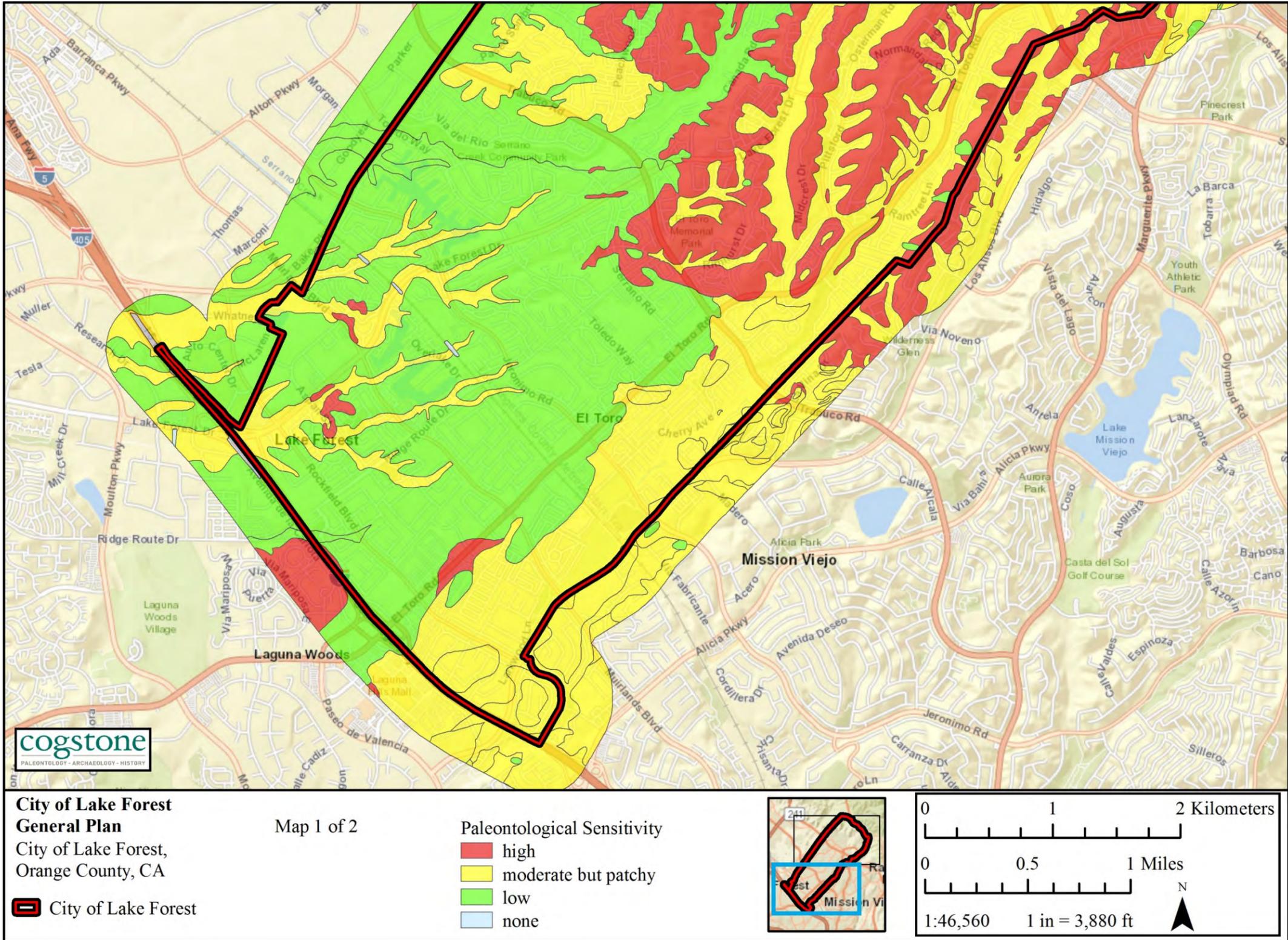


Figure 10a. Paleontological Sensitivity of the City, southwestern half.

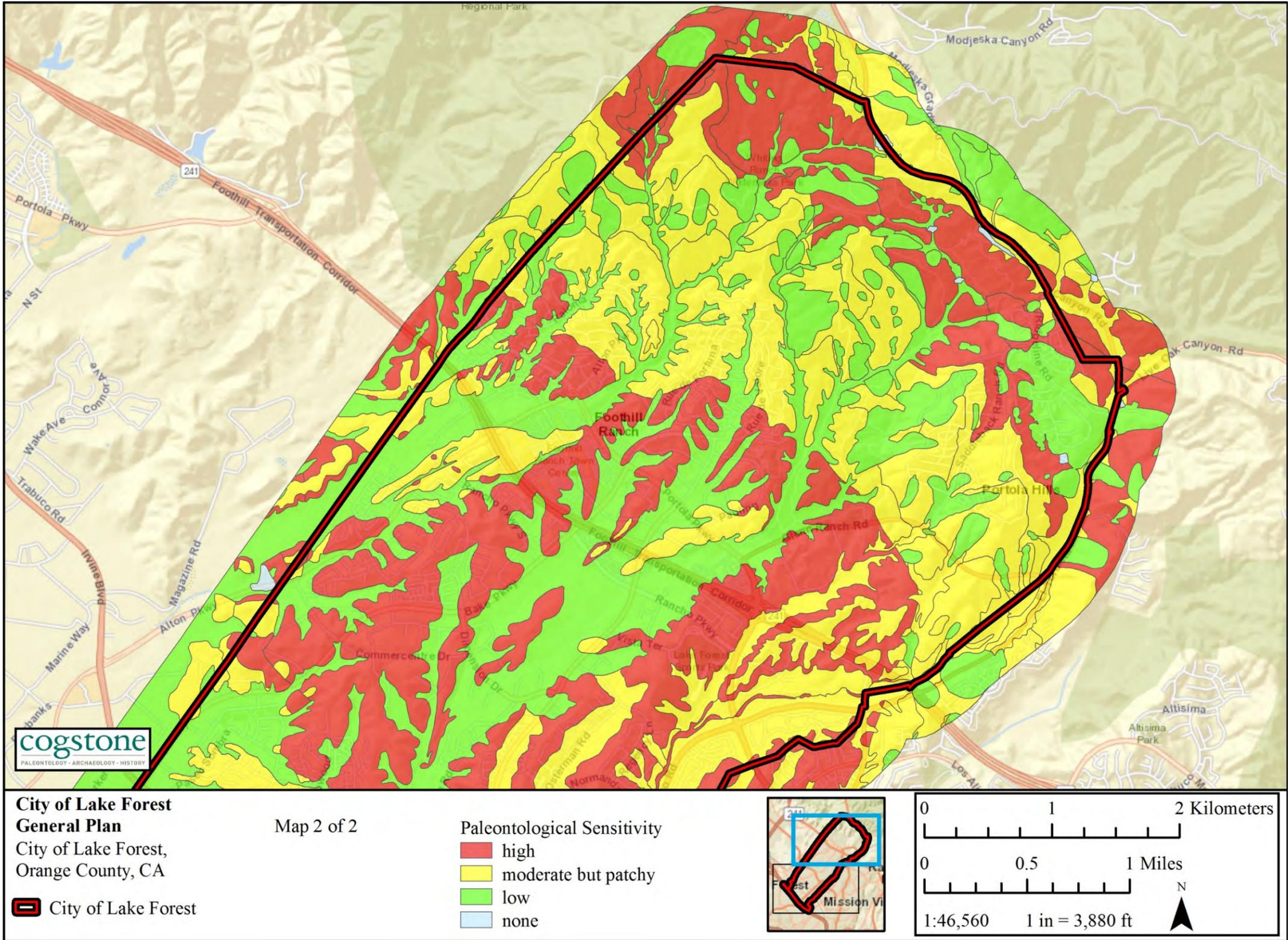


Figure 10b. Paleontological Sensitivity of the City, northeastern half.
Cogstone

DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.
6. All identifiable vertebrate fossils are considered significant due to the rarity of their preservation.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and invertebrate animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003, Scott et al. 2004).

CULTURAL SENSITIVITY

The City of Lake Forest currently has 93 previously recorded archaeological sites and six built historic resources within the City boundaries (refer to Table 4). Additionally, the historic core of “Old El Toro” bounded by Los Alisos Boulevard to the west, Second Street to the north, El Toro Road to the east, and Muirlands Boulevard to the south has the potential to be sensitive for subsurface historic archaeological deposits. The area immediately surrounding the Aliso Creek Watershed as well as undeveloped ridge and knoll tops have the potential for subsurface prehistoric archaeological deposits.

ADVERSE CHANGES TO HISTORICAL BUILT ENVIRONMENT RESOURCES

Very few built historic structures remain within the City of Lake Forest. It is recommended that

the City of Lake Forest create and implement policies to identify, protect, and minimize adverse impacts to its remaining historical structures and features. The potential exists for significant impacts to these resources to occur as a result of development projects proposed or permitted by the City. It is recommended that the City survey, identify, inventory, and document their remaining historic resources.

ADVERSE CHANGES TO ARCHAEOLOGICAL RESOURCES

Based on what is known abundant potentially significant archeological resources are known to exist within the boundaries of the City of Lake Forest. Future projects may require ground disturbance (e.g., earthmoving activities) which may cause the destruction of significant archaeological resources, or previously unknown buried archaeological resources as defined in the CEQA Guidelines, Section 15064.5(b). As stated, a project with an effect that may cause a substantial adverse change in the significance of an archaeological resource is a project that may have a significant effect on the environment. Effects on an archaeological resource deemed to be significant could be considered adverse if they involve physical demolition, destruction, or alteration of the resource or its immediate surroundings such that the significance of a resource would be materially impaired. Thus, significant prehistoric and historical archaeological resources must be considered in the City's planning and development process, and any proposed City project that may affect significant archaeological cultural resources must be submitted to the State Historic Preservation Officer (SHPO) for review and comment prior to project approval by the City and prior to construction.

POTENTIAL TO DISTURB NATIVE AMERICAN HUMAN REMAINS

Although Native American human remains are normally associated with former residential village locations, isolated burials and cremations have been found in many other locations. Future projects may disturb or destroy buried Native American human remains, including those interred outside of formal cemeteries. Consistent with state laws protecting these remains (that is, Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98), sites containing Native American human remains must be treated in a sensitive manner.

PROPOSED MITIGATION MEASURES

MM PAL-1. City staff shall require applicants for future proposed projects with planned impacts in undisturbed sediments ranked PFYC 3 or above to provide a technical paleontological assessment consisting of a record search, survey, background context and project specific recommendations performed by a qualified paleontologist (with a graduate degree and a specialization in vertebrate paleontology). If resources are known or reasonably anticipated the recommendations shall provide a detailed mitigation plan which shall require monitoring during grading and other earthmoving activities in undisturbed sediments, provides a fossil recovery protocol that includes data to be collected, requires professional identification, radiocarbon dates

and other special studies as appropriate, requires curation at local curation facility such as such as the John D. Cooper Center operated by the County of Orange for fossils meeting significance criteria, requires a comprehensive final mitigation compliance report including a catalog of fossil specimens with museum numbers and an appendix containing a letter from the museum stating that they are in possession of the fossils.

MM CUL-1. City staff shall require applicants for future proposed projects with intact extant building(s) more than 45 years old to provide a historic resource technical study evaluating the significance and data potential of the resource. If significance criteria are met, detailed mitigation recommendations are required as part of the technical study. All work will be performed by a qualified architectural historian meeting Secretary of the Interior Standards.

MM CUL-2. City staff shall require applicants for future proposed ground disturbing projects to provide a technical cultural resources assessment consisting of a record search, survey, background context and project specific recommendations performed by a qualified archaeologist meeting Secretary of the Interior Standards and certified by the County of Orange. If resources are known or reasonably anticipated the recommendations shall provide a detailed mitigation plan which shall require monitoring during grading and other earthmoving activities in undisturbed sediments, provide a treatment plan for potential resources that includes data to be collected, requires professional identification, other special studies as appropriate, requires curation at an accredited museum such as the John D. Cooper Center operated by the County of Orange for artifacts meeting significance criteria, requires a comprehensive final mitigation compliance report including a catalog of specimens with museum numbers and an appendix containing a letter from the museum stating that they are in possession of the materials.

MM CUL-3. Unanticipated discoveries of human remains shall require immediate cessation of ground disturbance and notification to City staff and shall follow state law as stated in Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98.

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Sutton, M.

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APPENDIX A. QUALIFICATIONS



DESIREÉ RENEÉ MARTINEZ
Principal Archaeologist

EDUCATION

1999 M.A., Anthropology (Archaeology), Harvard University, Cambridge
1995 B.A., Anthropology, University of Pennsylvania, Philadelphia

SUMMARY QUALIFICATIONS

Ms. Martinez is a qualified archaeologist with 21 years of experience in archaeological fieldwork, research, and curation. She has expertise in the planning, implementation, and completion of all phases of archaeological work and has participated in archaeological investigations as a crew member, tribal monitor, and principal researcher. She meets national standards in archaeology set by the Secretary of Interior's *Standards and Guidelines for Archaeology and Historic Preservation* and the standards outlined in Attachment 1 to Caltrans Section 106 Programmatic Agreement with the FHWA. Her experience also includes compliance with CEQA, NEPA, NAGPRA, SB 18 and other cultural resource laws. In addition, Ms. Martinez has vast experience in lab analysis and museum collections management. Ms. Martinez also has extensive experience consulting with Native American leaders and community members in a variety of contexts.

SELECTED PROJECTS

I-10 Grove Avenue Interchange and Grove Avenue Corridor Improvements, Caltrans District 8, Ontario, San Bernardino County, CA. Managed literature and Sacred Lands searches, Native American consultation, pedestrian survey for the 22.6 acre APE and preparation of an Archaeological Survey Report (ASR) and Paleontological Identification Report (PIR) on behalf of the City. CEQA and NHPA Section 106 compliance. 2015-2017

SR 138 Crowder Canyon Realignment Data Recovery, Caltrans District 8, Hesperia, San Bernardino County, CA. Project Manager. The project involves realignment of a ~2-mile segment of SR 138 including construction of three bridges, one lane in each direction, drainage construction and demolition of the existing segment. Cogstone participated in data recovery at two archaeological sites. All work was performed in compliance with the Caltrans SER and NEPA, CEQA, and Section 106 of NHPA. Tasks included Native American coordination, manual and mechanical excavation, backfilling, and controlled destruction. 2016-2017

Longboat Solar Photovoltaic, EDF Renewable Energy, Barstow and Lenwood, San Bernardino County, CA. Project Manager/Principal Investigator. The project was construction of a new solar facility. Managed the cultural resources assessment including Phase I and Extended Phase I studies to support MND for this ~235-acre site. Managed archaeological monitoring, Native American coordination, Phase II testing, and was co-author of the treatment plan and compliance report. 2015-2017.

Fisher House and Golf Course, Veterans Affairs Long Beach Healthcare System, Long Beach, Los Angeles County, CA. Principal Investigator. The project was preconstruction testing and monitoring for two new constructions projects. In compliance with the Historic Property Treatment Plan preconstruction work included ground penetrating radar and magnetometry, truck mounted auger testing and mechanical excavation units. One historic refuse area was defined and recorded. Monitoring recovered additional cultural materials. Co-author of compliance reports. 2015-2017.

High Desert Corridor/ SR-138 Widening Project, Caltrans District 7 On-Call (07A3145)/LA Metro, Los Angeles and San Bernardino Counties, CA. Co-Principal Investigator. This project proposed by Caltrans and Metro involves construction of a new, approximately 63-mile long, east-west freeway/expressway and rail line between SR-14 in Los Angeles County and SR-18 in San Bernardino County. Phase II/III testing and data recovery at the three sites that will be directly impacted by the project. Analyzed lithic material. Compliance with Section 106 of the NHPA and CEQA are required. 2015.



SHERRI GUST
Task Manager/Author

EDUCATION

1994 M. S., Anatomy (Evolutionary Morphology), University of Southern California, Los Angeles
1979 B. S., Anthropology (Physical), University of California, Davis

SUMMARY QUALIFICATIONS

Ms. Gust is an Orange County Certified Professional Paleontologist and Archaeologist and a Registered Professional Archaeologist with more than 34 years of experience in cultural resources management. She is accepted as a principal investigator for both prehistoric and historical archaeology by the State Office of Historic Preservation's Information Centers and exceeds the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation*. She has managed more than 650 projects at Cogstone and has a reputation for professional work, regulatory compliance and client satisfaction. She has conducted technical studies and prepared cultural resources chapters for CEQA/EIR compliance documents for project-level and program-level Specific Plans, General Plans, Master Plans, and Zoning Amendments for mixed-use, residential, commercial and industrial developments. She has expertise in research, survey, assessment of impacts/effects, significance criteria and determinations, management plans, mitigation implementation, and bone identification and analysis.

SELECTED PROJECTS

Historic Town Center Master Plan Update EIR, San Juan Capistrano, CA. Conducted a survey and assessment to determine the potential effects on cultural resources of potential changes to the Historic Town Center Master Plan area in support of a project-level EIR. Supervised archaeological and paleontological record searches, research, and survey plus Native American consultation for the 31-acre town center. Evaluated resources, including updated site records and impact assessment. Sub to the Templeton Planning Group. Principal Archaeologist. 2011

Los Angeles International Airport (LAX) Northside Plan Update, Los Angeles, CA. Conducted a paleontological study to determine the potential project-related effects on paleontological resources by proposed construction activities. The project consists of updating regulations for future development of facilities for employment, retail, restaurant, office, hotel, research and development, education, civic, airport support, recreation, and buffer uses within the Northside area of the LAX Specific Plan. The work was performed on behalf of Los Angeles World Airports under subcontract to URS Corporation. Principal Paleontologist. 2012

Chino Hills General Plan EIR, San Bernardino County, CA. Performed archaeological and paleontological record searches, Native American consultation, and prepared assessment report for the City of Chino Hills under subcontract to Comprehensive Planning. This study was conducted to provide available information on paleontological and cultural resources to support an update of the General Plan program-level environmental documents. The City consists of 28,723 acres. The work was performed on behalf of the City of Chino Hills under subcontract to Comprehensive Planning Services. Principal Archaeologist. 2010

Yucca Valley General Plan Update EIR, Town of Yucca Valley, San Bernardino, CA. Conducted a paleontological and cultural resources assessment of the Town's 25,470 acres with programmatic mitigation measures in support of the General Plan Update Environmental Documents on behalf of the Town of Yucca Valley under subcontract to The Planning Center. The project involved record searches, sacred lands search, Native American consultation, and a final report. Principal Archaeologist and Paleontologist. 2012



KIM SCOTT

Principal Investigator for Paleontology

EDUCATION

2013 M.S., Biology with a paleontology emphasis, California State University, San Bernardino
2000 B.S., Geology with paleontology emphasis, University of California, Los Angeles

SUMMARY QUALIFICATIONS

Scott has more than 20 years of experience in California paleontology. She is a qualified geologist and field paleontologist with extensive survey, monitoring and fossil salvage experience. In addition, she has special skills in fossil preparation (cleaning and stabilization) and preparation of stratigraphic sections and other documentation for fossil localities. Scott serves as company safety officer and is the author of the company safety and paleontology manuals.

SELECTED PROJECTS

Purple Line Extension (Westside Subway), Metro/FTA, Los Angeles. The project involves extension of the subway from Wilshire/Western to the VA Facility in Westwood for 9 miles. Cogstone prepared the supplemental Archaeology and Architectural History Reports and the cultural and paleontological sections of the FEIS/FEIR. Cogstone subsequently prepared the cultural and paleontological mitigation and monitoring plans for the entire project. Currently providing monitoring and all other cultural and paleontological services for Section One of the project. Paleontological Field and Lab Director, Report Co-author. 2011-present

Barren Ridge Transmission Line, Los Angeles Department of Water and Power (LADWP), Saugus to Mojave, Los Angeles and Kern Counties, CA. Over 75 miles of LADWP electrical lines were installed Angeles National Forest, BLM and private lands. Supervised paleontological monitoring and lab work and prepared a Paleontological Monitoring Report to CEQA, BLM and PRPA standards. Sub to Aspen Environmental Group. Principal Paleontologist. 2015-2017.

Dola and Lanzit Bridges, San Bernardino County Department of Public Works, CA. Reviewed previous studies: paleontological assessment, paleontological mitigation measures, and geotechnical report. Conducted a field survey and prepared Paleontological Resources Management and Monitoring Plan to CEQA and county standards to more accurately reflect the project needs when compared to the mitigation measures. Subsequently provided monitoring and a compliance report. Contracted to ECORP. Principal Paleontologist. 2016-2017.

Perris Valley Line Rail Improvements, Riverside County Transportation Commission (RCTC), Riverside County, CA. RCTC added a second track and other modifications of 22 miles of the Perris Valley line from Highgrove, south through Riverside, south and east through Moreno Valley and south through to Perris to link this area to the MetroLink rail service. Performed a field survey and prepared an abbreviated Paleontological Resource Assessment to CEQA standards. Supervised all paleontological monitoring and prepared a Paleontological Monitoring Report to CEQA standards. Sub to HDR Engineering. Principal Paleontologist. 2014-2016.

Elvira to Morena Double Track, San Diego Associate of Governments (SANDAG), San Diego County, CA. SANDAG improved a 10.3 mile stretch of the line with double track and other modifications from Control Point (CP) Elvira to CP Moreno. Project development will be closely coordinated with the Mid-Coast LRT Project, California High Speed Rail (Los Angeles to San Diego) and the Rose Canyon and Coastal Rail Trail Projects. Author of a Paleontological Resources Report addressing potential impacts and mitigation measures to CEQA standards. Supervised paleontological monitoring of Rose Canyon. Sub to HDR Engineering. Co-Principal Paleontologist/Report Co-author. 2012-2015.



MEGAN PATRICIA WILSON, RPA
Archaeologist

EDUCATION

- 2014 M.A. Anthropology, California State University, Fullerton *cum laude*
- 2013 GIS Certificate, California State University, Fullerton
- 2006 B.A., Anthropology, University of California, Los Angeles *cum laude*

SUMMARY QUALIFICATIONS

Ms. Wilson is a Registered Professional Archaeologist (RPA) and cross-trained paleontologist. Ms. Wilson regularly conducts records searches, tribal consultations, completes DPR site records, and gathers historic building information from local municipalities, and assists in drafting archaeological assessment reports for state, federal, and private development projects. She meets the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation*. Further, she is certified in Geographic Information Systems (GIS) and specializes in ESRI's ArcGIS software. Ms. Wilson is responsible for supervising GIS data collection and management, geospatial analysis, and the production of GIS maps and databases for large and small-scale projects. Ms. Wilson has seven years of experience in southern California archaeology.

SELECTED PROJECTS

Park Place Extension and Grade Separation EIR EA, Caltrans District 7, El Segundo, Los Angeles County,

CA. Conducted a pedestrian survey to record and evaluate cultural resources within the archaeological and architectural APEs for a ~0.5-mile project along NBSF and UPRR rail lines and spur tracks on behalf of the City of El Segundo for HPSR/ASR/HRER and paleontological reports. Seven built-environment resources were identified, evaluated, and DPR 523 forms were prepared. Archaeologist. 2017

Whittier Boulevard / I-605 Arterial Hot Spot Improvements, Environmental Clearance and Preliminary Engineering for Three Intersection Improvements, Whittier, Los Angeles County, CA.

Conducted an intensive-level cultural resources survey to support cultural and paleontological resources technical studies for improvements proposed for three intersections in a disturbed urban environment. Drafted APE maps, records search, Sacred Lands search, and NAHC consultation for intersections at Colima Road, Santa Fe Springs Road and Painter Avenue. Archaeologist. 2016

Hidden Oaks Country Club Specific Plan and TT 18869, Chino Hills, San Bernardino County, CA.

Prepared report maps, conducted cultural and paleontological resources assessments and assisted the City with SB 18 compliance. Services included records search, drafting project maps, Sacred Lands search, NAHC consultation, field survey, and mitigation recommendations. Cogstone responded to the cultural section of the project EIR comment for this proposed 537-acre residential. Archaeologist. 2015-2016

On-Call Cultural Resources Services, Sanitation Districts of Los Angeles County, CA.

Prepared APE maps, conducted record searches, NAHC consultation, field surveys, and prepared DPR forms to support upgrades and improvements to pipelines at Mesquite Landfill, Clearwater, and Santa Clarita facilities. Archaeologist. 2015-2016

Accelerated Charter Elementary School, Los Angeles Unified School District, Los Angeles, Los Angeles County, CA.

The project involves documentation of five historic-age buildings prior to demolition, background research, mitigation monitoring plans, archaeological and paleontological monitoring and preparation of a monitoring compliance report. LAUSD is constructing a new facility on a 2.3-acre site in South Central Los Angeles consisting of classrooms, open areas and parking. Drafted project related maps, conducted background research and contributed to preparation of DPR forms. Archaeologist. 2015

Sweany Pipeline, Phase II, Laguna Beach County Water District, Orange County, CA.

Completed a cultural resources assessment; conducted archaeological/paleontological records search, NAHC consultation, and drafted project maps for inclusion in a CEQA environmental document. Archaeologist. 201

APPENDIX B. PALEONTOLOGICAL RECORDS SEARCH RESULTS

City of Lake Forest Paleontological and Cultural Assessment Report



Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007
tel 213.763.DINO
www.nhm.org

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smeleod@nhm.org

5 April 2018

Cogstone Resource Management, Inc.
1518 West Taft Avenue
Orange, CA 92865-4157

Attn: Megan Wilson, Archaeologist & GIS Technician

re: Vertebrate Paleontology Records Check for paleontological resources for the proposed City of Lake Forest General Plan Update Project, Cogstone Project # 4050, in the City of Lake Forest, Orange County, project area

Dear Megan:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed City of Lake Forest General Plan Update Project, Cogstone Project # 4050, in the City of Lake Forest, Orange County, project area as outlined on the portions of the El Toro, San Juan Capistrano, and Santiago Peak USGS topographic quadrangle maps that you sent to me via e-mail on 22 March 2018. We have several vertebrate fossil localities that lie directly within the proposed project area boundaries, and we have other localities nearby from the same sedimentary deposits that occur within the proposed project area.

Surface deposits in the lower lying terrain in much of the southwestern portions of the proposed project area consist of younger Quaternary Alluvium, derived as alluvial fan deposits from the hills of the Santa Ana Mountains to the northeast and east via Borrego Canyon Wash in the north, Serrano Creek in the central portion, and Aliso Creek in the south. These deposits typically do not contain significant vertebrate fossils in the very uppermost layers, but at relatively shallow depth they may be underlain with older sedimentary deposits that do contain significant vertebrate fossils. In the slightly elevated terrain in most of the southwestern portion of the proposed project area older Quaternary terrace deposits occur at the surface, and similar deposits may underlie the younger Quaternary deposits exposed in adjacent portions of the proposed project area.

Inspiring wonder, discovery and responsibility for our natural and cultural worlds.

Geological mapping indicates that in the hills east of the Borrego Canyon Wash near the northwestern border of the proposed project area there are relatively small exposures of the marine middle to late Miocene Monterey Formation and even smaller exposures of the marine Pliocene Niguel Formation. The elevated terrain in most of the central portion of the proposed project area though has exposures of the Oso Sand Member of the marine late Miocene Capistrano Formation.

The northeastern portion of the proposed project area has exposures of a succession of older rock units. Proceeding northeastward from younger to older these are the Soquel Member followed by the La Vida Member of the marine late Miocene Puente Formation, the marine middle Miocene Topanga Formation, the marine late Oligocene to early Miocene Vaqueros Formation that interfingers with the terrestrial late Oligocene to early Miocene Sespe Formation, and the marine Eocene Santiago Formation. From geologic mapping it appears that exposures of the marine Paleocene Silverado Formation occur adjacent to but not within the proposed project area.

Our closest fossil locality in older Quaternary sediments is LACM 65129, just southeast of the southeastern-most portion of the project area in what is now Costeau Park. Locality LACM 65129 produced an extensive fauna of predominately terrestrial vertebrates (see faunal list in the appendix). W. E. Miller (1971. Pleistocene vertebrates of the Los Angeles basin and vicinity (exclusive of Rancho La Brea). Science Bulletin, Natural History Museum of Los Angeles County, 10:1-124) described this site as Costeau Pit and figured or published on most of the taxa known at that time.

We have one Niguel Formation locality, LACM 7058, that occurs either within or adjacent to the southeastern-most point of the proposed project area in Aliso Creek immediately north of the San Diego Freeway (I-5). Locality LACM 7058 contained fossil specimens of six-gilled shark, *Hexanchus*, and bony fish, Osteichthyes. Our closest locality that includes fossils from both the terrestrial Quaternary Terrace deposits and the marine Pliocene Niguel Formation is LACM 7131, almost due east of the southeastern-most point of the proposed project area east of the San Diego Freeway (I-5) and north of La Paz Road in Mission Viejo, that produced fossil specimens of camel, Camelidae, and sea lion, Otariidae. Other nearby Niguel Formation localities just southeast of the proposed project area include LACM 65187, north of La Paz Road west of the San Diego Freeway (I-5), that produced fossil specimens of giant white shark, *Carcharocles megalodon*, and whale, Cetacea; LACM 5551, south along La Paz Road west of the San Diego Freeway (I-5), that produced fossil specimens of sea cow, Dugongidae, early baleen whale, *Herpetocetus*, and sea lion, Otariidae; and LACM 3804, immediately south of Oso Parkway approximately one half mile west of the San Diego Freeway (I-5), that contained specimens of the fossil white shark, *Carcharodon sulcidens*.

We have a number of localities from the Capistrano Formation that occur within the boundaries of the central portion of the proposed project area: LACM 3199, 3218, 3221, 3410-3411, 3491, 4177, 4666-4668, 5500, 7370-7372, and 7546-7547. These Capistrano Formation localities have produced a suite of predominately marine vertebrates and a few terrestrial vertebrates including giant white shark, *Carcharocles megalodon*, bonito sharks, *Isurus hastalis*

and *Isurus oxyrinchus*, salmon shark *Lamna*, eagle ray, *Myliobatis*, sturgeon, *Acipenser*, parrotfishm Scaridae, halibut, *Paralichthys*, sabretoothed salmon, *Oncorhynchus rastrosus*, crocodile, Crocodylidae, leatherback turtle, *Psephophorus*, tortoise, *Geochelone*, puffin, Mancallinae, otter, *Satherium*, false walrus, *Gomphotaria pugnax*, sea lion, *Imagotaria*, dugong, Dugongidae, horse, *Pliohippus*, rhinoceros, Rhinocerotidae, right whale, Balaenidae, orqual whale, Balaenopteridae, primitive baleen whale, *Herpetocetus*, sperm whale, Physeteridae, and camel, Camelidae. Specimens of the sturgeon, *Acipenser*, from locality LACM 3221 were published in the scientific literature by F. J. Hilton and L. Grande (2006. Review of the fossil record of sturgeons, family Acipenseridae (Actinopterygii: Acipenseriformes), from North America. *Journal of Paleontology*, 80(4):672-683). A specimen of the false walrus, *Gomphotaria pugnax*, from locality LACM 4177 was published in the scientific literature by J. Velez-Juarbe in 2017 (*Eotaria citrica*, *sp. nov.*, a new stem otariid from the "Topanga" formation of Southern California. *PeerJ*, 5(3022):1-25).

We have a great many vertebrate fossil localities in southern California from the Puente Formation but only one, LACM 6287, from Orange County. Locality LACM 6287, situated north of the western portion of the proposed project area southeast of Santiago Reservoir along Santiago Canyon Road in Limestone Canyon, produced fossil specimens of tonguefish, *Symphurus*.

We have a number of Monterey Formation localities that occur in the southwestern portion of the proposed project area: 3198, 3486, 3209-3210, 3412-3413, and 4103-4114. These localities produced a suite of fossil marine vertebrates including hammerhead shark, *Sphyrna*, giant white shark, *Carcharocles megalodon*, bonito sharks, *Isurus benedeni* and *Isurus oxyrinchus*, bramble shark, *Paraechinorhinus barnesi*, eel, Anguilliformes, jack, Carangidae, bonito, *Sarda*, barracuda, *Sphyrna*, crocodile, *Crocodylus*, bird, Aves, sea lion, Otariidae, dugong, *Dioplotherium allisoni*, baleen whale, Mysticeti, and dolphin, Kentriodontidae. A specimen of the dugongid sirenian *Dioplotherium allisoni* from locality LACM 3210 was figured in the scientific literature by D. P. Domning in 1978 (*Sirenian Evolution in the North Pacific Ocean*. University of California Publications in Geological Sciences, 118:1-176). Specimens of the fossil crocodile *Crocodylus* from localities LACM 3209 and 3210 were published in the scientific literature by C. A. Brochu in 1999 (*Phylogenetics, Taxonomy, and Historical Biogeography of Alligatoroidea*. *Journal of Vertebrate Paleontology*, 19(2):9-100). F. H. Pfeil designated the holotype (name bearing specimen for a species new to science) of the echinorhinid shark *Paraechinorhinus barnesi* from locality LACM 3198 (1983. *Zahnmorphologische Untersuchungen an rezenten und fossilen Haien der Ordnungen Chlamydoselachiformes und Echinorhiniformes*. *Palaeoichthyologica*. 1:1-315).

Our closest vertebrate fossil locality from the Topanga Formation is LACM 5511, just outside the eastern-most border of the proposed project area near Cook's Corner, that produced a specimen of the fossil dugong *Metaxytherium arctodites* figured in the scientific literature by F. J. Arranda-Manteca in 1994 (*A New Middle Miocene Sirenian of the Genus Metaxytherium from Baja California and California: Relationships and Paleobiogeographic Implications*. *Proceedings of the San Diego Society of Natural History*, 29:191-204). Further south of LACM 5511 we have the Topanga Formation locality LACM 7200, that produced a fossil specimen of the peculiar and extinct four-legged marine mammal, *Desmostylus*.

We have several vertebrate fossil localities from the Topanga Formation around the Oso Dam just east of the central portion of the proposed project area including LACM 4464, 4545-4552, 4556-4558, 4961, and 5494-5496. These localities produced a suites of marine vertebrates including smoothhound shark, *Mustelus*, horn shark, *Heterodontus*, bonito shark, *Isurus hastalis*, eagle ray, Myliobatidae, guitarfish, *Rhinobatos*, eel, Anguilliformes, surgeonfish, *Prionurus*, leatherback turtle, Dermochelyidae, duck, Anatinae, auklet, *Alcodes ulnulus*, booby, Sulidae, albatross, *Diomedea milleri*, shearwater, *Puffinus priscus*, sea lions, *Allodesmus*, *Eotaria citrica*, *Neotherium*, and *Pelagiarcos*, four-legged marine mammal, *Desmostylus*, primitive baleen whale, Cetotheriidae, and primitive dolphin, *Lamprolithax*. Specimens of the fossil birds from these localities were figured or published in the scientific literature by H. Howard and L. G. Barnes in 1987 (Middle Miocene Marine Birds from the Foothills of the Santa Ana Mountains, Orange County, California. Contributions in Science, Natural History Museum of Los Angeles County, 383:1-9). In 2017 J. Velez-Juarbe designated the holotype of the new fossil sea lion species *Eotaria citrica* from locality LACM 4546 and also published on specimens of the fossil sea lions *Allodesmus* and *Pelagiarcos* from these localities (*Eotaria citrica*, sp. nov., a new stem otariid from the "Topanga" formation of Southern California. PeerJ, 5(3022):1-25).

Further south of the Oso Dam, but still along Oso Creek, our Topanga Formation locality LACM 5769 produced a fossil specimen of great white shark, *Carcharocles megalodon*. Southeast of the southeastern part of the proposed project area, in Mission Viejo east of Oso Creek, our Topanga Formation locality LACM 6064 produced fossil specimens of desmostylian, *Paleoparadoxia*, and sea lion, *Eotaria crypta*. The *Paleoparadoxia* specimen was published in the scientific literature by A.I. Panofsky in 1998 (Stanford *Paleoparadoxia* Fossil Skeleton Mounting. Stanford Linear Accelerator Center Publication, 7829:1-143). The *Eotaria crypta* specimen was figured in the scientific literature by J. Velez-Juarbe in 2017 (cited above).

The Sespe and Vaqueros Formations intergrade and interdigitate so that they are often difficult to distinguish and then they are typically referred to as the Sespe / Vaqueros Formations undifferentiated. We have one Sespe / Vaqueros Formation locality, LACM 5448, that occurs either within the proposed project area or adjacent to the central western border in the hills immediately east of Borrego Canyon Wash. Fossil specimens of undetermined bird, Aves, and whale, Cetacea, were recovered from locality LACM 5448.

Just north of the northern-most border of the proposed project area, between Bolero Lookout and Santiago Canyon Road, our Sespe / Vaqueros locality LACM (CIT) 449, produced a suite of both marine and terrestrial fossil vertebrates including horn shark, *Heterodontus*, requiem shark, *Carcharhinus*, tiger shark, *Galeocerdo*, bonito shark, *Isurus*, megamouth shark, Megachasmidae, eagle rays, *Myliobatis*, sea turtle, Cheloniidae, horse, *Parahippus pawnienseis*, extinct pig-like artiodactyl, *Daeodon hollandi*, camel, cf. *Michenia*, baleen whale, Mysticeti, and toothed whale, Odontoceti, published in the scientific literature by S.G. Lucas et al. (1997). Giant Entelodont (Mammalia, Artiodactyla) from the Early Miocene of Southern California. LACM Contributions in Sciences, 466:1-9).

Around Oso Dam just east of the central portion of the proposed project area we have several localities from the Sespe / Vaqueros Formations including LACM 4553-4555, 4559-4560, 5146-5147, and 5497. The terrestrial facies localities LACM 4553-4554 produced fossil specimens of

turtle, Testudinata, opossum, *Peratherium*, rabbit, *Archaeolagus*, deer mouse, *Yatkolamys*, pocket mouse, *Trogomys*, and badger, Mustelidae. The marine facies locality LACM 4559 produced fossil specimens of dusky shark, *Carcharhinus*, tiger shark, *Galeocerdo*, snaggletooth shark, *Hemipristis*, daggernose shark, *Isogomphodon*, smoothhound, *Mustelus*, horn shark, *Heterodontus*, basking shark, *Cetorhinus*, stingray, *Dasyatis*, devil ray, *Mobula*, eagle ray, *Myliobatis*, nurse shark, *Ginglymostoma*, skate, *Raja*, guitarfish, *Rhinobatos*, wedgefish, *Rhynchobatus*, sawfish, *Pristiophorus*, dogfish, *Squalus*, angel shark, *Squatina*, herring, Clupeidae, bonefish, Albulidae, beakfish, Oplegnathidae, swordfish, *Cylindracanthus*, and triggerfish, Balistidae.

All of our fossil vertebrate localities from the Santiago Formation, LACM 3881, 3883-3884, 3979, 4022, 5346-5347, 6926 and 68102, occur much to the south of the proposed project area in the northwestern part of San Diego County, clustered around Carlsbad. These localities produced a suite of vertebrate fossils including turtles, crocodiles, birds, rodents, insectivores, brontothere, and amynodont rhinoceroses. David J. Golz (1976. Eocene Artiodactyla of Southern California. Los Angeles County Museum Science Bulletin, 26:1-85) published on the LACM specimens of the protoceratid artiodactyl *Leptoreodon leptolophus* and the camels *Protylopus petersoni* and *Protylopus stocki* from our Santiago Formation locality LACM 68102.

Shallow excavations in the younger Quaternary Alluvium exposed in the lowest lying terrain and the drainages of the proposed project area are unlikely to uncover significant fossil vertebrate remains. Deeper excavations in those younger Quaternary deposits that extend down into older Quaternary deposits, however, as well as any excavations in the exposures of older Quaternary terrace deposits, the Niguel Formation, the Capistrano Formation, the Puente Formation, the Monterey Formation, the Topanga Formation, the Sespe / Vaqueros Formations undifferentiated, or the Santiago Formation, may well encounter significant vertebrate fossils. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossil materials uncovered during mitigation activities should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,



Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosures: appendix, invoice

Fauna from Emery Borrow Pit - LACM 65129

Chondrichthyes	Aves (continued)	Mammalia (continued)
Lamniformes	Columbiformes	Lagomorpha
Lamnidae - mackerel sharks	Columbidae - pigeon	Leporidae - rabbits
<i>Carcharocles</i>	Galliformes	<i>Lepus californicus</i>
<i>Carcharodon sulcidens</i>	Phasianidae - quail	<i>Sylvilagus audubonii</i>
<i>Isurus</i>	<i>Lophortyx</i>	<i>Sylvilagus bachmani</i>
Osteichthyes	Gruiformes	Perissodactyla
Perciformes	Rallidae - coot	Equidae - horse
Labridae - wrasse	<i>Fulica americana</i>	<i>Equus</i>
<i>Pimelometopon</i>	Passeriformes	Proboscidea
Amphibia	Corvidae - crow	Elephantidae - mammoth
Anura	Fringillidae - finch	<i>Mammuthus columbi</i>
Bufonidae - toad	Hirundinidae - swallow	Rodentia
<i>Bufo</i>	Icteridae - blackbirds	Cricetidae - voles & rats
Ranidae - frog	Turdidae - thrush	<i>Microtus californicus</i>
<i>Rana</i>	Strigiformes	<i>Neotoma</i>
Urodela	Strigidae - burrowing owl	<i>Ondatra</i>
Plethodontidae - salamander	<i>Speotyto</i>	<i>Peromyscus maniculatus</i>
<i>Aneides lugubris</i>	Tytonidae - barn owl	<i>Reithrodontomys humulis</i>
Reptilia	<i>Tyto alba</i>	Geomyidae - pocket gopher
Squamata	Mammalia	Thomomys bottae
Crotalidae - rattlesnake	Artiodactyla	Heteromyidae - pocket mice
<i>Crotalus</i>	Antilocapridae - pronghorn	<i>Dipodomys</i>
Phrynosomatidae - spiny lizard	<i>Capromeryx</i>	<i>Perognathus californicus</i>
<i>Sceloporus</i>	Bovidae - bison	Sciuridae - squirrel
Teiidae - whiptail lizard	<i>Bison antiquus</i>	<i>Spermophilus beecheyi</i>
<i>Cnemidophorus</i>	<i>Bison latifrons</i>	Xenarthra
Testudinata	Camelidae - camels	Mylodontidae - ground sloth
Emydidae - pond turtle	<i>Camelops hesternus</i>	<i>Paramylodon harlani</i>
<i>Clemmys</i>	<i>Tanupolama</i>	
Testudinidae - tortoise	Cervidae - deer	
<i>Gopherus</i>	Tayassuidae - peccary	
Aves	<i>Platygonus</i>	
Accipitriformes	Carnivora	
Accipitridae - hawk	Canidae - dogs	
<i>Buteogallus</i>	<i>Canis dirus</i>	
Anseriformes	<i>Canis latrans</i>	
Anatidae - ducks	Felidae - cats	
<i>Anas</i>	<i>Felis concolor</i>	
Charadriiformes	<i>Smilodon californicus</i>	
Burhinidae - stone curlew	Mustelidae - weasel	
	<i>Mustela frenata</i>	
	Insectivora	
	Soricidae - shrew	
	<i>Notiosorex crawfordi</i>	

APPENDIX C. FOSSIL LOCALITY DATA

PALEOCENE SILVERADO FORMATION

17 localities, none in the City of Lake Forest

Common Name	Taxon	locality #	Location	# of localities	Within City?	Reference
marine snails and bivalves	numerous	Report # F83-F99	Black Star Cyn 7.5' topo- 16 localities; Orange 7.5' topo- 1 locality;	16	no	Schoellhamer et al. 1981
willow leaf?	? <i>Salix</i> sp.	OCPC 02267	ETC, El Toro 7.5' topo	1	no	OCPC 2018
dicot leaf	Dicotyledonae					

PALEOCENE SANTIAGO FORMATION

20 localities, none in the City of Lake Forest

Common Name	Taxon	locality #	Location	# of localities	Within City?	Reference
marine snails and bivalves	numerous	Report # F99a-F99b, F100-F114, F114a-F114b	Black Star Cyn 7.5' topo- 11 localities; El Toro 7.5' topo- 4 localities; Orange 7.5' topo, 3 localities; Tustin 7.5' topo, 1 locality	19	no	Schoellhamer et al. 1981
crocodile	Crocodylidae	OCPC 02259	ETC, Black Star Cyn 7.5' topo	1	no	OCPC 2018
magnolia	<i>Magnolia</i> sp.					
laural	<i>Laurus</i> sp, cf. <i>Laurus</i> sp.					
pea plant	? <i>Dryophyllum</i> sp., Fabaceae					
walnut	<i>Juglans</i> sp.					
fig	†" <i>Ficus</i> " <i>amballi</i> , " <i>Ficus</i> " sp.					
willows	† <i>Idesia cordata</i> , <i>Idesia polycarpa</i> , <i>Idesia</i> sp., ? <i>Salix</i> sp.					
plant	? <i>Lamonia</i>					
katsura	cf. <i>Cercidiphyllum</i> sp.					
dicot	Dicotyledonae					

LATE EOCENE TO EARLY MIOCENE SESPE FM.

17 localities, none in the City of Lake Forest

Locality	Location	In City?	Reference
LACM 7327, 7341	Lower Bowerman Landfill	no	Whistler and Lander 2003
LACM 6935-6939, 6942-6945	Upper Bowerman Landfill	no	Whistler and Lander 2003
LSA SR-73	San Joaquin Hills	no	Whistler and Lander 2003
LC 196, 199, 202, 204	Foothill Transportation Corridor/ Oso segment	no	Whistler and Lander 2003
OCPC 2030	El Toro USGS 7.5' topo	no	OCPC 2018

EARLY MIOCENE VAQUEROS - SESPE FM.

122 localities

Locality	Location	In City?	Reference
LACM (CIT) 449	between Bolero Lookout and Santiago Cyn Road	yes	McLeod 2018
LACM 4553-4555, 4559-4560, 5146-5147, 5497	Oso Dam	no	McLeod 2018
LACM 5448	Borrego Canyon Wash	possibly	McLeod 2018
LACM 6927- 6930	Parkridge, Santa Ana Mtns.	no	Whistler and Lander 2003
LC 151, 162-174, 194	Santiago Canyon Landfill	no	Whistler and Lander 2003
OCPC 2015-2020, 2037-2040, 2059-2063, 2065-2067, 2077, 2099-2100, 2109, 2112, 2117, 2132-2134, 2156-2158, 2160, 2162-2170, 2173-2175, 2178, 2249, 2257	Blackstar Canyon USGS 7.5' topo	no	OCPC 2018
OCPC 2010-2012, 2027, 2073-2075, 2083-2084, 2088, 2096, 2102-2103, 2106-2108, 2111, 2122, 2125-2126, 2172, 2176, 2251, 2260, 2265-2267	El Toro Canyon USGS 7.5' topo	no	OCPC 2018
OCPC 2008-2009, 2013-2014, 2021-2024, 2031-2032, 2085, 2089-2090, 2104, 2113-2114, 2127	Orange USGS 7.5' topo	no	OCPC 2018
USGS 18445, 18451, 18454, 18459, 18461, 18462, 18469, 18470, 18472, 18477, 18996	Santa Ana Mountains	no	Schoellhamer et al. 1981
F138 Palomar College	Santa Ana Mountains	no	Schoellhamer et al. 1981
F130, F132	Santa Ana Mountains	no	Schoellhamer et al. 1981

Terrestrial Animals: Sespe Formation and Vaqueros-Sespe Formation

Common Name	Taxon	Sespe	Vaqueros -Sespe
bear-dogs	† <i>Cynelos</i> cf. <i>C. helbingi</i>		X
	† <i>Cynelos malasi</i>		X
	† <i>Cynelos</i> sp.		X
bone-crushing dogs	† <i>Cynarctoides gawnae</i>		X
	† <i>Cynarctoides whistleri</i>		X
	† <i>Phlaocyon taylori</i>	X	
	† <i>Phlaocyon</i> sp.	X	X
canid	† <i>Leptocyon vulpinus</i>	X	
	†cf. <i>Leptocyon</i> sp.		X
bears	†? <i>Cephalogale</i> sp.		X
	† <i>Phoberogale shareri</i>		X
weasel	Mustelidae	X	X
rhinoceros	† <i>Menoceras barbouri</i>		X
	†Rhinocerotidae		X
horses	†? <i>Kalobatippus clarancei</i>		X
	† <i>Parahippus pawniensis</i>		X
peccary	†? <i>Cynorca</i> sp.	X	X
pig-like artiodactyl	† <i>Daeodon hollandi</i>		X
oreodonts	† <i>Sespia nitida</i>	X	X
	† <i>Merychyuus elegans</i>		X
	† <i>Merychyuus</i> sp.	X	X
	†Merycoidodontidae		X
camels	† <i>Michenia agatensis</i>	X	X
	† <i>Tanymyktek brachyodontus</i>		X
	†? <i>Tanymyktek</i> sp.	X	X
	†Camelidae		X
deer-like artiodactyl	†Palaeomerycidae		X
musk deer	†? <i>Nanotragulus ordinatus</i>	X	X
	† <i>Machaeromeryx tragulus</i>	X	X
	† <i>Machaeromeryx</i> sp.		X
	† <i>Pseudoblastomeryx advena</i>		X
hedgehogs	† <i>Sespedectes singularis</i>		X
	† <i>Sespedectes</i> sp.		X
	†Erinaceidae		X
shrews	†Heterosoricidae	X	X
	Soricidae		X
pikas	† <i>Cuyamalagus dawsoni</i>	X	X
	† <i>Cuyamalagus</i> sp.		X
	†? <i>Gripholagomys</i> sp.	X	X
rabbit	† <i>Archaeolagus</i> sp.		X
chipmunks	† <i>Nototamias</i> sp.	X	X
	† <i>Tamias</i> sp.		X
squirrels	† <i>Miospermophilus</i> sp.	X	X
	†? <i>Petauristodon</i> sp.	X	X
vesper rodents	† <i>Hesperomys (Ledimys) nematodon</i>	X	X
	† <i>Ledimys</i> sp.	X	X
cricetid rodents	† <i>Trogomys</i> sp.	X	X
	† <i>Yatkolamys</i> sp.		X
paramyid rodents	† <i>Leptotomus</i> sp.		X
	† <i>Microparamys</i> sp.		X

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Common Name	Taxon	Sespe	Vaqueros -Sespe
relative of pocket gophers/ kangaroo rats/ pocket mice	† <i>Cupidinimus</i> near <i>C. lindsayi</i>		X
	† <i>Griphomyssp.</i>		X
	† <i>Heliscomys</i> sp.	X	X
	† <i>Proheteromys</i> sp.	X	X
	† <i>Pseudotheridomys cuyamensis</i>		X
	† <i>Pseudotheridomys</i> sp. (large)		X
	† <i>Schizodontomys</i> sp.	X	X
simimyid rodents	† <i>Simimys simplex</i>		X
	† <i>Simimys</i> sp.		X
opossums	† <i>Herpotherium</i> sp.	X	X
	† <i>Peratherium</i> sp.		X
iguana	<i>Parasauromalus</i> sp.	X	
boa	Boidae		X
turtle	Testudinata		X
palm	Palmaceae		X

EARLY MIOCENE VAQUEROS FM.

24 localities

Common Name	Taxon	locality #	Location	# of localities	Within City?	Reference
invertebrates	numerous	LACMIP 1189	Moulton Parkway; 2 miles south of intersection with El Toro Road	1	no	LACMIP 2018
		LACMIP 16392	west side of Plano Trabuco; Santa Ana Mts.; Corona Topo	1	no	LACMIP 2018
		LACMIP 16508	Hicks Canyon, El Toro 7.5'topo	1	no	LACMIP 2018
		LACMIP 7700, 16443,16667	Orange County	3	no	LACMIP 2018
		LACMIP 17601	Bee Canyon Landfill	1	no	LACMIP 2018
whale	Cetacea	SDNHM 4610	Bolero Lookout	1	possibly	SDNHM 2018
sea cow	Sirenia					
mammal	Mammalia					
sharks and rays	numerous					
turtle	Testudinidae					
invertebrates	numerous	UCMP A527	Laguna Canyon	1	no	UCMP 2018
		UCMP A538	French Hill	1	no	UCMP 2018
		UCMP 1152	Aliso Creek	1	no	UCMP 2018
		UCMP 2335	Bee Canyon		no	UCMP 2018
		UCMP 2339	Oso Creek	1	no	UCMP 2018
		UCMP A528-A529, A534-A535, A537, A543, 1151, 1157, 2330, 2344, 6128	Orange County	11	no	UCMP 2018

MIDDLE MIOCENE TOPANGA FORMATION

37 localities

Locality	Location	In City?	Reference
LACM 3222	western side of Aliso Creek	yes	McLeod 2018
LACM 4007	at the head of Rim Rock Canyon south of Temple Hill Drive	yes	McLeod 2018
LACM 4464, 4545-4552, 4556-4558, 4961, 5494-5496	Oso Dam area	no	McLeod 2018
LACM 5511	near Cook's Corner	no	McLeod 2018
LACM 5769	Oso Creek	no	McLeod 2018
LACM 6064	Mission Viejo east of Oso Creek	no	McLeod 2018
LACM 7200	south of LACM 5511	no	McLeod 2018
LACM 7249	Top of the World; on top of the ridge above Temple Hill	yes	McLeod 2018
OCPC 2003, 2007, 2036, 2044, 2045, 2051, 2079, 2094, 2097-2098, 2123, 2250	ETC Blackstar Canyon USGS 7.5' topo	no	OCPC 2018
UCMP 1056	Santiago Canyon Road	possibly	UCMP 2018
UCMP V72060	Top Of The World	yes	UCMP 2018

Common Name	Taxon	LACM 3222	LACM 4007	LACM 4464, 4545-4552, 4556-4558, 4961, 5494-5496	LACM 5511	LACM 5769	LACM 6064	LACM 7200	LACM 7249	OCPC 2003, 2007, 2036, 2044, 2045, 2051, 2079, 2094, 2097-2098, 2123, 2250	UCMP 1056	UCMP V72060
walrus-like seal	† <i>Allodesmus</i> sp.			X						X		
eared seal	† <i>Eotaria citrica</i>			X			X					
seal	Otaridae									X		
walrus	† <i>Neotherium</i> sp.			X						X		
	† <i>Pelagiarctos</i> sp.			X								
right whale	Cetotheriidae			X								
baleen whale	Mysticeti									X		
dolphin	† <i>Lamprolithax</i> sp.			X								
	Delphinidae									X		
sperm whale	Physeteridae									X		
toothed whale	Odontoceti									X		
whale	Cetacea									X		
elephant	Proboscidea									X		
dugong	† <i>Metaxytherium arctodites</i>				X							
sea cow	† <i>Dioplotherium allisoni</i>								X		X	
	†Dugongidae		X									
desmostylus	† <i>Desmostylus hesperus</i>											X
	† <i>Desmostylus</i> sp.	X		X				X				
	† <i>Paleoparadoxia</i> sp.						X					
	Desmostylia									X		
rodents	numerous									X		
duck	Anatinae			X								

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Common Name	Taxon	LACM 3222	LACM 4007	LACM 4464, 4545-4552, 4556-4558, 4961, 5494-5496	LACM 5511	LACM 5769	LACM 6064	LACM 7200	LACM 7249	OCPC 2003, 2007, 2036, 2044, 2045, 2051, 2079, 2094, 2097-2098, 2123, 2250	UCMP 1056	UCMP V72060
auklet	† <i>Alcodes ulnulus</i>			X								
booby	Sulidae			X								
albatross	† <i>Diomedea milleri</i>			X								
shearwater	† <i>Puffinus priscus</i>			X								
leatherback sea turtle	Dermochelyidae			X								
sea turtle	Chelonioidea									X		
bony fish	numerous			X						X		
sharks and rays	numerous			X		X				X	X	
invertebrates	numerous									X		

LATE MIOCENE MONTEREY FORMATION

Monterey Formation – 31 localities

Locality	Location	In City?	Reference
LACM 3198, 3486, 3209-3210, 3412-3413, 4103-4114	southwestern portion of the proposed project area	no	McLeod 2018
OCPC 00023	Pecten Reef I	yes	OCPC 2018
OCPC 05431	Pecten Reef, Carol Stadum collection	yes	OCPC 2018
SDNHM 4520	Pecten Reef- Lake Forest	yes	SDNHM 2018
SDNHM 4522	Pecten Reef - Lake Forest - Phosphate Bed	yes	SDNHM 2018
SDNHM 4892	Pecten Reef - Lake Forest - Diatomite/Ash	yes	SDNHM 2018
SDNHM 4964	Pecten Reef- Lake Forest- Orange Sand	yes	SDNHM 2018
UCMP 1910	Aliso Creek	no	UCMP 2018
UCMP 6131	Bee Canyon	no	UCMP 2018
UCMP 36218	Antonio Parkway	yes	UCMP 2018
UCMP V71020	El Toro 1	no	UCMP 2018
UCMP V91240/ LACM 7136	Moulton Parkway	yes	UCMP 2018
UCMP V99592, V99593	Turtles	yes	UCMP 2018

Common Name	Taxon	LACM 3198, 3486, 3209-3210, 3412-3413, 4103-4114	OCPC 00023, 5431	SDNHM 4520, 4522, 4892, 4964	UCMP 1910, 6131, 36218	UCMP V71020	UCMP V91240/ LACM 7136	UCMP V99592, V99593
walrus-like seal	† <i>Allodesmus kernensis</i>					X		
walrus-like seal	†Desmatophocidae?			X				
sea lion	Otariidae	X				X		
dolphin	†Kentriodontidae	X						
sperm whale	Physeteridae					X		
toothed whale	Odontoceti			X				
rorqual whale	Balaenopteridae?			X				
baleen whale	Mysticeti	X						
whale	Cetacea			X				
dugong	† <i>Dioplotherium allisoni</i>	X						
	<i>Dusisiren jordani</i>					X		
desmostylus	†Desmostylidae			X				
bird	Aves	X					X	
crocodile	† <i>Crocodylus</i> sp.	X						
	†Crocodylidae			X				
leatherback sea turtle	† <i>Psephophorus</i> sp.						X	
leatherback sea turtle	Dermochelyidae							X
sea turtle	Cheloniidae			X				
bony fish	numerous	X		X		X	X	
sharks and rays	numerous	X	X	X		X	X	
invertebrates	numerous	X	X	X	X			
land plants	numerous			X				
algae	numerous			X				

LATE MIOCENE PUENTE FORMATION

35 localities

Common Name	Taxon	Puente Formation Member	locality #	Location	# of localities	Within City?	Reference
sea lion	Otariidae	La Vida	OCPC 2041-2043, 2046 2050, 2053, 2056, 2058, 2110, 2124, 2130-2131, 2155, 2177, 2191, 2193, 2211, 2235-2244, 2246- 2248, 2254-2256, 2261- 2262	ETC Blackstar Canyon USGS 7.5' topo	35	no	OCPC 2018
desmostylus	† <i>Desmostylus</i> sp. †Desmostylidae						
bony fish	numerous						
sharks and rays	numerous						
invertebrates	numerous						
land plants	numerous						
herring	Clupeoidei	Soquel	OCPC 2245	ETC Blackstar Canyon USGS 7.5' topo	1	no	OCPC 2018
tonguefish	<i>Symphurus</i> sp.	undifferentiated	LACM 6287	southeast of Santiago Reservoir along Santiago Cyn Rd in Limestone Cyn	1	no	McLeod 2018
bony fish	Osteichthyes	undifferentiated	UCMP V68103	Aliso Creek	1	no	UCMP 2018

LATE MIOCENE TO PLIOCENE CAPISTRANO AND PLIOCENE NIGUEL FORMATIONS

Capistrano Formation, Oso Sand – 33 localities

Locality	Location	In City?	Reference
OCPC 00013	El Toro Materials Co. Rocky Rd	yes	OCPC 2018
OCPC 00131	El Toro Rd Island	yes	OCPC 2018
OCPC 00429, 00559	Orange County	no	OCPC 2018
OCPC 00721	Waldo locality, JMTC-828	yes	OCPC 2018
OCPC 01000	Aliso Creek Flying Whale	yes	OCPC 2018
OCPC 03203	JMTC-F-8		OCPC 2018
OCPC 03204- 03223	JMTC-808 to JMTC-827		OCPC 2018
OCPC 03224	JMTC-829		OCPC 2018
OCPC 04129	Baker Ranch, MM93-511-1	yes	OCPC 2018
OCPC 05337	El Toro Materials, ELT230, BRS-030523-0	yes	OCPC 2018
OCPC 05340	El Toro Materials, ELT230, BRS-030905-01	yes	OCPC 2018
OCPC 05341	El Toro Materials, ELT230, BRS-041103-01	yes	OCPC 2018
OCPC 05342	El Toro Materials, ELT230, KSB-030509-01	yes	OCPC 2018
OCPC 05344	El Toro Materials, ELT230, BRS-040520-01	yes	OCPC 2018
OCPC 05345	El Toro Materials, ELT230, LSA-ETM-General	yes	OCPC 2018
OCPC 05346	El Toro Materials, ELT230, BRS-021127-01	yes	OCPC 2018
OCPC 05348	El Toro Materials, ELT230, BRS-040106-01	yes	OCPC 2018
OCPC 05349	El Toro Materials, ELT230, BRS-040114-01	yes	OCPC 2018
OCPC 05350	El Toro Materials, ELT230, SKY-030325-01	yes	OCPC 2018
SDNHM 6316 - 6320	AJ West Ranch	yes	SDNHM 2018

Capistrano Formation – 30 localities

Locality	Location	In City?	Reference
LACM 3199, 3218, 3221, 3410-3411, 3491, 4177, 4666-4668, 5500, 7370-7372, 7546-7547	Lake Forest	yes	McLeod 2018
UCMP IP7081	Doheny State Park	no	UCMP 2018
UCMP V5049	Petrel		UCMP 2018
UCMP V72103	El Toro 2	yes	UCMP 2018
UCMP V72149	Sulpher Creek Reservoir		UCMP 2018

Niguel Formation – 4 localities

Locality	Location	In City?	Reference
LACM 3804	south of Oso Parkway ~1/2 mi west of I-5	yes	McLeod 2018
LACM 5551	south along La Paz Road west of I-5	yes	McLeod 2018
LACM 7058	almost due east of the southeastern-most point of the proposed project area east of I-5 and north of La Paz Rd in Mission Viejo	yes	McLeod 2018
LACM 65187	north of La Paz Road west of I-5	yes	McLeod 2018

Common Name	Taxon	Niguel Fm.	Capistrano Fm., Oso Sand	Capistrano Fm.
giant otter	† <i>Satherium</i> sp.			X
walrus-like seal	† <i>Allodesmus</i> sp.		X	
false walrus	† <i>Gomphotaria pugnax</i>		X	X
false walrus	† <i>Gomphotaria</i> sp.		X	
walrus	† <i>Pliopedia</i> sp., Odobenidae		X	
sea lion	† <i>Imagotaria</i> sp.			X
sea lion	†Imagotariinae		X	
sea lion	Otariinae, Otariidae		X	
fur seal	<i>Arctocephalus</i> sp.		X	
true seal	Phocidae		X	
pinniped	Pinnipedia		X	
carnivore	Carnivora		X	
rodent	Rodentia		X	
antilocaprid	Antilocapridae		X	
camels	† <i>Camelops</i> sp., † <i>Megatylopus</i> sp.		X	
camel	†Camelidae	X	X	X
artiodactyl	Artiodactyla		X	
right whale	Balaenidae		X	X
rorqual whale	Balaenopteridae		X	X
primitive baleen whale	† <i>Herpetocetus</i> sp.	X		X
baleen whales	Cetotheriidae, Mysticeti		X	
dolphin	† <i>Piscolithax</i> sp., Delphinidae		X	
sperm whale	<i>Physeter microcephalus</i>		X	
sperm whale	Physeteridae			X
toothed whale	Odontoceti		X	
whale	Cetacea	X	X	X
horses	† <i>Pliohippus</i> sp.		X	X
horses	†cf. <i>Dinohippus</i> sp., †Equidae		X	
rhinoceros	†Rhinocerotidae		X	X
mastodon	†Mammutidae		X	
dugong	Dugonidae	X	X	X
sea cow	Sirenia		X	
desmostylus	† <i>Desmostylus</i> sp., †Desmostylidae		X	
storm petrel	† <i>Oceanodroma hubbsi</i>			X
toothed-bird	† <i>Osteodontornis</i> sp.		X	
sandpiper	Scolopacidae			X
puffin	Mancallinae			X
bird	Aves		X	
leatherback sea turtle	† <i>Psephophorus</i> sp.			X
leatherback sea turtle	Dermochelyidae		X	
sea turtle	Chelonioidea		X	

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Common Name	Taxon	Niguel Fm.	Capistrano Fm., Oso Sand	Capistrano Fm.
tortoise	† <i>Geochelone</i> sp.			X
tortoise	<i>Testudo</i> sp.		X	
crocodile	Crocodylidae			X
bony fish	numerous	X	X	X
sharks and rays	numerous		X	X
invertebrates	numerous		X	X
land plants and algae	numerous		X	

PLEISTOCENE LOCALITIES

29 localities

Locality	Location	In City?	Reference
LACM 65129	Costeau Pit	no	McLeod 2018
LACM 69121	Bolsa Chica State Park	no	Jefferson 1991
OCPC 2005, 2006, 2033, 2048, 2049, 2054, 2055, 2070-2072, 2093, 2120, 2129, 2210, 2232, 2233	Black Star Canyon 7.5', Hwy 241	no	OCPC 2018
OCPC 2002, 2004, 2029, 2086, 2121, 2229-2231	El Toro 7.5', Hwy 133	no	OCPC 2018
OCPC 2000, 2001, 2258	Tustin 7.5', Hwy 133	no	OCPC 2018

Common Name	Taxon	other localities	Costeau Pit, Laguna Hills
Harlan's ground sloth	† <i>Paramylodon harlani</i>	X	X
Jefferson's ground sloth	† <i>Megalonyx jeffersoni</i>	X	
ground sloth	†cf. <i>Megalonyx</i> sp.	X	
coyote	<i>Canis</i> sp. cf. <i>C. latrans</i>		X
dire wolf	† <i>Canis</i> sp. cf. <i>C. dirus</i>		X
short faced bear	† <i>Ursus arctodus</i>	X	
saber-toothed cat	† <i>Smilodon</i> sp. cf. <i>S. fatalis</i>		X
American lion	† <i>Felis atrox</i>	X	
Columbian mammoth	† <i>Mammuthus columbi</i>		X
mammoth	† <i>Mammuthus</i> sp.	X	
American mastodon	† <i>Mammut</i> sp. cf. <i>M. americanum</i>	X	
mammoth or mastodon	†Proboscidea	X	
horses	† <i>Equus occidentalis</i>	X	
horses	† <i>Equus</i> sp.	X	X
yesterday's camel	† <i>Camelops</i> sp. cf. <i>C. hesternus</i>		X
llama	† <i>Hemiauchenia</i> sp.		X
diminutive pronghorn	† <i>Capromeryx</i> sp.		X
deer	Cervidae		X
ancient bison	† <i>Bison antiquus</i>	X	X
long-horned bison	† <i>Bison latifrons</i>		X
desert shrew	<i>Notiosorex crawfordi</i>		X
shrew	<i>Sorex</i> sp.	X	
brush rabbit	<i>Sylvilagus</i> sp. cf. <i>S. bachmani</i>		X
desert cottontail	<i>Sylvilagus audubonii</i>		X
black-tailed jack rabbit	<i>Lepus</i> sp. cf. <i>L. californicus</i>		X
California ground squirrel	<i>Spermophilus beecheyi</i>		X
Botta's pocket gopher	<i>Thomomys bottae</i>		X
kangaroo rat	<i>Dipodomys</i> sp.		X
California pocket mouse	<i>Perognathus</i> sp. cf. <i>P. californicus</i>		X
eastern harvest mouse	<i>Reithrodontomys</i> sp. cf. <i>R. humulis</i>		X
deer mouse	<i>Peromyscus maniculatus</i>		X
wood rat	<i>Neotoma</i> sp.		X

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Common Name	Taxon	other localities	Costeau Pit, Laguna Hills
vole	<i>Microtus</i> sp.		X
muskrat	<i>Ondatra</i> sp.		X
long-tailed weasel	<i>Mustela frenata</i>		X
duck	<i>Anas</i> sp.		X
hawk	<i>Buteogallus</i> sp.		X
quail	<i>Callipepla</i> sp.		X
American coot	<i>Fulica</i> sp. cf. <i>F. americana</i>		X
owl	<i>Athene</i> sp.		X
passerine bird	Passeriformes		X
fence lizard	<i>Sceloporus</i> sp.		X
whip-tailed lizard	<i>Cnemidophorus</i> sp.		X
Mojave green rattlesnake	<i>Crotalus viridis</i>		X
rattlesnake	<i>Crotalus</i> sp.	X	
pine snake	<i>Pituophis melanoleucus</i>		X
gopher snake	<i>Pituophis</i> sp.	X	
lizard or snake	Squamata		X
western pond turtle	cf. <i>Actinemys marmorata</i>		X
desert tortoise	<i>Gopherus</i> sp.		X
western toad	<i>Anaxyrus boreas</i>		X
northern red-legged frog	<i>Rana aurora</i>		X
arboreal salamander	<i>Aneides lugubris</i>		X
mole salamander	<i>Ambystoma</i> sp.	X	
frog	Anura	X	

APPENDIX D. CULTURAL RESOURCE STUDIES

City of Lake Forest Paleontological and Cultural Assessment Report

Report No.	Author(s)	Title	Year	Quad Maps
OR-00019	Howard, Jerry B.	Archaeological Site Survey, El Toro Road Realignment	1975	El Toro
OR-00052	Van Horn, David M.	Archaeological Survey Report on the Site of the Proposed El Toro Community Park in the Unincorporated Territory of El Toro	1977	El Toro, San Juan Capistrano
OR-00064	Desautels, Roger J.	Archaeological Survey Report on Tentative Tract No. 9037 Lot G in Block a of County of Orange	1976	El Toro
OR-00069	Desautels, Roger J.	Archaeological Survey Report on the Planning Area, Lake Forest 1, Orange County, California	1976	El Toro
OR-00070	Desautels, Roger J.	Archaeological Survey Report on the Proposed Park Lane Mobile Estates Located in the El Toro Area, Orange County, California	1976	San Juan Capistrano
OR-00074	Desautels, Roger J.	Archaeological Survey Report on the Northwesterly Boundary of Tentative Tract No. 8461 in the El Toro Area of Orange County, California	1976	El Toro
OR-00078	Desautels, Roger J.	Area 16-13 Located at 25114 Irvine Blvd. in the Lake Forest Area of Orange County, California	1976	El Toro
OR-00088	Desautels, Roger J.	Archaeological Survey Report on Lot D and a Portion of Lot C of the Baldwin and Bridgers Subdivision Located in the El Toro Area of Orange County	1976	San Juan Capistrano
OR-00101	Desautels, Roger J.	Archaeological Survey Report on Tract No. 9106 Located in the Lake Forest Area of Orange County	1976	El Toro
OR-00135	Whitney-Desautels, Nancy A.	Archaeological Survey Report on Approximately a Twenty-one (21) Acre Parcel Located in the El Toro Area of the County of Orange	1977	El Toro
OR-00148	Desautels, Roger J.	Archaeological Survey Report on 17.63 Acres of Land Located in the Rancho De Los Alisos Area of the County of Orange	1977	El Toro
OR-00171	Desautels, Roger J.	Archaeological Survey Report on Lot 5, Tract 70 in the Aliso City Area of the County of Orange	1987	El Toro
OR-00180	Desautels, Roger J.	Archaeological Survey Report on a Parcel of Land Located in the Cook's Corner Area of the County of Orange	1977	Santiago Peak
OR-00185	Desautels, Roger J.	Archaeological Survey Report on a 34 Acre Parcel of Land Located in the El Toro Area of the County of Orange	1977	El Toro
OR-00189	Desautels, Roger J.	Archaeological Survey Report on a Fifty (+) Acre Parcel of Land in the El Toro Area of the County of Orange	1977	El Toro
OR-00201	Perry, Robert	Archaeological Survey Report on an Archaeological Survey of a Fifty (50) Acre Parcel of Land Located in the El Toro Area of the County of Orange	1977	El Toro
OR-00208	La Fontaine, Keith	Archaeological Survey Report on Seventy-seven (77) Acres of Land Located in the El Toro Area of the County of Orange	1978	El Toro
OR-00209	La Fontaine, Keith and Mark Desautels	Archaeological Survey Report on 7.42 Acres of Land Located in the El Toro Area of the County of Orange	1978	El Toro
OR-00238	Howard, Jerry B.	A Reevaluation of the Cultural Resources of the Glen Ranch	1977	El Toro, Santiago Peak
OR-00251	Desautels, Roger J. and Paul G. Chace	Archaeological Report on an Archaeological Survey, Inventory, and Analysis of Alternate Realignment of El Toro Road Between 2.6 Miles Northerly of Trabuco Road and Live Oak Canyon Road in Orange County, California	1976	El Toro, Santiago Peak

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Report No.	Author(s)	Title	Year	Quad Maps
OR-00254	Whitney-Desautels, Nancy A.	Archaeological Report on the Aliso Creek Specific Plan-planning Unit 1 Located in the El Toro and Laguna Hills Area of the County of Orange	1977	El Toro, San Juan Capistrano
OR-00277	Cottrell, Marie G.	Archaeological Reconnaissance of the Serrano Highlands, Project Area (rancho De Los Alisos, Units 1 & 2)	1978	El Toro
OR-00286	Bean, Lowell	Cultural Resources and the High Voltage Transmission Line From San Onofre to Santiago Substation and Black Star Canyon	1979	,El Toro, San Juan Capistrano
OR-00322	Mabry, Theo N.	Archaeological Records Search and Reconnaissance Survey for Tentative Tract 10633, Orange County, California	1979	El Toro, San Juan Capistrano
OR-00327	Whitney-Desautels, Nancy A.	The Archaeology and History of Heritage Hill: a Proposed Historical Complex of Serrano Community Park	1978	El Toro
OR-00387	Unknown	Archaeological Survey Report on a 120 Acre Parcel of Land Located Along Santiago Canyon Rd. 2 Miles North of Cook's Corner	1977	El Toro
OR-00398	Kearns, Timothy M. and Nancy Whitney-Desautels	Archaeological Report on Archaeological Sites CA-ORA-693, ORA-694, ORA-695, ORA-696, ORA-697, and ORA-699 Located on Rancho De Los Alisos in the County of Orange	1978	El Toro
OR-00404	Wright, Thomas	Archaeological Investigations at CA-ORA-566	1976	El Toro
OR-00444	McCawley, William	Letter Report: Archaeological Survey of a 20 Acre Parcel in the County of Orange (t.r. 10633)	1979	El Toro, San Juan Capistrano
OR-00457	Clevenger, Joyce M.	Archaeological Investigations on Portions of CA-ORA-647 and Ca ORA-648: Two Sites Located Within the Santiago Aqueduct Parallel Project	1979	El Toro
OR-00465	Desautels, Roger J.	Archaeological Survey Report on Tt 10789, Located in the Rancho Serrano Area of the County of Orange	1979	El Toro
OR-00471	Whitney-Desautels, Nancy A.	Cultural Resources Report on Site Plan Number 79-26 Located in the Lake Forest Area of the County of Orange	1980	El Toro
OR-00495	Cottrell, Marie G.	Archaeological Assessment of Rancho De Los Alisos Planning Area 6.	1980	El Toro
OR-00545	Munoz, Jeanne and Theodore G. Cooley	Glenn Ranch: Archaeological Resources and Their Recommended Management	1977	El Toro, Santiago Peak
OR-00546	Cottrell, Marie G.	Records Search for 19+ Acres of the Glen Ranch	1978	El Toro
OR-00560	Cottrell, Marie G.	Letter Report to Mr. Richard Schmid, Envista Inc.	1977	El Toro
OR-00571	Ahlering, Michael L.	Report of Findings of a Scientific Resources Survey and Study: Conducted on a Portion of the Whiting Ranch, Orange County, California	1973	El Toro
OR-00580	Anonymous	The Aliso Creek Watershed, Orange County, California a Proposal for Creating an Archaeological District for the National Register of Historic Places and a Suggested Research and Study Design	1977	El Toro, ,San Juan Capistrano, Santiago Peak

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Report No.	Author(s)	Title	Year	Quad Maps
OR-00581	McCoy, Lesley C. and Kirkish, Alex N.	Cultural Resources Data Recovery Program for the 230kv Transmission Line Rights-of-way From San Onofre Nuclear Generating Station to Black Star Canyon and Santiago Substation and to Encina and Mission Valley Substations	1982	El Toro, San Juan Capistrano,
OR-00591	Cooley, Theodore G. and Marie G. Cottrell	Archaeological Assessment of the Whiting Ranch	1980	El Toro
OR-00611	Bissell, Ronald M.	Cultural Resources Reconnaissance of the Baker Ranch Property, El Toro Orange County,	1988	El Toro
OR-00613	Whitney-Desautels, Nancy A.	Archaeological Report on a Micro-surface Collection of CA-ORA-741 Located on Tt 10323 in the El Toro Area of the County of Orange	1981	El Toro
OR-00627	Jertberg, Patricia R.	An Archaeological Test and Salvage Investigation of CA-ORA-39 and CA-ORA-773, Orange County, California	1981	El Toro
OR-00629	Cottrell, Marie G.	Archaeological Resource Assessment for Two Parcels Near El Toro, California	1981	El Toro
OR-00648	Breece, Bill and Beth Padon	Cultural Resource Survey: Archaeological Resources: Foothill Transportation Corridor, Phase Ii	1982	El Toro, Santiago Peak,
OR-00656	Bissell, Ronald M.	Cultural Resources Survey, Country Home Road Properties (shefflette/carisoza/buckley, Lyon, Watson and 4s Ranch Parcels, Santiago and Live Oak Canyon Roads, Orange County, California	1983	El Toro, Santiago Peak
OR-00730	Bissell, Ronald M.	Cultural Resources Assessment Tentative Tract 12110 Orange County, California	1984	El Toro
OR-00738	Bissell, Ronald M.	Cultural Resources Assessment Tentative Tract 11986 Orange County, California	1984	El Toro
OR-00748	Bissell, Ronald M.	Cultural Resources Assessment Los Alisos Research and Development Park El Toro, Orange County, California	1984	El Toro
OR-00766	Bissell, Ronald M.	Archaeological Survey of the Peterson Property, Four Acres in Santiago Canyon, Orange County, California	1985	El Toro
OR-00773	Bissell, Ronald M.	Archaeological Site CA-ORA-1057, a Late Prehistoric Period Hunting Camp in El Toro, Orange County, California	1985	El Toro
OR-00791	Bissell, Ronald M.	Archaeological Sites CA-ORA-1058 and CA-ORA-698: a Milling Stone Period Complex in El Toro	1985	El Toro
OR-00798	Bissell, Ronald M.	Archaeological Survey of the Canada Apartments Property in El Toro, Orange County, California	1985	El Toro
OR-00799	Bissell, Ronald M.	Archaeological Survey of Property Belonging to the William Lyon Company El Toro, Orange County, California	1985	El Toro
OR-00819	McKenna, Jeanette A.	Final Report on Archaeological Investigations at Sites CA-ORA-858, 859, and 698, Rancho De Los Alisos, Orange County, California	1986	El Toro
OR-00851	Bissell, Ronald M.	Archaeological Sites CA-ORA-176 and CA-ORA-1100 in the El Toro Area, Orange County, California	1986	El Toro
OR-00868	Padon, Beth	Historic Property Survey Report for the I-5/I-405 Confluence City of Irvine, Ca	1987	El Toro, San Juan Capistrano
OR-00875	Bissell, Ronald M.	Cultural Resources Reconnaissance of the Canada Ridge Lane Property, El Toro, Orange County, California	1987	El Toro

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Report No.	Author(s)	Title	Year	Quad Maps
OR-00899	Anonymous	Draft Environmental Impact Report No. 481 Foothill Ranch (formerly Whiting Ranch) Planned Community Area Plan, General Plan Amendment and Zone Change	1987	El Toro
OR-00909	Bissell, Ronald M.	Cultural Resources Reconnaissance of Tentative Parcel 83-110, El Toro, Orange County	1988	El Toro
OR-00934	Drover, Christopher E. and Henry C. Koerper	Archaeological Test Investigations: the Phase I Development of the Whiting Ranch	1982	El Toro
OR-00940	Bissell, Ronald M.	Interim Report Test Excavation of Nine Archaeological Sites on the Pacific Commercentre Property, El Toro Area, Orange County California	1988	El Toro
OR-00970	Brock, James P.	Report on Archaeological Monitoring of Rough Grading for the Baker Extension of Lake Forest Drive, El Toro, California	1989	El Toro
OR-01011	Sorensen, Jerrell H.	Archival Research for Interstate 5, From the Confluence With I 405 to Route 1, Capistrano	1990	El Toro, San Juan Capistrano
OR-01026	Mason, Roger D.	Cultural Resources Survey Report Santiago Canyon Road Alignment Study Orange County, California	1990	El Toro, Santiago Peak
OR-01036	Anonymous	Archaeological Resource Survey Valley Vista Development Orange County, California	1989	Santiago Peak
OR-01038	Brock, James P.	Report on Archaeological Monitoring of Rough Grading for Sta. 55+20.64 to Sta. 70+00.00 of Portola Parkway, El Toro, California	1990	El Toro
OR-01067	Brown, Joan C.	Cultural Resources Reconnaissance of the 72 Acre El Toro Industrial Park	1991	El Toro
OR-01088	Brock, James P.	Report on Archaeological Monitoring of Rough Grading of Bake Parkway From Portola Parkway to Station 159+40.81, El Toro, California	1990	El Toro
OR-01099	Cooley, Theodore G.	Archaeological Resources Assessment Conducted for Proposed Irvine Ranch Water District Pipeline Right of Ways	1979	El Toro
OR-01108	Padon, Beth	Archaeological and Paleontological Resource Assessment, Laguna Canyon Reclaimed Water Facilities	1991	El Toro
OR-01137	Demcak, Carol R.	Cultural Resource Assessment for Planning Areas 11, 17, 27, 67, 80, and 81, Mission Viejo.	1991	El Toro, San Juan Capistrano, Santiago Peak
OR-01150	Perry, Robert	Archaeological Survey Report on Approximately 200 Acres of Rancho De Los Alisos Located in the El Toro Area, County of Orange	1977	El Toro
OR-01152	Sire, Joan, Edward Johnstone, and Doren Desautels	Archaeological Test Report on the Archaeological Resources Contained on a 279+ Acre Parcel of Land Located in the Canada De Los Alisos Area of the County of Orange	1978	El Toro
OR-01156	Brock, James P.	Report on Archaeological Monitoring of Rough Grading of Portola Parkway at Aliso Creek, El Toro, California (station 13+67 to El Toro Road)	1991	El Toro

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Report No.	Author(s)	Title	Year	Quad Maps
OR-01157	Brock, James P.	Report on Archaeological Monitoring of Rough Grading of Portola Parkway From Station 13+67 to Station 42+24, El Toro, California	1991	El Toro
OR-01158	Brock, James P.	Report on Part-time Archaeological Monitoring of Rough Grading of Portola Parkway From Station 42+24 to Station 55+02, Foothill Ranch, El Toro, California	1991	El Toro
OR-01163	Macko, Michael E.	Letter Report on the Results of an Archaeological Survey for the Proposed Botanical Study Area, Wilderness Glen, City of Mission Viejo	1991	El Toro
OR-01309	Macko, Michael E.	Final Report Summary of Archaeological Monitoring, Test Excavations, and Data Recovery for the Foothill Transportation Corridor Northern Segment	1993	El Toro, Santiago Peak
OR-01310	Macko, Michael E. and Gary Hurd	Results of Archaeological Test Excavations for the Foothill Transportation Corridor Northern Segment, Construction Section F8 and F9	1992	El Toro
OR-01354	Munoz, Jeanne	History and Historical Resources of the Whiting Ranch	1980	El Toro
OR-01364	Brock, James P.	Report on Archaeological Monitoring of Rough Grading of Planning Area 6, Foothill Ranch, El Toro, California	1993	El Toro
OR-01372	Brown, Joan C.	Mitigation and Monitoring of Eight Prehistoric Archaeological Sites, CA-ORA-510, CA-ORA-647, CA-ORA-648, CA-ORA-1062, CA-ORA-1063, CA-ORA-1065, CA-ORA-1066, CA-ORA-1171, Located in Southern Orange County, California	1994	El Toro
OR-01376	Brock, James P.	Archaeology of Foothill Ranch Planning Area 15 and a Portion of Planning Area 16, El Toro, California	1994	El Toro
OR-01378	Becker, Kenneth M.	Cultural Resources Reconnaissance of the Proposed Irvine Ranch Water District Zone 9 Reservoir and Transmission Main, Orange County, California.	1994	El Toro
OR-01407	Brown, Joan C.	Cultural Reconnaissance for the Service Connection Enlargement of the Flow Control Facility St-04	1994	El Toro
OR-01408	Demcak, Carol R.	Final Report of Test Level Investigation at ORA-758, Alton Parkway Extension Project, County of Orange, California	1994	El Toro
OR-01425	Brock, James P.	Report on Archaeological Monitoring of the Glenn Ranch Road Right-of-way, Foothill Ranch, El Toro, Orange County, California	1995	El Toro
OR-01432	Harris, Nina M. and James Brock	Test Investigations at CA-ORA-827 and CA-ORA-1373, Glenn Ranch Road Right-of-way, Foothill Ranch, El Toro, Orange County, California	1994	El Toro
OR-01439	McCoy, Lesley C. and Phillips Roxana	National Register Assessment Program of Cultural Resources of the 230 Kv Transmission Line Rights-of-way From San Onofre Nuclear Generating Station to Black Star Canyon and Santiago Substation and to Encina and Mission Valley Substation	1980	El Toro, San Juan Capistrano,
OR-01445	Desautels, Roger J., David Van Horn, Paul Chase, and Nancy Whitney	Archaeological Field Test Report on Archaeological Sites Ora458, Ora485, Ora486, Ora488 & Ora507 Located in the Upper Aliso Creek Area of Orange County P.O. No. C 60012 Control No.39717	1977	El Toro, Santiago Peak
OR-01495	Brock, James P.	Report on Archaeological Monitoring of Rough Grading of Planning Area 8, Foothill Ranch, El Toro, California	1996	El Toro

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Report No.	Author(s)	Title	Year	Quad Maps
OR-01536	Brown, Joan C.	Archaeological Reconnaissance for the Whiting Zone 9 Reservoir and Transmission Main, Orange County, California	1995	El Toro
OR-01545	Brown, Joan C.	Archaeological Monitoring of a Portion of the Whiting Zone 9 Reservoir and Transmission Main, Orange County	1997	El Toro
OR-01549	Brock, James P.	Cultural Resources Assessment of an Approximately 11-acre Property in Lake Forest California	1997	El Toro
OR-01551	Brock, James P.	Report on Archaeological Monitoring of a Rough Grading of Planning Area 9, Foothill Ranch, El Toro California	1997	El Toro
OR-01563	Brock, James P.	Report on Archaeological Monitoring of Planning Area 12, Foothill Ranch, El Toro, Orange County, California	1997	El Toro
OR-01567	Jertberg, Patricia R.	Archaeological Services for 25781 Atlantic Ocean Drive, Lake Forest (permit #w007506)	1997	El Toro
OR-01583	Nicoll, Gerald A.	Archaeology and Paleontology Report for Rancho De Los Alisos Area, Orange County, California	1974	El Toro
OR-01637	Sawyer, William A. and Brock, James	Report on Archaeological Monitoring for the Aliso Oaks Ranch Project (tentative Tract 11919), Santiago Canyon, Orange County, California	1998	Santiago Peak
OR-01679	Jertberg, Patricia R.	Archaeological Services for Tract 13343, Lot 5, Pacific Commercentre, Lake Forest	1998	El Toro
OR-01687	Brock, James P.	Report on Archaeological Monitoring of Rough Grading of Planning Area 16, Tentative Tract 13419, Foothill Ranch, El Toro, California	1998	El Toro
OR-01696	Jertberg, Patricia R.	Archaeological Services for Tract 13344, Lot 13, 26012 Atlantic Ocean Drive, and Lot 39, 26021 Commercentre Drive, Lake Forest	1998	El Toro
OR-01697	Jertberg, Patricia R.	Archaeological Services for Tract 13343, Lot 1, 20571 Crescent Bay Drive, Lake Forest	1998	El Toro
OR-01698	McLean, Deborah K.	Archaeological Assessment for Pacific Bell Mobile Services Telecommunications Facility Cm 310-04, 1505-3533 East Chapman Avenue, City of Orange, County of Orange, California	1998	Orange
OR-01749	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 225-22 in the City of Lake Forest, California	1998	El Toro
OR-01750	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 243-39 in the City of Lake Forest, California	1998	El Toro
OR-01752	Brechbiel, Brant A.	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 410-11 in the City of Lake Forest, California	1998	El Toro
OR-01996	Brown, Joan C.	Cultural Resources Literature and Records Review for the Foothill/Trabuco Project (Revised)	1999	El Toro, Santiago Peak
OR-02039	Duke, Curt	Cultural Resource Assessment for Pacific Bell Mobile Services Facility Cm 285-04, County of Orange, California	1999	San Juan Capistrano
OR-02100	Duke, Curt	Cultural Resource Assessment for Pacific Bell Wireless Facility Cm 367-01, County of Orange	2000	El Toro
OR-02110	Duke, Curt and Nicole Wallock	Results of the Cultural Resource Records Search and Extended Survey for Pacific Bell Wireless Facility Cm 324-03, Orange County	2000	El Toro
OR-02111	Brock, James P.	Cultural Resources Assessment of a 13.2 Acre Property in Lake Forest	2000	El Toro

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Report No.	Author(s)	Title	Year	Quad Maps
OR-02112	Brock, James P.	Cultural Resources Evaluation for the Foothill Gateway Project, City of Lake Forest, Orange County	2000	El Toro
OR-02211	Hoover, Anne M.	Cultural Resources Reconnaissance and Monitoring of Pacific Commercentre, and Mitigation of CA-ORA-1581, City of Lake Forest, County of Orange, Ca	2001	El Toro
OR-02218	Brock, James P.	Archaeological Assessment for the Proposed Comfort Inn Project, 20768 Lake Forest Drive, Orange County, Ca	2000	El Toro
OR-02219	White, Robert S., White, Laurie, and Minch, John	Archaeological and Paleontological Assessments of a 12.05 Acre Parcel Located Just East of Dimension Drive and Enterprise Way in Lake Forest, Orange County	2000	El Toro
OR-02334	Hoover, Anna M.	Archaeological and Paleontological Monitoring at Lots 9 and 10, Tract 15753, Lake Forest , Orange County, California	2001	El Toro
OR-02420	Duke, Curt	Cultural Resource Assessment Cingular Wireless Facility No. Sc 059-02 Orange County, California	2002	San Juan Capistrano
OR-02522	Wallock, Nicole	Upper Aliso Creek Archaeological District	2001	El Toro, Santiago Peak
OR-02531	Duke, Curt	Cultural Resource Assessment AT&T Wireless Services Facility No. 13113a, Orange County, California	2002	El Toro
OR-02569	Henriksen, Karen J.	Final Archaeological Report on Archaeological Sites CA-ORA-693, CA-ORA-694, CA-ORA-695, CA-ORA-696, CA-ORA-697, and CA-ORA-699 Located on Rancho De Los Alisos in the County of Orange	1983	El Toro
OR-02575	Colegrove, Stephen E.	Archaeological and Paleontological Site Survey of Planning Areas 70, 41, and 3, Mission Viejo	1975	El Toro, San Juan Capistrano
OR-02646	Duke, Curt	Cultural Resource Assessment at & T Wireless Services Facility No. 13339a Orange County, California	2002	El Toro
OR-02655	Duke, Curt	Cultural Resource Assessment for Pacific Bell Wireless Facility Cm 367-01, in the County of Orange, California	2000	El Toro
OR-02660	Duke, Curt	Cultural Resource Assessment at & T Wireless Services Facility No. 13110b Orange County, California	2002	El Toro
OR-02927	Padon, Beth	Archaeological and Paleontological Monitoring of Ascension Cemetery, Phase I Improvements, in the City of Lake Forest, California	2005	El Toro
OR-02928	Demcak, Carol R.	Final Report of Salvage Level Investigations at ORA-758, Alton Parkway Extension Project, County of Orange, California	1994	El Toro
OR-02930	Bonner, Wayne H.	Records Search Results and Site Visit for Cingular Telecommunications Facility Candidate Sc-141-01 (sub Abd Sail Club), 24752 Toledo Lane, Lake Forest, Orange County, California	2003	El Toro
OR-02932	Fulton, Phil	Cultural Resource Assessment Verizon Wireless Services Julio Facility Lake Forest, Orange County, California	2005	El Toro
OR-02951	Bonner, Wayne H.	Records Search Results for Cingular Wireless Site Sc-096-04 (el Toro Memorial Park), 25741 Trabuco Rd., Lake Forest, Orange County, California	2002	El Toro
OR-02954	Wlodarski, Robert J.	Records Search Results for the Proposed Mountain Union Telecom Regency Lane Cell Site (po/ref# Sfc4001), Located at 20595 Regency Lane, City of Lake Forest, County of Orange, California	2004	El Toro

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Report No.	Author(s)	Title	Year	Quad Maps
OR-03049	Bonner, Wayne H.	Cultural Resources Records Search Results and Site Visit for T-Mobile Candidate La02894a (cm367 Regency Lane), Lake Forest, Orange County, California	2006	El Toro
OR-03050	Bonner, Wayne H.	Cultural Resources Records Search Results and Site Visit for Cingular Wireless Candidate Oc-0056-01 (sce Tower/Trabuco Canyon) Santiago Canyon Road, Portola Hills, Orange County, California	2005	El Toro
OR-03063	Bonner, Wayne H.	Records Search Results for Sprint Pcs Facility Og65xc417d (the Pacific World Site), Located at 25791 Commercentre Drive, El Toro in Orange County, California	2001	El Toro
OR-03127	Smith, Brooks R. and Deborah K.B. McLean	Archaeological Monitoring Report the Orchard at Saddleback-phase Ii City of Lake Forest, Orange County, California	2006	San Juan Capistrano
OR-03148	Kyle, Carolyn E.	Cultural Resource Assessment for Cingular Wireless Facility Sc059-04 City of Laguna Hills, Orange County, California	2002	San Juan Capistrano
OR-03278	McLean, Deborah K. and Shannon, Carmack	Archaeological Monitoring Report the Orchard at Saddleback City of Lake Forest, Orange County, California	2005	San Juan Capistrano
OR-03285	Fulton, Terri and Deborah McLean	Archaeological Mitigation Monitoring Report for the Irvine Desalter Pipelines Project	2006	El Toro, Tustin
OR-03370	Greene, Richard and Brian F. Smith	A Cultural Resources Study of the Portola Center Project	2007	El Toro
OR-03373	Arrington, Cindy and Nancy Sikes	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and Ii	2006	El Toro, San Juan Capistrano, Santiago Peak
OR-03385	Fulton, Terri	Cultural Resource Assessment: Verizon Wireless Portola Hills Fast Track Facility Project No. 25005-005032.03 City of Lake Forest, Orange County, California	2006	El Toro
OR-03433	Bonner, Wayne H.	Cultural Resource Records Search and Site Visit Results for Sprint Nextel Candidate Ca7093 (intense), 25751 Trabuco Road, Lake Forest, Orange County, California	2007	El Toro
OR-03600	Garcia, Kyle H. and Marcy Rockman	Results of Archaeological Survey and Monitoring for Southern California Edison's Pole Replacements After Santiago Fire Along Santiago Canyon Road, Modjeska Canyon Road, and Hicks Canyon Road; Orange County, California; Jo:6259-0468	2007	El Toro, Santiago Peak
OR-03747	Bai "Tom" Tang and Michael Hogan	Identification and Evaluation of Historic Properties- Lake Forest ADA Wheelchair Access Ramp Improvement Project	2008	El Toro
OR-03748	Patrick O. Maxon	Phase II Archaeological Evaluation CA-ORA-1004 & CA-ORA-1150	2009	El Toro

City of Lake Forest Paleontological and Cultural Resources Assessment Report

Report No.	Author(s)	Title	Year	Quad Maps
OR-03749	Patrick O. Maxon	Phase I Cultural Resources Reconnaissance Survey- Proposed Alton Parkway Extension Project, Including Baker Ranch, Lake Forest, CA	2008	El Toro
OR-03757	Bai "Ton" Tang and Michael Hogan	Identification and Evaluation of Historic Properties: Lake Forest ADA Wheelchair Access Ramp Improvement Project (Phase III)	2009	El Toro, San Juan Capistrano
OR-03770	Clark, Fatima	Results of the Cultural Resource Assessment for the Southern California Edison Replacement of Deteriorated Pole Nos. 2140160E, 2140170E, 2140171E, 2140178E, 2140179E, and 2280425; Orange County, California; WO 4805-0557	2009	El Toro
OR-03840	Marken, Mitch	Phase I Archaeological Assessment for the IRWD Baker Regional Water Treatment Plant Project, Orange County, CA	2009	El Toro, Orange
OR-03866	Tang, Tom	Identification of Known Historical/Archaeological Resources Lake Forest ADA Wheelchair Access Ramp Improvement Project (Phase IV) City of Lake Forest, Orange County, California, Project no. PW 2009.09; CRM Tech Contract #2415	2010	El Toro
OR-03950	Billat, Lorna	Hotel Furniture Liquidators, CA-ORC4024C, Collocation Submission Packet	2010	Tustin
OR-03989	Deering, Mark and Mason, Roger D.	Cultural Resources Documentation and Monitoring of Southern California Edison Access Roads During Maintenance by the Orange County Fire Authority, 2010 Orange County, California	2011	El Toro, San Juan Capistrano, Santiago Peak
OR-03992	Bray, Madeleine	Archaeological Addendum Report for the IRWD Baker Regional Water Treatment Plant Project, Orange County, CA	2010	El Toro
OR-04029	Deering, Mark and Roger Mason	Cultural Resources Monitoring of Southern California Edison Access Roads Maintained by Orange County Fire Authority, Orange County, California (JPA E6088-0031; I.O. 305869)	2010	El Toro, San Juan Capistrano, Santiago Peak
OR-04084	Fulton, Terri and Deborah McLean	Cultural Resource Assessment of 22 Natural Treatment System Facility Sites Within the San Diego Creek Watershed - Natural Treatment System Project, Irvine Ranch Water District, Orange County, California	2005	El Toro
OR-04096	Wlodarski, Robert	Record Search Results for the Proposed Bechtel Wireless Telecommunications Site LA3133 (El Toro Storage), located at 23122 El Toro Road, Lake Forest, California	2010	El Toro
OR-04169	Tnag, Tom	Identification of Known Historical/Archaeological Resources Lake Forest ADA Wheelchair Access Ramp Improvement Project (Phase V) City of Lake Forest, Orange County, California	2011	El Toro, San Juan Capistrano
OR-04182	McKenna, Jeanette	El Toro High School Archaeological Records Search	2012	El Toro
OR-04184	Maxon, Patrick	Cultural Resources for Rancho Las Lomas	2009	Santiago Peak
OR-04196	Wlodarski, Robert	LAR138 -- Manchester/Broadway, 1500 West Center Street Anaheim, CA 92802	2012	Anaheim
OR-04289	Stone, David and Victorino, Ken	Archaeological Survey Report Tertiary Treatment Plant and Recycled Water Distribution System Expansion Project Laguna Hills and Laguna Woods, Orange County, California	2012	El Toro, San Juan Capistrano
OR-04308	Smith, Brian	A Section 106 (NHPA) Cultural Resources Study for the Portola Center Project Orange County, California	2014	El Toro

City of Lake Forest Paleontological and Cultural Resources Assessment Report

Report No.	Author(s)	Title	Year	Quad Maps
OR-04336	O'Neil, Stephen	Identification and Evaluation of Historic Properties ADA Wheelchair Access Ramp Improvement Project, City of Lake Forest, Orange County, California	2012	El Toro
OR-04357	Burres, Cara L.	Paleontological and Archaeological Monitoring Report for Pacific Jack, L.L.C. - Palm Terrace, Lake Forest, California	2000	El Toro
OR-04358	Gust, Sherri	Archaeological and Paleontological Monitoring Report for Serrano Creek Business Center, Lake Forest, California	1999	El Toro
OR-04389	Brunzell, David	Cultural Resources Assessment of the Aspen Project, Lake Forest, Orange County, California (BCR Consulting Project No. TRF 1408)	2014	El Toro

APPENDIX E. PALEO SENSITIVITY CRITERIA

Potential Fossil Yield Classification (PFYC) rankings are as per the Bureau of Land Management (BLM 2008)

PFYC Description	PFYC Rank
Very Low. The occurrence of significant fossils is non-existent or extremely rare. Includes igneous or metamorphic and Precambrian or older rocks. Assessment or mitigation of paleontological resources is usually unnecessary.	1
Low. Sedimentary geologic units that are not likely to contain vertebrate fossils or scientifically significant nonvertebrate fossils. Includes rock units too young to produce fossils, sediments with significant physical and chemical changes (e.g., diagenetic alteration) and having few to no fossils known. Assessment or mitigation of paleontological resources is not likely to be necessary.	2
Potentially Moderate but Undemonstrated Potential. Units exhibit geologic features and preservational conditions that suggest fossils could be present, but no vertebrate fossils or only common types of plant and invertebrate fossils are known. Surface-disturbing activities may require field assessment to determine appropriate course of action.	3b
Moderate Potential. Units are known to contain vertebrate fossils or scientifically significant nonvertebrate fossils, but these occurrences are widely scattered and of low abundance. Common invertebrate or plant fossils may be found. Surface-disturbing activities may require field assessment to determine appropriate course of action.	3a
High. Geologic units containing a high occurrence of significant fossils. Fossils must be abundant per locality. Vertebrate fossils or scientifically significant invertebrate or plant fossils are known to occur and have been documented, but may vary in occurrence and predictability. If impacts to significant fossils can be anticipated, on-the-ground surveys prior to authorizing the surface disturbing action will usually be necessary. On-site monitoring or spot-checking may be necessary during construction activities.	4
Very High. Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils. Vertebrate fossils or scientifically significant invertebrate fossils are known or can reasonably be expected to occur in the impacted area. On-the-ground surveys prior to authorizing any surface disturbing activities will usually be necessary. On-site monitoring may be necessary during construction activities.	5

APPENDIX F. NATIVE AMERICAN CONSULTATION

**Local Government Tribal
Consultation List Request**

**Native American
Heritage Commission**

1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax nahc@nahc.ca.gov

Type of List Requested: AB 52 and SB 18

CEQA Tribal Consultation List (AB 52) – *Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2*

General Plan (SB 18) - *Per Government Code § 65352.3.*

Local Action Type:

General Plan Update ___ **General Plan Element** ___ **General Plan Amendment**

___ **Specific Plan** ___ **Specific Plan Amendment** ___ **Pre-planning Outreach Activity**

Required Information

Project Title: City of Lake Forest General Plan Update

Local Government/Lead Agency: The City of Lake Forest

Contact Person: Gayle Ackerman, AICP

Street Address: 25550 Commercentre Drive, Suite 100

City: Zip: 92630

Phone: (949) 461-3463 **Fax:** _None Provided

Email: GAckerman@lakeforestca.gov

Specific Area Subject to Proposed Action

County: Orange

City/Community: Lake Forest/El Toro

Project Description: The City of Lake Forest is updating its General Plan first adopted in 1994 to guide the physical development of the City.

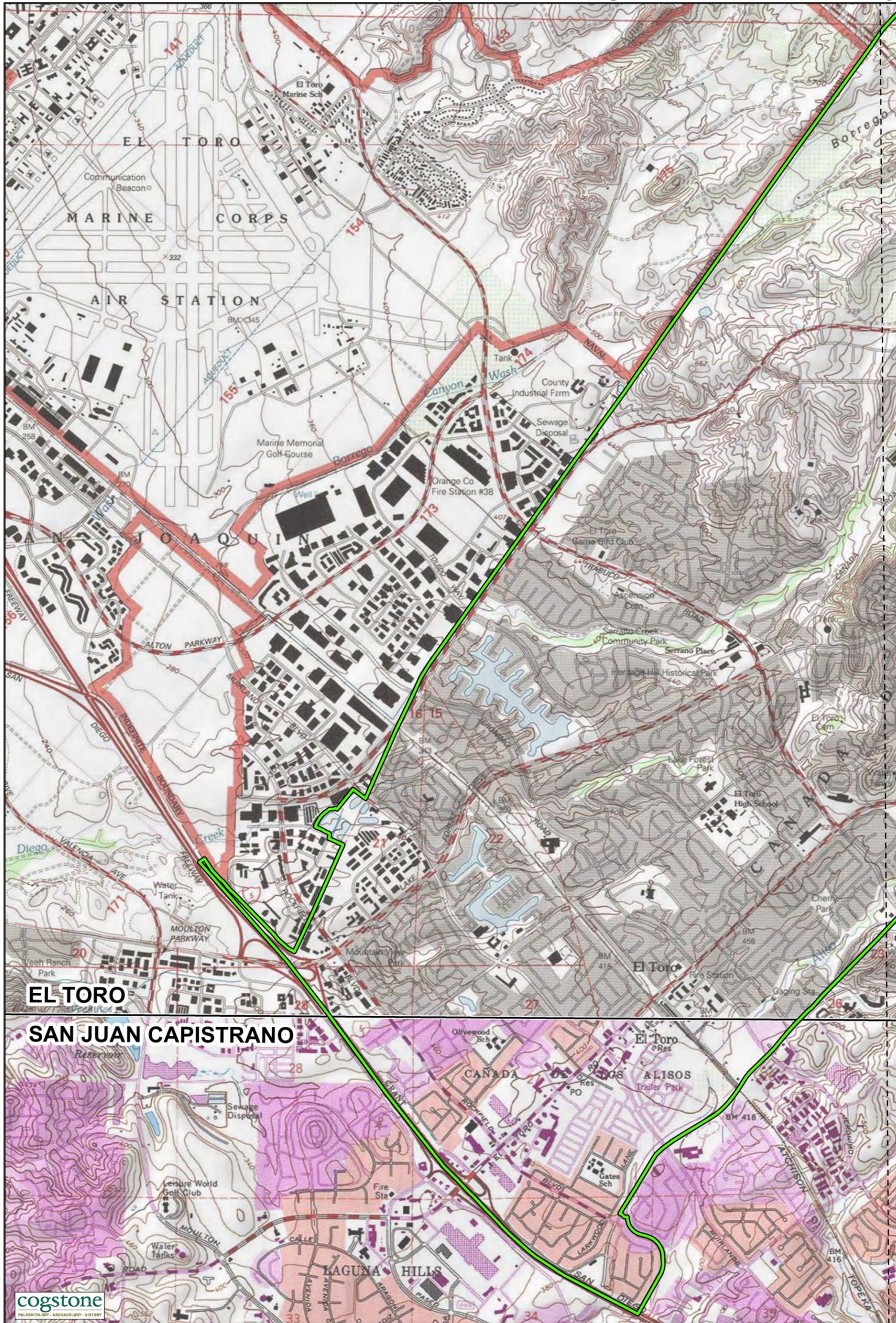
Additional Request



Sacred Lands File Search - *Required Information:*

USGS Quadrangle Name(s): El Toro, San Juan Capistrano, and Santiago Peak

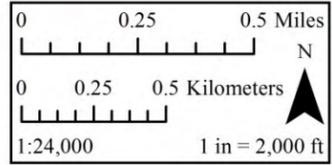
TOWNSHIP	RANGE	SECTION
5 S	7W	25, 29, 30, 31, 32, 33
5 S	8 W	7, 8, 18, 25, 31, 32, 33, 36
6 S	7 W	4, 5, 6, 7, 8
6 S	8 W	1, 2, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 26, 27, 28, 34, 35

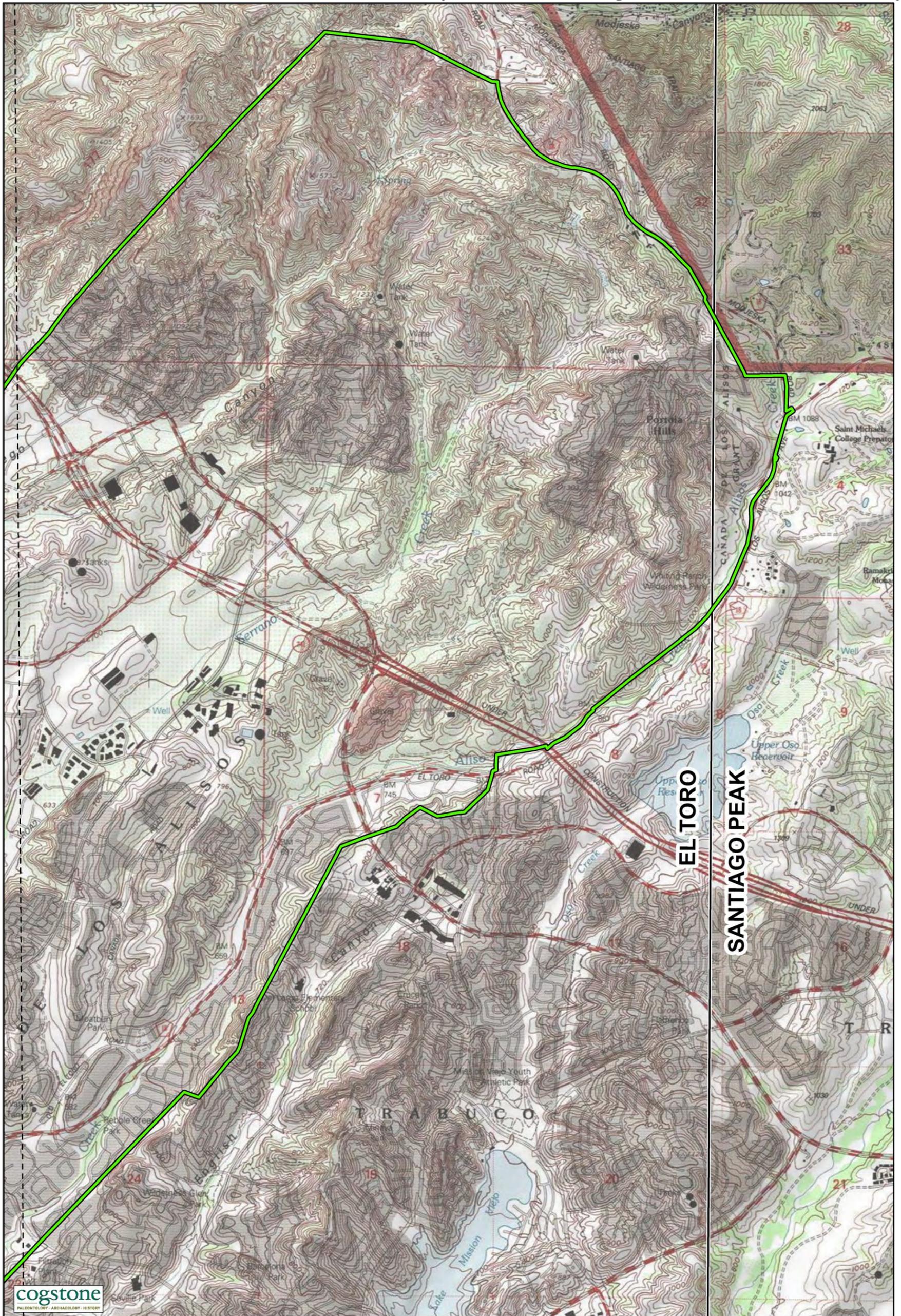


City of Lake Forest
 General Plan Update
 City of Lake Forest,
 Orange County, CA

Map 1 of 2

- Match Line
- City of Lake Forest
- USGS Quads

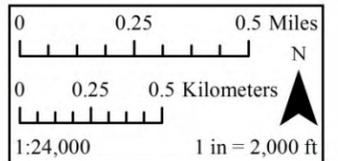




City of Lake Forest
 General Plan Update
 City of Lake Forest,
 Orange County, CA

Map 2 of 2

- Match Line
- City of Lake Forest
- USGS Quads



NATIVE AMERICAN HERITAGE COMMISSION

Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710



March 23, 2018

Gayle Ackerman
City of Lake Forest

Sent via e-mail: gackerman@lakeforestca.gov

RE: Proposed City of Lake Forest General Plan Update Project, City of Lake Forest; El Toro, San Juan Capistrano, and Santiago Peak USGS Quadrangles, Orange County, California

Dear Ms. Ackerman:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced project.

Government Code §65352.3 requires local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of protecting, and/or mitigating impacts to cultural places in creating or amending general plans, including specific plans. As of July 1, 2015, Public Resources Code Sections 21080.3.1 and 21080.3.2 require public agencies to consult with California Native American tribes identified by the NAHC for the purpose mitigating impacts to tribal cultural resources:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section. (Public Resources Code Section 21080.1(d))

The law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions. The NAHC believes that in fact that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

In accordance with Public Resources Code Section 21080.1(d), formal notification must include a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation. The NAHC requests that lead agencies include in their notifications information regarding any cultural resources assessment that has been completed on a potential "area of project affect" (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:
 - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE;
 - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
 - If the probability is low, moderate, or high that cultural resources are located in the APE.

- Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the potential APE; and
 - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
2. The results of any archaeological inventory survey that was conducted, including:
- Any report that may contain site forms, site significance, and suggested mitigation measures.
- All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.
3. **THIS INFORMATION IS CONFIDENTIAL. PLEASE DO NOT INCLUDE IN PUBLIC DOCUMENTS.**
The results of any Sacred Lands File (SFL) check conducted through Native American Heritage Commission. A site is recorded in the Santiago Peak USGS Quadrangle you provided that may be impacted by the project. Please contact the Juaneño Band of Mission Indians at sonia.johnston@sbcglobal.net for more information about the site. Please contact all the tribes on the attached list for potential additional sites.
4. Any ethnographic studies conducted for any area including all or part of the potential APE; and
5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a cultural place. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

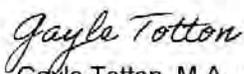
This information will aid tribes in determining whether to request formal consultation. In the case that they do, having the information beforehand will help to facilitate the consultation process.

Lead agencies or agencies potentially undertaking a project are encouraged to send more than one written notice to tribes that are traditionally and culturally affiliated to a potential APE during the 30-day notification period to ensure that the information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance we are able to assure that our consultation list contains current information.

If you have any questions, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,



Gayle Totton, M.A., PhD
Associate Governmental Program Analyst

CONFIDENTIALITY NOTICE: This communication with its contents may contain confidential and/or legally privileged information. It is solely for the use of the intended recipient(s). Unauthorized interception, review, use or disclosure is prohibited and may violate applicable laws including the Electronic Communications Privacy Act. If you are not the intended recipient, please contact the sender and destroy all copies of the communication.

**Native American Heritage Commission
Tribal Consultation List
Orange County
3/23/2018**

Campo Band of Mission Indians

Ralph Goff, Chairperson
36190 Church Road, Suite 1 Kumeyaay
Campo, CA, 91906
Phone: (619) 478 - 9046
Fax: (619) 478-5818
rgoff@campo-nsn.gov

Ewiiaapaayp Tribe

Robert Pinto, Chairperson
4054 Willows Road Kumeyaay
Alpine, CA, 91901
Phone: (619) 445 - 6315
Fax: (619) 445-9126
wmicklin@leaningrock.net

Ewiiaapaayp Tribe

Michael Garcia, Vice Chairperson
4054 Willows Road Kumeyaay
Alpine, CA, 91901
Phone: (619) 445 - 6315
Fax: (619) 445-9126
michaelg@leaningrock.net

Jamul Indian Village

Erica Pinto, Chairperson
P.O. Box 612 Kumeyaay
Jamul, CA, 91935
Phone: (619) 669 - 4785
Fax: (619) 669-4817
mohusky@jiv-nsn.gov

Juaneno Band of Mission Indians

Sonia Johnston, Chairperson
P.O. Box 25628 Juaneno
Santa Ana, CA, 92799
sonia.johnston@sbcglobal.net

Juaneno Band of Mission Indians Acjachemen Nation

Matias Belardes, Chairperson
32161 Avenida Los Amigos Juaneno
San Juan Capistrano, CA, 92675
Phone: (949) 293 - 8522
kaamalam@gmail.com

Juaneno Band of Mission Indians Acjachemen Nation - Romero

Teresa Romero, Chairperson
31411-A La Matanza Street Juaneno
San Juan Capistrano, CA, 92675
Phone: (949) 488 - 3484
Fax: (949) 488-3294
tromero@juaneno.com

La Posta Band of Mission Indians

Javaughn Miller, Tribal Administrator
8 Crestwood Road Kumeyaay
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
jmiller@LPtribe.net

La Posta Band of Mission Indians

Gwendolyn Parada, Chairperson
8 Crestwood Road Kumeyaay
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
LP13boots@aol.com

Manzanita Band of Kumeyaay Nation

Angela Elliott Santos, Chairperson
P.O. Box 1302 Kumeyaay
Boulevard, CA, 91905
Phone: (619) 766 - 4930
Fax: (619) 766-4957

Pauma Band of Luiseno Indians - Pauma & Yuima Reservation

Temet Aguilar, Chairperson
P.O. Box 369 Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 1289
Fax: (760) 742-3422
bennaecalac@aol.com

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable only for consultation with Native American tribes under Government Code Sections 65352.3, 65362.4 et seq. and Public Resources Code Sections 21080.3.1 for the proposed City of Lake Forest General Plan Update Project, Orange County.

**Native American Heritage Commission
Tribal Consultation List
Orange County
3/23/2018**

***San Pasqual Band of Mission
Indians***

Allen E. Lawson, Chairperson
P.O. Box 365 Kumeyaay
Valley Center, CA, 92082
Phone: (760) 749 - 3200
Fax: (760) 749-3876
allenl@sanpasqualtribe.org

***Sycuan Band of the Kumeyaay
Nation***

Cody J. Martinez, Chairperson
1 Kwaaypaay Court Kumeyaay
El Cajon, CA, 92019
Phone: (619) 445 - 2613
Fax: (619) 445-1927
ssilva@sycuan-nsn.gov

***Viejas Band of Kumeyaay
Indians***

Robert Welch, Chairperson
1 Viejas Grade Road Kumeyaay
Alpine, CA, 91901
Phone: (619) 445 - 3810
Fax: (619) 445-5337
jhagen@viejas-nsn.gov

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable only for consultation with Native American tribes under Government Code Sections 65352.3, 65362.4 et seq. and Public Resources Code Sections 21080.3.1 for the proposed City of Lake Forest General Plan Update Project, Orange County.

CITY OF LAKE FOREST



June 4, 2018

TEMPLATE:

Mayor
Dr. Jim Gardner

Mayor Pro Tem
Leah Basile

Council Members
Tom Cagley
Dwight Robinson
Scott Voigts

City Manager
Debra DeBruhl Rose

RE: AB 52 Consultation Request for the General Plan Update and Environmental Impact Report for the City of Lake Forest, Orange County, California.

Dear Representative:

The City of Lake Forest (City), located in Orange County, California (Figure 1), is preparing a comprehensive General Plan Update (Project) which will encompass the entire City of Lake Forest, located south of the Saddleback Mountains (Angeles National Forest), east of the City of Irvine, north of the City of Laguna Hills, and west of the City of Mission Viejo (see Figures 2 and 3, Table 1). The existing General Plan was adopted by the City of Lake Forest in 1994 and is available on the City's website at: <https://www.lakeforestca.gov/292/Planning-Documents>. This General Plan Update will comply with California Environmental Quality Act (CEQA) regulations and an Environmental Impact Report (EIR) will be prepared.

We are contacting you because your Tribal Organization requested to be notified and provided information, under the provisions of the CEQA (Public Resources Code section 21080.3.1 subdivisions (b), (d) and (e)), also known as AB 52, regarding projects with the City's jurisdiction and within the traditional tribal territory of your Tribal Organization. Please consider this letter and preliminary Project information as the formal notification of the proposed Project. The City of Lake Forest is requesting to consult with the your Tribal Organization to identify tribal cultural resources that may be impacted by the proposed Project. The point of contact for the City of Lake Forest on the following page:



City of Lake Forest Point of Contact Information	
Name:	Gayle Ackerman
City:	City of Lake Forest
Address:	25550 Commercentre Drive, Suite
City, Zip:	Lake Forest, CA 92630
Tel:	(949) 461-3463
E-Mail:	GAckerman@lakeforestca.gov

The Native American Heritage Commission (NAHC) was contacted on March 22, 2018 to perform a search of the Sacred Lands File (SLF). The NAHC responded on March 23, 2018 that a sacred land is recorded on the Santiago Peak United States Geological Survey (USGS) topographic quadrangle. The NAHC also provided a list of Native American tribal contacts that may have knowledge of cultural resources within the General Plan area and recommended that we contact you, among others.

A cultural resources records search was performed at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton to identify resources within the City's limits on March 28, 2018. The results of the records search indicate that 140 cultural resources have been previously recorded within the City's limits and include: 126 prehistoric archaeological resources, five multicomponent sites, and nine historic archaeological sites.

The City would appreciate receiving any comments, issues and/or concerns relating to cultural resources, sacred lands, or tribal cultural resources located within the General Plan area. All information provided will be kept strictly confidential.

For consultation under AB 52, **please respond within 30 days from the date of this letter**, pursuant to PRC 21080.3.1(d) if you would like to consult. If you have any questions or concerns, please do not hesitate to contact Gayle Ackerman at the address above or via email GAckerman@lakeforestca.gov or phone (949) 461-3463. Thank you for your attention to this matter.

Sincerely,

Gayle Ackerman

Attachments: Figure 1. Project Vicinity Map
 Figure 2. Project Location Map, aerial
 Figure 3. Project Location Map, topo
 Table 1. Cadastral Information

CITY OF LAKE FOREST



June 4, 2018

TEMPLATE:

RE: SB 18 Consultation Request for the General Plan Update and Environmental Impact Report for the City of Lake Forest, Orange County, California.

Mayor
Dr. Jim Gardner

Mayor Pro Tem
Leah Basile

Council Members
Tom Cagley
Dwight Robinson
Scott Voigts

City Manager
Debra DeBruhl Rose

Dear Representative:

The City of Lake Forest (City), located in Orange County, California (Figure 1), is preparing a comprehensive General Plan Update (Project) which will encompass the entire City of Lake Forest, located south of the Saddleback Mountains (Angeles National Forest), east of the City of Irvine, north of the City of Laguna Hills, and west of the City of Mission Viejo (see Figures 2 and 3, Table 1). The existing General Plan was adopted by the City of Lake Forest in 1994 and is available on the City's website at: <https://www.lakeforestca.gov/292/Planning-Documents>. This General Plan Update will comply with California Environmental Quality Act (CEQA) regulations and an Environmental Impact Report (EIR) will be prepared..

We are requesting consultation under Senate Bill 18 (Chapter 905, Statutes of 2004) which requires local governments to consult with tribes prior to making certain planning decisions and requires consultation and notice for a general and specific plan adoption or amendment to preserve, or mitigate impacts to, cultural places that may be affected. The Native American Heritage Commission (NAHC) provided us with a list of tribal entities and individuals who have requested to be placed on the SB 18 consultation list. Your Tribal Organization is on the list provided. As a result, please consider this letter as a notice of the project and an invitation to provide comments regarding the project. The point of contact for the City of Lake Forest is:

City of Lake Forest Point of Contact Information	
Name:	Gayle Ackerman
City:	City of Lake Forest
Address:	25550 Commercentre Drive, Suite
City, Zip:	Lake Forest, CA 92630
Tel:	(949) 461-3463
E-Mail:	GAckerman@lakeforestca.gov



The Native American Heritage Commission (NAHC) was contacted on March 22, 2018 to perform a search of the Sacred Lands File (SLF). The NAHC responded on March 23, 2018 that a sacred land is recorded on the Santiago Peak United States Geological Survey (USGS) topographic quadrangle.

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The City would appreciate receiving any comments, issues and/or concerns relating to cultural resources, sacred lands, or tribal cultural resources located within the General Plan area. All information provided will be kept strictly confidential.

Please respond within 90 days from the date of this letter if you would like to consult. If you have any questions or concerns, please do not hesitate to contact Gayle Ackerman at the address above or via email GAckerman@lakeforestca.gov or phone (949) 461-3463. Thank you for your attention to this matter.

Sincerely,

Gayle Ackerman

Attachments: Figure 1. Project Vicinity Map
Figure 2. Project Location Map, aerial
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Table 1. Cadastral Information

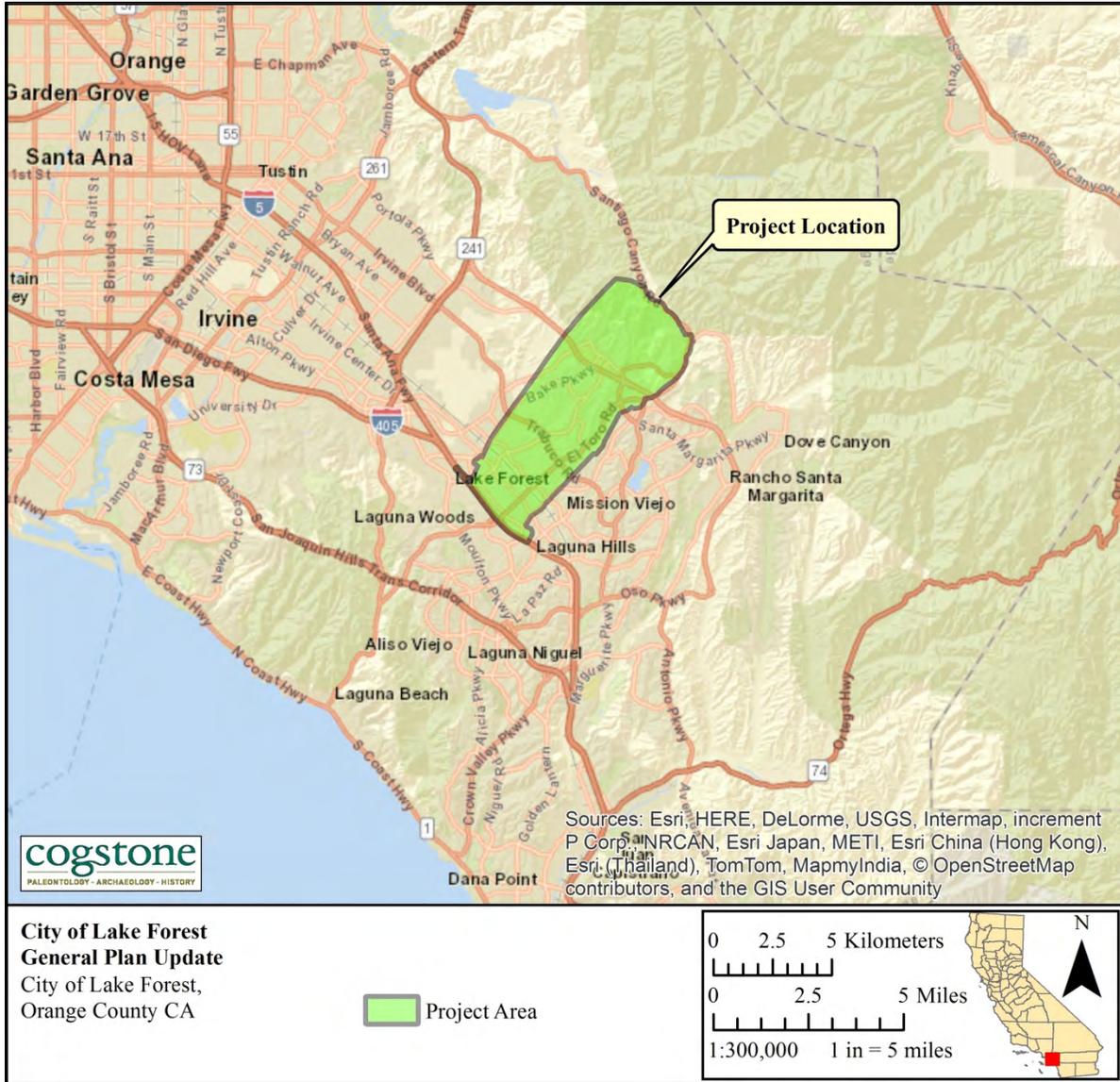


Figure 1. Project Vicinity Map

Table 1. Cadastral Information

TOWNSHIP	RANGE	SECTION
5 S	7W	25, 29, 30, 31, 32, 33
5 S	8 W	7, 8, 18, 25, 31, 32, 33, 36
6 S	7 W	4, 5, 6, 7, 8
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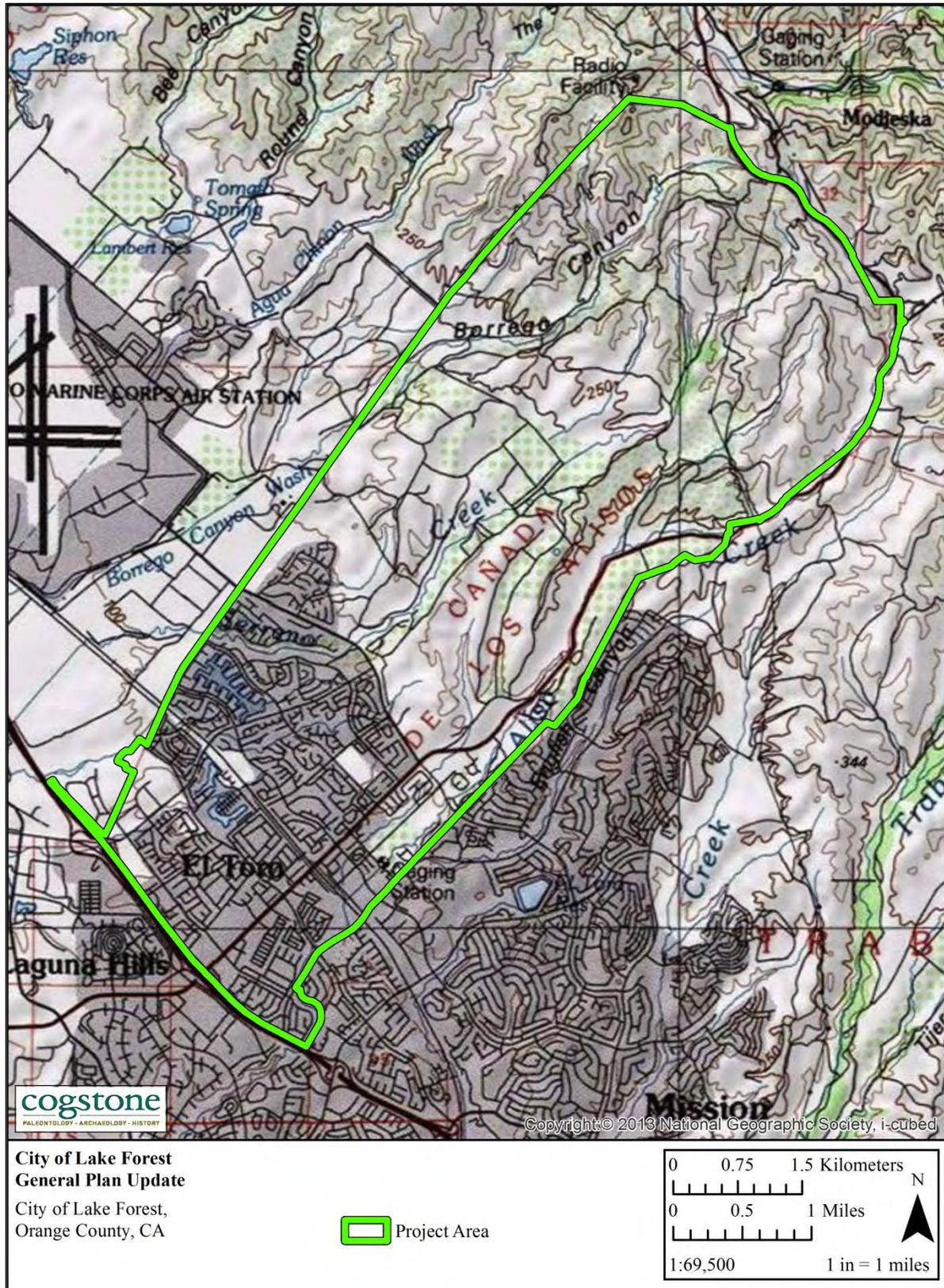


Figure 2. Project Location Map



Figure 3. Project Aerial Map

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SB18

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Boulevard, CA 91905

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Michael Garcia
9154 Willows Road
Alhambra, CA 91901

AB52

Native American Consultation Log

Tribal Organization	Type of Request	Date(s) and Method of First Contact Attempt	Date(s) and Method of Second Attempt	Date(s) and Method of Third Attempt	Date(s) of Replies Rec'd
Campo Band of Mission Indians	SB 18	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail	No response.
Ewiiapaayp Band of Kumeyaay Indians	SB 18	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail	No response.
Jamul Indian Village, Erica Pinto, Chairperson	SB 18	June 4, 2018, certified mail	June 26, 2018, email	July 18, phone conversation	On July 18, 2018 the receptionist of the Jamul Indian Village indicated that the City of Lake Forest is off their reservation and outside of their traditional tribal territory and defers to local Tribes.
Juaneño Band of Mission Indians Acjachemen Nation : Belardes/Perry	AB 52	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail and email: additional emails and 8/20 and 8/31 2018. Phone conversation 8/31/2018	On August 31, 2018 Ms. Joyce Perry of the Juaneño Band of Mission Indians Acjachemen Nation, via phone conversation, requested that the City of Lake Forest notify the Tribe regarding any development projects located within the City limits. She informed that the Santa Ana foothills and area around the Aliso Creek watershed are extremely sensitive for Tribal Cultural resources including ancestor remains.
Juaneño Band of Mission Indians Acjachemen Nation: Romero	SB 18	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail and email: additional emails sent 8/20 and 8/31, 2018	No response.
Juaneño Band of Mission Indians: Johnston	SB 18	August 18, 2018	-	-	No response.

Tribal Organization	Type of Request	Date(s) and Method of First Contact Attempt	Date(s) and Method of Second Attempt	Date(s) and Method of Third Attempt	Date(s) of Replies Rec'd
La Posta Band of Mission Indians	SB 18	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail	No response.
Manzanita Band of Kumeyaay Nation	SB 18	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail and email	No response.
Pauma Band of Luiseno Indians - Pauma & Yuima Reservation	SB 18	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail	No response.
San Pasqual Band of Mission Indians	SB 18	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail	No response.
Soboba Band of Luiseno Indians	AB 52	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail	No response.
Sycuan Band of the Kumeyaay Nation	SB 18	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail	No response.
Torres Martinez Desert Cahuilla Indians	AB 52	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail	No response.
United Auburn Indian Community of the Auburn Rancheria	AB 52	June 4, 2018, certified mail	June 26, 2018, email	August 31, 2018, email	On August 31, 2018, Mr. Marcos Guerrero indicated that he believed the UAIC was placed on the City of Forest/Orange County lists by accident.
Viejas Band of Kumeyaay Indians	SB 18	June 4, 2018, certified mail	June 26, 2018, email	July 18, 2018, voicemail	On June 12, 2018 Mr. Ray Teran indicated that Tribe as determined that the project has little cultural significance of ties to the Viejas Tribe. He recommended that local Tribes be consulted.



RECEIVED

JUN 25 2018

CITY OF LAKE FOREST
DEVELOPMENT SERVICES DEPT.
P.O. Box 908
Lake Forest, CA 91903
#1 Vieja Grade Road
Alpine, CA 91901

Phone: 6194453810

Fax: 6194455337

viejas.com

June 12, 2018

Gayle Ackerman
City of Lake Forest
25550 Commercentre Drive, Suite 100
Lake Forest, CA 92630

RE: SB 18 Consultation Request for General Plan Update and Environmental Impact Report for the City of Lake Forest

Dear Ms. Ackerman,

The Viejas Band of Kumeyaay Indians ("Viejas") has reviewed the proposed project and at this time we have determined that the project site has little cultural significance or ties to Viejas. We further recommend that you contact the tribe(s) closest to the cultural resources. We, however, request to be informed of any new developments such as inadvertent discovery of cultural artifacts, cremation sites, or human remains in order for us to reevaluate our participation in the government-to-government consultation process.

Please do not hesitate to contact me if you have further questions. Please call Ernest Pingleton at 619-659-2314 or me at 619-659-2312, or email, epingleton@viejas-nsn.gov or rteran@viejas-nsn.gov. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ray Teran".

Ray Teran, Resource Management
VIEJAS BAND OF KUMEYAAY INDIANS

City of Lake Forest Paleontological and Cultural Resources Assessment Report

From: [Marcos Guerrero](#)
To: [Megan Wilson](#)
Subject: RE: Confirmation the United Auburn Indian Community wished to Consult with the City of Lake Forest
Date: Friday, August 31, 2018 3:34:26 PM

Thanks Megan this helps.

Mg

From: Megan Wilson [mailto:mwilson@cogstone.com]
Sent: Friday, August 31, 2018 11:13 AM
To: Marcos Guerrero <mguerrero@auburnrancheria.com>
Subject: RE: Confirmation the United Auburn Indian Community wished to Consult with the City of Lake Forest

Good morning Mr. Guerrero,

The Contact information for the City of Lake Forest is provided below.

City of Lake Forest Point of Contact Information	
Name:	Gayle Ackerman
City:	City of Lake Forest
Address:	25550 Commercentre Drive, Suite
City, Zip:	Lake Forest, CA 92630
Tel:	(949) 461-3463
E-Mail:	GAckerman@lakeforestca.gov

Thank you for your attention to this matter,

Megan

From: Marcos Guerrero [<mailto:mguerrero@auburnrancheria.com>]
Sent: Friday, August 31, 2018 9:49 AM
To: Megan Wilson; Jason Camp
Cc: Matthew Moore
Subject: RE: Confirmation the United Auburn Indian Community wished to Consult with the City of Lake Forest

Hello Megan,

I think UAIC may have gotten on the City of Forest /Orange County list by accident. I will follow up with the NAHC and City of Lake Forest to make this correction.

If there is a contact person at the City of Forest, please share their information. Best,

Marcos

From: Megan Wilson [<mailto:mwilson@cogstone.com>]
Sent: Friday, August 31, 2018 9:02 AM
To: Jason Camp <jcamp@auburnrancheria.com>
Cc: Marcos Guerrero <mguerrero@auburnrancheria.com>
Subject: Confirmation the United Auburn Indian Community wished to Consult with the City of Lake Forest

Good Morning,

On behalf of the City of Lake Forest, located in Orange County, CA, I want to confirm that the United Auburn Indian Community wished to consult with the City regarding Projects within their jurisdiction under AB52.

Please confirm via email, or phone that the City of Lake Forest is a City your Tribe wished to consult with.

Thank you,



PALEONTOLOGY - ARCHAEOLOGY - HISTORY

Federal Certifications: SDB, EDVOSB
State Certifications: DBE, WBE, SBE, UDBE

Megan Wilson, MA, RPA
Archaeologist/GIS Technician
11518 W Taft Ave, Orange, CA 92665
714-974-8300 ex 108 office
mwilson@cobstone.com www.cobstone.com
Field Offices in San Diego, Riverside, Morro Bay, San Francisco

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Appendix E

Noise Background Report



Lake Forest General Plan Update – Noise Background Report

City of Lake Forest, California

May 30, 2018

Project # 180206

Prepared for:

De Novo Planning Group
180 E Main Street, Suite 108
Tustin, CA 92780

Prepared by:

Saxelby Acoustics

A handwritten signature in blue ink, appearing to read "Luke Saxelby", is placed over a light blue rectangular background.

**Luke Saxelby, INCE Bd. Cert.
Principal Consultant
Board Certified, Institute of Noise Control Engineering (INCE)**

(916) 760-8821
www.SaxNoise.com | Luke@SaxNoise.com
915 Highland Pointe Drive, Suite 250
Roseville, CA 95678

This section provides a discussion of the regulatory setting and a general description of existing noise sources in the City of Lake Forest Lake Forest. The analysis in this section was prepared with assistance from Saxelby Acoustics.

3.11.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared. All dB levels used in this report are A-weighted values, unless otherwise stated.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by + 5 dB and nighttime hours weighted by +10 dB. Typically, 1 dB higher than Ldn for transportation noise sources.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise.

The day/night average level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to Ldn, but

includes a +3 dB penalty for evening noise. Table 3.11-1 lists several examples of the noise levels associated with common situations.

TABLE 3.11-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	NOISE LEVEL (dBA)	COMMON INDOOR ACTIVITIES
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE LEVELS

Traffic Noise Levels

The FHWA Highway Traffic Noise Prediction model (FHWA-RD 77-108) was used to develop community noise equivalent level (CNEL) noise contours for all highways and major roadways in the General Plan study area. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver and the acoustical characteristics of the site. The FHWA model predicts hourly L_{eq} values for free-flowing traffic conditions and is generally considered to be accurate within 1.5 dB. To predict CNEL values, it is necessary to determine the day/evening/night distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic modeling performed for the General Plan study area. Day/evening/night traffic distributions were based upon continuous hourly noise measurement data. Caltrans vehicle truck counts were obtained for Interstate 5 and Route 241. Arterial roadway truck percentages were obtained from vehicle classification count data provided by the traffic engineer. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. Table 3.11-2 shows the results of this analysis.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segments. In some locations sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the project-area roadway segments analyzed in this report.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers. The distances reported in Table 3.11-2 are generally considered to be conservative estimates of noise exposure along roadways in the City of Lake Forest Lake Forest. Figure 3.8-1 shows existing citywide traffic noise contours.

3.11 NOISE

TABLE 3.11-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS

ROADWAY SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (dB, LDN) ¹	DISTANCES TO TRAFFIC NOISE CONTOURS, LDN (FEET)		
		60 dB	65 dB	70 dB
Trabuco w/o Lake Forest	61.9	288	134	62
Trabuco w/o Ridge Route	63.9	295	137	64
Trabuco w/o El Toro	64.4	319	148	69
Trabuco e/o El Toro	61.0	250	116	54
Toledo w/o Lake Forest	56.4	125	58	27
Toledo e/o Lake Forest	60.8	121	56	26
Toledo e/o Ridge Route	59.7	103	48	22
Jeronimo w/o Lake Forest	63.2	177	82	38
Jeronimo w/o Ridge Route	60.7	144	67	31
Jeronimo w/o El Toro	62.2	151	70	33
Jeronimo e/o El Toro	64.0	198	92	43
Muirlands w/o Lake Forest	61.7	181	84	39
Muirlands w/o Ridge Route	63.1	208	96	45
Muirlands e/o Ridge Route	62.2	227	105	49
Muirlands e/o El Toro	64.5	235	109	51
Rockfield w/o Lake Forest	66.2	257	119	55
Rockfield w/o Ridge Route	69.7	222	103	48
Rockfield w/o El Toro	63.3	231	107	50
Rockfield w/o Los Alisos	60.7	155	72	33
Portola w/o Alton Pkwy	57.7	151	70	32
Portola w/o Bake	59.0	220	102	47
Portola w/o Lake Forest	60.5	269	125	58
Portola w/o Glenn Ranch	66.6	331	153	71
Portola n/o SR-241	60.5	281	131	61
Portola s/o SR-241	60.9	297	138	64
Portola w/o El Toro	60.3	406	189	88
Portola e/o El Toro	61.3	423	196	91
Rancho South w/o Bake	59.8	97	45	21
Rancho e/o Bake	63.9	181	84	39
Rancho e/o Lake Forest	61.0	226	105	49
Glenn n/o Portola to s/o Saddleback Ranch Road	59.8	239	111	51

TABLE 3.11-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS

ROADWAY SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (DB, LDN) ¹	DISTANCES TO TRAFFIC NOISE CONTOURS, LDN (FEET)		
		60 DB	65 DB	70 DB
Glenn Ranch w/o El Toro n/o Saddleback Ranch Road	56.0	135	63	29
Alton s/o Portola	57.3	143	66	31
Alton s/o SR-241	66.8	311	144	67
Alton s/o Rancho South	68.0	411	191	89
Alton n/o Trabuco	64.7	488	226	105
Bake s/o Towne Centre Drive	69.3	352	164	76
Bake n/o Commercentre	63.7	381	177	82
Bake s/o Commercentre	64.1	404	188	87
Bake s/o Trabuco	66.5	499	232	107
Bake s/o Toledo	63.6	521	242	112
Lake Forest s/o Portola	63.9	183	85	39
Lake Forest n/o Rancho	66.8	285	132	61
Lake Forest s/o Rancho	65.9	309	143	67
Lake Forest n/o Trabuco	65.6	408	189	88
Lake Forest s/o Trabuco	65.6	383	178	83
Lake Forest n/o Jeronimo	65.9	398	185	86
Lake Forest n/o Muirlands	65.4	395	183	85
Lake Forest s/o Muirlands	63.4	273	127	59
Lake Forest s/o Rockfield	68.7	381	177	82
Ridge Route n/o Toledo	58.2	90	42	19
Ridge Route n/o Jeronimo	58.7	97	45	21
Ridge Route s/o Jeronimo	61.8	100	46	21
Ridge Route n/o Muirlands	56.4	92	43	20
Ridge Route n/o Rockfield	57.8	92	43	20
Ridge Route s/o Rockfield	53.5	47	22	10
El Toro n/o Glenn Ranch	61.7	233	108	50
El Toro s/o Glenn Ranch	62.3	284	132	61
El Toro n/o Sta Margarita	63.0	271	126	58
El Toro s/o Sta Margarita	64.8	406	188	87
El Toro n/o Trabuco	68.4	399	185	86
El Toro s/o Trabuco	66.0	436	202	94
El Toro n/o Jeronimo	72.4	437	203	94

TABLE 3.11-2: PREDICTED EXISTING TRAFFIC NOISE LEVELS

ROADWAY SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (dB, LDN) ¹	DISTANCES TO TRAFFIC NOISE CONTOURS, LDN (FEET)		
		60 dB	65 dB	70 dB
El Toro n/o Moorlands	70.5	453	210	98
El Toro s/o Muirlands	64.2	309	143	67
El Toro s/o Rockfield	68.2	350	163	75
Los Alisos n/o Jeronimo	63.9	294	137	63
Los Alisos n/o Muirlands	63.6	301	140	65
Los Alisos s/o Muirlands	64.1	283	131	61
Los Alisos s/o Rockfield	65.9	267	124	58
Commercentre e/o Alton	67.5	173	80	37
Dimension n/o Commercentre	60.5	108	50	23
Dimension s/o Commercentre	63.3	167	77	36
Commercentre e/o Bake	64.0	185	86	40
Commercentre w/o Dimension	61.4	124	57	27
Interstate 5	72.2	3326	1544	717
Route 241	62.4	712	330	153

NOTES: DISTANCES TO TRAFFIC NOISE CONTOURS ARE MEASURED IN FEET FROM THE CENTERLINES OF THE ROADWAYS.

¹ TRAFFIC NOISE LEVELS ARE PREDICTED AT THE CLOSEST SENSITIVE RECEPTORS

SOURCE: KITTELSON & ASSOCIATES, INC., CALTRANS, AND SAXELBY ACOUSTICS

Railroad Noise Levels

To quantify noise exposure from existing train operations, a continuous (24-hour) noise level measurement survey was conducted along the existing Metrolink commuter rail tracks. Based upon the current online schedules, approximately 7 commuter trains travel this line during nighttime (10:00 p.m. – 7:00 a.m.) with 63 daytime (7:00 a.m. – 10:00 p.m.) trains. Noise measurement data also indicated approximately 5 freight trains per day.

The purpose of the noise level measurements was to determine typical sound exposure levels (SEL) for railroad line operations, while accounting for the effects of travel speed, warning horns and other factors which may affect noise generation. In addition, the noise measurement equipment was programmed to identify individual train events, so that the typical number of train operations could be determined.

Table 3.11-3 shows a summary of the continuous noise measurement results for railroad activity within the City.

TABLE 3.11-3: RAILROAD NOISE MEASUREMENT RESULTS

MEASUREMENT LOCATION	RAILROAD TRACK	GRADE CROSSING /WARNING HORN	TRAIN EVENTS PER 24-HR PERIOD	AVERAGE SEL AT 75
LT-2	Metrolink	No grade crossing. Occasional horn usage.	75 (54 day, 13 night, 8 evening)	94 dBA

SOURCE: SAXELBY ACOUSTICS - 2018

Noise measurement equipment consisted of Larson Davis Laboratories (LDL) model 831 precision integrating sound level meters equipped with a GRAS ½" microphone. The measurement system was calibrated using a B&K 4230 acoustical calibrator before and after testing. Audio recordings of events were captured along with sound measurement data to help with source identification of events. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

To determine the distances to the CNEL railroad contours, it is necessary to calculate the CNEL for typical train operations. This was done using the SEL values and above-described number and distribution of daily train operations. The Ldn may be calculated as follows:

$$Ldn = SEL + 10 \log N_{eq} - 49.4 \text{ dB, where:}$$

SEL is the mean Sound Exposure Level of the event, N_{eq} is the sum of the number of daytime (7 a.m. to 7 p.m.) events, plus 3.163 times the number of evening (7 p.m. to 10 p.m.) events, plus 10 times the number of nighttime (10 p.m. to 7 a.m.) events per day, and 49.4 is ten times the logarithm of the number of seconds per day. Based upon the above-described noise level data, number of operations and methods of calculation, the CNEL value for railroad line operations have been calculated, and the distances to the CNEL noise level contours are shown in Table 3.11-4.

TABLE 3.11-4: APPROXIMATE DISTANCES TO THE RAILROAD NOISE CONTOURS

EXTERIOR NOISE LEVEL AT 75 FEET, L_{DN}	DISTANCE TO EXTERIOR NOISE LEVEL CONTOURS, FEET		
	60 DB L_{DN}	65 DB L_{DN}	70 DB L_{DN}
METROLINK LINE			
68 dB	264'	123'	57'

SOURCE: SAXELBY ACOUSTICS - 2018.

Fixed Noise Sources

The production of noise is a result of many industrial processes, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by federal and state employee health and safety regulations (OSHA and Cal-OSHA), but exterior noise levels may exceed locally acceptable standards. Commercial, recreational and public service facility activities can also produce noise which affects adjacent sensitive land uses. These noise sources can be continuous and may contain tonal components which have a potential to annoy individuals who live nearby. In addition, noise generation from fixed noise sources may vary based upon climatic conditions, time of day and existing ambient noise levels.

In the City of Lake Forest Lake Forest, fixed noise sources typically include parking lots, loading docks, parks, schools, and other commercial/retail use noise sources (HVAC, exhaust fans, etc.)

From a land use planning perspective, fixed-source noise control issues focus upon two goals:

1. To prevent the introduction of new noise-producing uses in noise-sensitive areas, and
2. To prevent encroachment of noise sensitive uses upon existing noise-producing facilities.

The first goal can be achieved by applying noise level performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards.

Fixed noise sources which are typically of concern include but are not limited to the following:

- HVAC Systems
- Pump Stations
- Steam Valves
- Generators
- Air Compressors
- Conveyor Systems
- Pile Drivers
- Drill Rigs
- Welders
- Outdoor Speakers
- Chippers
- Loading Docks
- Cooling Towers/Evaporative Condensers
- Lift Stations
- Steam Turbines
- Fans
- Heavy Equipment
- Transformers
- Grinders
- Gas or Diesel Motors
- Cutting Equipment
- Blowers
- Cutting Equipment
- Amplified music and voice

The types of uses which may typically produce the noise sources described above, include, but are not limited to: wood processing facilities, pump stations, industrial/agricultural facilities, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, special events such as concerts, and athletic fields. Typical noise levels associated with various types of stationary noise sources are shown in Table 3.11-3.

Table 3.11-4: Typical Stationary Source Noise Levels

USE	NOISE LEVEL AT 100 FEET, LEQ ¹	DISTANCE TO NOISE CONTOURS, FEET			
		50 DB LEQ (NO SHIELDING)	45 DB LEQ (NO SHIELDING)	50 DB LEQ (WITH 5 DB SHIELDING)	45 DB LEQ (WITH 5 DB SHIELDING)
Auto Body Shop	56 dB	200	355	112	200
Auto Repair (Light)	53 dB	141	251	79	141
Busy Parking Lot	54 dB	158	281	89	158
Cabinet Shop	62 dB	398	708	224	398
Car Wash	63 dB	446	792	251	446
Cooling Tower	69 dB	889	1,581	500	889
Loading Dock	66 dB	596	1,059	335	596
Lumber Yard	68 dB	794	1,413	447	794
Maintenance Yard	68 dB	794	1,413	447	794
Outdoor Music Venue	90 dB	10,000	17,783	5,623	10,000
Paint Booth Exhaust	61 dB	355	631	200	355
Skate Park	60 dB	316	562	178	316
School Playground / Neighborhood Park	54 dB	158	281	89	158
Truck Circulation	48 dB	84	149	47	84
Vendor Deliveries	58 dB	251	446	141	251

¹ Analysis assumes a source-receiver distance of approximately 100 feet, no shielding, and flat topography. Actual noise levels will vary depending on site conditions and intensity of the use. This information is intended as a general rule only, and is not suitable for final site-specific noise studies.

Source: Saxelby Acoustics 2018.

COMMUNITY NOISE SURVEY

A community noise survey was conducted to document ambient noise levels at various locations throughout the City. Short-term noise measurements were conducted at six locations throughout the City on April 18 and April 19, 2018 during daytime (7 am – 10 pm) and nighttime (10 pm - 7 am) periods. In addition, four continuous 24-hour noise monitoring sites were also conducted to record day-night statistical noise level trends. The data collected included the hourly average (Leq), median (L50), and the maximum level (Lmax) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 3.11-5 and Table 3.11-6. Figure 3.11-2 shows the locations of the noise monitoring sites.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) model 812, 820, and 831 precision integrating sound level meters equipped with ½" microphones. The measurement systems were calibrated using a B&K model 4230 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

TABLE 3.11-5: EXISTING CONTINUOUS 24-HOUR AMBIENT NOISE MONITORING RESULTS

SITE	LOCATION	CNEL (dBA)	MEASURED HOURLY NOISE LEVELS, dBA LOW-HIGH (AVERAGE)					
			DAYTIME (7:00 AM - 10:00 PM)			NIGHTTIME (10:00 PM - 7:00 AM)		
			LEQ	L50	LMAX	LEQ	L50	LMAX
1	24621 Bridger Road, 220 feet to I-5 centerline. Partially screened by 16 foot tall sound wall.	72	62-69 (67)	61-68 (67)	71-76 (74)	58-69 (64)	57-69 (62)	64-74 (69)
2	Open space near west end of Shadowfax Drive - 75' to railroad line.	69	57-69 (63)	42-49 (46)	84-101 (89)	35-68 (62)	35-47 (40)	40-92 (78)
3	Skate Park of Etnies Lake Forest, 150' to CL Route 241	62	56-61 (60)	54-61 (58)	69-78 (72)	47-59 (53)	37-56 (45)	66-74 (69)
4	350' South of Portola, 140' to CL of El Toro, on west side of El Toro	61	55-60 (58)	53-58 (55)	70-88 (76)	45-57 (52)	39-55 (46)	61-80 (69)

SOURCE – SAXELBY ACOUSTICS– 2018.

TABLE 3.11-6: EXISTING SHORT-TERM COMMUNITY NOISE MONITORING RESULTS

SITE	LOCATION	TIME ¹	MEASURED SOUND LEVEL, DB			NOTES
			LEQ	L50	LMAX	
1	Mountain View Park	4:36 p.m.	52	51	59	Park noise. Kids playing. Local traffic. Single engine aircraft overflight, 50-55 dBA.
		11:47 p.m.	44	44	48	Distant traffic. Jet overflight. HNL to ORD. Jets around 45-46 dBA. LAX to Miami.
2	Heroes Park	5:07 p.m.	56	55	65	Ball fields. Traffic. Driving range. Ball "whacks." Single engine aircraft. Two Amtrak passenger trains.
		12:07 a.m.	44	42	52	Traffic. Jet, LAX to ORD. Sprinklers at park.
3	Rancho Serrano Park	3:52 p.m.	47	44	63	Traffic noise from Bake Pkwy. Single engine airplane overflights. High flying jet, LAX to Atlanta.
		11:27 p.m.	42	40	53	Distant traffic. Sprinklers 37 dBA. Jets, 42 dBA. LAX to NYC. LAX to Washington IAD. LAX to Boston. LAX to Toronto.
4	Autumn Glenn & Lake Forest – 120 feet to centerline of Lake Forest	3:31 p.m.	58	56	71	Traffic on Forest Lake dominant. 6' wall at play area. Site of meter not fully shielded.
		11:01 p.m.	52	49	65	Sprinklers 43-47 dBA. Traffic. Jet overflight. LAX to NC
5	Foothill Ranch Community Park	2:01 p.m.	49	47	58	Light breeze. Birds. Helicopter flyover to south. No kids at play equipment. Local traffic. Skater at hockey rink.
		10:41 p.m.	39	37	51	Distant and local traffic.
6	Santiago Canyon Park	2:52 p.m.	47	43	59	Distant and local traffic.
		10:16 p.m.	43	38	60	Distant and local traffic.

1 - ALL COMMUNITY NOISE MEASUREMENT SITES HAVE A TEST DURATION OF 10:00 MINUTES.

SOURCE - SAXELBY ACOUSTICS 2018.

The results of the community noise survey shown in Table 3.11-5 and 3.11-6 indicate that existing transportation (traffic) noise sources were the major contributor of noise observed during daytime hours, especially during vehicle pass-bys. Additionally, while frequent jet aircraft overflights from the Los Angeles International Airport (LAX) were audible, with typical noise levels of 42-47 dBA.

REGULATORY FRAMEWORK

FEDERAL

Federal Highway Administration (FHWA)

The FHWA has developed noise abatement criteria that are used for federally funded roadway projects or projects that require federal review. These criteria are discussed in detail in Title 23 Part 772 of the Federal Code of Regulations (23CFR772).

Environmental Protection Agency (EPA)

The EPA has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, an Leq of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an Leq of 55 dBA and interior levels at or below 45 dBA. Although these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The EPA has set 55 dBA Ldn as the basic goal for residential environments. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of actually achieving a goal of 55 dBA Ldn, have generally agreed on the 65 dBA Ldn level as being appropriate for residential uses. At 65 dBA Ldn activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

The Department of Housing and Urban Development (HUD) was established in response to the Urban Development Act of 1965 (Public Law 90-448). HUD was tasked by the Housing and Urban Development Act of 1965 (Public Law 89-117) “to determine feasible methods of reducing the economic loss and hardships suffered by homeowners as a result of the depreciation in the value of their properties following the construction of airports in the vicinity of their homes.”

HUD first issued formal requirements related specifically to noise in 1971 (HUD Circular 1390.2). These requirements contained standards for exterior noise levels along with policies for approving HUD-supported or assisted housing projects in high noise areas. In general, these requirements established the following three zones:

- 65 dBA Ldn or less - an acceptable zone where all projects could be approved.
- Exceeding 65 dBA Ldn but not exceeding 75 dBA Ldn - a normally unacceptable zone where mitigation measures would be required and each project would have to be individually evaluated for approval or denial. These measures must provide 5 dBA of attenuation above the attenuation provided by standard construction required in a 65 to 70 dBA Ldn area and 10 dBA of attenuation in a 70 to 75 dBA Ldn area.
- Exceeding 75 dBA Ldn - an unacceptable zone in which projects would not, as a rule, be approved.

HUD's regulations do not include interior noise standards. Rather a goal of 45 dBA Ldn is set forth and attenuation requirements are geared towards achieving that goal. HUD assumes that using standard construction techniques, any building will provide sufficient attenuation so that if the exterior level is 65 dBA Ldn or less, the interior level will be 45 dBA Ldn or less. Thus, structural attenuation is assumed at 20 dBA. However HUD regulations were promulgated solely for residential development requiring government funding and are not related to the operation of schools or churches.

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Noise exposure of this type is dependent on work conditions and is addressed through a facility's or construction contractor's health and safety plan. With the exception of construction workers involved in facility construction, occupational noise is irrelevant to this study and is not addressed further in this document.

STATE

California Department of Transportation (Caltrans)

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria specified in the protocol are the same as those specified by FHWA.

Governor's Office of Planning and Research (OPR)

OPR has developed guidelines for the preparation of general plans (Office of Planning and Research, 2003). The guidelines include land use compatibility guidelines for noise exposure.

LOCAL

Existing City Noise Thresholds

The City of Lake Forest Lake Forest General Plan Safety and Noise Element (June 21, 1994) establishes goals and policies, as well as criteria for evaluating the compatibility of individual land uses with respect to noise exposure. The intent is to provide guidance for determining noise impacts due to, and upon proposed projects. The existing Guiding Principles and Policies of the City's General Plan Noise Element are provided below:

Noise Standards and Land Use Compatibility Guidelines

To ensure that noise producers do not adversely affect sensitive receptors, the City will use land use compatibility standards when making planning and development decisions. Table SN-2 summarizes City noise standards for various types of land uses. The standards represent the maximum allowable noise level and will be used to determine noise impacts. The noise standards act as City policy for acceptable noise levels for development.

The noise standards are the basis for the development of land use compatibility guidelines, which are presented in a matrix in Table SN-3. The primary purpose of the

3.11 NOISE

noise/land use potential conflicts between proposed land uses and the existing and future noise environment. If the noise level of a project falls within Zone A or Zone B, the project is considered compatible with the noise environment. Zone A implies that no mitigation will be needed. Zone B implies that minor soundproofing of the structure may be needed to meet the City noise standards. The project proponent will be required to demonstrate that the noise standards will be met prior to project approval.

If the noise level of a project falls within Zone C, substantial noise mitigation will be necessary to meet the noise standards. Mitigation may involve construction of noise barriers and substantial building sound insulation. However, projects in Zone C can be successfully mitigated. The project proponent must demonstrate that the noise standards will be met prior to issuance of a building permit. If the noise levels falls outside of Zones A, B and C, the project is considered clearly incompatible with the noise environment and should not be approved.

TABLE 3.11-7: LAKE FOREST SAFETY AND NOISE ELEMENT TABLE SN-2: INTERIOR AND EXTERIOR NOISE STANDARDS

LAND USE	NOISE STANDARDS ⁽¹⁾	
	INTERIOR ^(2,3)	EXTERIOR
Residential: Single-Family, Multifamily, Duplex, Mobile Home	CNEL 45 dB	CNEL 65 dB ⁽⁴⁾
Residential: Transient Lodging, Hotels, Motels, Nursing Homes, Hospitals	CNEL 45 dB	CNEL 65 dB ⁽⁴⁾
Private Offices, Church Sanctuaries, Libraries, Board Rooms, Conference Rooms, Theaters, Auditoriums, Concert Halls, Meeting Halls, etc.	Leq(12) 45 dB(A) ⁽⁶⁾²	—
Schools	Leq(12) 45 dB(A)	Leq(12) 67 dB(A) ⁽⁵⁾
General Offices, Reception, Clerical, etc.	Leq(12) 50 dB(A)	—
Bank Lobby, Retail Store, Restaurant, Typing Pool, etc.	Leq(12) 55 dB(A)	—
Manufacturing, Kitchen, Warehousing, etc.	Leq(12) 65 dB(A)	—
Park, Playgrounds	—	CNEL 65 dB ⁽⁵⁾
Golf Courses, Outdoor Spectator Sports, Amusement Parks	—	CNEL 70 dB ⁽⁵⁾

NOTES

- (1) CNEL: COMMUNITY NOISE EQUIVALENT LEVEL.
LEQ(12): THE A-WEIGHTED EQUIVALENT SOUND LEVEL AVERAGED OVER A 12-HOUR PERIOD (USUALLY THE HOURS OF OPERATION).
- (2) NOISE STANDARD WITH WINDOWS CLOSED. MECHANICAL VENTILATION SHALL BE PROVIDED PER UBC REQUIREMENTS TO PROVIDE A HABITABLE ENVIRONMENT.
- (3) INDOOR ENVIRONMENT EXCLUDING BATHROOMS, TOILETS, CLOSETS AND CORRIDORS.
- (4) OUTDOOR ENVIRONMENT LIMITED TO REAR YARD OF SINGLE FAMILY HOMES, MULTIFAMILY PATIOS AND BALCONIES (WITH A DEPTH OF 6' OR MORE) AND COMMON RECREATION AREAS.
- (5) OUTDOOR ENVIRONMENT LIMITED TO PLAYGROUND AREAS, PICNIC AREAS, AND OTHER AREAS OF FREQUENT HUMAN USE.
- (6) RELIGIOUS INSTITUTIONS (CHURCHES, TEMPLES, AND OTHER PLACES OF WORSHIP) OF A SMALL SIZE (OCCUPANCY OF 100 PERSONS OR LESS) MAY OCCUPY EXISTING BUILDINGS WITHIN AREAS OF EXTERIOR NOISE LEVELS RANGING FROM 65 TO 75 DB CNEL WITHOUT PROVIDING ADDITIONAL NOISE INSULATION FOR THE BUILDING.

SOURCE: CITY OF LAKE FOREST, JULY 11, 1995.

TABLE 3.11-8: LAKE FOREST SAFETY AND NOISE ELEMENT TABLE SN-3: NOISE/LAND USE COMPATIBILITY MATRIX

LAND USE CATEGORY	COMMUNITY NOISE EQUIVALENT LEVEL CNEL						
	55	60	65	70	75	80	
Residential – Single-Family, Multi-family, Duplex	A	A	B	C	C		
Residential – Mobile Homes	A	A	B	C	C		
Transient Lodging – Motels, Hotels	A	A	B	B	C	C	
Schools, Libraries, Churches, Hospitals, Nursing/Convalescent Homes, Preschools, Day Care Centers (1) ²	A	A	B	C	C		
Auditoriums, Concert Halls, Amphitheaters, Meeting Halls	B	B	C	C			
Sports Areas, Outdoor Spectator Sports, Amusement Parks	A	A	A	B	B		
Playgrounds, Neighborhood Parks	A	A	A	B	C		
Golf Courses, Riding Stables, Cemeteries	A	A	A	A	B	C	C
Office and Professional Buildings	A	A	A	B	B	C	
Commercial Retail, Banks, Restaurants, Theaters	A	A	A	A	B	B	C
Industrial, Manufacturing, Utilities, Wholesale, Service Stations	A	A	A	A	B	B	B
Agriculture	A	A	A	A	A	A	A

NOTES:

ZONE A. NORMALLY ACCEPTABLE—SPECIFIED LAND USE IS SATISFACTORY, BASED ON THE ASSUMPTION THAT ANY BUILDINGS INVOLVED ARE OF NORMAL CONVENTIONAL CONSTRUCTION WITHOUT ANY SPECIAL NOISE INSULATION REQUIREMENTS.

ZONE B. CONDITIONALLY ACCEPTABLE—NEW CONSTRUCTION OR DEVELOPMENT SHOULD BE UNDERTAKEN ONLY AFTER DETAILED ANALYSIS OF NOISE REDUCTION REQUIREMENT IS MADE AND NEEDED NOISE INSULATION FEATURES IN THE DESIGN ARE DETERMINED. CONVENTIONAL CONSTRUCTION, WITH CLOSED WINDOWS AND FRESH AIR SUPPLY SYSTEMS OR AIR-CONDITIONING, WILL NORMALLY SUFFICE.

ZONE C. NORMALLY UNACCEPTABLE—NEW CONSTRUCTION OR DEVELOPMENT SHOULD GENERALLY BE DISCOURAGED. IF NEW CONSTRUCTION OR DEVELOPMENT DOES PROCEED, A DETAILED ANALYSIS OF NOISE REDUCTION REQUIREMENTS MUST BE MADE AND NEEDED NOISE INSULATION FEATURES INCLUDED IN THE DESIGN.

3.11 NOISE

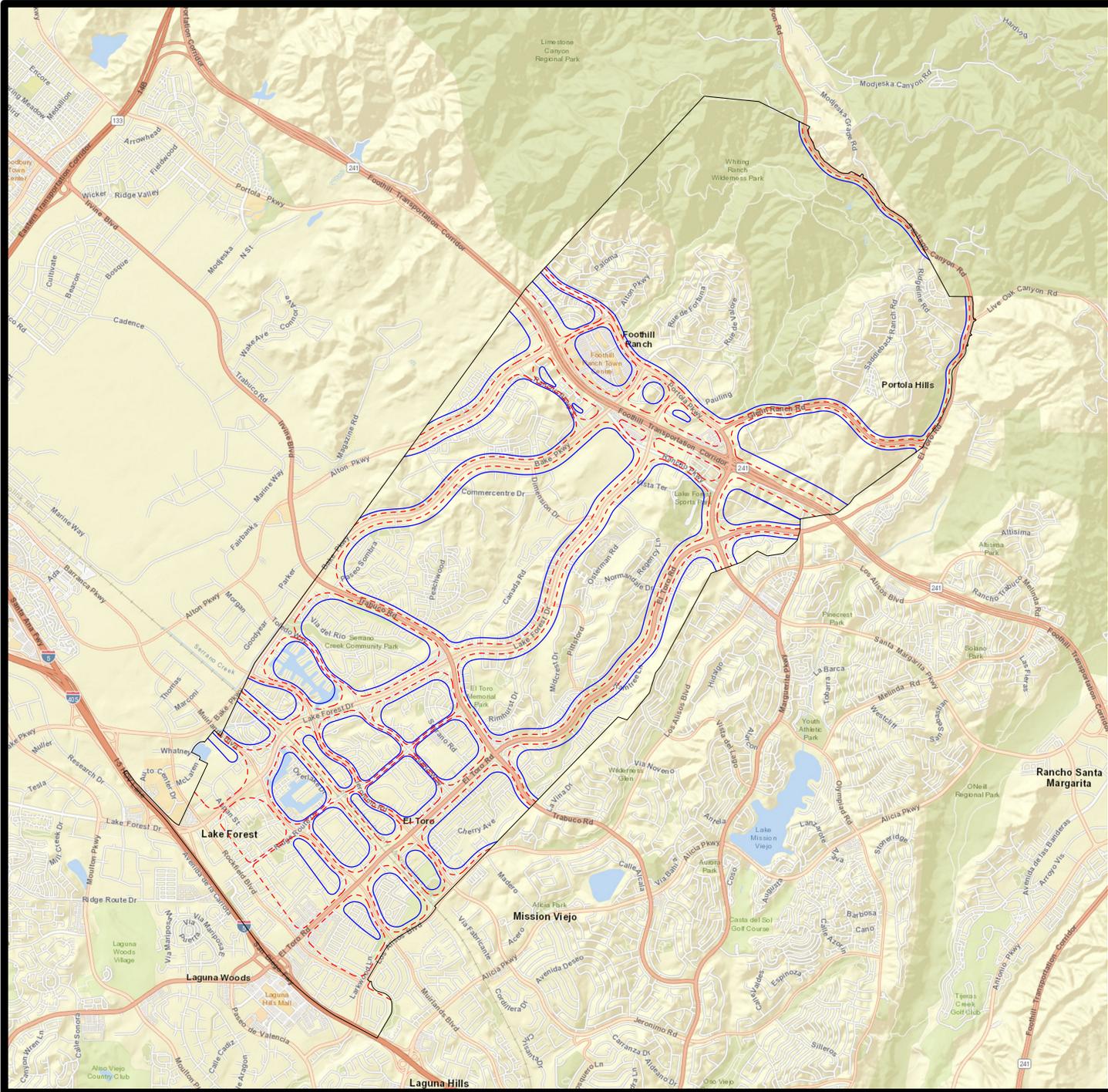
- (1) RELIGIOUS INSTITUTIONS (CHURCHES, SYNAGOGUES, TEMPLES AND OTHER PLACES OF WORSHIP) OF A SMALL SIZE (OCCUPANCY OF 100 PERSONS OR LESS) MAY OCCUPY EXISTING BUILDINGS WITHIN AREAS OF EXTERIOR NOISE LEVELS RANGING FROM 65 TO 75 DB CNEL WITHOUT PROVIDING ADDITIONAL NOISE INSULATION FOR THE BUILDING.
- (2) SHADED AREAS INDICATE NEW CONSTRUCTION OR DEVELOPMENT SHOULD GENERALLY NOT BE UNDERTAKEN.

SOURCE: CITY OF LAKE FOREST, JULY 11, 1995.

Lake Forest General Plan Update

City of Lake Forest, California

Figure 3.11-1: Existing Noise Contours



Legend

-  Lake Forest City Boundary
-  60 dBA CNEL
-  65 dBA CNEL

Note: Noise contours do not account for existing sound walls or building coverage and are intended to represent maximum noise exposure assuming line-of-site to the noise source. These contours are intended for screening purposes only. Site-specific noise studies should be done for projects which may be located within a high noise contour region.



Projection: State Plane (California Zone 6) / NAD83 / feet
Rev. Date: 05/31/2018

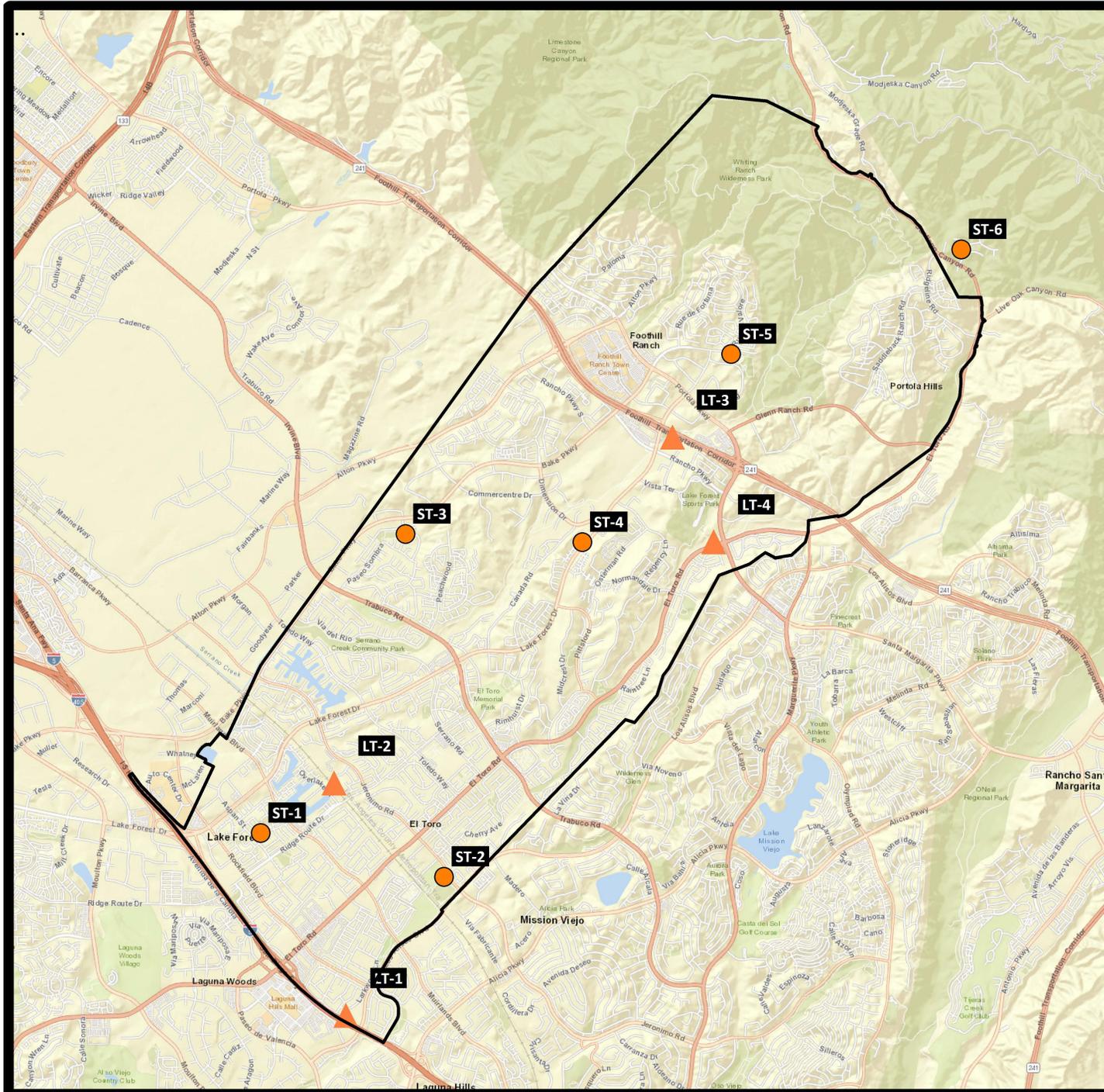


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Lake Forest General Plan Update

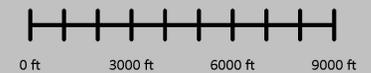
City of Lake Forest, California

Figure 3.11-2: Noise Measurement Sites



Legend

-  Lake Forest City Boundary
-  Noise Measurement - Long Term
-  Noise Measurement - Short Term



Projection: State Plane (California Zone 6) / NAD83 / feet
Rev. Date: 05/31/2018



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END BACKGROUND SECTION

Appendix A: Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
ASTC	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
DNL	See definition of Ldn.
IIC	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
NIC	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
NNIC	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
RT60	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B1 : Continuous Noise Monitoring Results

Site: LT-1

Project: Lake Forest General Plan Update

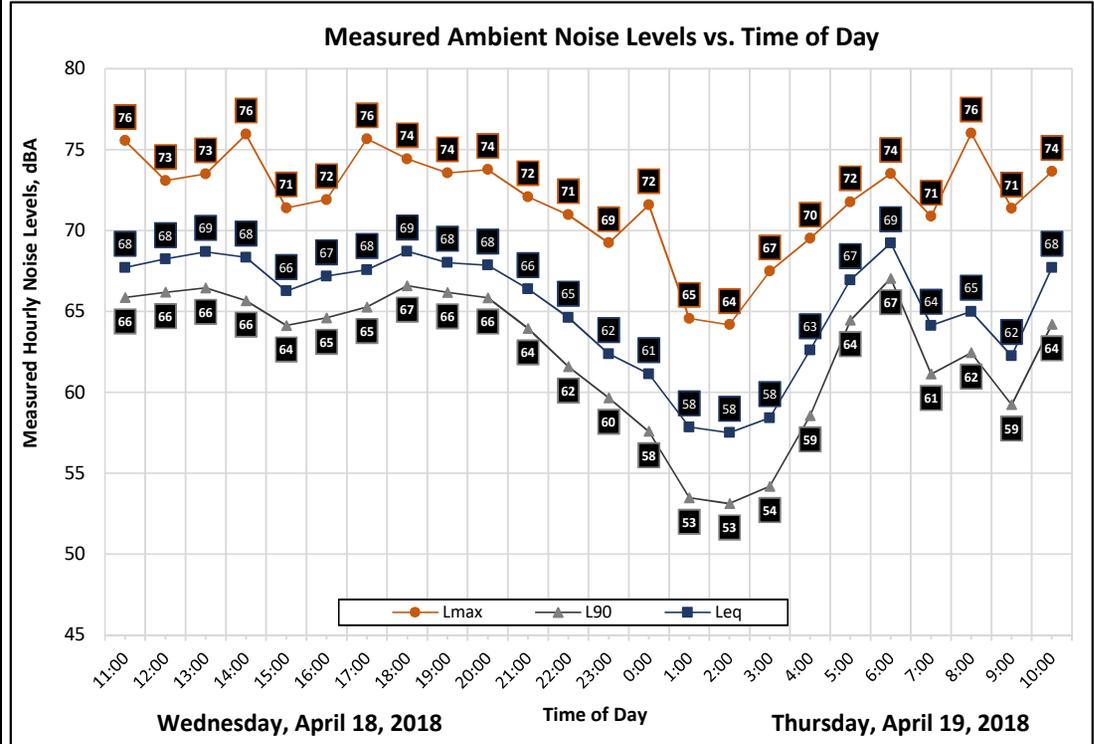
Meter: LDL 812-2

Location: 24621 Bridger Road, 220 feet to I5 CL

Calibrator: B&K 4230

Coordinates: 33.609698, -117.699407

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Wednesday, April 18, 2018	11:00	68	76	68	66
Wednesday, April 18, 2018	12:00	68	73	68	66
Wednesday, April 18, 2018	13:00	69	73	68	66
Wednesday, April 18, 2018	14:00	68	76	68	66
Wednesday, April 18, 2018	15:00	66	71	66	64
Wednesday, April 18, 2018	16:00	67	72	67	65
Wednesday, April 18, 2018	17:00	68	76	67	65
Wednesday, April 18, 2018	18:00	69	74	68	67
Wednesday, April 18, 2018	19:00	68	74	68	66
Wednesday, April 18, 2018	20:00	68	74	68	66
Wednesday, April 18, 2018	21:00	66	72	66	64
Wednesday, April 18, 2018	22:00	65	71	64	62
Wednesday, April 18, 2018	23:00	62	69	62	60
Thursday, April 19, 2018	0:00	61	72	61	58
Thursday, April 19, 2018	1:00	58	65	57	53
Thursday, April 19, 2018	2:00	58	64	57	53
Thursday, April 19, 2018	3:00	58	67	58	54
Thursday, April 19, 2018	4:00	63	70	62	59
Thursday, April 19, 2018	5:00	67	72	67	64
Thursday, April 19, 2018	6:00	69	74	69	67
Thursday, April 19, 2018	7:00	64	71	63	61
Thursday, April 19, 2018	8:00	65	76	65	62
Thursday, April 19, 2018	9:00	62	71	61	59
Thursday, April 19, 2018	10:00	68	74	66	64



Statistics	Leq	Lmax	L50	L90
Day Average	67	74	67	65
Night Average	64	69	62	59
Day Low	62	71	61	59
Day High	69	76	68	67
Night Low	58	64	57	53
Night High	69	74	69	67
Ldn	71	Day %		78
CNEL	72	Night %		22



Appendix B2 : Continuous Noise Monitoring Results

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Wednesday, April 18, 2018	11:00	60	84	48	45
Wednesday, April 18, 2018	12:00	60	85	48	46
Wednesday, April 18, 2018	13:00	62	89	49	48
Wednesday, April 18, 2018	14:00	57	87	47	46
Wednesday, April 18, 2018	15:00	60	84	45	44
Wednesday, April 18, 2018	16:00	63	87	45	43
Wednesday, April 18, 2018	17:00	65	93	45	44
Wednesday, April 18, 2018	18:00	63	88	47	45
Wednesday, April 18, 2018	19:00	60	87	44	42
Wednesday, April 18, 2018	20:00	63	90	45	43
Wednesday, April 18, 2018	21:00	66	90	45	43
Wednesday, April 18, 2018	22:00	66	91	41	39
Wednesday, April 18, 2018	23:00	62	92	39	37
Thursday, April 19, 2018	0:00	41	49	40	38
Thursday, April 19, 2018	1:00	68	90	37	36
Thursday, April 19, 2018	2:00	35	40	35	34
Thursday, April 19, 2018	3:00	55	85	35	33
Thursday, April 19, 2018	4:00	52	81	40	36
Thursday, April 19, 2018	5:00	56	84	46	45
Thursday, April 19, 2018	6:00	61	87	47	45
Thursday, April 19, 2018	7:00	62	88	42	40
Thursday, April 19, 2018	8:00	69	101	48	45
Thursday, April 19, 2018	9:00	63	91	46	43
Thursday, April 19, 2018	10:00	60	90	47	43

Statistics	Leq	Lmax	L50	L90
Day Average	63	89	46	44
Night Average	62	78	40	38
Day Low	57	84	42	40
Day High	69	101	49	48
Night Low	35	40	35	33
Night High	68	92	47	45
Ldn	69	Day %	70	
CNEL	69	Night %	30	

Site: LT-2

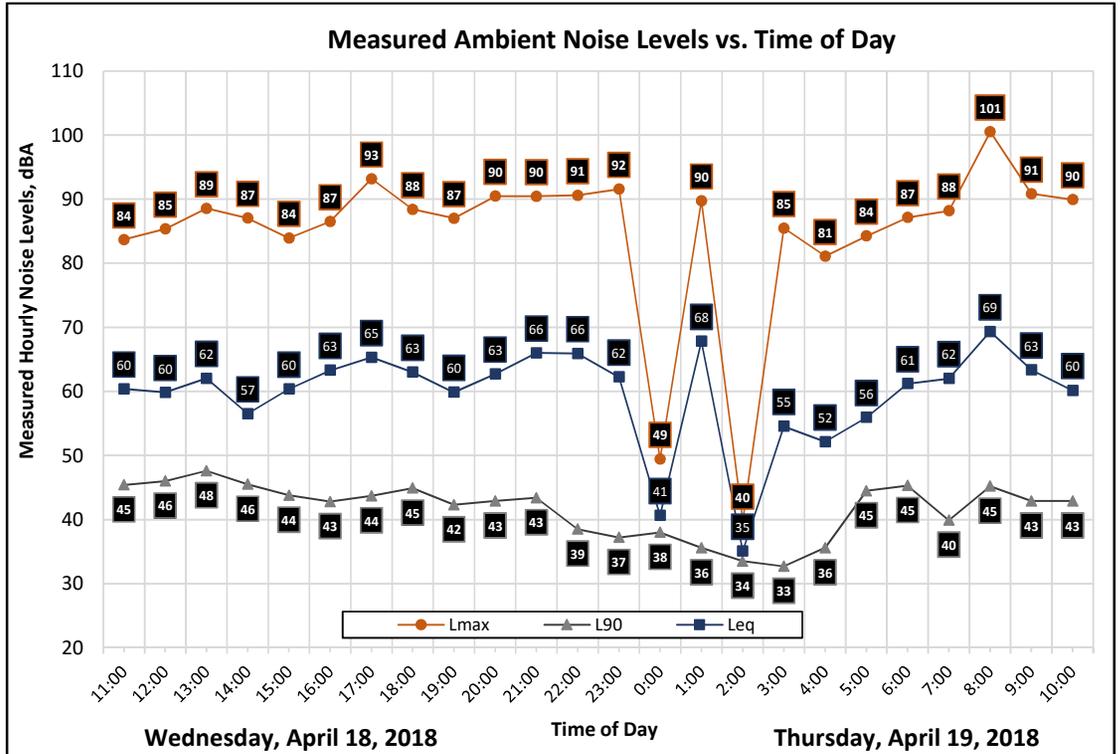
Project: Lake Forest General Plan Update

Meter: LDL 831-1

Location: Near Shadowfax Dr. - 75' to RR

Calibrator: B&K 4230

Coordinates: 33.633899, -117.701136



Appendix B3 : Continuous Noise Monitoring Results

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Wednesday, April 18, 2018	13:00	57	69	56	51
Wednesday, April 18, 2018	14:00	59	71	57	53
Wednesday, April 18, 2018	15:00	59	69	58	54
Wednesday, April 18, 2018	16:00	60	76	59	55
Wednesday, April 18, 2018	17:00	61	72	60	57
Wednesday, April 18, 2018	18:00	61	73	61	58
Wednesday, April 18, 2018	19:00	60	70	59	56
Wednesday, April 18, 2018	20:00	60	76	59	55
Wednesday, April 18, 2018	21:00	56	72	54	47
Wednesday, April 18, 2018	22:00	54	68	51	41
Wednesday, April 18, 2018	23:00	51	71	43	39
Thursday, April 19, 2018	0:00	50	69	42	39
Thursday, April 19, 2018	1:00	49	70	40	37
Thursday, April 19, 2018	2:00	48	68	37	36
Thursday, April 19, 2018	3:00	47	67	39	36
Thursday, April 19, 2018	4:00	49	66	43	38
Thursday, April 19, 2018	5:00	54	71	50	44
Thursday, April 19, 2018	6:00	59	74	56	51
Thursday, April 19, 2018	7:00	61	73	58	53
Thursday, April 19, 2018	8:00	60	71	59	54
Thursday, April 19, 2018	9:00	61	78	60	54
Thursday, April 19, 2018	10:00	57	75	55	50
Thursday, April 19, 2018	11:00	58	71	57	53
Thursday, April 19, 2018	12:00	58	72	57	53

Statistics	Leq	Lmax	L50	L90
Day Average	60	72	58	54
Night Average	53	69	45	40
Day Low	56	69	54	47
Day High	61	78	61	58
Night Low	47	66	37	36
Night High	59	74	56	51
Ldn	61	Day %		89
CNEL	62	Night %		11

Site: LT-3

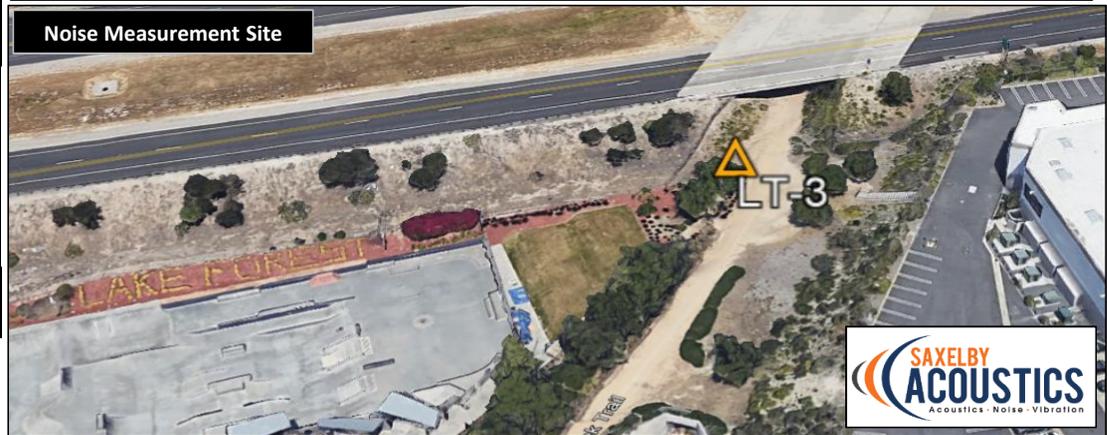
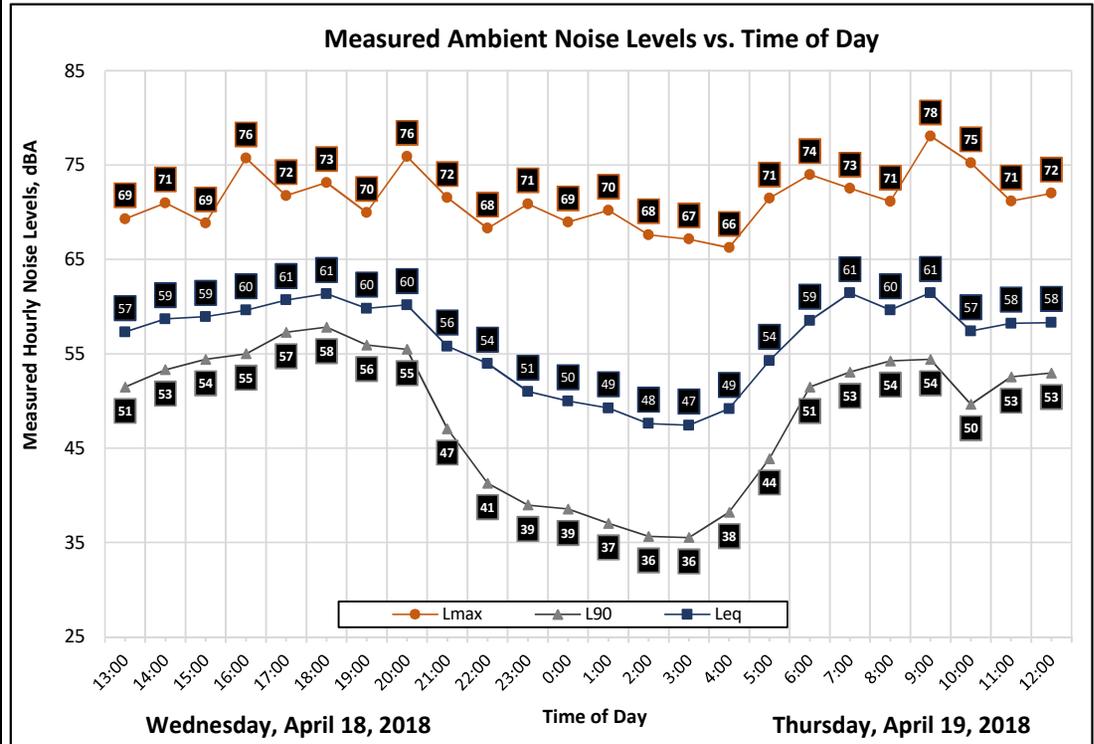
Project: Lake Forest General Plan Update

Meter: LDL 820-1

Location: Skate Park of Etnies LF, 150' to CL Route 241

Calibrator: B&K 4230

Coordinates: 33.670782, -117.659358



Appendix B4 : Continuous Noise Monitoring Results

Site: LT-4

Project: Lake Forest General Plan Update

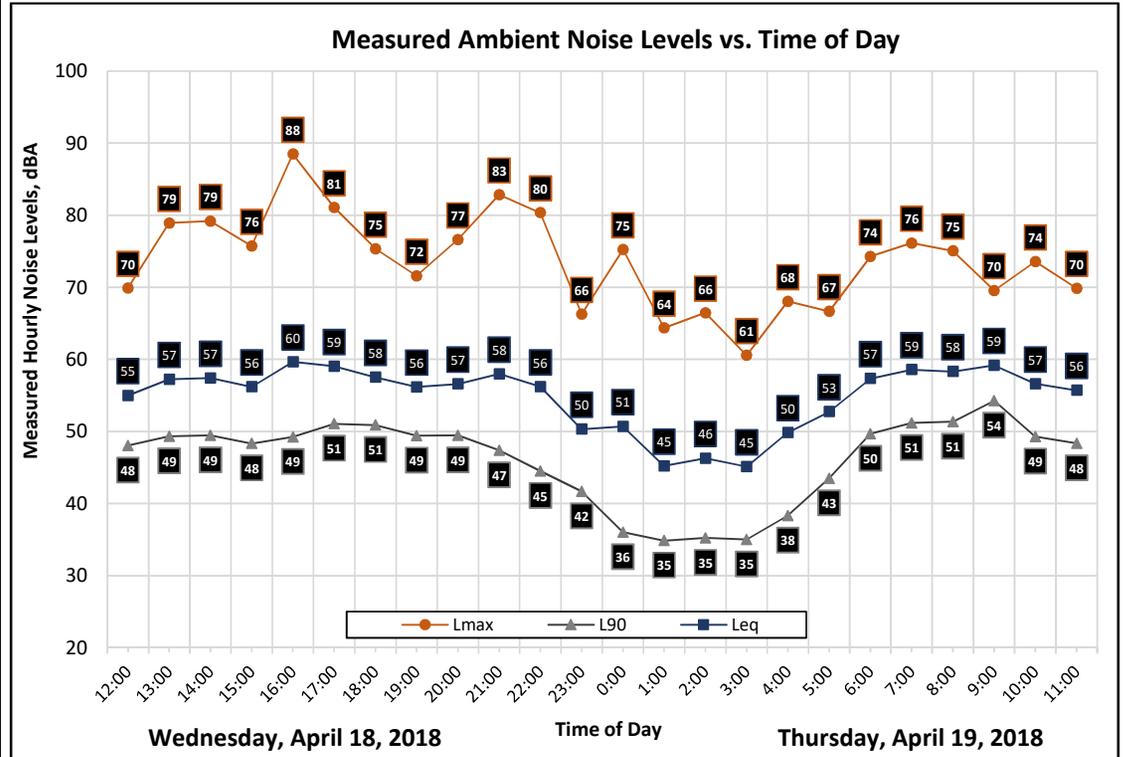
Meter: LDL 812-1

Location: 350' South of Portola, 140' to CL of El Toro

Calibrator: B&K 4230

Coordinates: 33.659882, -117.653935

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Wednesday, April 18, 2018	12:00	55	70	53	48
Wednesday, April 18, 2018	13:00	57	79	53	49
Wednesday, April 18, 2018	14:00	57	79	54	49
Wednesday, April 18, 2018	15:00	56	76	54	48
Wednesday, April 18, 2018	16:00	60	88	54	49
Wednesday, April 18, 2018	17:00	59	81	56	51
Wednesday, April 18, 2018	18:00	58	75	55	51
Wednesday, April 18, 2018	19:00	56	72	54	49
Wednesday, April 18, 2018	20:00	57	77	54	49
Wednesday, April 18, 2018	21:00	58	83	53	47
Wednesday, April 18, 2018	22:00	56	80	50	45
Wednesday, April 18, 2018	23:00	50	66	47	42
Thursday, April 19, 2018	0:00	51	75	44	36
Thursday, April 19, 2018	1:00	45	64	39	35
Thursday, April 19, 2018	2:00	46	66	40	35
Thursday, April 19, 2018	3:00	45	61	40	35
Thursday, April 19, 2018	4:00	50	68	46	38
Thursday, April 19, 2018	5:00	53	67	50	43
Thursday, April 19, 2018	6:00	57	74	55	50
Thursday, April 19, 2018	7:00	59	76	56	51
Thursday, April 19, 2018	8:00	58	75	56	51
Thursday, April 19, 2018	9:00	59	70	58	54
Thursday, April 19, 2018	10:00	57	74	55	49
Thursday, April 19, 2018	11:00	56	70	54	48



Statistics	Leq	Lmax	L50	L90
Day Average	58	76	55	50
Night Average	52	69	46	40
Day Low	55	70	53	47
Day High	60	88	58	54
Night Low	45	61	39	35
Night High	57	80	55	50
Ldn	60	Day %		85
CNEL	61	Night %		15



Appendix B-5 : Short Term Noise Monitoring Results

Site: ST-1

Project: Lake Forest General Plan Update

Location: Mountain View Park

Coordinates: 33.628643, -117.710629

Meter: LDL 831-2

Calibrator: B&K 4230

Start: 2018-04-18 16:36:39

Stop: 2018-04-18 16:46:39

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq}: 52

L_{max}: 59

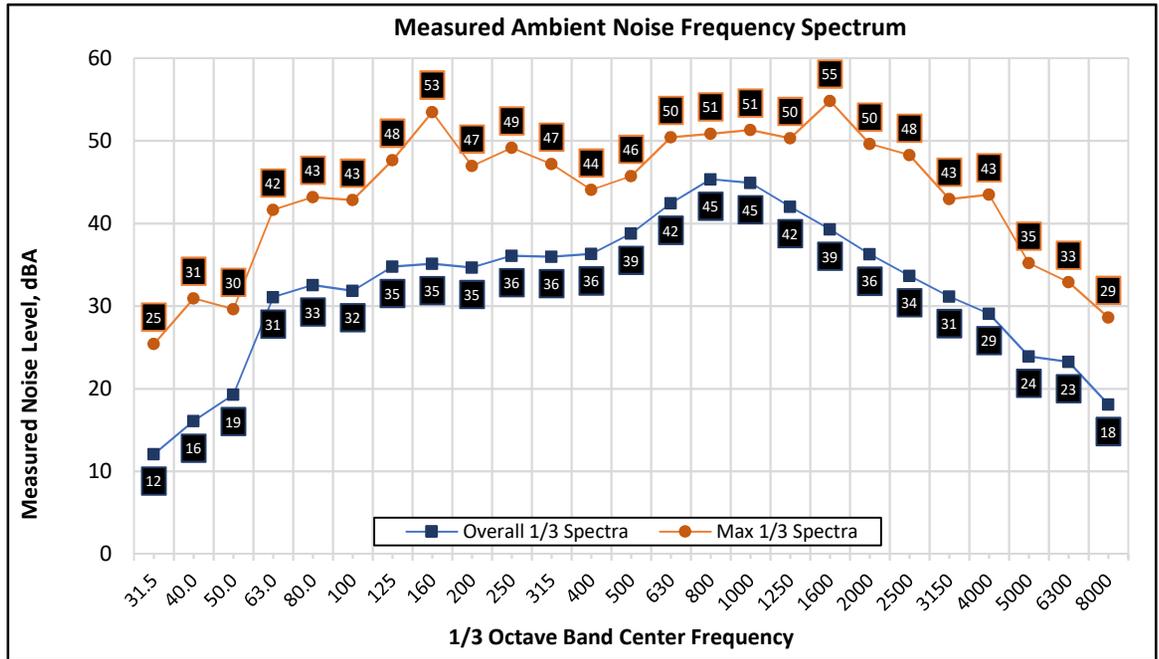
L_{min}: 47

L₅₀: 51

L₉₀: 49

Notes

Park noise. Kids playing. Local traffic. Single engine aircraft overflight. ~50-55 dBA.



Appendix B-6 : Short Term Noise Monitoring Results

Site: ST-1

Project: Lake Forest General Plan Update

Meter: LDL 831-2

Location: Mountain View Park

Calibrator: B&K 4230

Coordinates: 33.628643, -117.710629

Start: 2018-04-18 23:47:58

Stop: 2018-04-18 23:57:58

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq}: 44

L_{max}: 48

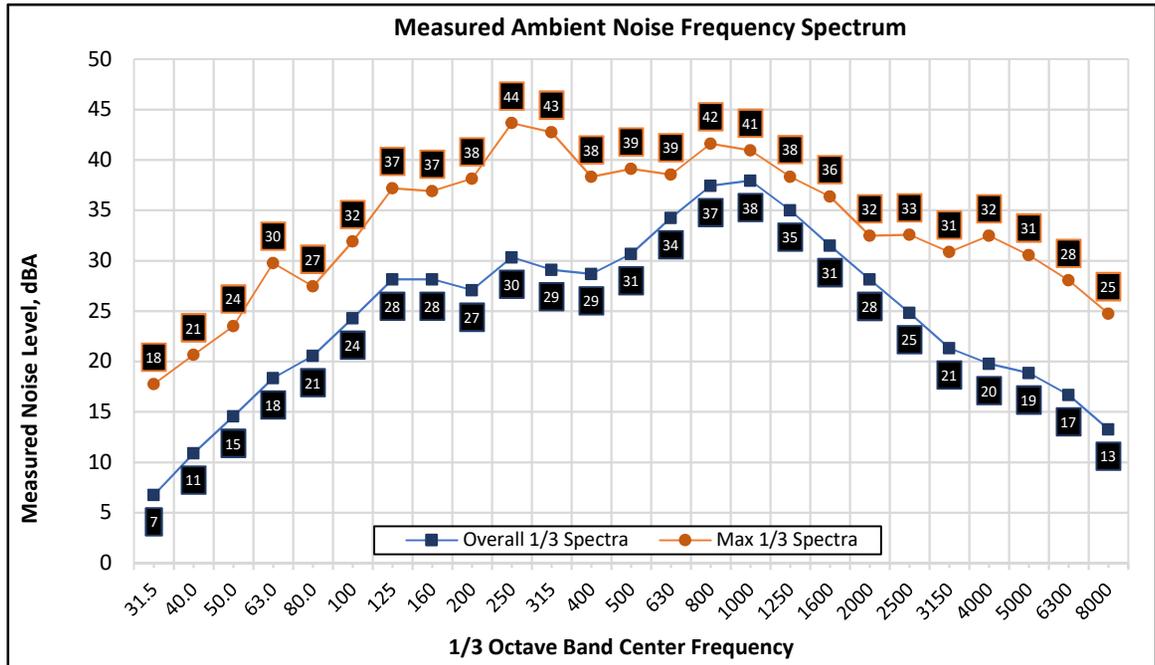
L_{min}: 41

L₅₀: 44

L₉₀: 43

Notes

Distant traffic. Jet overflight. HNL to ORD. Jets around 45-46 dBA. LAX to Miami.



Appendix B-7 : Short Term Noise Monitoring Results

Site: ST-2

Project: Lake Forest General Plan Update

Meter: LDL 831-2

Location: Heroes Park

Calibrator: B&K 4230

Coordinates: 33.624244, -117.686886

Start: 2018-04-18 17:07:48

Stop: 2018-04-18 17:17:48

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq}: 56

L_{max}: 65

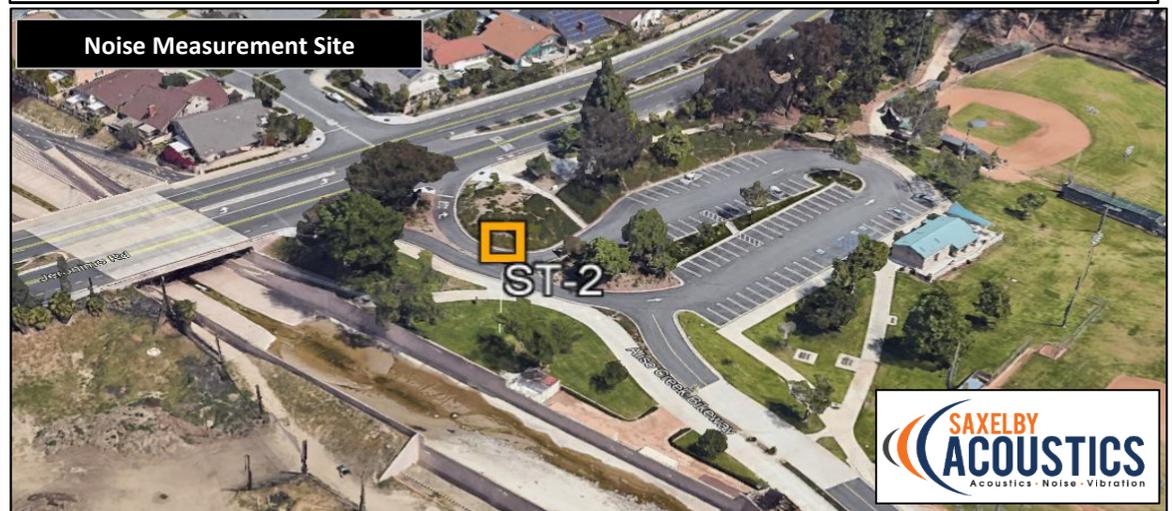
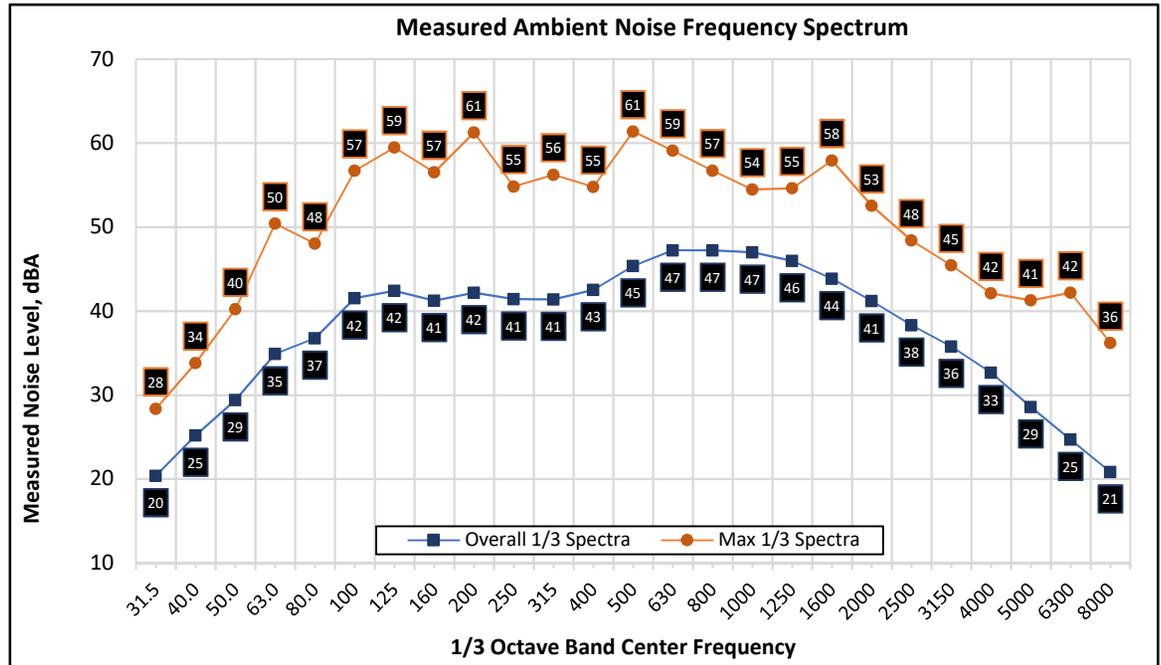
L_{min}: 49

L₅₀: 55

L₉₀: 52

Notes

Ball fields. Traffic. Driving range. Ball "whacks." Single engine aircraft. Pass anger train. Amtrak x2



Appendix B-8 : Short Term Noise Monitoring Results

Site: ST-2

Project: Lake Forest General Plan Update

Meter: LDL 831-2

Location: Heroes Park

Calibrator: B&K 4230

Coordinates: 33.624244, -117.686886

Start: 2018-04-19 00:07:19

Stop: 2018-04-19 00:17:19

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq}: 44

L_{max}: 52

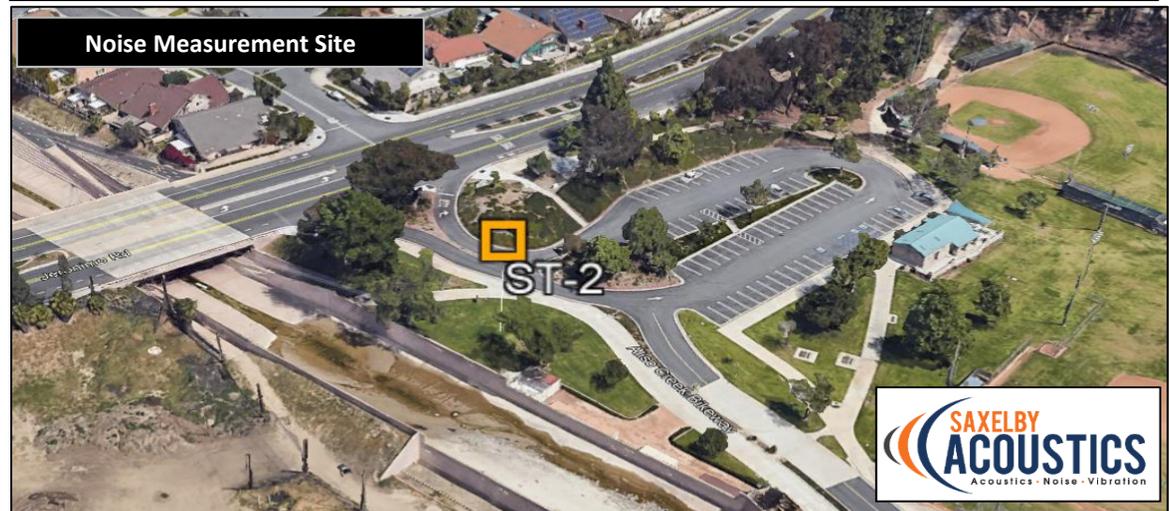
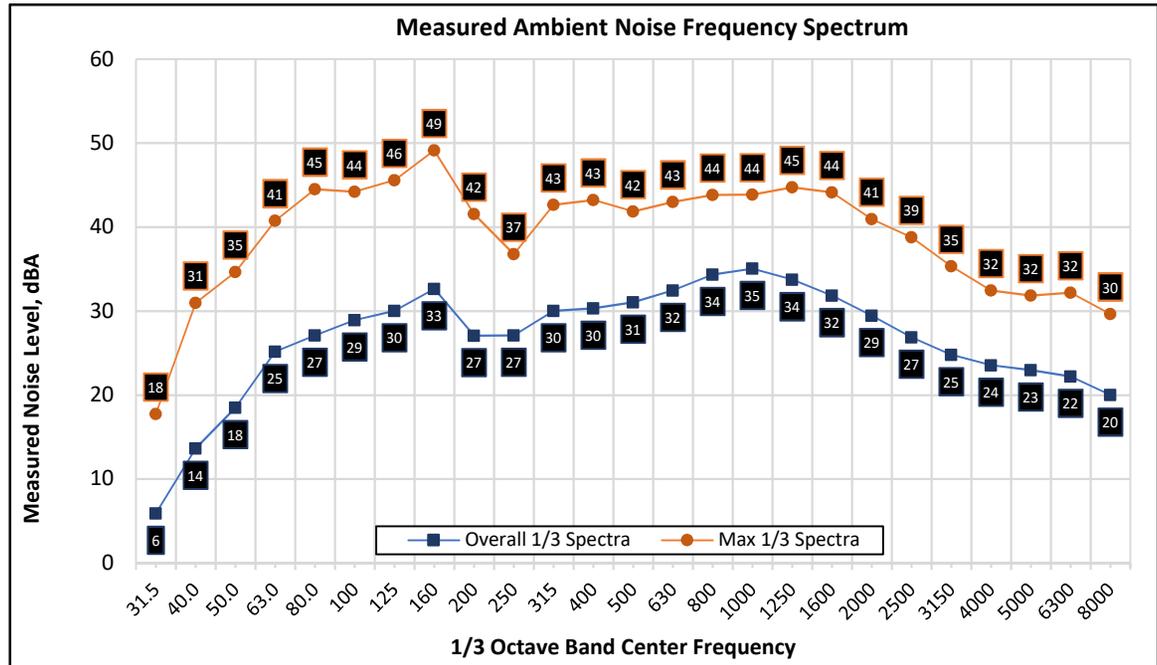
L_{min}: 38

L₅₀: 42

L₉₀: 40

Notes

Traffic. Jet. LAX to ORD. Sprinklers at park.



Appendix B-9 : Short Term Noise Monitoring Results

Site: ST-3

Project: Lake Forest General Plan Update

Meter: LDL 831-2

Location: Rancho Serrano Park

Calibrator: B&K 4230

Coordinates: 33.660253, -117.692514

Start: 2018-04-18 15:52:15

Stop: 2018-04-18 16:02:15

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq} : 47

L_{max} : 63

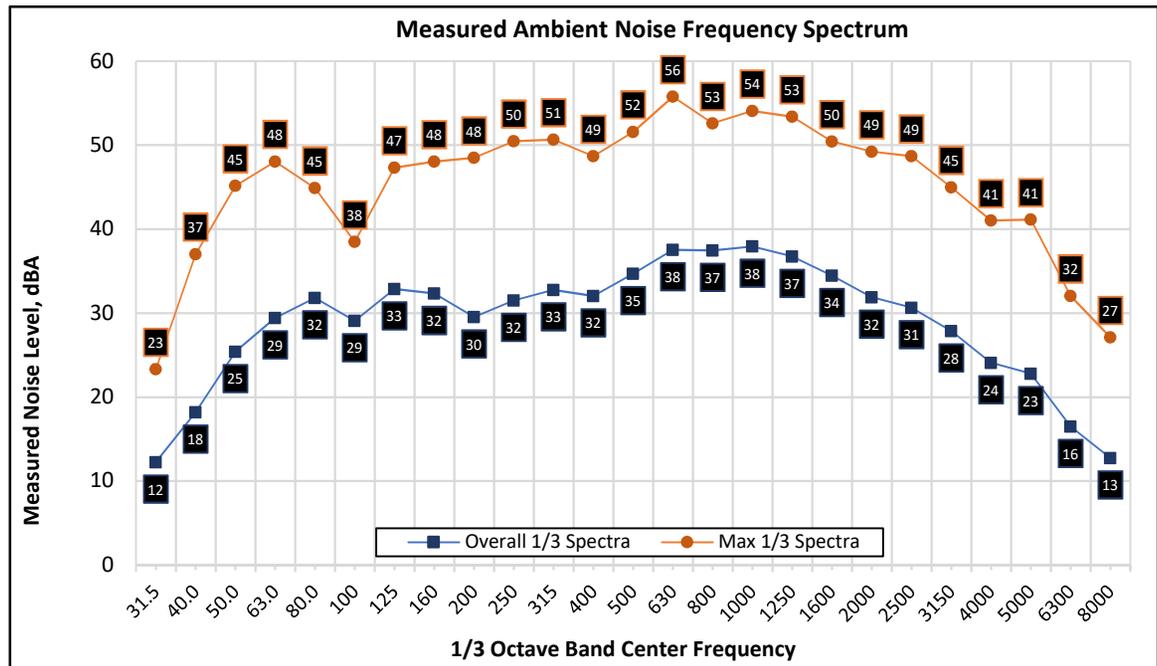
L_{min} : 40

L_{50} : 44

L_{90} : 42

Notes

Traffic noise from Bake Pkwy. Single engine airplane overflights. High flying jet. LAX to Atlanta.



Noise Measurement Site



Appendix B-10 : Short Term Noise Monitoring Results

Site: ST-3

Project: Lake Forest General Plan Update

Meter: LDL 831-2

Location: Rancho Serrano Park

Calibrator: B&K 4230

Coordinates: 33.660253, -117.692514

Start: 2018-04-18 23:27:05

Stop: 2018-04-18 23:37:05

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq}: 42

L_{max}: 53

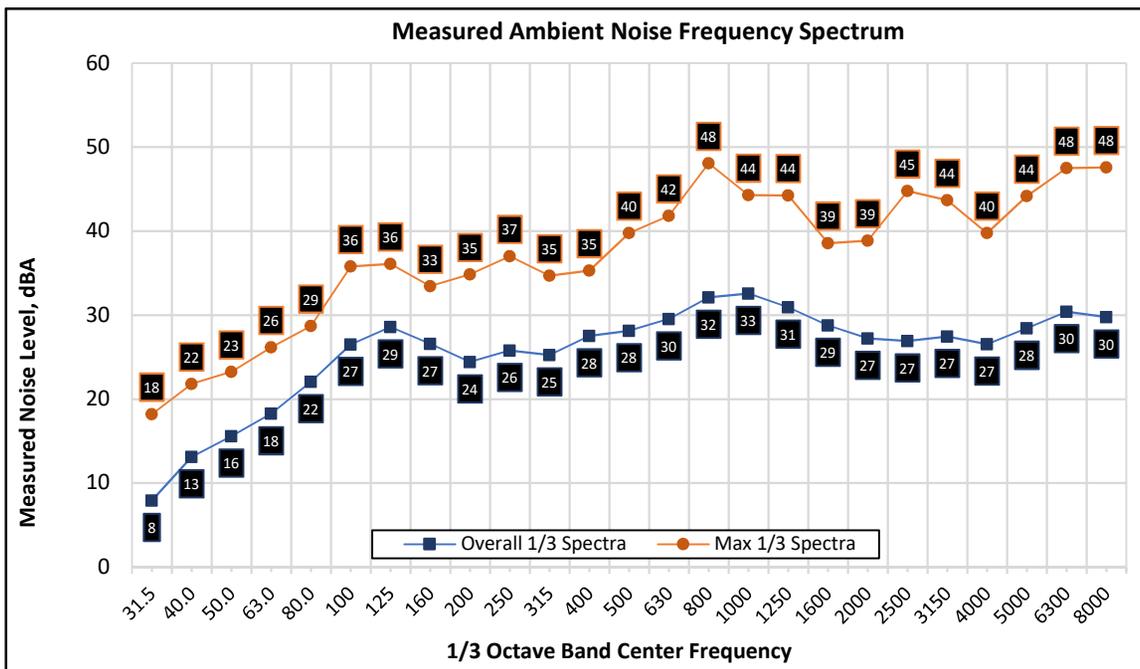
L_{min}: 36

L₅₀: 40

L₉₀: 38

Notes

**Distant traffic. Sprinklers 37 dBA. Jets ~42 dBA. LAX to NYC.
LAX to Washington IAD. LAX to Boston. LAX to Toronto.**



Appendix B-11 : Short Term Noise Monitoring Results

Site: ST-4

Project: Lake Forest General Plan Update

Meter: LDL 831-2

Location: Autumn Glenn & Lake Forest - 120' to CL of LF

Calibrator: B&K 4230

Coordinates: 33.659587, -117.670301

Start: 2018-04-18 15:31:09

Stop: 2018-04-18 15:41:09

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq}: 58

L_{max}: 71

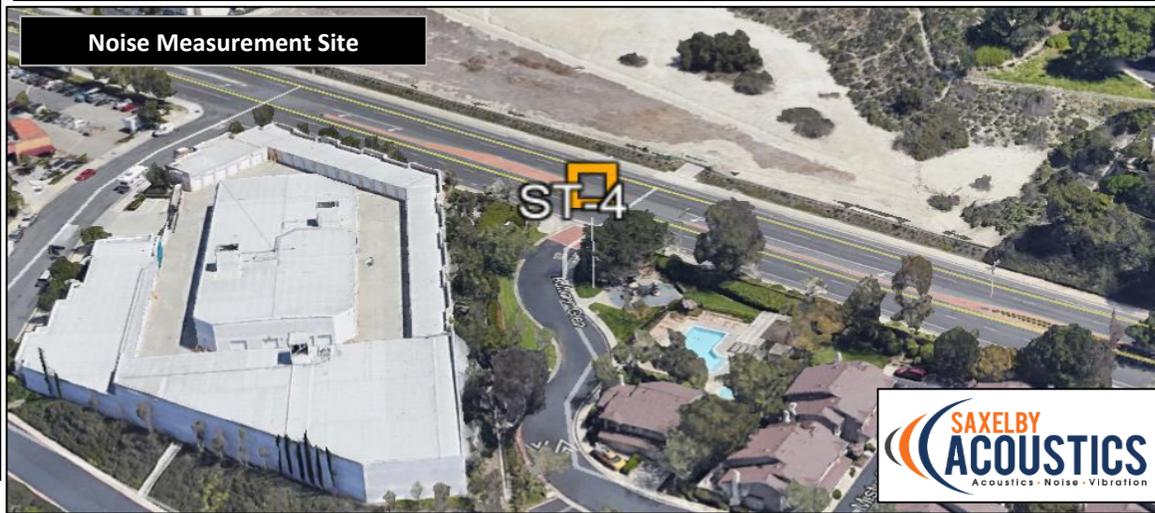
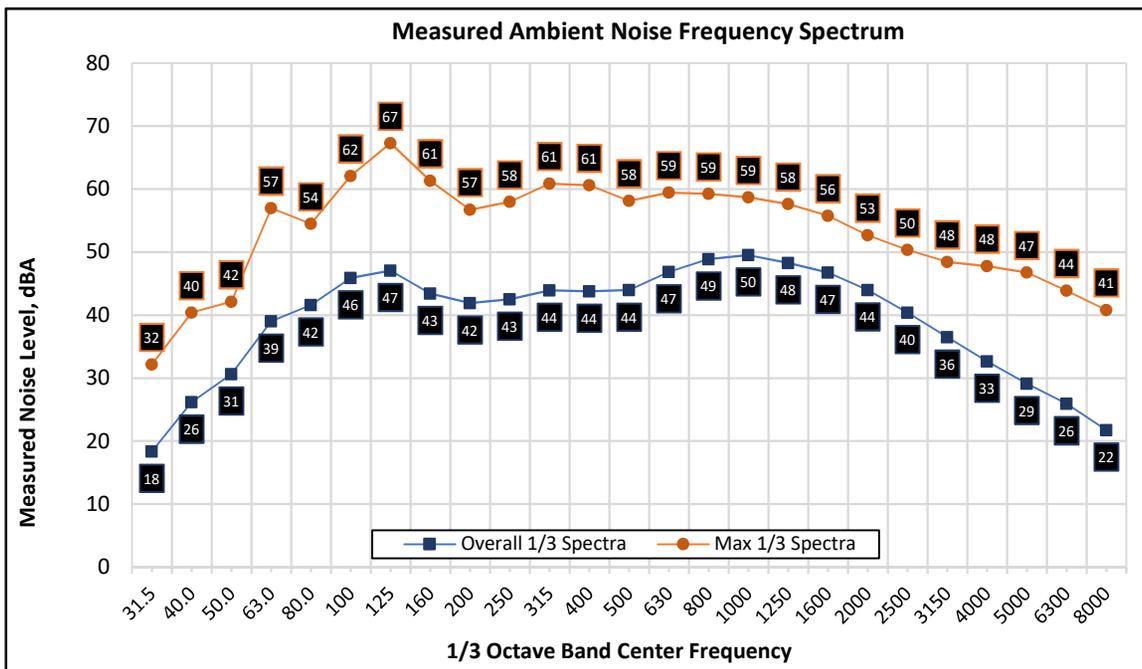
L_{min}: 43

L₅₀: 56

L₉₀: 48

Notes

Traffic on Forest Lake dominant. 6' wall at play area. Site of meter not fully shielded.



Appendix B-12 : Short Term Noise Monitoring Results

Site: ST-4

Project: Lake Forest General Plan Update

Meter: LDL 831-2

Location: Autumn Glenn & Lake Forest - 120' to CL of LF

Calibrator: B&K 4230

Coordinates: 33.659587, -117.670301

Start: 2018-04-18 23:01:56

Stop: 2018-04-18 23:11:56

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq}: 52

L_{max}: 65

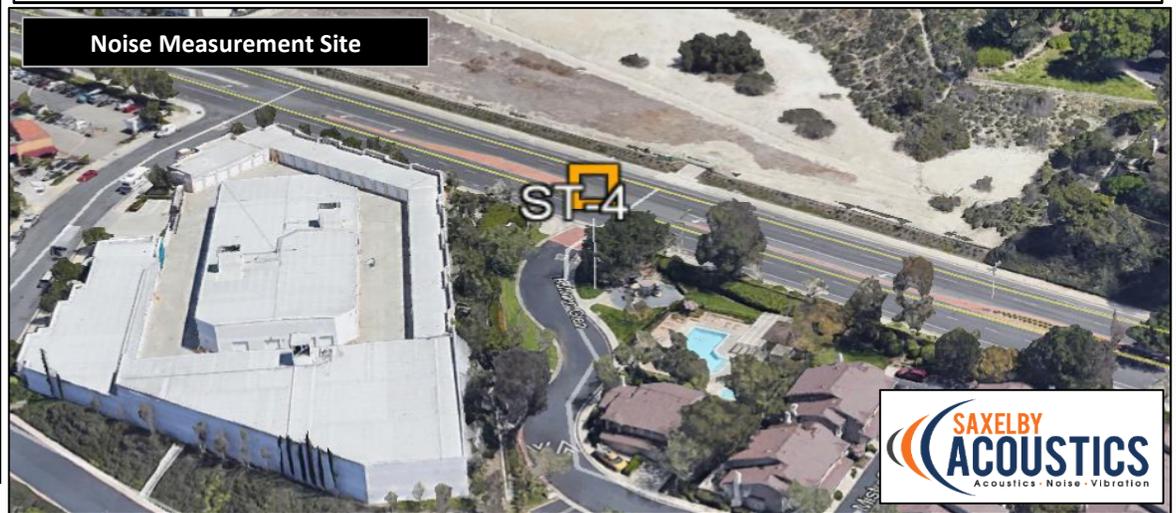
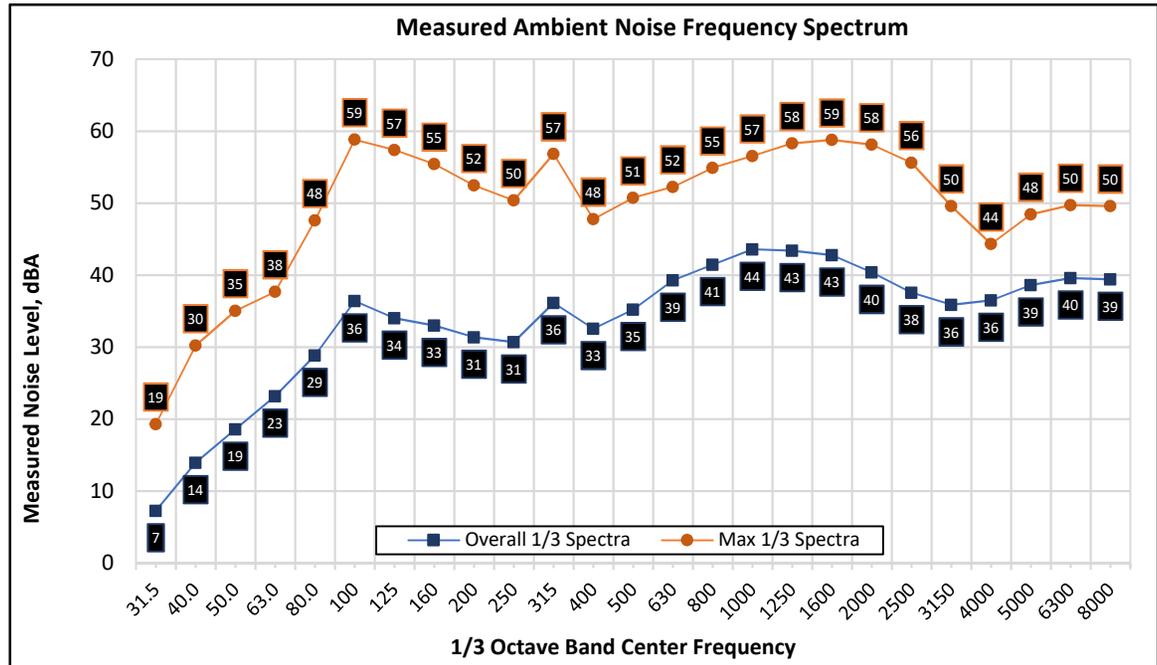
L_{min}: 42

L₅₀: 49

L₉₀: 44

Notes

Sprinklers 43-47 dBA. Traffic. Jet overflight. LAX to NC



Appendix B-13 : Short Term Noise Monitoring Results

Site: ST-5

Project: Lake Forest General Plan Update

Meter: LDL 831-2

Location: Foothill Ranch Community Park

Calibrator: B&K 4230

Coordinates: 33.679642, -117.652032

Start: 2018-04-18 14:01:58

Stop: 2018-04-18 14:11:58

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq} : 49

L_{max} : 58

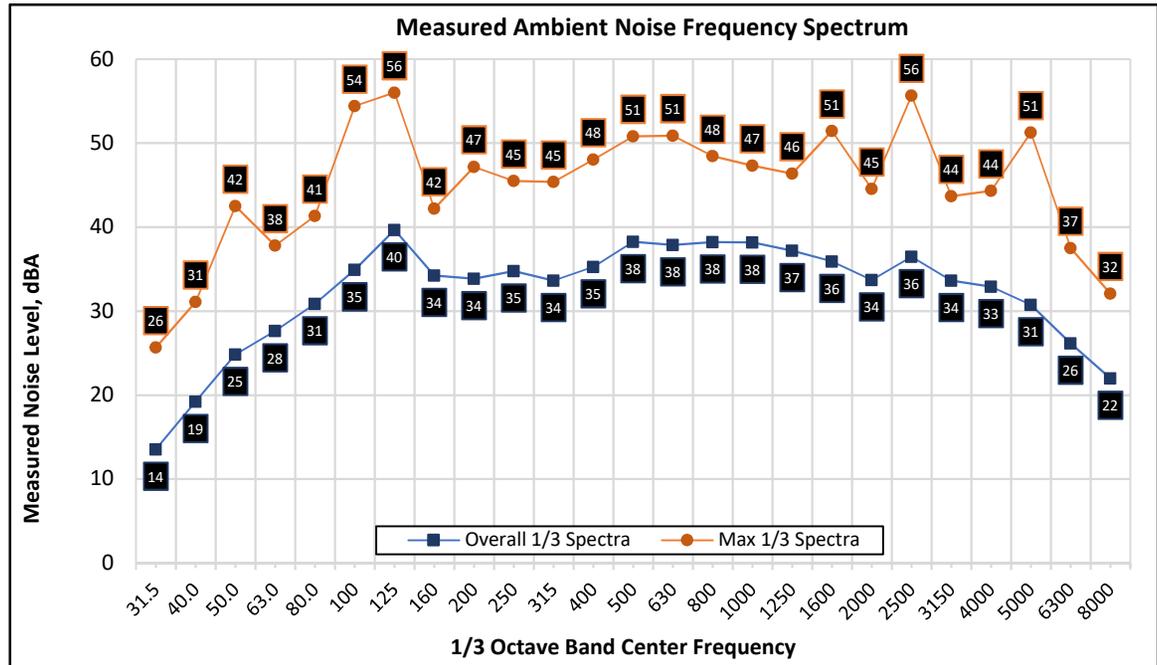
L_{min} : 42

L_{50} : 47

L_{90} : 44

Notes

Light breeze. Birds. Helicopter flyover to south. No kids at play equipment. Local traffic. Skater at hockey rink.



Appendix B-14 : Short Term Noise Monitoring Results

Site: ST-5

Project: Lake Forest General Plan Update

Meter: LDL 831-2

Location: Foothill Ranch Community Park

Calibrator: B&K 4230

Coordinates: 33.679642, -117.652032

Start: 2018-04-18 22:41:15

Stop: 2018-04-18 22:51:15

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq}: 39

L_{max}: 51

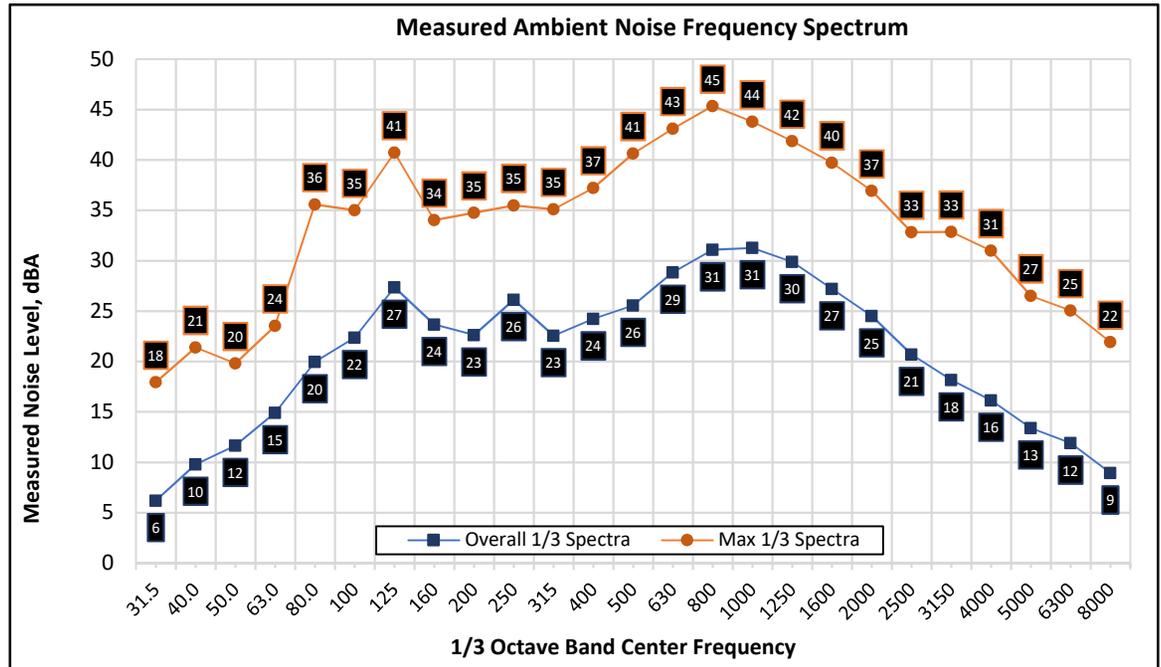
L_{min}: 34

L₅₀: 37

L₉₀: 35

Notes

Distant and local traffic.



Appendix B-15 : Short Term Noise Monitoring Results

Site: ST-6

Project: Lake Forest General Plan Update

Meter: LDL 831-2

Location: Santiago Canyon Park

Calibrator: B&K 4230

Coordinates: 33.690830, -117.623216

Start: 2018-04-18 14:52:22

Stop: 2018-04-18 15:02:22

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq}: 47

L_{max}: 59

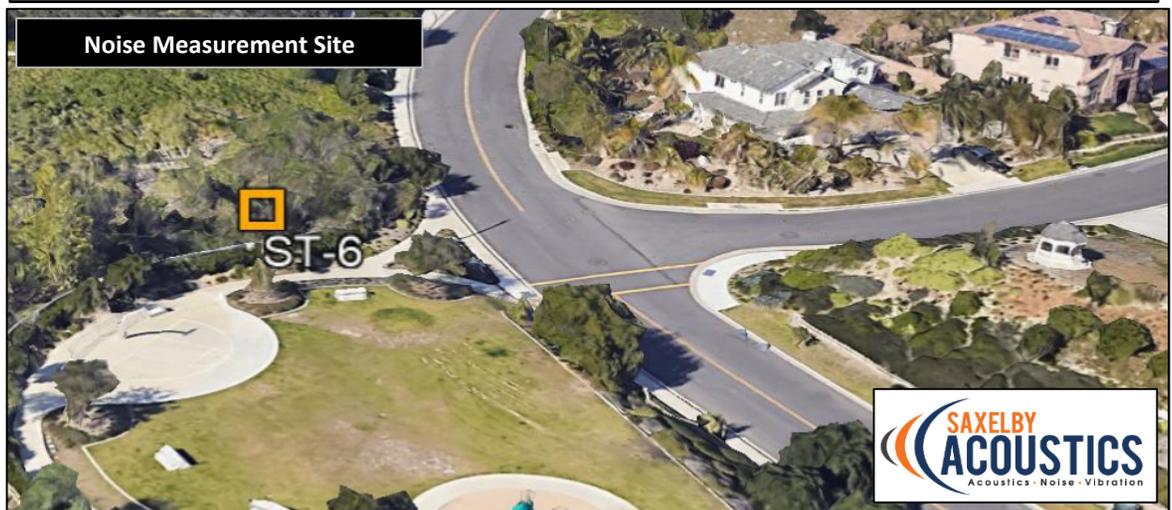
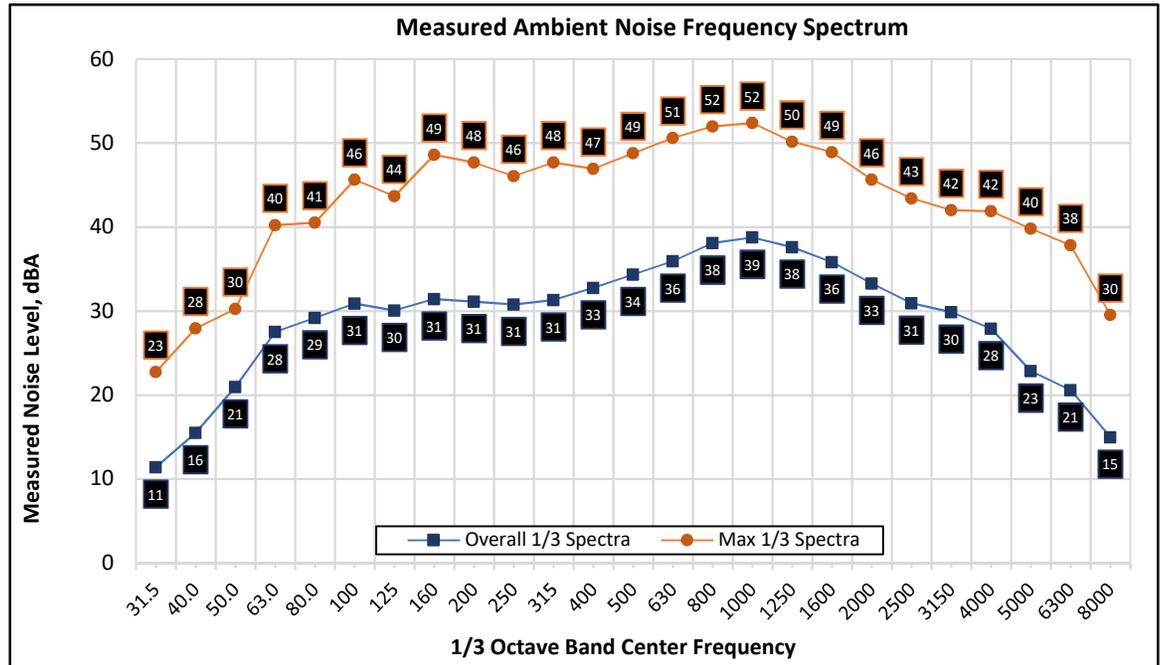
L_{min}: 37

L₅₀: 43

L₉₀: 41

Notes

Distant and local traffic.



Appendix B-16 : Short Term Noise Monitoring Results

Site: ST-6

Project: Lake Forest General Plan Update

Meter: LDL 831-2

Location:

Calibrator: B&K 4230

Coordinates:

Start: 2018-04-18 22:16:16

Stop: 2018-04-18 22:26:16

SLM: 831-2

Serial: 1800

Measurement Results, dBA

Duration: 0:10

L_{eq}: 43

L_{max}: 60

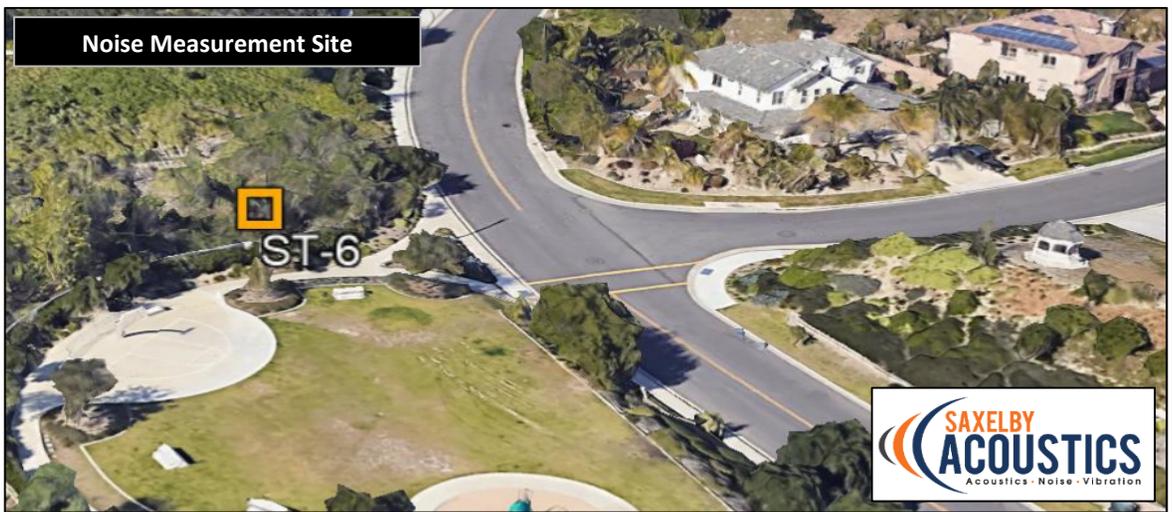
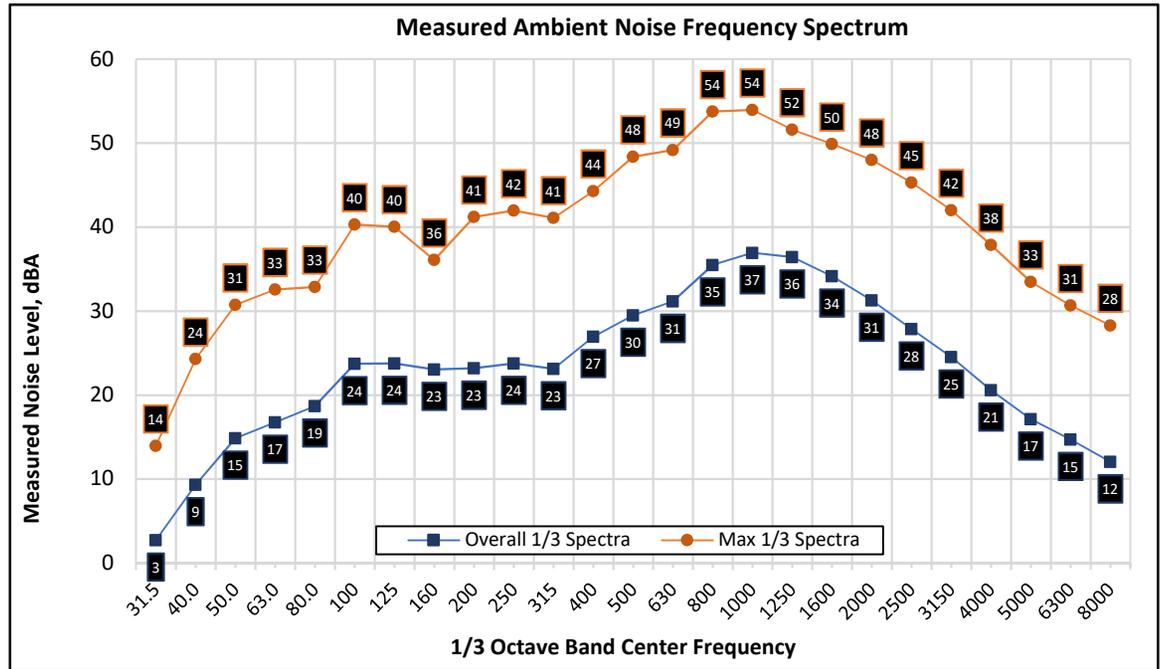
L_{min}: 24

L₅₀: 38

L₉₀: 28

Notes

Distant and local traffic.



Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 180206

Description: Lake Forest GPU - Existing Traffic

Ldn/CNEL: CNEL

Hard/Soft: Soft

Segment	Roadway Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.)			Level, dBA
											No Offset			
											60	65	70	
											dBA	dBA	dBA	dBA
1	Trabuco w/o Lake Forest	21,535	73	16	11	2.8%	0.3%	50	100	-5	288	134	62	61.9
2	Trabuco w/o Ridge Route	22,336	73	16	11	2.8%	0.3%	50	75	-5	295	137	64	63.9
3	Trabuco w/o El Toro	25,107	73	16	11	2.8%	0.3%	50	75	-5	319	148	69	64.4
4	Trabuco e/o El Toro	21,730	73	16	11	3.8%	0.3%	45	100	-5	250	116	54	61.0
5	Toledo w/o Lake Forest	6,063	73	16	11	3.0%	0.3%	50	100	-5	125	58	27	56.4
6	Toledo e/o Lake Forest	5,812	73	16	11	3.0%	0.3%	50	50	-5	121	56	26	60.8
7	Toledo e/o Ridge Route	5,985	73	16	11	3.0%	0.3%	45	50	-5	103	48	22	59.7
8	Jeronimo w/o Lake Forest	13,482	73	16	11	3.0%	0.3%	45	50	-5	177	82	38	63.2
9	Jeronimo w/o Ridge Route	13,349	73	16	11	3.0%	0.3%	40	60	-5	144	67	31	60.7
10	Jeronimo w/o El Toro	14,359	73	16	11	3.0%	0.3%	40	50	-5	151	70	33	62.2
11	Jeronimo e/o El Toro	21,648	73	16	11	3.0%	0.3%	40	50	-5	198	92	43	64.0
12	Muirlands w/o Lake Forest	13,936	73	16	11	3.0%	0.3%	45	65	-5	181	84	39	61.7
13	Muirlands w/o Ridge Route	17,180	73	16	11	3.0%	0.3%	45	60	-5	208	96	45	63.1
14	Muirlands e/o Ridge Route	19,578	73	16	11	3.0%	0.3%	45	75	-5	227	105	49	62.2
15	Muirlands e/o El Toro	20,709	73	16	11	3.0%	0.3%	45	55	-5	235	109	51	64.5
16	Rockfield w/o Lake Forest	21,911	73	16	11	5.2%	0.2%	45	100		257	119	55	66.2
17	Rockfield w/o Ridge Route	17,549	73	16	11	5.2%	0.2%	45	50		222	103	48	69.7
18	Rockfield w/o El Toro	18,642	73	16	11	5.2%	0.2%	45	65	-5	231	107	50	63.3
19	Rockfield w/o Los Alisos	13,707	73	16	11	5.2%	0.2%	40	65	-5	155	72	33	60.7
20	Portola w/o Alton Pkwy	5,976	73	16	11	4.0%	0.5%	55	100	-5	151	70	32	57.7
21	Portola w/o Bake	17,526	73	16	11	4.0%	0.5%	45	120	-5	220	102	47	59.0
22	Portola w/o Lake Forest	23,677	73	16	11	4.0%	0.5%	45	115	-5	269	125	58	60.5
23	Portola w/o Glenn Ranch	32,283	73	16	11	4.0%	0.5%	45	120		331	153	71	66.6
24	Portola n/o SR-241	25,325	73	16	11	4.0%	0.5%	45	260		281	131	61	60.5
25	Portola s/o SR-241	27,477	73	16	11	4.0%	0.5%	45	120	-5	297	138	64	60.9

Appendix C-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 180206

Description: Lake Forest GPU - Existing Traffic

Ldn/CNEL: CNEL

Hard/Soft: Soft

Segment	Roadway Segment	ADT	Day		Night		% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) No Offset			Level, dBA
			%	Eve %	%	%						60 dBA	65 dBA	70 dBA	
26	Portola w/o El Toro	35,739	73	16	11	3.0%	0.3%	50	390	-5	406	189	88	55.3	
27	Portola e/o El Toro	37,996	73	16	11	3.0%	0.3%	50	160	-5	423	196	91	61.3	
28	Rancho South w/o Bake	7,400	73	16	11	3.0%	0.3%	40	100		97	45	21	59.8	
29	Rancho e/o Bake	13,914	73	16	11	3.0%	0.3%	45	100		181	84	39	63.9	
30	Rancho e/o Lake Forest	19,440	73	16	11	3.0%	0.3%	45	90	-5	226	105	49	61.0	
31	Glenn n/o Portola to s/o Saddleback Ranch Road	16,076	73	16	11	3.0%	0.3%	50	115	-5	239	111	51	59.8	
32	Glenn Ranch w/o El Toro n/o Saddleback Ranch Road	6,849	73	16	11	3.0%	0.3%	50	115	-5	135	63	29	56.0	
33	Alton s/o Portola	13,231	73	16	11	8.1%	0.7%	35	100	-5	143	66	31	57.3	
34	Alton s/o SR-241	19,122	73	16	11	8.1%	0.7%	50	110		311	144	67	66.8	
35	Alton s/o Rancho South	23,261	73	16	11	8.1%	0.7%	55	120		411	191	89	68.0	
36	Alton n/o Trabuco	24,382	73	16	11	8.1%	0.7%	60	110	-5	488	226	105	64.7	
37	Bake s/o Towne Centre Drive	26,318	73	16	11	4.9%	0.5%	50	85		352	164	76	69.3	
38	Bake n/o Commercentre	29,630	73	16	11	4.9%	0.5%	50	100	-5	381	177	82	63.7	
39	Bake s/o Commercentre	32,335	73	16	11	4.9%	0.5%	50	100	-5	404	188	87	64.1	
40	Bake s/o Trabuco	46,162	73	16	11	3.3%	0.6%	50	85	-5	499	232	107	66.5	
41	Bake s/o Toledo	49,268	73	16	11	3.3%	0.6%	50	140	-5	521	242	112	63.6	
42	Lake Forest s/o Portola	9,502	73	16	11	6.6%	0.2%	50	100		183	85	39	63.9	
43	Lake Forest n/o Rancho	18,493	73	16	11	6.6%	0.2%	50	100		285	132	61	66.8	
44	Lake Forest s/o Rancho	20,894	73	16	11	6.6%	0.2%	50	125		309	143	67	65.9	
45	Lake Forest n/o Trabuco	31,667	73	16	11	6.6%	0.2%	50	80	-5	408	189	88	65.6	
46	Lake Forest s/o Trabuco	31,178	73	16	11	5.0%	0.0%	50	75	-5	383	178	83	65.6	
47	Lake Forest n/o Jeronimo	33,027	73	16	11	5.0%	0.0%	50	75	-5	398	185	86	65.9	
48	Lake Forest n/o Muirlands	32,627	73	16	11	5.0%	0.0%	50	80	-5	395	183	85	65.4	
49	Lake Forest s/o Muirlands	36,011	73	16	11	3.3%	0.0%	40	75	-5	273	127	59	63.4	
50	Lake Forest s/o Rockfield	59,276	73	16	11	3.3%	0.0%	40	100		381	177	82	68.7	

Appendix C-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Data Input Sheet

Project #: 180206

Description: Lake Forest GPU - Existing Traffic

Ldn/CNEL: CNEL

Hard/Soft: Soft

Segment	Roadway Segment	ADT											Contours (ft.)			Level, dBA
			Day		Night		% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	No Offset				
			%	Eve. %	%	60 dBA						65 dBA	70 dBA			
51	Ridge Route n/o Toledo	6,666	73	16	11	3.0%	0.3%	40	55	-5	90	42	19	58.2		
52	Ridge Route n/o Jeronimo	7,428	73	16	11	3.0%	0.3%	40	55	-5	97	45	21	58.7		
53	Ridge Route s/o Jeronimo	7,689	73	16	11	3.0%	0.3%	40	75		100	46	21	61.8		
54	Ridge Route n/o Muirlands	6,886	73	16	11	3.0%	0.3%	40	75	-5	92	43	20	56.4		
55	Ridge Route n/o Rockfield	6,811	73	16	11	3.0%	0.3%	40	60	-5	92	43	20	57.8		
56	Ridge Route s/o Rockfield	2,524	73	16	11	3.0%	0.3%	40	60	-5	47	22	10	53.5		
57	El Toro n/o Glenn Ranch	13,969	73	16	11	5.9%	0.2%	50	180		233	108	50	61.7		
58	El Toro s/o Glenn Ranch	14,800	73	16	11	5.9%	0.2%	55	200		284	132	61	62.3		
59	El Toro n/o Sta Margarita	13,832	73	16	11	5.9%	0.2%	55	170		271	126	58	63.0		
60	El Toro s/o Sta Margarita	25,322	73	16	11	5.9%	0.2%	55	90	-5	406	188	87	64.8		
61	El Toro n/o Trabuco	31,358	73	16	11	5.9%	0.2%	50	110		399	185	86	68.4		
62	El Toro s/o Trabuco	35,784	73	16	11	5.9%	0.2%	50	80	-5	436	202	94	66.0		
63	El Toro n/o Jeronimo	38,539	73	16	11	3.0%	0.6%	50	65		437	203	94	72.4		
64	El Toro n/o Muirlands	40,733	73	16	11	3.0%	0.6%	50	90		453	210	98	70.5		
65	El Toro s/o Muirlands	44,716	73	16	11	2.7%	0.1%	40	75	-5	309	143	67	64.2		
66	El Toro s/o Rockfield	54,028	73	16	11	2.7%	0.1%	40	100		350	163	75	68.2		
67	Los Alisos n/o Jeronimo	28,974	73	16	11	3.0%	0.3%	45	75	-5	294	137	63	63.9		
68	Los Alisos n/o Muirlands	30,001	73	16	11	3.0%	0.3%	45	80	-5	301	140	65	63.6		
69	Los Alisos s/o Muirlands	27,284	73	16	11	3.0%	0.3%	45	70	-5	283	131	61	64.1		
70	Los Alisos s/o Rockfield	25,047	73	16	11	3.0%	0.3%	45	50	-5	267	124	58	65.9		
71	Commercentre e/o Alton	7,546	73	16	11	6.2%	1.9%	50	55		173	80	37	67.5		
81	Dimension n/o Commercentre	5,963	73	16	11	3.8%	0.6%	45	100		108	50	23	60.5		
82	Dimension s/o Commercentre	12,021	73	16	11	3.2%	0.4%	45	100		167	77	36	63.3		
83	Commercentre e/o Bake	11,085	73	16	11	6.3%	1.3%	45	100		185	86	40	64.0		
85	Commercentre w/o Dimension	7,896	73	16	11	3.0%	0.3%	45	100		124	57	27	61.4		
86	Interstate 5	201,000	61	16	23	2.4%	3.1%	70	150	-8	3326	1544	717	72.2		
87	Route 241	40,100	73	16	11	2.0%	1.1%	65	230	-5	712	330	153	62.4		

Appendix F

Transportation Impact Analysis

Transportation Impact Analysis

Lake Forest General Plan Update

Lake Forest, California

November 2019

Transportation Impact Analysis

Lake Forest General Plan Update

Lake Forest, California

Prepared For:

City of Lake Forest

25550 Commercentre Drive

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Project No. 21181

November 2019



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Section 1
Executive Summary

EXECUTIVE SUMMARY

The City of Lake Forest encompasses approximately 16.7 square miles in Orange County, California. The city is bordered by the City of Irvine to the west, the City of Laguna Woods to the southwest, the City of Laguna Hills to the south, the City of Mission Viejo to the east, and unincorporated County of Orange to the north and to the west. The City has prepared its 2040 General Plan Update (“Plan”), which is an update to the current (1994) Lake Forest General Plan. The Plan is intended to guide long-term growth, traffic patterns, housing, and resources conservation.

The Plan aims to achieve the community’s vision of a resilient, safe, attractive, and vibrant city that maintains and improves residents’, employees’, and visitors’ quality of life. The Plan is designed to enhance resources and set the framework for development and investment that will help the City achieve its vision.

The Plan proposes significant infill development in the city with a mix of uses, as noted below. Please note, the proposed land uses represent the full citywide buildout and include existing development in the city.

- 29,167 single family residential units
- 22,167 multi-family residential units
- Approximately 5,567,524 square feet of office uses
- Approximately 9,733,234 square feet of retail uses
- Approximately 12,425,826 square feet of other non-residential uses

Kittelson & Associate (“Kittelson”) has prepared a transportation analysis of the Plan. Below is a summary of results of the transportation analysis conducted for the Plan, including any significant impact findings and recommended roadway improvements.

SIGNIFICANT TRANSPORTATION IMPACTS

The California Environmental Quality Act (CEQA) transportation impact analysis of the Plan found no significant impacts for the following topics:

- Vehicle Miles Traveled (VMT)
- Air Traffic
- Safety Hazards
- Emergency Access
- Public Transit, Bicycle, or Pedestrian Facilities

ROADWAY IMPROVEMENT RECOMMENDATIONS

In addition to the transportation analysis conducted under CEQA requirements, Kittelson analyzed roadway segment and intersection operations with Plan implementation, to address the City’s goal of

providing satisfactory roadway operations and traffic flow within Lake Forest. Recommended improvements on these facilities were provided to accommodate long-term buildout of vehicular traffic. It is recommended that the City continue to monitor traffic volumes on these and other roadway facilities to determine the timing and extent of any improvements as development projects are implemented in the city.

Three roadway segments with recommended improvements are as follows:

- Portola Parkway
- Bake Parkway
- Lake Forest Drive

Eight intersections with recommended improvements are as follows:

- Portola Parkway & SR-241 Ramps
- Alton Parkway & SR-241 Ramps
- Bake Parkway & Rancho Parkway South
- Bake Parkway & Jeronimo Road
- Lake Forest Drive & Rockfield Boulevard
- Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota
- Paseo De Valencia & Avenida De La Carlota
- El Toro Road & Bridger Road/I-5 NB Ramps

Section 2
Introduction

INTRODUCTION

This report documents the transportation impact analysis for the General Plan Update and summarizes the methodology, findings, and conclusions of the analysis.

The purpose of the study is to assess potentially significant impacts resulting from the implementation of the General Plan Update on the citywide transportation system and to identify measures to mitigate them. The study also serves as the basis for the transportation component of the Environmental Impact Report (EIR) that will be prepared for the General Plan Update.

PROJECT DESCRIPTION

The City of Lake Forest encompasses approximately 16.7 square miles in Orange County, California. The city is bordered by the City of Irvine to the west, the City of Laguna Woods to the southwest, the City of Laguna Hills to the south, the City of Mission Viejo to the east, and unincorporated County of Orange to the north and to the west. The City of Lake Forest is shown in Figure 1.

The City of Lake Forest 2040 General Plan Update, which is an update to the current (1994) Lake Forest General Plan,¹ is intended to guide long-term growth, traffic patterns, housing, and resources conservation. Table 1 outlines the land use designations and buildout projections for dwelling units, residents, non-residential square footage, and employment proposed under the General Plan Update. In total, the General Plan would result in a buildout of approximately 51,334 housing units, 152,462 residents, 27,726,585 non-residential square feet, and 52,241 employees within the City’s boundaries.

Table 1: Proposed General Plan Update Land Use Designations and Intensity Assumptions

Land Use Designation	Dwelling Units	Population	Non-Residential Square Footage	Employees
Low Density Residential	17,023	50,559	0	0
Low-Medium Density Residential	9,589	28,481	0	0
Medium Density Residential	7,931	23,555	0	0
High Density Residential	620	1,840	0	0
Commercial	0	0	3,054,326	6,787
Professional Office	0	0	110,398	368
Mixed-Use	7,567	22,473	5,133,082	11,407
Mixed-Use 32	3,234	9,605	1,100,607	2,446
Mixed-Use 60	3,265	9,696	1,481,288	3,292
Mixed-Use - Office	0	0	513,715	1,284
Business Park	0	0	4,545,819	7,576
Light Industrial	0	0	9,565,602	15,943
Urban Industrial 25	1,155	3,430	914,637	1,524

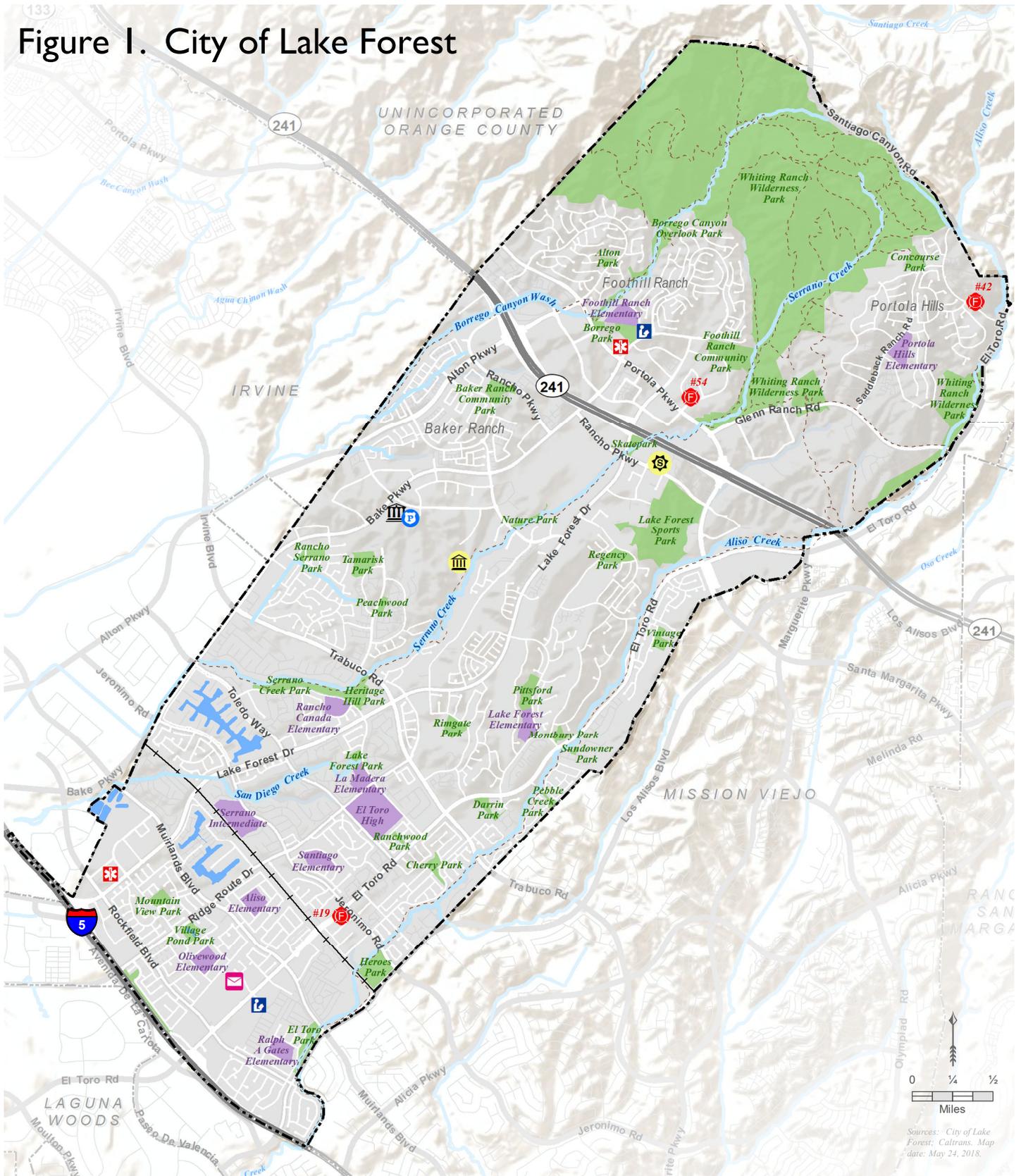
¹ The City’s Circulation Element was revised in 2008.

Land Use Designation	Dwelling Units	Population	Non-Residential Square Footage	Employees
Urban Industrial 43	950	2,823	460,007	767
Public Facility	0	0	811,508	812
Community Park/Open Space	0	0	27,148	27
Regional Park/Open Space	0	0	8,448	8
Total	51,334	152,462	27,726,585	52,241

Source: De Novo Planning Group, 2019

In addition to land use, the General Plan Mobility Element includes a map of proposed roadway classifications, as shown in Figure 2.

Figure I. City of Lake Forest



Legend

- City of Lake Forest
- Other City Boundaries
- Public School
- City or County Park
- Riding & Hiking Trails
- City Hall
- Future Civic Center
- Fire Station
- Police Center
- Sheriff's Department
- Urgent Care Facility
- Library
- U.S. Post Office



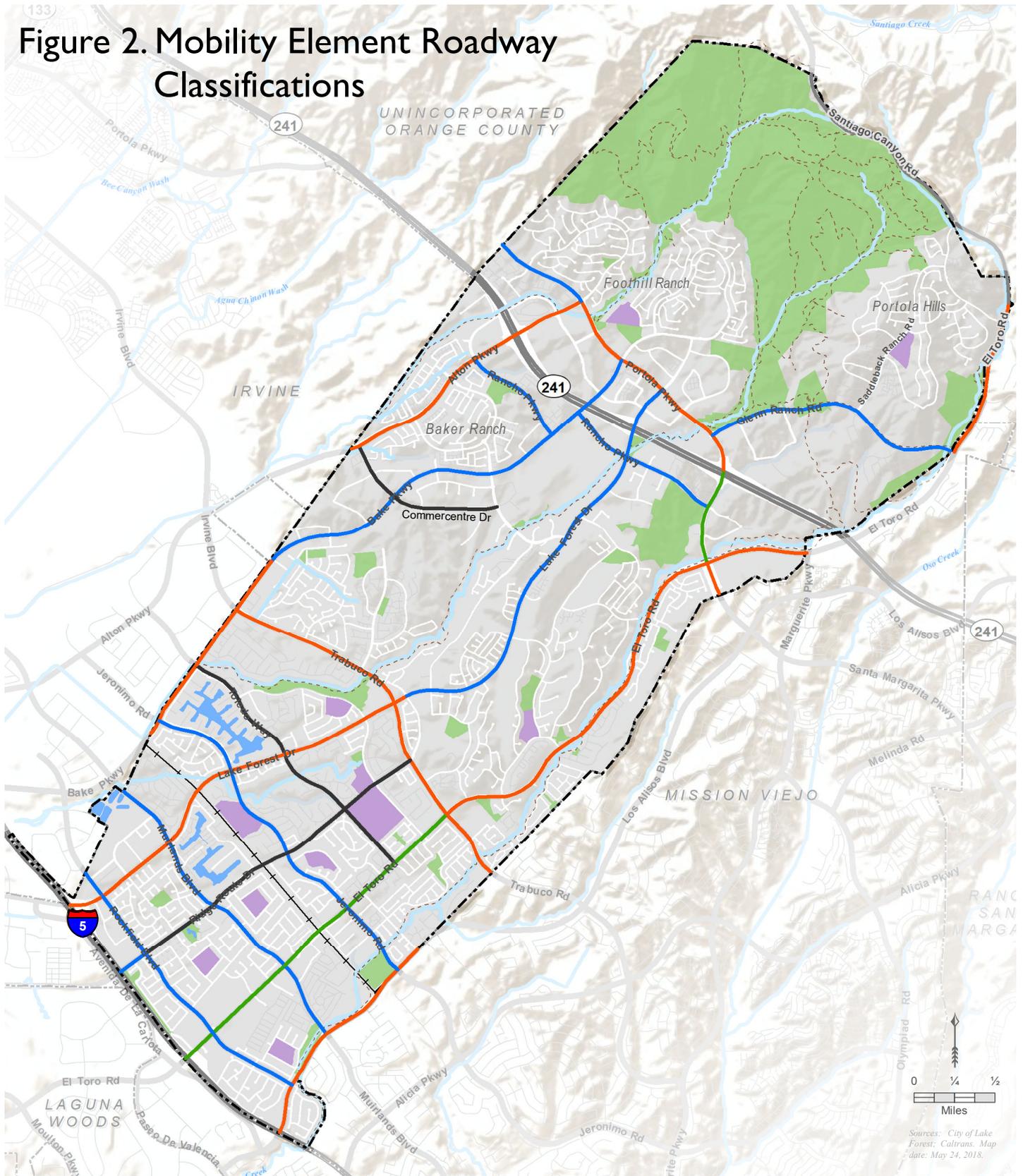
Lake Forest

Our Vision. Our Plan. **2040**

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Sources: City of Lake Forest; Caltrans. Map date: May 24, 2018.

Figure 2. Mobility Element Roadway Classifications



Legend

- | | | | |
|--|------------------------|--------------------------------|--------------------|
| | City of Lake Forest | Roadway Classifications | |
| | Other City Boundaries | | Principal Arterial |
| | Public School | | Major Arterial |
| | City or County Park | | Primary Arterial |
| | Riding & Hiking Trails | | Secondary Arterial |
| | | | Collector |

De Novo Planning Group

 A Land Use Planning, Design, and Environmental Firm

Sources: City of Lake Forest; Caltrans. Map date: May 24, 2018.

STUDY LOCATIONS

Study locations were developed in conjunction with the City of Lake Forest staff.

The following signalized intersections were analyzed for traffic conditions during the AM peak hour and PM peak hour using City of Lake Forest and/or other relevant jurisdictions' significance criteria as shown in Table 2 and in Figure 3.

Table 2: Study Intersections

#	Intersection	Jurisdiction
1	Alton Parkway & Portola Parkway	Lake Forest
2	Bake Parkway & Portola Parkway	Lake Forest
3	Lake Forest Drive & Portola Parkway	Lake Forest
4	Glenn Ranch Road & Portola Parkway	Lake Forest
5	Portola Parkway & SR-241 Ramps	Lake Forest / Caltrans
6	Alton Parkway & SR-241 Ramps	Lake Forest / Caltrans
7	Lake Forest Drive & SR-241 NB On-Ramp	Lake Forest / Caltrans
8	Lake Forest Drive & SR-241 SB Off-Ramp	Lake Forest / Caltrans
9	Bake Parkway & Rancho Parkway	Lake Forest
10	Lake Forest Drive & Rancho Parkway	Lake Forest
11	Bake Parkway & Rancho Parkway South	Lake Forest
12	El Toro Road & Portola Parkway/Santa Margarita Parkway	Lake Forest
13	Bake Parkway & Commercentre Drive	Lake Forest
14	Bake Parkway & Irvine Boulevard/Trabuco Road	Lake Forest
15	Lake Forest Drive & Trabuco Road	Lake Forest
16	Ridge Route Drive & Trabuco Road	Lake Forest
17	El Toro Road & Trabuco Road	Lake Forest
18	Bake Parkway & Toledo Way	Lake Forest
19	Lake Forest Drive & Toledo Way	Lake Forest
20	Ridge Route Drive & Toledo Way	Lake Forest
21	El Toro Road & Toledo Way	Lake Forest
22	Bake Parkway & Jeronimo Road	Lake Forest
23	Lake Forest Drive & Jeronimo Road	Lake Forest
24	Ridge Route Drive & Jeronimo Road	Lake Forest
25	El Toro Road & Jeronimo Road	Lake Forest
26	Los Alisos Boulevard & Jeronimo Road	Lake Forest
27	Lake Forest Drive & Muirlands Boulevard	Lake Forest
28	Ridge Route Drive & Muirlands Boulevard	Lake Forest
29	El Toro Road & Muirlands Boulevard	Lake Forest
30	Los Alisos Boulevard & Muirlands Boulevard	Lake Forest
31	Lake Forest Drive & Rockfield Boulevard	Lake Forest

#	Intersection	Jurisdiction
32	Ridge Route Drive & Rockfield Boulevard	Lake Forest
33	El Toro Road & Rockfield Boulevard	Lake Forest
34	Los Alisos Boulevard & Rockfield Boulevard	Lake Forest
35	Lake Forest Drive & I-5 NB Ramps	Lake Forest / Caltrans
36	Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota	Laguna Hills / Caltrans
37	Paseo De Valencia & Avenida De La Carlota	Laguna Hills / Caltrans
38	El Toro Road & Bridger Road/I-5 NB Ramps	Lake Forest / Caltrans
39	El Toro Road & Avenida De La Carlota	Laguna Hills
40	Portola Parkway & Rancho Parkway	Lake Forest
41	Alton Parkway & Rancho Parkway South	Lake Forest
42	Alton Parkway & Commercentre Drive	Lake Forest
51	El Toro Road & Glenn Ranch Road	Lake Forest
56	Bake Parkway & Dimension Drive	Lake Forest
57	Lake Forest Drive & Dimension Drive	Lake Forest
60	Dimension Drive & Commercentre Drive	Lake Forest
101	Lake Forest Drive & Pittsford Drive	Lake Forest
102	El Toro Road & Northcrest Drive	Lake Forest

As shown in the table, the following three study intersections are located in the City of Laguna Hills:

- #36 – Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota
- #37 – Paseo De Valencia & Avenida De La Carlota
- #39 – El Toro Road & Avenida De La Carlota

The following eight study intersections are located at California Department of Transportation (Caltrans) freeway ramps and will also be analyzed under Caltrans methodologies and standards:

- #5 – Portola Parkway & SR-241 Ramps
- #6 – Alton Parkway & SR-241 Ramps
- #7 – Lake Forest Drive & SR-241 NB On-Ramp
- #8 – Lake Forest Drive & SR-241 SB Off-Ramp
- #35 – Lake Forest Drive & I-5 NB Ramps
- #36 – Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota
- #37 – Paseo De Valencia & Avenida De La Carlota
- #38 – El Toro Road & Bridger Road/I-5 NB Ramps

The following intersections are Congestion Management Plan (CMP)-designated intersections according to the Orange County CMP and will also be analyzed under CMP standards:

- #17 – El Toro Road & Trabuco Road

- #38 – El Toro Road & Bridger Road/I-5 NB Ramps
- #39 – El Toro Road & Avenida De La Carlota (in Laguna Hills)

Table 3 shows the roadway segments that were analyzed for traffic conditions on a daily traffic volume basis.

Table 3: Study Roadway Segments

Roadway	Segment
Trabuco Road	North of Lake Forest Drive
	North of Ridge Route Drive
	North of El Toro Road
	South of El Toro Road
Toledo Way	North of Lake Forest Drive
	South of Lake Forest Drive
	South of Ridge Route Drive
Jeronimo Road	North of Lake Forest Drive
	North of Ridge Route Drive
	North of El Toro Road
	South of El Toro Road
Muirlands Boulevard	North of Lake Forest Drive
	North of Ridge Route Drive
	South of Ridge Route Drive
	South of El Toro Road
Rockfield Boulevard	North of Lake Forest Drive
	North of Ridge Route Drive
	North of El Toro Road
	North of Los Alisos Boulevard
Portola Parkway	North of Alton Parkway
	North of Bake Parkway
	North of Lake Forest Drive
	North of Glenn Ranch Road
	North of SR-241
	South of SR-241
	North of El Toro Road
	South of El Toro Road
Rancho Parkway South	North of Bake Parkway
Rancho Parkway	South of Bake Parkway
	South of Lake Forest Drive
Glenn Ranch Road	Portola Parkway to Saddleback Ranch Road
	Saddleback Ranch Road to El Toro Road

Roadway	Segment
Alton Parkway	West of Portola Parkway
	West of SR-241
	West of Rancho Parkway South
	East of Trabuco Road
Bake Parkway	West of Towne Center Drive
	East of Commercentre Drive
	West of Commercentre Drive
	West of Trabuco Road
	West of Toledo Way
Lake Forest Drive	West of Portola Parkway
	East of Rancho Parkway
	West of Rancho Parkway
	East of Trabuco Road
	West of Trabuco Road
	East of Jeronimo Road
	East of Muirlands Boulevard
	West of Muirlands Boulevard
	West of Rockfield Boulevard
Ridge Route Drive	East of Toledo Way
	East of Jeronimo Road
	West of Jeronimo Road
	East of Muirlands Boulevard
	East of Rockfield Boulevard
	West of Rockfield Boulevard
El Toro Road	East of Glenn Ranch Road
	West of Glenn Ranch Road
	East of Santa Margarita Parkway
	West of Santa Margarita Parkway
	East of Trabuco Road
	West of Trabuco Road
	East of Jeronimo Road
	East of Muirlands Boulevard
	West of Muirlands Boulevard
	West of Rockfield Boulevard
Los Alisos Boulevard	East of Jeronimo Road
	East of Muirlands Boulevard
	West of Muirlands Boulevard
	West of Rockfield Boulevard
Commercentre Drive	South of Alton Parkway

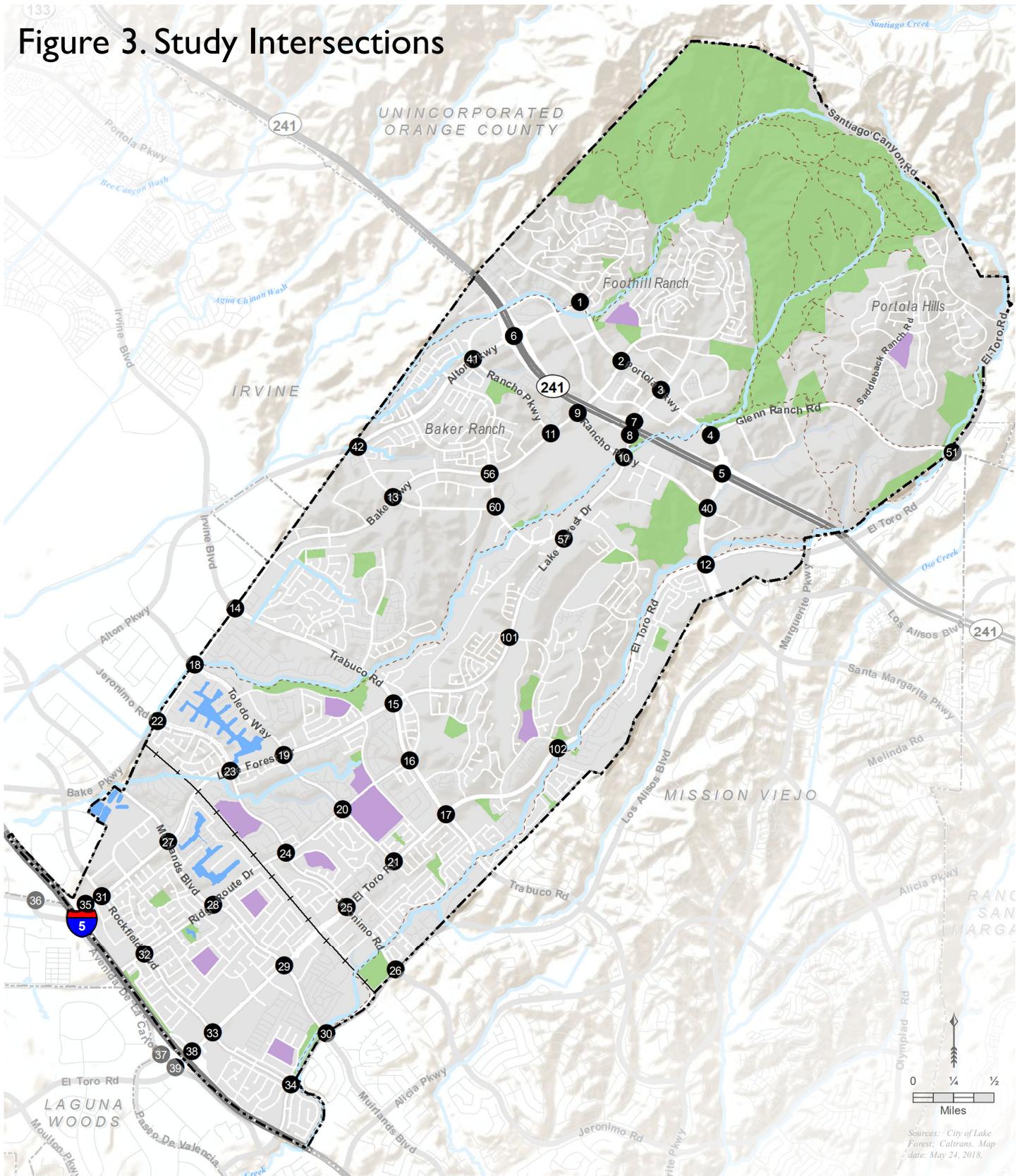
Roadway	Segment
	South of Bake Parkway
	North of Dimension Drive
Dimension Drive	North of Commercentre Drive
	South of Commercentre Drive

ANALYSIS SCENARIOS

As part of the assessment, the following scenarios were developed and analyzed:

- Existing (2018) Conditions – Study intersections and roadway segments were analyzed using existing traffic counts, collected in 2018.
- Cumulative (2040) Plus Plan Conditions – This scenario represents the land uses, densities and circulation network changes for full buildout of the General Plan in the year 2040 and consists of forecast volumes using the Orange County Transportation Analysis Model (OCTAM) and (Lake Forest Traffic Analysis Model) LFTAM travel demand models. This scenario also includes roadway improvements that are expected to be implemented by 2040.

Figure 3. Study Intersections



Legend

- City of Lake Forest
- Other City Boundaries
- Public School
- City or County Park
- Riding & Hiking Trails
- Study Intersections

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Sources: City of Lake Forest; Caltrans. Map date: May 24, 2018.

Section 3
Existing Conditions

EXISTING CONDITIONS

PHYSICAL SETTING

This section summarizes existing mobility conditions in the City of Lake Forest related to vehicles, transit, bicycles, pedestrians, freight/goods movement, aviation, and traffic operations.

ROADWAY NETWORK

The roadway system in Lake Forest consists of arterial roadways as well as regional freeways and highways that serve local and regional traffic demand. The existing vehicular facilities in Lake Forest are discussed below.

Local Arterial Roadways

Roadways within Lake Forest are classified in the current Circulation Element (revised 2008) of the 1994 Lake Forest General Plan as principal arterials, major arterials, primary arterials, secondary arterials, and commercial streets; these classifications are shown in Figure 4.

- **Principal Arterials.** According to the current Circulation Element, principal arterials generally have eight lanes and a raised median with a daily capacity of approximately 70,000 vehicles. On-street parking and left-turns at unsignalized minor street and driveway intersections are typically prohibited.
- **Major Arterials.** Major arterials generally have six lanes and a raised median with a daily capacity of approximately 56,000 vehicles. On-street parking is typically prohibited. In addition, signalized intersections are preferable to unsignalized intersections along major arterials.
- **Primary Arterials.** Primary arterials generally have four lanes and a painted or raised median with a daily capacity of approximately 36,000 vehicles. Similar to other arterial classifications in Lake Forest, on-street parking is typically prohibited.
- **Secondary Arterials.** Secondary arterials generally have four lanes without a painted or raised median. The daily capacity for a secondary arterial is approximately 25,000 vehicles. Unlike principal, major, and primary arterials, secondary arterials can provide on-street parking and access via unsignalized intersections at minor streets.
- **Commercial Streets.** The current Circulation Element recognizes that certain streets near commercial centers can have different daily traffic patterns compared to arterials in areas that are predominantly residential. For example, streets in commercial areas experience heavier traffic volumes after the morning peak hour and during non-peak hours compared to residential areas. Due to these unique characteristics, certain arterials in commercial areas are designated as commercial streets.

Individual arterials in Lake Forest and their current classifications are described below. In general, the north-south roadways provide connections to neighboring cities such as Mission Viejo and Irvine, and the east-west roadways connect Lake Forest to Laguna Woods, Cleveland National Park, SR-241, and I-5.

El Toro Road is an east-west road connecting I-5 to SR- 241. It serves commercial centers and provides access to several neighborhoods. There are four 11-foot travel lanes in each direction, between Interstate 5 and Muirlands Boulevard. North of Muirlands Boulevard, El Toro has three travel lanes in each direction. Opposing travel lanes are separated by a painted median and two-way left turn lane. There are sidewalks on both sides of the street, except between Creekside and Raintree Lane, where there is only a sidewalk on the west side. The Aliso Creek bikeway, a shared use path, runs along the south side of the street between Normandale Drive and Live Oak Canyon Road. The posted speed limit is 55 miles per hour (mph) east of North Crest, 50 mph between North Crest and Jeronimo Road, and 40 mph west of Jeronimo Road. On-street parking is not permitted. El Toro Road is classified as a major arterial east of Trabuco Road, a principal arterial between Trabuco Road and Muirlands Boulevard, and a commercial street between Muirlands Boulevard and I-5.

Lake Forest Drive is an east-west road connecting I-5 to SR-241. It serves commercial centers and provides access to several neighborhoods. There are three 11-foot travel lanes in each direction west of Trabuco Road and two travel lanes in each direction east of Trabuco Road. Opposing travel lanes are separated by a raised median. Sidewalks are present along both sides of the roadway throughout the City. On-street parking is not permitted. Lake Forest Drive has Class II bike lanes on both sides of the street, between Portola Parkway and Muirlands Boulevard. The posted speed limit varies between 40 mph and 55 mph. Lake Forest Drive is classified as a commercial street from Portola Parkway to Rancho Parkway, a primary arterial from Rancho Parkway to Trabuco Road, a major arterial from Trabuco Road to Muirlands Boulevard, and a commercial street from Muirlands Boulevard to I-5.

Alton Parkway is an east-west road traveling between Portola Parkway, SR-241, and the westerly City limit, providing connectivity from Foothill Ranch to I-5 and I-405. There are three 11- to 12-foot travel lanes in each direction, separated by a raised median. There are sidewalks on both sides of the street and Class II bike lanes are provided west of Portola Parkway. The posted speed limit is 40 mph. Alton Parkway is classified as a major arterial.

Bake Parkway is an east-west road running between Portola Parkway and the City limits and providing connectivity from Foothill Ranch to I-5. There are two 11- to 12-foot travel lanes in each direction, separated by a raised median. Sidewalks and Class II bike lanes are provided on both sides of the street. The posted speed limit is 50 mph. Bake Parkway is classified as a commercial street east of Rancho Parkway, a primary arterial between Rancho Parkway and Pointe Drive, and a major arterial west of Pointe Drive.

Los Alisos Boulevard is an east-west roadway running along a portion of the easterly City limits. Within Lake Forest, Los Alisos Boulevard mainly serves residential neighborhoods. There are three 11-foot travel lanes in each direction, separated by a raised median. Sidewalks and Class II bike lanes are provided along

both sides of the roadway. On-street parking is not permitted. The posted speed limit is 45 mph. Los Alisos Boulevard is classified as a major arterial.

Portola Parkway is a north-south roadway traveling parallel to and across SR-241, between the city boundaries with Irvine and Mission Viejo. East of SR 241, there are two to three 11- to 12-foot travel lanes in each direction, separated by a raised median. West of SR 241, there are three 11 to 12-foot travel lanes. Sidewalks and Class II bike lanes are provided along both sides of the roadway. On-street parking is not permitted. The posted speed limit is 45 mph. Portola Parkway is classified as a primary arterial north of Alton Parkway, a major arterial between Alton Parkway and SR-241, a major arterial between SR-241 and El Toro Road, and a major arterial south of El Toro Road. Portola Parkway presently terminates at the City's northwest limits (past Paloma). The OCTA MPAH shows Portola Parkway's future alignment as continuous between the northerly City limits and SR-241 within Irvine.

Trabuco Road is a north-south roadway, bisecting Lake Forest. There are three 11- to 12-foot travel lanes in each direction north of El Toro Road and two travel lanes in each direction south of El Toro Road, separated by a raised median. Sidewalks are present on both sides of the road, except for a short extent on the Aliso Creek bridge. Class II bike lanes are provided along both sides of the roadway. On-street parking is not permitted. The posted speed limit is 45 mph. Trabuco Road is classified as a major arterial. North of Bake Parkway (in Irvine) this roadway is known as Irvine Boulevard.

Toledo Way is a north-south roadway, extending from Alton Parkway (in Irvine) to El Toro Road. There are two 10- to 12-foot travel lanes in each direction, separated by a two-way left turn lane. Sidewalks are present on both sides of the road. Class II bike lanes are available on both sides of the street north of Ridge Route Drive. On-street parking is permitted on the east side of Toledo Way between El Toro Road and El Toro High School. The posted speed limit varies between 45 and 50 mph; between Ridge Route Drive and El Toro Road (adjacent to El Toro High School) the speed limit is 25 mph when children are present. Toledo Way is classified as a Secondary Arterial.

Jeronimo Road is a north-south roadway, bisecting Lake Forest. There are two 10- to 12-foot travel lanes in each direction; opposing travel lanes are separated by a two-way left turn lane north of El Toro Road and by a raised median south of El Toro Road. Sidewalks and Class II bike lanes are provided on both sides of the road. On-street parking is not permitted except on the west side in front of the commercial center between Orange Avenue and Cherry Avenue. The posted speed limit varies between 40 and 45 mph; adjacent to Serrano Middle School, the speed limit is 25 mph when children are present. Jeronimo Road is classified as a primary arterial.

Muirlands Boulevard is a north-south roadway, providing access to residential and commercial uses in Lake Forest. There are two 11- to 14-foot travel lanes in each direction, separated by a two-way left turn lane. Sidewalks and Class II bike lanes are provided on both sides of the road. On-street parking is not permitted. The posted speed limit is 45 mph. Muirlands Boulevard is classified as a primary arterial.

Rockfield Boulevard is a north-south roadway, running parallel east of I-5 and providing access to residential and commercial uses. There are two 10- to 13-foot travel lanes in each direction, separated

by either a raised median or a two-way left turn lane. Sidewalks are provided on both sides of the road. Class II bike lanes are available between the northerly City limit and Lake Forest Drive, Ridge Route Drive and Cavanaugh Road, and El Toro Road and Los Alisos Boulevard. On-street parking is not permitted. The posted speed limit is 45 mph. Rockfield Boulevard is classified as a commercial street west of Ridge Route Drive and a primary arterial east of Ridge Route Drive.

Ridge Route Drive is an east-west road between Trabuco Road and a terminus point at I-5, providing connectivity to residential and retail uses. There are two 11- to 12-foot travel lanes in each direction, which is reduced to one lane in each direction at the railroad underpass between Muirlands Boulevard and Jeronimo Road. South of Costa Bella Drive, opposing travel lanes are separated by a raised median; north of Costa Bella Drive, opposing travel lanes are either undivided or separated by a two-way left turn lane. Sidewalks are provided on both sides of the street, except at the railroad underpass which only provides a sidewalk on the north side. Class II bike lanes are provided north of Rockfield Boulevard except for a short gap at the railroad crossing. On-street parking is prohibited east of Rockfield Boulevard. The posted speed limit is 40 mph; between Serrano Road and Toledo Way (adjacent to El Toro High School and La Madera Elementary School) the speed limit is 25 mph when children are present. Ridge Route Drive is classified as a secondary arterial.

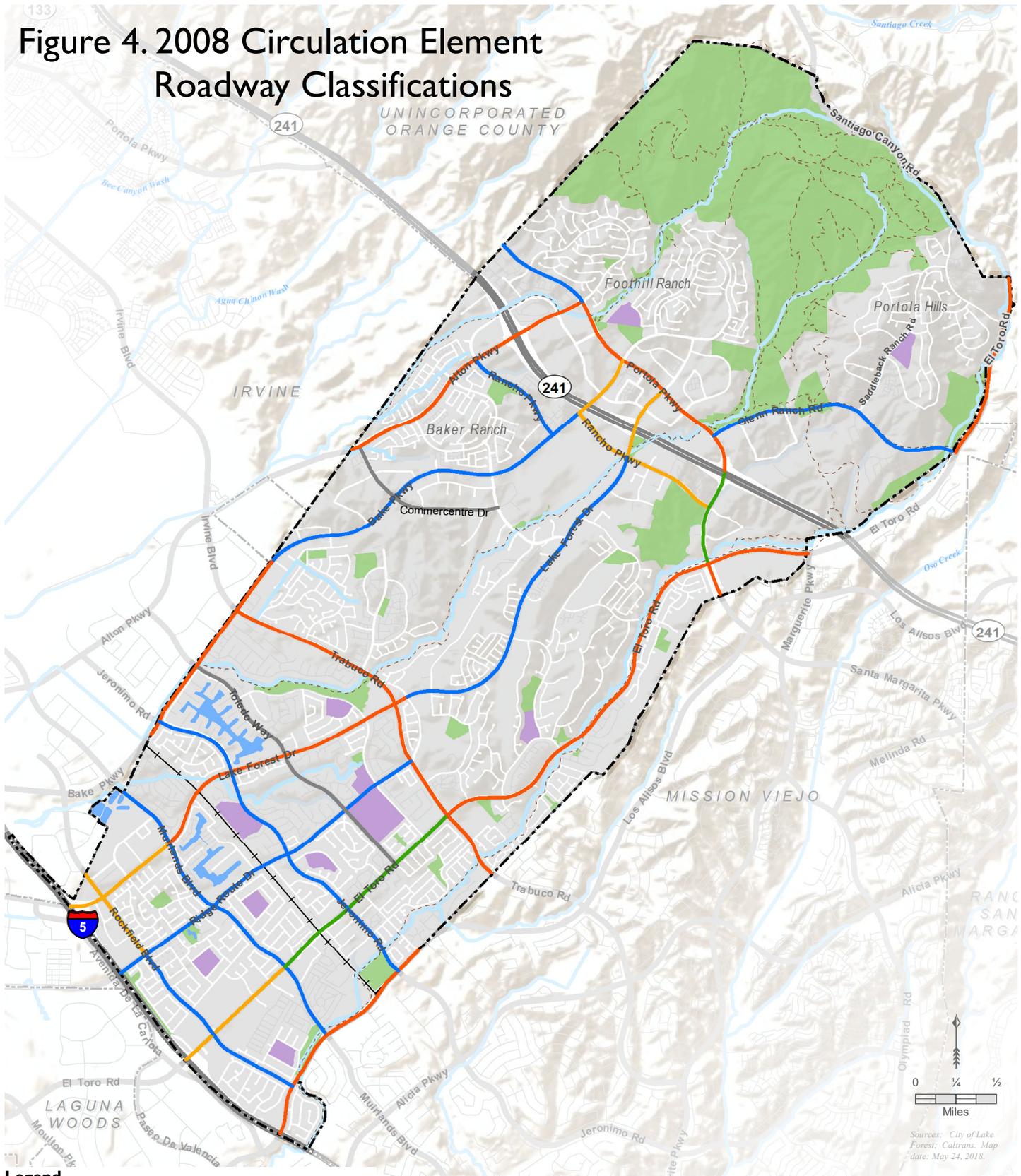
Glenn Ranch Road is an east-west roadway between Portola Parkway and El Toro Road, providing access to residential neighborhoods and several recreational hiking trails. There are two 11- to 24-foot travel lanes in each direction, separated by a two-way left turn lane. Sidewalks are provided on both sides of the road west of Saddleback Ranch Road and on the north side of the road east of Saddleback Ranch Road. On-street parking is not permitted, and the posted speed limit is 50 mph. Glenn Ranch Road is classified as a primary arterial.

Rancho Parkway is a north-south roadway between Bake Parkway and Portola Parkway. There are two 12- to 14-foot lanes in each direction, separated by a raised median. Sidewalks are provided on both sides of the road south of Lake Forest drive and on the east side of Rancho Parkway north of Lake Forest Drive. Class II bike lanes are provided in both directions. On-street parking is permitted south of Hermana Circle. The posted speed limit is 45 mph. Rancho Parkway is classified as a commercial street.

Rancho Parkway South is an east-west roadway between Alton Parkway and Bake Parkway; west of Alton Parkway, Rancho Parkway South continues as Towne Centre Drive South. There are two 13- to 14-foot lanes in each direction, separated by a raised median. Sidewalks and Class II bike lanes are provided on both sides of the road. On-street parking is not permitted. The posted speed limit is 40 mph. Rancho Parkway South is classified as a primary arterial.

Commercentre Drive is a north-south roadway connecting Alton Parkway, Bake Parkway, and Dimension Drive and provides access to office/industrial uses and Lake Forest City Hall. There are two 11- to 14-foot travel lanes in each direction, separated by a two-way left turn lane. Sidewalks are provided on both sides of the street. On-street parking is not permitted. The posted speed limit is 45 mph. Commercentre Drive is classified as a secondary arterial.

Figure 4. 2008 Circulation Element Roadway Classifications



Legend

- | | | | |
|--|------------------------|--------------------------------|--------------------|
| | City of Lake Forest | Roadway Classifications | |
| | Other City Boundaries | | Principal Arterial |
| | Public School | | Major Arterial |
| | City or County Park | | Primary Arterial |
| | Riding & Hiking Trails | | Secondary Arterial |
| | | | Commercial Street |

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Sources: City of Lake Forest; Caltrans. Map date: May 24, 2018.

Freeways

Freeways are distinguished from other types of roadways in that abutting lands have no right or easement of access to or from their abutting lands or, in some cases, such owners have only limited or restricted right or easement of access. Freeways that travel through or adjacent to Lake Forest provide regional connectivity and access to other local freeways are described below.

Interstate 5 (I-5) is a north-south freeway connecting the Mexican border to the Canadian border, running through California, Oregon, and Washington. I-5 runs along Lake Forest's southwestern City limit and provides connections to Los Angeles County, northern and southern Orange County, and San Diego County, as well as connections to I-405, SR-133, and other regional freeways. Access to and from I-5 is possible via on- and off-ramps at El Toro Road, Lake Forest Drive, Bake Parkway, and Alton Parkway. Adjacent to Lake Forest, the freeway has five 12-foot general purpose lanes in each direction; there are two high-occupancy vehicle (HOV) (2+ persons) lanes in each direction north of El Toro Road and one HOV lane in each direction south of El Toro Road. The posted speed limit is 65 mph.

State Route 241 (SR-241) is a north-south tolled state highway operated by TCA and traveling from Rancho Santa Margarita to its terminus at State Route 91 (SR-91) in Anaheim. SR-241 bisects Lake Forest and provides connectivity to other state highways consisting of SR-133, SR-261, and SR-91. Access to and from SR-241 is possible via ramps at Alton Parkway, Lake Forest Drive, and Portola Parkway. Within the city, SR-241 has three 12-foot travel lanes in the northbound direction and two to three travel lanes in the southbound direction. The posted speed limit is 65 mph.

TRANSIT SERVICE

OCTA provides bus service and shared-ride paratransit service within Lake Forest and throughout Orange County. In addition, transit riders can access Metrolink and Amtrak commuter rail services in nearby Irvine and Mission Viejo. There are also a number of park and ride lots in and adjacent to Lake Forest, most of which provide access to OCTA bus routes. The various public transit services in and around Lake Forest are documented below and shown in Figure 5.

Orange County Transportation Authority (OCTA)

OCTA provides bus service in Orange County. It connects Lake Forest with several nearby cities (including Santa Ana, Mission Viejo, Irvine, and Laguna Hills) and several regional destinations such as John Wayne Airport and Irvine Station. OCTA also provides paratransit service through its ACCESS Service. This shared-ride paratransit serves areas with $\frac{3}{4}$ mile of an OCTA fixed route service. The fare is \$3.60 per passenger, one-way, and reservations are required.

Bus routes in Lake Forest are illustrated in Figure 5. Table 4 presents the route information and average weekday daily ridership for all OCTA routes that serve Lake Forest.

Table 4: OCTA Transit Lines and Ridership (Fiscal Year 2016)

Route	Lake Forest Streets Served	Destinations Served	Hours of Operation	Average Weekday Daily Ridership (Route)	Headways (Minutes)	
					Peak	Off-Peak
82	Portola Parkway	Foothill Ranch Towne Center, Saddleback Church Park and Ride, Portola Plaza, Rancho Santa Margarita Towne Center	4:51 AM - 7:58 PM	605	70	70
86	Jeronimo Road	Mission Viejo, Norman Murray Community Center, Serrano Intermediate School, Heroes Park, Irvine Civic Center, Kaiser Permanente, Irvine Spectrum, Irvine Station Area, South Coast Plaza, Orange County Performing Arts Center, John Wayne Airport	5:42 AM - 8:53 PM	653	60	60
89	El Toro Road	Portola Plaza, El Toro High School, Serrano Intermediate School, The Arbor, Saddleback Memorial Medical Center, Laguna Hills Transportation Center, Laguna College of Art & Design, Laguna Beach Bus Station	4:57 AM - 10:15 PM	1,250	30	60
177	Lake Forest Drive	Foothill Ranch Towne Center, Saddleback Memorial Medical Center, and Laguna Hills Transportation Center	5:50 AM - 7:17 PM	350	45	90
206	Bake Parkway	Santa Ana Regional Transportation Center, Irvine Station, Irvine Spectrum, and Foothill Ranch Marketplace and Towne Center	5:44 AM - 5:41 PM	87	30	N/A
480	Bake Parkway	Irvine Station, Irvine Spectrum, and Commercentre	6:07 AM - 5:18 PM	78	25	N/A

Source: Source: OCTA Bus Book (February 11, 2018), OC Transit Vision (January 2018)

Metrolink

Metrolink provides heavy-rail, regional transit service to the counties of Los Angeles, San Bernardino, Orange, Ventura, San Diego, and Riverside. The closest Metrolink station to Lake Forest is the Irvine Station, two miles northwest of Lake Forest. The Irvine Station provides 1,650 parking stalls, and parking is free. The Inland Empire-Orange County and Orange County lines serve the Irvine Station. The Inland Empire-Orange County line connects to Oceanside to the south and to San Bernardino to the North, via a connection in the City of Orange and Anaheim Canyon. The Orange County line also connects to

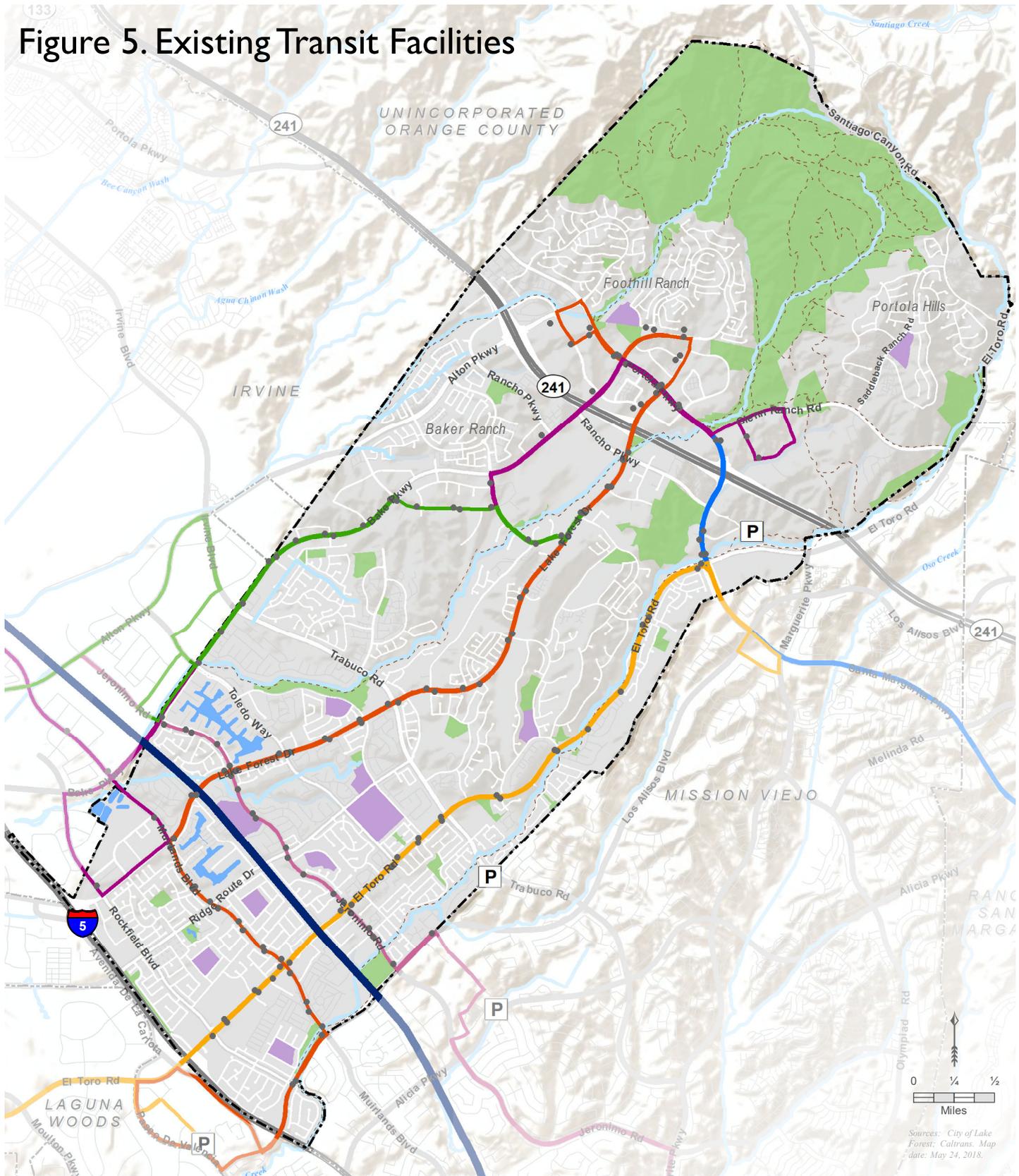
Oceanside to the south, and to downtown Los Angeles to the north, serving several cities in Orange County in between. An average of 1,367 passengers per day board at Irvine Station and an average of 346 passengers per day board at Laguna Niguel/Mission Viejo Station.² Metrolink operates Sunday through Saturday with 15 to 30-minute headways during commute periods and provides service between 4:15 AM and 10:41 PM.

Amtrak

Amtrak operates intercity and interstate rail service nationwide. Currently, there are no Amtrak stops located within the city, but residents can access Amtrak Pacific Surfliner line at the Irvine Station, located in Irvine. The line travels along the California coast, connecting San Luis Obispo to San Diego, and serving destinations such as downtown Los Angeles along the way.

² Southern California Regional Rail Authority Development of Strategic Plan, 2016.

Figure 5. Existing Transit Facilities



Legend

- City of Lake Forest
- Other City Boundaries
- Public School
- City or County Park
- Riding & Hiking Trails
- OCTA Bus Routes**
- 177
- 82
- 206
- 86
- 480
- 89
- Metrolink/Amtrak
- Park and Ride
- OCTA Bus Stops

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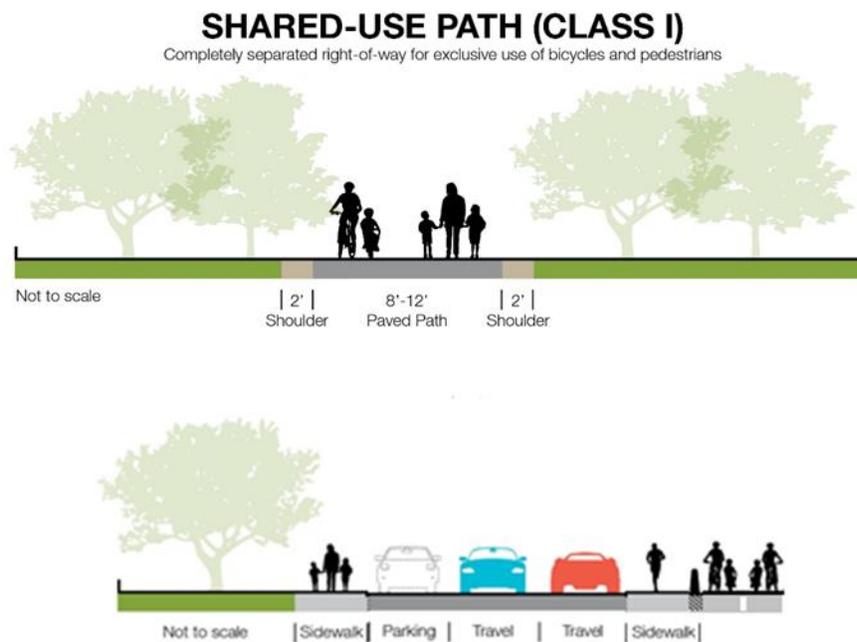
Sources: City of Lake Forest; Caltrans. Map date: May 24, 2018.

BICYCLE FACILITIES

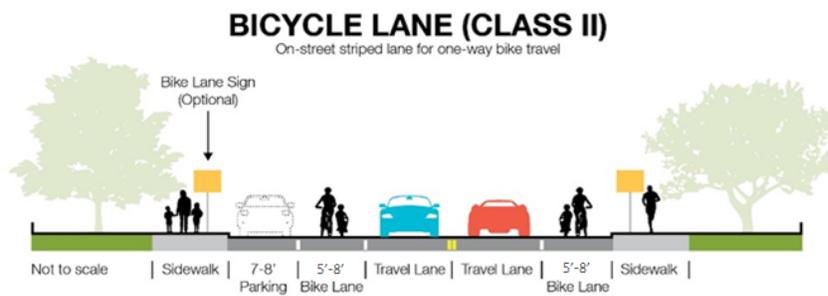
The City of Lake Forest has a bicycle facilities network that consists of both dedicated and shared street space for bicyclists. Figure 6 displays the existing designated bicycle facilities in the city.

Bicycle facilities are categorized into four types, as described and depicted in illustrations below. Note that while the graphics include typical widths for the various facilities, the exact configuration of a bike facility can vary depending on its location and the jurisdiction's preferences.

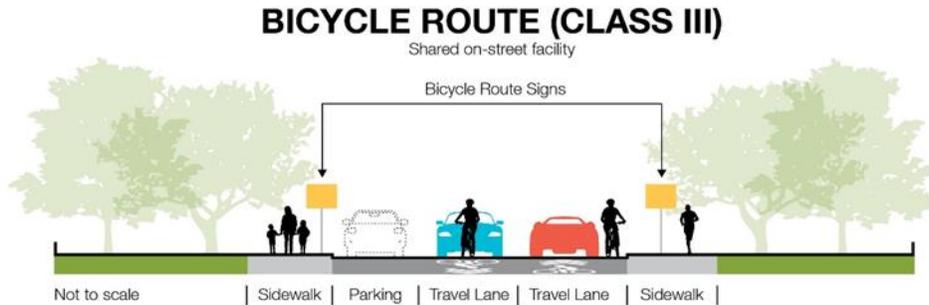
- Class I Bikeway (Bike Path). Also known as a shared path or multi-use path, a bike path is a paved right-of-way for bicycle travel that is completely separate from any street or highway.



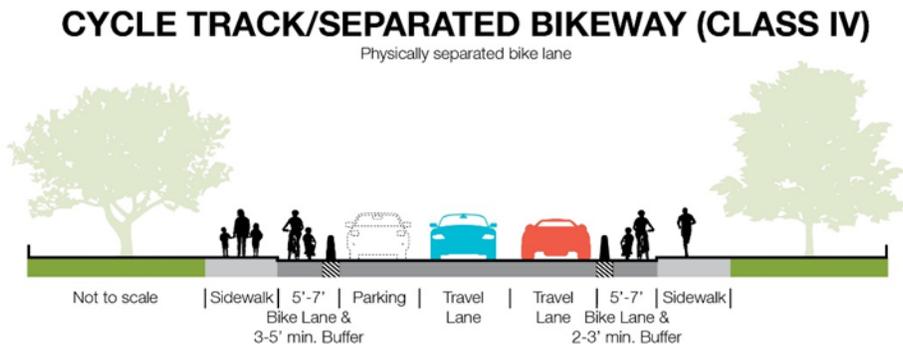
- Class II Bikeway (Bike Lane). A striped and stenciled lane for one-way bicycle travel on a street or highway. This facility could include a buffered space between the bike lane and vehicle lane and the bike lane could be adjacent to on-street parking.



- Class III Bikeway (Bike Route). A signed route along a street where the bicyclist shares the right-of-way with motor vehicles. This facility can also be designated using a shared-lane marking (sharrow).



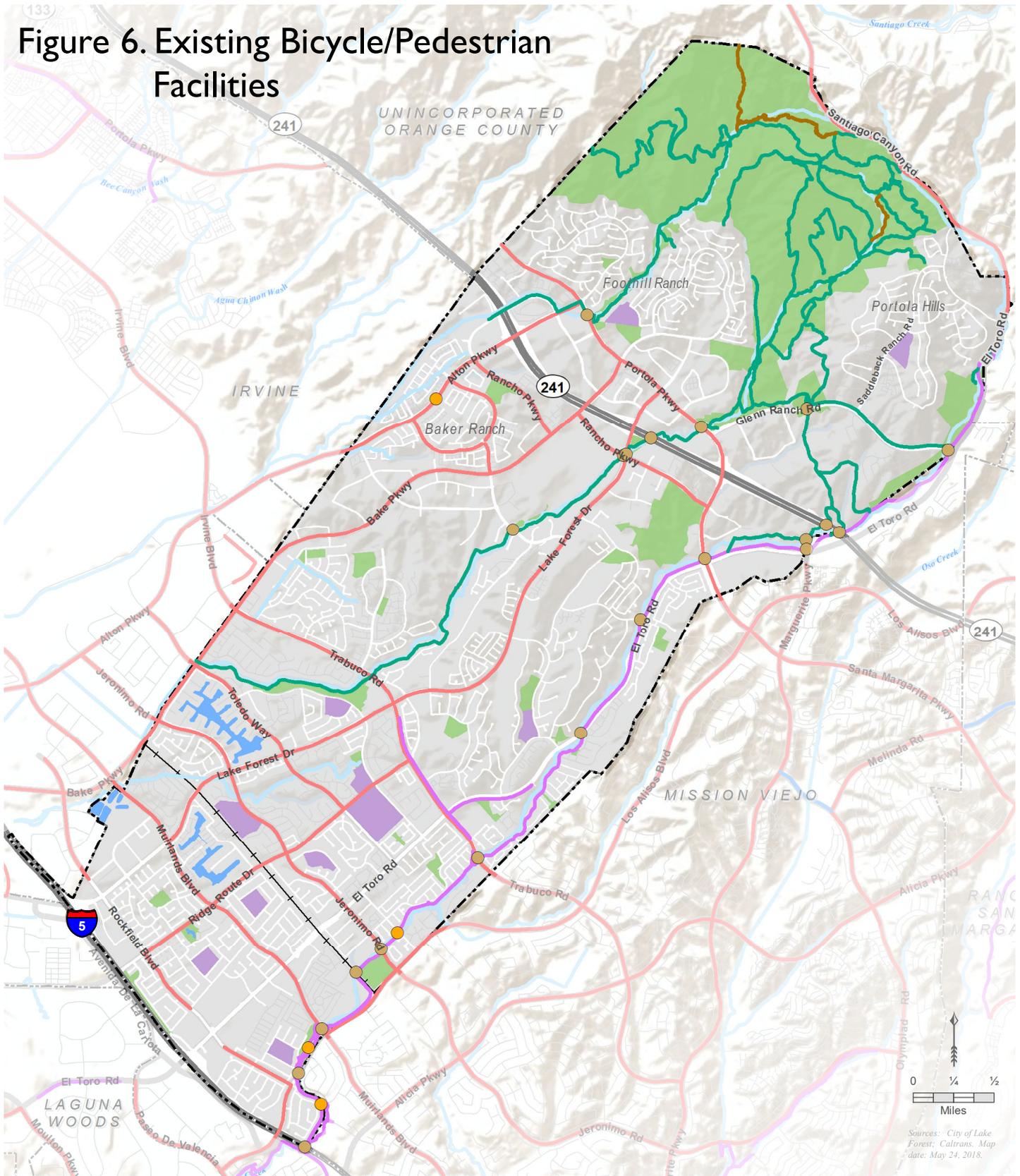
- Class IV Bikeway (Separated Bike Lane). A bikeway for the exclusive use of bicycles including a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.



As shown in Figure 6, the existing bicycle facilities in Lake Forest include:

- A Class I facility running along Aliso Creek between Santiago Canyon Road and Laguna Niguel.
- Class II bicycle lanes on the city's arterial roadways including Portola Parkway, Alton Parkway, Bake Parkway, Ridge Route Drive, Trabuco Road, Jeronimo Road, Muirlands Boulevard, Los Alisos Boulevard, and Rancho Parkway.
- Class II bicycle lanes on portions of the city's arterial roadways including Lake Forest Drive (Muirlands Boulevard to Portola Parkway), Toledo Way (Bake Parkway to Lake Forest Drive), and Rockfield Boulevard (Ridge Route Drive to Cavanaugh Road and El Toro Road to Los Alisos Boulevard).
- The Serrano Creek Trail, an unpaved multiuse trail running from Bake Parkway to El Toro Road.
- Several unpaved multiuse trails in the Foothill area, including the Borrego Trail.
- Non-motorized bridges and underpasses along the Aliso Creek bikeway, Serrano Creek Trail, and other paths and trails.

Figure 6. Existing Bicycle/Pedestrian Facilities



Legend

-  City of Lake Forest
-  Other City Boundaries
-  Public School
-  City or County Park
-  Class I Bike Path
-  Class II Bike Lanes
-  Class III Bike Route
-  Hiking-Only Trail
-  Multi-Use Trail
-  Bike/Pedestrian Bridge
-  Bike/Pedestrian Underpass



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Sources: City of Lake Forest; Caltrans. Map date: May 24, 2018.

PEDESTRIAN CONDITIONS

Lake Forest offers several types of facilities and amenities that support walking in the city. The availability and quality of pedestrian facilities vary throughout the city and can be analyzed using seven key factors as shown in Table 5.

Table 5: Pedestrian Facility Conditions in Lake Forest

FACTOR	DESCRIPTION	ASSESSMENT
 <p>Sidewalk Availability</p>	<p>Sidewalk availability is core to supporting walkability and safety separating pedestrians from vehicles and other modes. In addition, it is important that sidewalks are present on <u>both sides</u> of the roadway and are available along the entire segment rather than end midblock.</p>	<p>Sidewalks are generally provided on both sides of arterial and local streets across the city. A small number of sidewalk coverage gaps exist, including at the Lake Forest Drive overpass at I-5, Ridge Route Drive railroad underpass, Trabuco Road bridge at Aliso Creek, and El Toro Road north of Trabuco Road.</p>
 <p>Sidewalk Conditions</p>	<p>Cracked, broken, or otherwise damaged sidewalks can pose a safety hazard and discourage walking.</p>	<p>Sidewalks in the city are in good condition, free of cracks or uplifts.</p>
 <p>Crosswalk Availability</p>	<p>Marked crosswalks can accommodate pedestrians that need to cross streets. A lack of marked crosswalks could hinder walkability since pedestrians need to travel greater distances to reach a marked crossing point. Drivers may also be less likely to yield to pedestrians at unmarked crossings.</p>	<p>Marked crosswalks are consistently provided at intersections across the city.</p>
 <p>Shading</p>	<p>Shading, whether natural or artificial, can encourage walking in areas such as Southern California which are relatively warm with limited rainfall, especially in the summer.</p>	<p>Shading is provided across the city in the form of abundant tree landscaping along arterials and local residential streets.</p>
 <p>Flat Grade</p>	<p>Steep hills and ravines can discourage walking, especially for pedestrians with limited mobility.</p>	<p>While there is a gradual elevation increase in the city heading northeast, the city is generally flat without steep grade changes at the pedestrian level. Locations with noticeable grade increases include the Bake Parkway and El Toro Road railroad overpasses, the Lake Forest Drive bridge at I-5, and Glenn Ranch Road.</p>
 <p>Buffer</p>	<p>Buffers which provide separation between pedestrians and moving vehicles can help improve the walking experience, and can include landscaping, parked vehicles, and bulbouts, which serve to both reduce pedestrian crossing distances at intersections and as a traffic calming measure.</p>	<p>Within Lake Forest's residential neighborhoods, buffers consist of grass, other landscaping, and parallel parking. Along arterial roads, parking is generally prohibited, and bike lanes are sometimes present; arterial roads tend not to have street landscaping buffers.</p>

FACTOR	DESCRIPTION	ASSESSMENT
 <p>Amenities</p>	<p>In addition to physical facilities that accommodate walking, useful or interesting amenities along sidewalks create a more interesting walking environment and increase pedestrian comfort. Amenities can include sidewalk-adjacent retail and restaurants, landscaping, and street furniture.</p>	<p>Within Lake Forest’s residential neighborhoods, the primary amenity is street landscaping. Arterial roads offer few pedestrian-level amenities, especially given that retail in Lake Forest is generally not street-facing.</p>

Source: Kittelson & Associates, Inc., 2019

In addition to on-street facilities, Lake Forest residents enjoy several off-road hiking-only and multiuse trails. These include the Serrano Creek Trail and other trails in the Foothill area, as shown in Figure 6. In addition, pedestrians using these trails are supported by several bicycle/pedestrian bridges and underpasses across the city.

FREIGHT/GOODS MOVEMENT

The Surface Transportation Assistance Act (STAA) of 1982 defines a network of state facilities as truck routes which accommodate large trucks. STAA-designated truck routes in Lake Forest consist of I-5 and SR-241. Other STAA-designated truck routes in proximity to Lake Forest include Interstate 405 (I-405), SR-133/Laguna Canyon Road, and SR-73. These truck routes are shown in Figure 7.

According to the current General Plan, trucks on local roads should be limited to arterial roadways. The City’s Municipal Code prohibits vehicles exceeding a maximum gross weight of 14,000 pounds from using the following arterials and local roads in the city, displayed in Figure 7:³

- Canada Road - from Dimension Drive to Lake Forest Drive
- Osterman Road - from Pittsford Drive to Regency Lane
- Pittsford Drive - from Northcrest Drive to Lake Forest Drive
- Regency Lane - from Normandale Drive to Lake Forest Drive
- Normandale Drive - from El Toro Road to Osterman Road
- Aliso Park Drive - from El Toro Road to Midcrest Drive
- Northcrest Drive - from Midcrest Drive to El Toro Road
- Serrano Road - from Toledo Way to El Toro Road
- Toledo Way - from Bake Parkway to Lake Forest Drive
- Jeronimo Road - from Bake Parkway to Lake Forest Drive
- Muirlands Boulevard - from north City limits to Lake Forest Drive

³ City of Lake Forest Municipal Code, 12.26.030

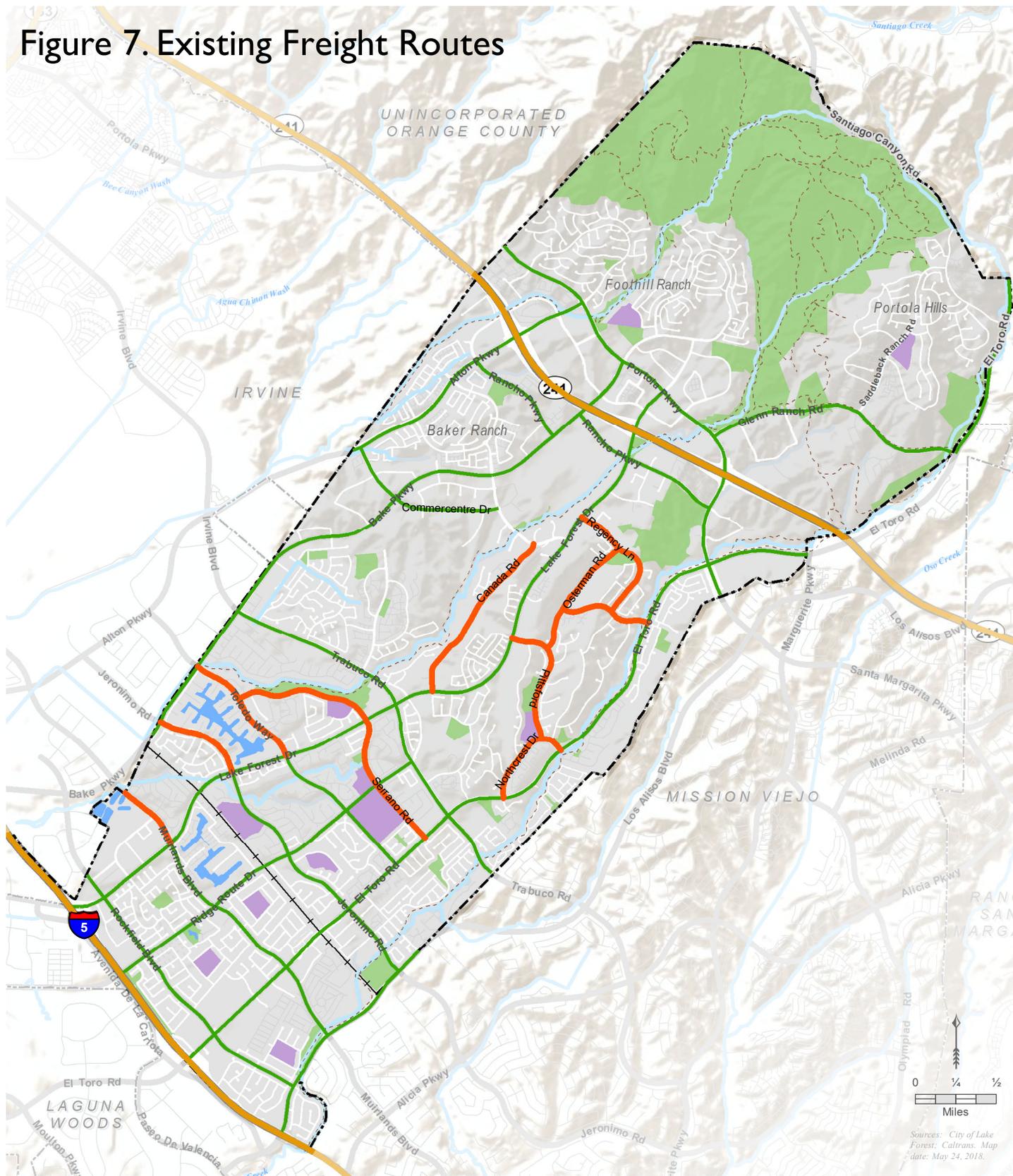
Additionally, goods movement in Lake Forest and the surrounding area is supported by the Topeka & Santa Fe Railroad which runs through the city between Muirlands Boulevard and Jeronimo Road. This is an important regional freight facility and is included in SCAG's main line rail network.⁴

AVIATION SYSTEM

John Wayne Airport, located approximately 10 miles northwest of Lake Forest and surrounded by the cities of Irvine, Newport Beach, and Costa Mesa, is a commercial airport serving passenger and cargo airplanes. The airport has two runways and is the third busiest airport in Southern California with over 10 million passengers in 2016. Lake Forest residents can directly access the airport using I-405, which connects to Lake Forest via I-5, SR-133, and SR-241. Other passenger airports in the region include Los Angeles International Airport, Long Beach Airport, Ontario International Airport, Hollywood Burbank Airport, and San Diego International Airport.

⁴ Southern California Association of Governments, 2016-2040 RTP/SCS, June 2016.

Figure 7. Existing Freight Routes



0 1/4 1/2 Miles
 Sources: City of Lake Forest; Caltrans. Map date: May 24, 2018.

Legend

- City of Lake Forest
- Other City Boundaries
- Public School
- City or County Park
- Riding & Hiking Trails
- State Highway Truck Network
- Local Arterial Roadways
- Trucks Prohibited
- Rail

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EXISTING TRAFFIC CONDITIONS

Automobile operating conditions within the city are influenced by a variety of factors, including regional through traffic found along arterial routes and the network of local streets including the Loop. Driving conditions on the roadway network are measured through automobile Level of Service (LOS), which reflects motorists' and passengers' perceptions of traffic conditions. The following documents the LOS perceived by motorists traveling throughout the city today.

Level of Service Methodologies and Standards

Study intersections, including locations in Laguna Hills, were analyzed using the Intersection Capacity Utilization (ICU) methodology, consistent with Lake Forest⁵ and Laguna Hills⁶ LOS guidelines. Under the ICU methodology, the critical movement and critical movement capacity of an intersection are used to calculate a volume-to-capacity (V/C) ratio. After the V/C ratio is calculated, the ICU methodology assigns an LOS grade (A to F) representing the quality of intersection operations, with LOS F signifying volumes exceeding capacity. LOS grades and corresponding V/C ratios under the ICU methodology are provide in Table 6. The maximum acceptable level of service for Lake Forest and Laguna Hills intersections is LOS D.

For the ICU analysis, the following assumptions were utilized:

- Saturation Flow Rate: 1,700 vehicles/hour/lane
- Clearance Interval: 0.05
- Right-Turn-On-Red Utilization Factor: 0.75
- “De-facto” right-turn lane assumed in the ICU calculation if 19 feet from edge to outside of through-lane exists and parking is prohibited during peak periods.

Orange County CMP intersections were also analyzed using the ICU methodology.⁷ The maximum acceptable level of service under this analysis is LOS E.

Table 6: Intersection Level of Service and V/C Ratios (ICU Methodology)

LOS	Volume to Capacity Ratio
A	Less than 0.61
B	0.61 to 0.70
C	0.71 to 0.80
D	0.81 to 0.90
E	0.91 to 1.00
F	Greater than 1.00

Source: Orange County Transportation Authority, *Congestion Management Program Preparation Manual*, 2011

⁵ City of Lake Forest, CEQA Significance Thresholds Guide, November 2001.

⁶ City of Laguna Hills, Traffic Study Guidelines, August 2010.

⁷ Orange County Transportation Authority, *Congestion Management Program Preparation Manual*, April 2011.

Caltrans freeway ramp intersections were also analyzed using the Highway Capacity (HCM) methodology. The HCM methodology assigns a level of service grade to an intersection based on the average control delay for vehicles at the intersection, ranging from LOS A to LOS F; LOS A signifies very slight delay with no approach phase fully utilized while LOS F signifies very high delays and congestion, frequent cycle failures, and long queues. LOS C is the maximum acceptable level of service for Caltrans intersections under the HCM methodology.⁸ LOS grades and corresponding delay values under the HCM methodology are provided in Table 7. A saturation flow rate of 1,900 vehicles/hour/lane was utilized.

Table 7: Intersection Level of Service and Delay Thresholds (HCM Methodology)

Average Delay Per Vehicle (Seconds)		LOS
Signalized	Unsignalized	
≤10.0	≤10.0	A
>10.0 and ≤20.0	>10.0 and ≤15.0	B
>20.0 and ≤35.0	>15.0 and ≤25.0	C
>35.0 and ≤55.0	>25.0 and ≤35.0	D
>55.0 and ≤80.0	>35.0 and ≤50.0	E
>80.0	>50.0	F

Source: Transportation Research Board, *Highway Capacity Manual*, Washington, D.C., 2018

Operations on roadway segments were analyzed on a daily traffic volume basis. Operations were assessed and assigned a level of service (LOS) letter grade ranging from LOS A to LOS F (from better to worse congestion), with LOS A signifying free-flow traffic and LOS F signifying operations that are over roadway capacity. The roadway segment LOS thresholds used in this analysis are shown in Table 8. These thresholds are derived from representative roadway capacities in the OCTA Master Plan of Arterial Highways (MPAH) Guidelines and are defined by the number of lanes and the presence of a median or divider. Daily capacities for roadways with asymmetric capacity (e.g., seven lanes) were interpolated based on the capacities displayed in Table 8. For this analysis, LOS D was used as the roadway segment LOS standard.

Table 8: Daily Roadway Capacity Values for Arterial Level of Service

Roadway Type	LOS A	LOS B	LOS C	LOS D	LOS E
8 Lanes Divided	45,000	52,500	60,000	67,500	75,000
6 Lanes Divided	33,750	39,375	45,000	50,625	56,250
4 Lanes Divided	22,500	26,250	30,000	33,750	37,500
4 Lanes Undivided	15,000	17,500	20,000	22,500	25,000

Source: Kittelson & Associates, Inc., 2019

⁸ Caltrans, Guide for the Preparation of Traffic Impact Studies, December 2002.

Existing Levels of Service

Weekday AM and PM peak hour level of service for the 48 study intersections are shown in Table 9. Data in **bold** indicate unacceptable level of service (per each criteria). Existing AM & PM peak hour intersection traffic volumes and lane geometries are shown in Figure 8.

The following intersection currently operates with unacceptable LOS during the weekday AM and/or PM peak hour under the ICU methodology under City of Lake Forest standards:

- #22 – Bake Parkway & Jeronimo Road (LOS E in the weekday AM peak hour)

In addition, under the HCM methodology, the following Caltrans freeway ramp intersections currently operate with unacceptable LOS during the weekday AM and/or PM peak hour:

- #37 – Paseo De Valencia & Avenida De La Carlota (LOS D in the weekday AM and PM peak hours)
- #38 – El Toro Road & Bridger Road/I-5 NB Ramps (LOS D in the weekday PM peak hour)

All three CMP study intersections operate acceptably under CMP standards (LOS E or better).

Table 9: Existing (2018) Intersection Level of Service – Weekday AM/PM Peak Hours

Intersection		AM Peak Hour		PM Peak Hour	
		V/C (Delay)	LOS	V/C (Delay)	LOS
1	Alton Parkway & Portola Parkway	0.41	A	0.30	A
2	Bake Parkway & Portola Parkway	0.45	A	0.51	A
3	Lake Forest Drive & Portola Parkway	0.44	A	0.43	A
4	Glenn Ranch Road & Portola Parkway	0.36	A	0.47	A
5	Portola Parkway & SR-241 Ramps	0.38 (23.8)	A (C)	0.39 (21.5)	A (C)
6	Alton Parkway & SR-241 Ramps	0.41 (24.6)	A (C)	0.37 (21.6)	A (C)
7	Lake Forest Drive & SR-241 NB On-Ramp	0.23 (4.0)	A (A)	0.26 (3.7)	A (A)
8	Lake Forest Drive & SR-241 SB Off-Ramp	0.28 (7.9)	A (A)	0.30 (6.0)	A (A)
9	Bake Parkway & Rancho Parkway	0.47	A	0.59	A
10	Lake Forest Drive & Rancho Parkway	0.45	A	0.59	A
11	Bake Parkway & Rancho Parkway South	0.55	A	0.53	A
12	El Toro Road & Portola Parkway/Santa Margarita Parkway	0.61	B	0.68	B
13	Bake Parkway & Commercentre Drive	0.47	A	0.47	A
14	Bake Parkway & Irvine Boulevard/Trabuco Road	0.65	B	0.68	B
15	Lake Forest Drive & Trabuco Road	0.58	A	0.58	A
16	Ridge Route Drive & Trabuco Road	0.43	A	0.50	A

Intersection		AM Peak Hour		PM Peak Hour	
		V/C (Delay)	LOS	V/C (Delay)	LOS
17	El Toro Road & Trabuco Road	0.62	B	0.60	A
18	Bake Parkway & Toledo Way	0.73	C	0.57	A
19	Lake Forest Drive & Toledo Way	0.53	A	0.53	A
20	Ridge Route Drive & Toledo Way	0.33	A	0.27	A
21	El Toro Road & Toledo Way	0.53	A	0.44	A
22	Bake Parkway & Jeronimo Road	0.92	E	0.74	C
23	Lake Forest Drive & Jeronimo Road	0.64	B	0.72	C
24	Ridge Route Drive & Jeronimo Road	0.47	A	0.46	A
25	El Toro Road & Jeronimo Road	0.66	B	0.81	D
26	Los Alisos Boulevard & Jeronimo Road	0.65	B	0.66	B
27	Lake Forest Drive & Muirlands Boulevard	0.49	A	0.70	B
28	Ridge Route Drive & Muirlands Boulevard	0.42	A	0.54	A
29	El Toro Road & Muirlands Boulevard	0.61	B	0.70	B
30	Los Alisos Boulevard & Muirlands Boulevard	0.68	B	0.70	B
31	Lake Forest Drive & Rockfield Boulevard	0.55	A	0.66	B
32	Ridge Route Drive & Rockfield Boulevard	0.35	A	0.45	A
33	El Toro Road & Rockfield Boulevard	0.56	A	0.61	B
34	Los Alisos Boulevard & Rockfield Boulevard	0.69	B	0.54	A
35	Lake Forest Drive & I-5 NB Ramps	0.42 (11.4)	A (B)	0.47 (31.0)	A (C)
36	Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota	0.46 (25.2)	A (C)	0.78 (28)	C (C)
37	Paseo De Valencia & Avenida De La Carlota	0.48 (43.1)	A (D)	0.51 (41.3)	A (D)
38	El Toro Road & Bridger Road/I-5 NB Ramps	0.63 (21.4)	B (C)	0.66 (41.4)	B (D)
39	El Toro Road & Avenida De La Carlota	0.37	A	0.56	A
40	Portola Parkway & Rancho Parkway	0.46	A	0.58	A
41	Alton Parkway & Rancho Parkway South	0.46	A	0.40	A
42	Alton Parkway & Commercentre	0.42	A	0.52	A
51	El Toro Road & Glenn Ranch Road	0.47	A	0.58	A
56	Bake Parkway & Dimension Drive	0.44	A	0.59	A
57	Lake Forest Drive & Dimension Drive	0.34	A	0.48	A
60	Dimension Drive & Commercentre Drive	0.39	A	0.53	A
101	Lake Forest Drive & Pittsford Drive	0.59	A	0.42	A
102	El Toro Road & Northcrest Drive	0.42	A	0.45	A

Note: **Bold** signifies unacceptable level of service.
Source: Kittelson & Associates, Inc., 2019

Table 10 provides the study roadway segments, existing daily volumes, and the resulting levels of service. Data in **bold** indicate roadway segments that currently operate at unacceptable levels of service.

Under existing conditions, Lake Forest Drive (West of Rockfield Boulevard) performs unacceptably at LOS F.

Table 10: Existing (2018) Roadway Segment Level of Service

Roadway	Segment	Roadway Type ¹	ADT ²	LOS
Trabuco Road	North of Lake Forest Drive	6D	21,535	A
	North of Ridge Route Drive	6D	22,336	A
	North of El Toro Road	6D	25,107	A
	South of El Toro Road	4D	21,730	A
Toledo Way	North of Lake Forest Drive	4D	6,063	A
	South of Lake Forest Drive	4U	5,812	A
	South of Ridge Route Drive	4D	5,985	A
Jeronimo Road	North of Lake Forest Drive	4D	13,482	A
	North of Ridge Route Drive	4U	13,349	A
	North of El Toro Road	4D	14,359	A
	South of El Toro Road	4D	21,648	A
Muirlands Boulevard	North of Lake Forest Drive	4D	13,936	A
	North of Ridge Route Drive	4D	17,180	A
	South of Ridge Route Drive	4D	19,578	A
	South of El Toro Road	4D	20,709	A
Rockfield Boulevard	North of Lake Forest Drive	4D	21,911	A
	North of Ridge Route Drive	4D	17,549	A
	North of El Toro Road	4D	18,642	A
	North of Los Alisos Boulevard	4D	13,707	A
Portola Parkway	North of Alton Parkway	4D	5,976	A
	North of Bake Parkway	5D	17,526	A
	North of Lake Forest Drive	5D	23,677	A
	North of Glenn Ranch Road	6D	32,283	A
	North of SR-241	6D	25,325	A
	South of SR-241	6D	27,477	A
	North of El Toro Road	6D	35,739	B
	South of El Toro Road	7D	37,996	A
Rancho Parkway South	North of Bake Parkway	4D	7,400	A
Rancho Parkway	South of Bake Parkway	4D	13,914	A
	South of Lake Forest Drive	4D	19,440	A
Glenn Ranch Road	Portola Parkway to Saddleback Ranch Road	4D	16,076	A
	Saddleback Ranch Road to El Toro Road	4D	6,849	A
Alton Parkway	West of Portola Parkway	6D	13,231	A

Roadway	Segment	Roadway Type ¹	ADT ²	LOS
	West of SR-241	6D	19,122	A
	West of Rancho Parkway South	6D	23,261	A
	East of Trabuco Road	6D	24,382	A
Bake Parkway	West of Towne Center Drive	4D	26,318	B
	East of Commercentre Drive	4D	29,630	C
	West of Commercentre Drive	4D	32,335	D
	West of Trabuco Road	6D	46,162	D
	West of Toledo Way	6D	49,268	D
Lake Forest Drive	West of Portola Parkway	4D	9,502	A
	East of Rancho Parkway	4D	18,493	A
	West of Rancho Parkway	4D	20,894	A
	East of Trabuco Road	4D	31,667	D
	West of Trabuco Road	6D	31,178	A
	East of Jeronimo Road	6D	33,027	A
	East of Muirlands Boulevard	6D	32,627	A
	West of Muirlands Boulevard	6D	36,011	B
	West of Rockfield Boulevard	6D	59,276	F
Ridge Route Drive	East of Toledo Way	4D	6,666	A
	East of Jeronimo Road	4U	7,428	A
	West of Jeronimo Road	2D	7,689	A
	East of Muirlands Boulevard	4D	6,886	A
	East of Rockfield Boulevard	4D	6,811	A
	West of Rockfield Boulevard	4D	2,524	A
El Toro Road	East of Glenn Ranch Road	3D	13,969	A
	West of Glenn Ranch Road	3D	14,800	A
	East of Santa Margarita Parkway	5D	13,832	A
	West of Santa Margarita Parkway	6D	25,322	A
	East of Trabuco Road	5D	31,358	B
	West of Trabuco Road	6D	35,784	B
	East of Jeronimo Road	6D	38,539	B
	East of Muirlands Boulevard	6D	40,733	C
	West of Muirlands Boulevard	8D	44,716	A
	West of Rockfield Boulevard	9D	54,028	B
Los Alisos Boulevard	East of Jeronimo Road	6D	28,974	A
	East of Muirlands Boulevard	6D	30,001	A
	West of Muirlands Boulevard	6D	27,284	A
	West of Rockfield Boulevard	4D	25,047	B
Commercentre Drive	South of Alton Parkway	4D	7,546	A
	South of Bake Parkway	4D	11,085	A
	North of Dimension Drive	4D	7,896	A

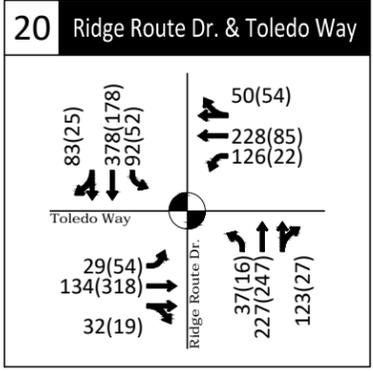
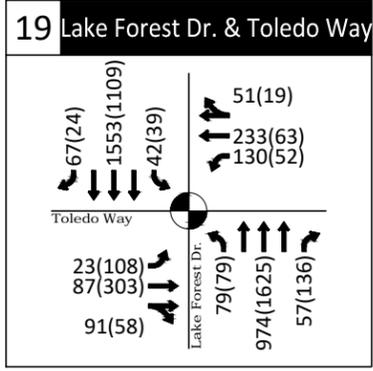
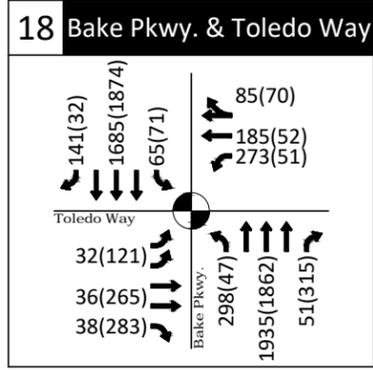
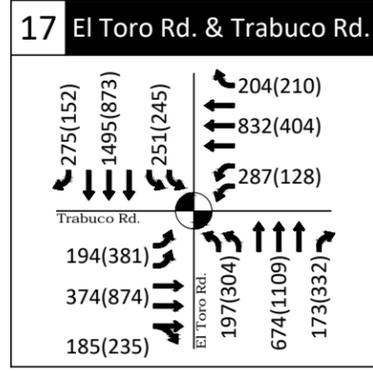
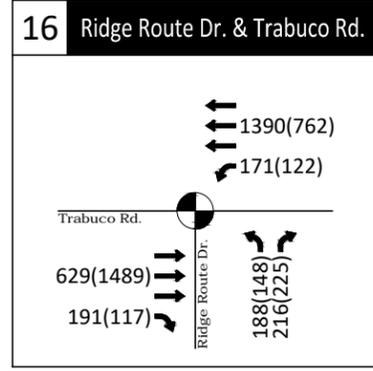
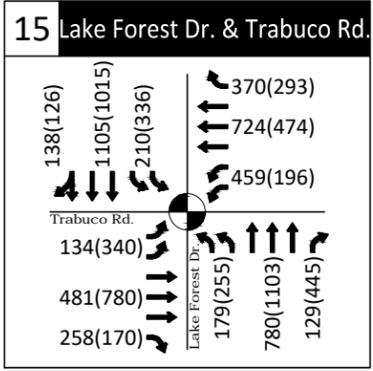
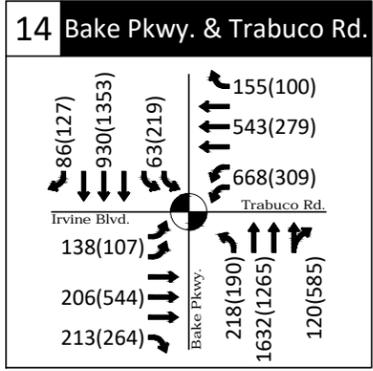
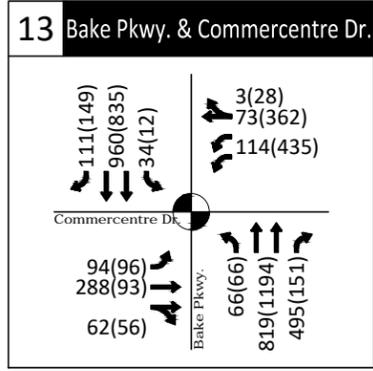
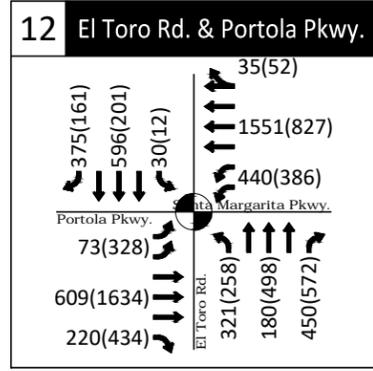
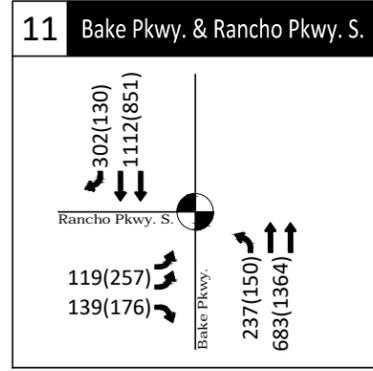
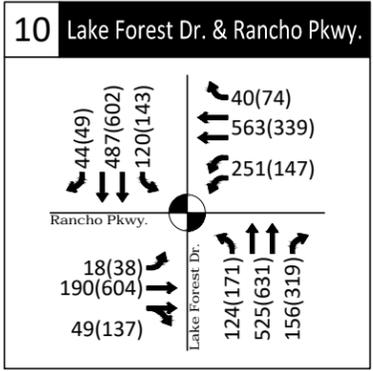
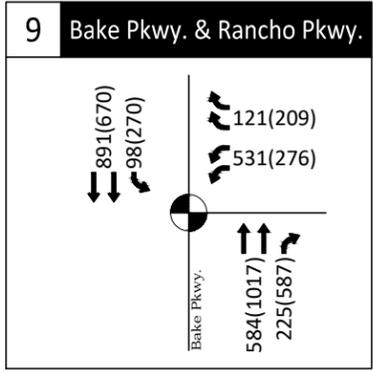
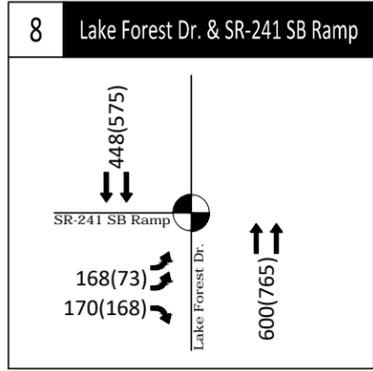
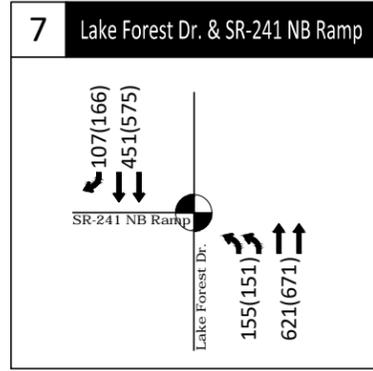
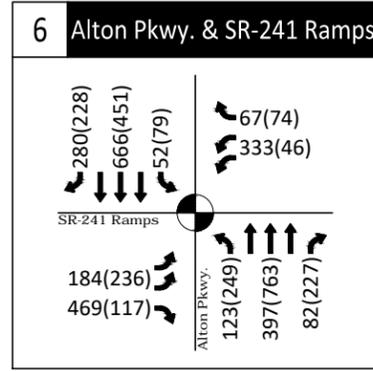
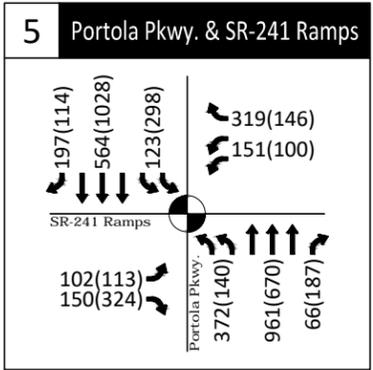
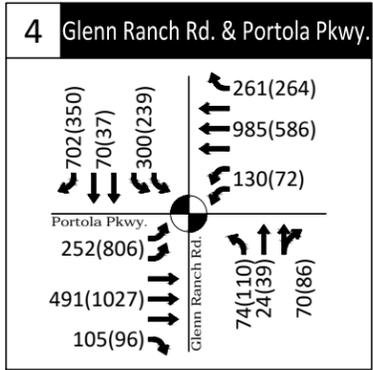
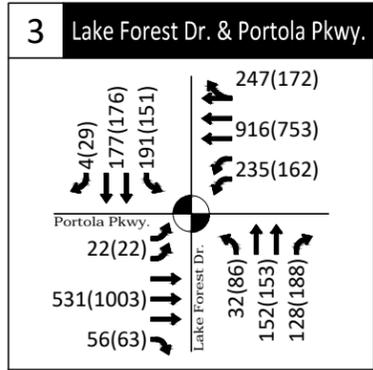
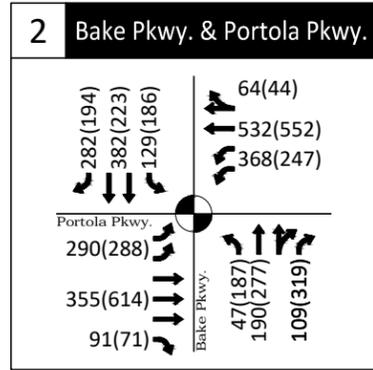
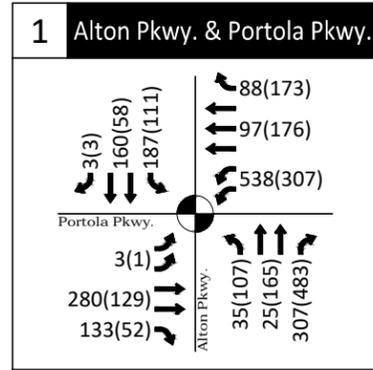
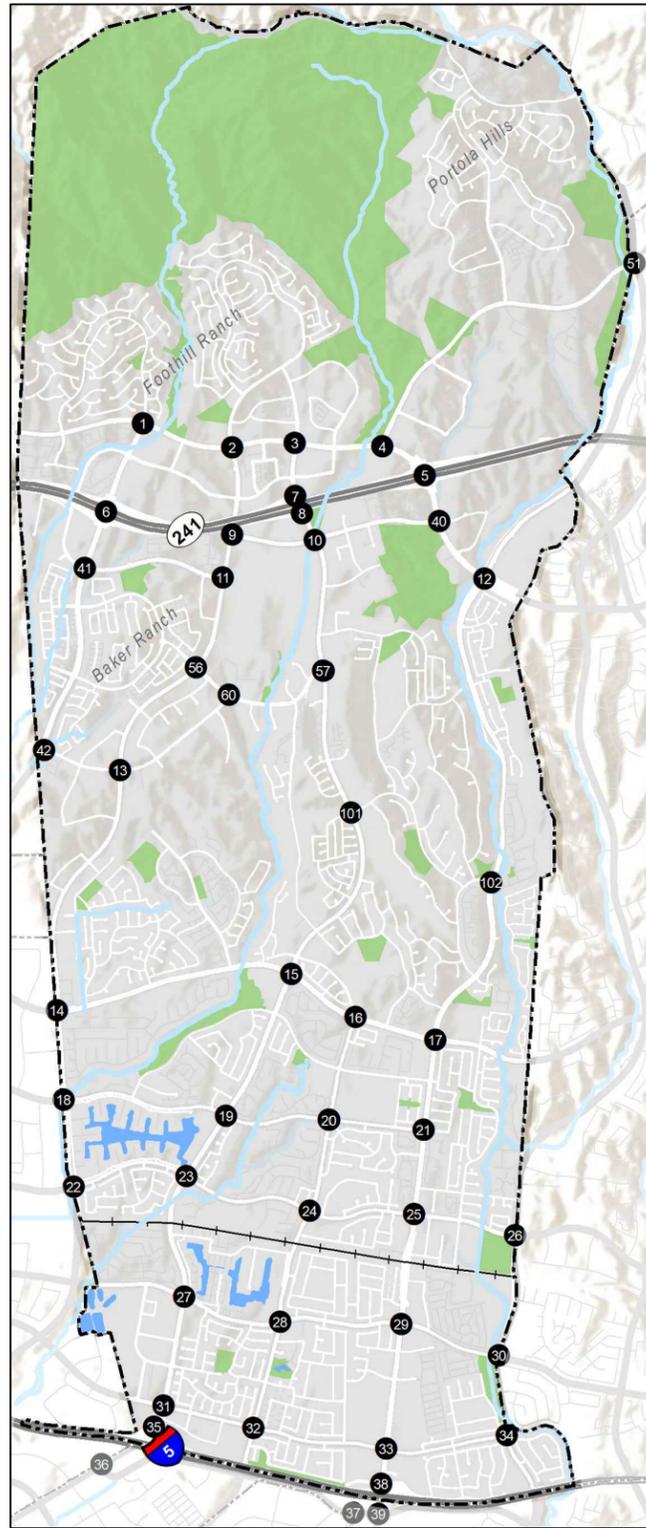
Roadway	Segment	Roadway Type ¹	ADT ²	LOS
Dimension Drive	North of Commercentre Drive	4D	5,963	A
	South of Commercentre Drive	4D	12,021	A

Note: **Bold** signifies unacceptable level of service.

1. Roadway type refers to number of lanes and divided (D) or undivided (U)

2. ADT denotes Average Daily Traffic

Source: Kittelson & Associates, Inc., 2019

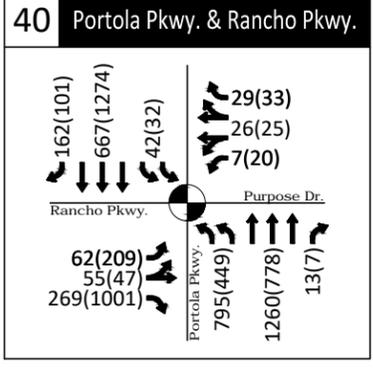
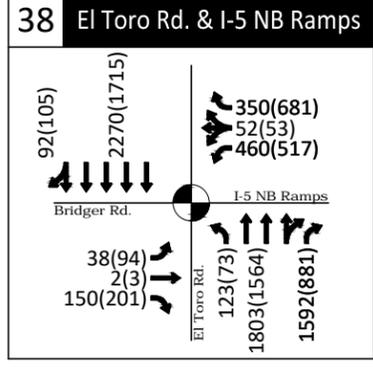
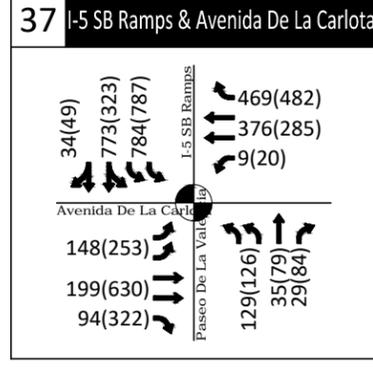
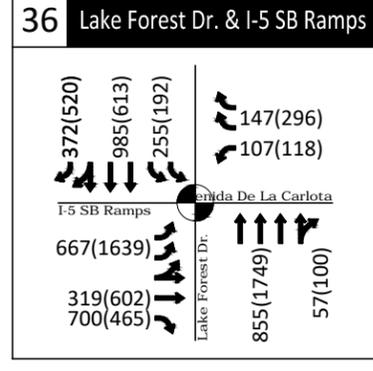
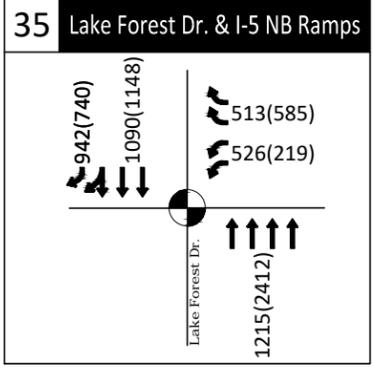
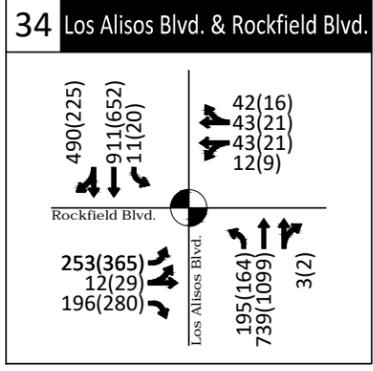
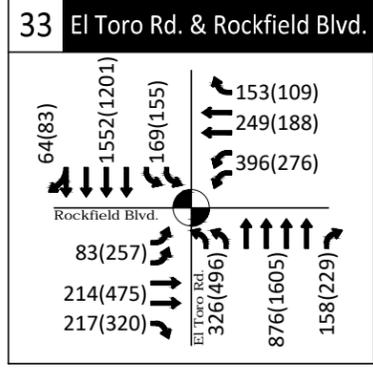
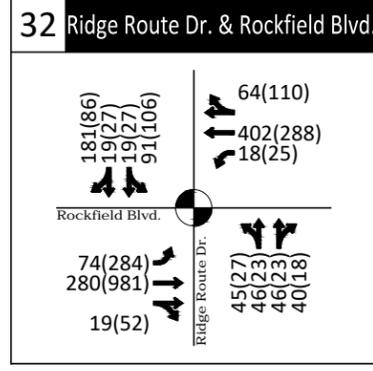
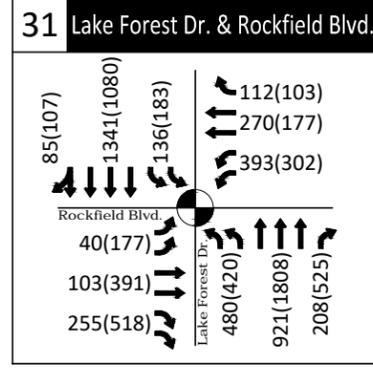
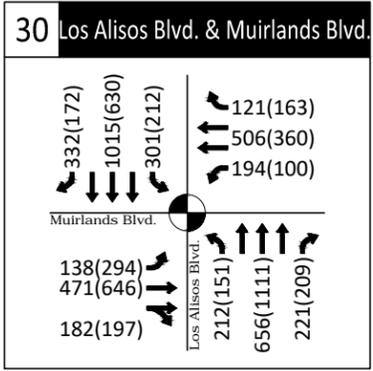
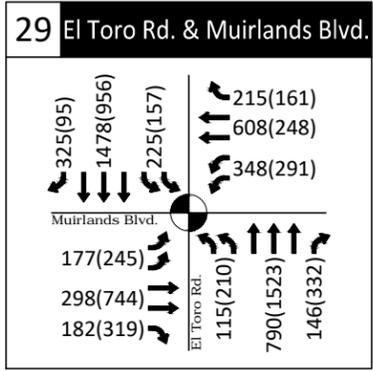
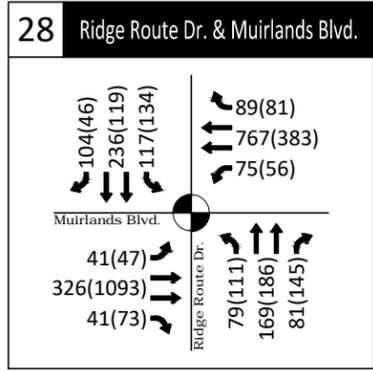
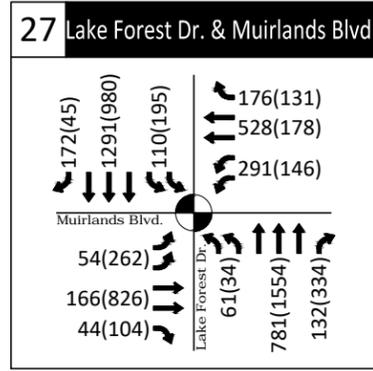
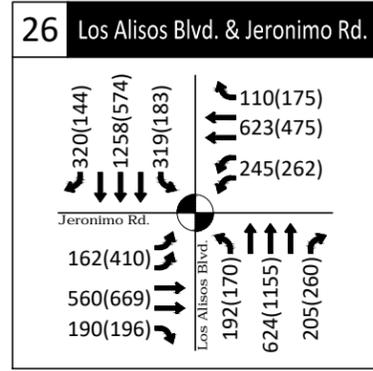
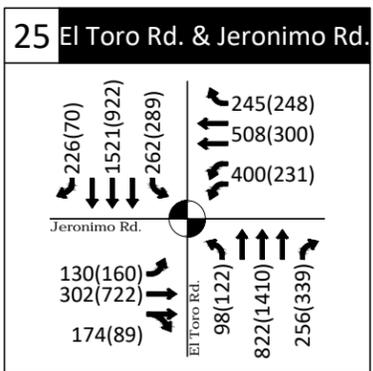
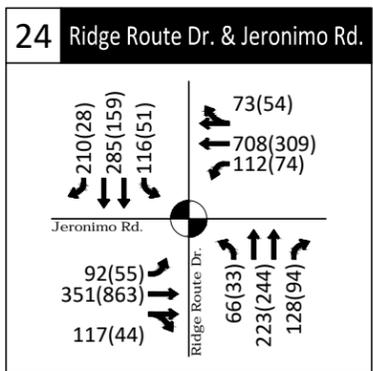
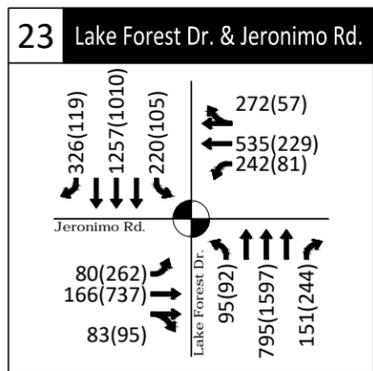
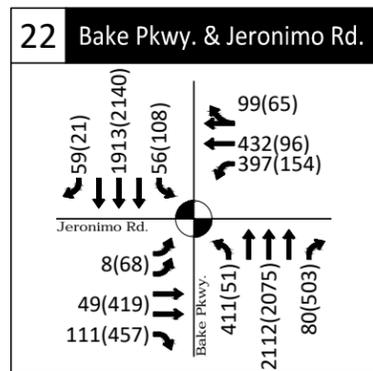
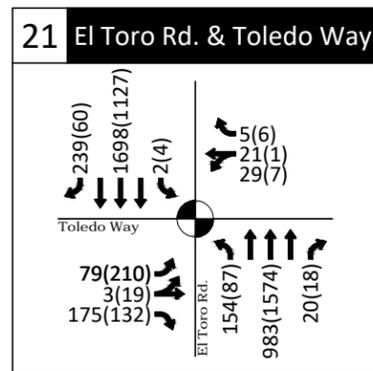
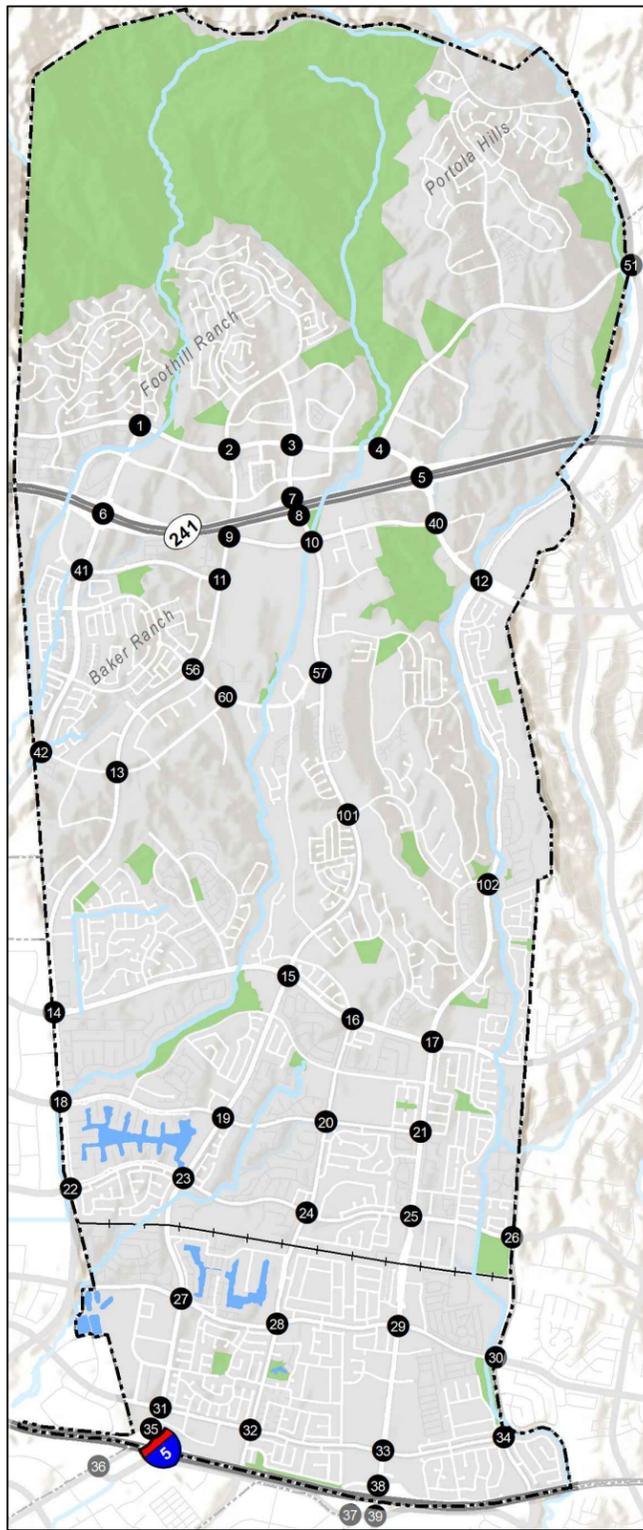


AM(PM) - Traffic Volume

⊙ - Traffic Signal

Existing Intersection Volumes and Geometries
Lake Forest, CA

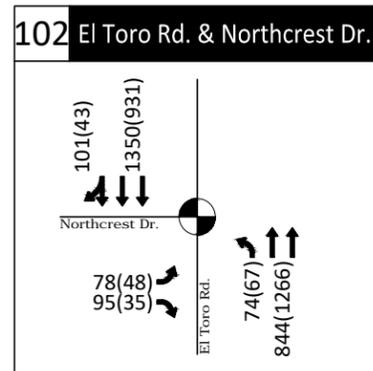
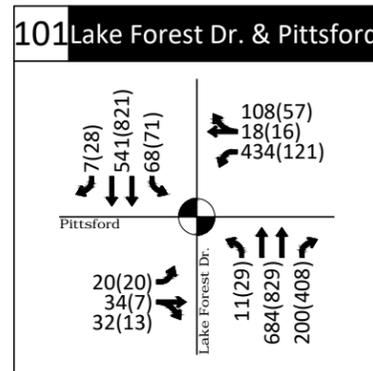
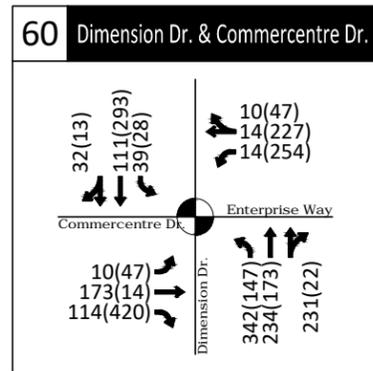
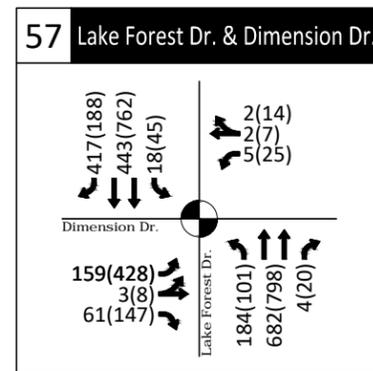
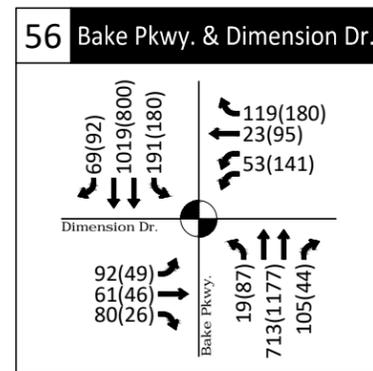
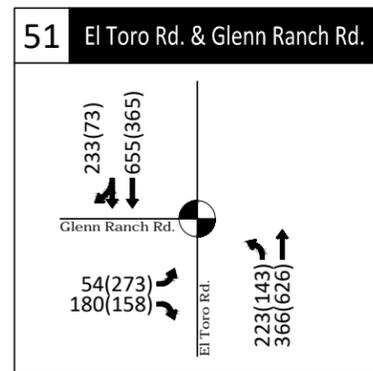
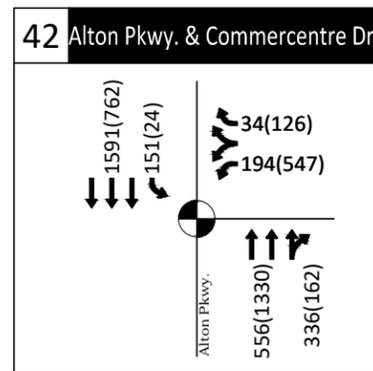
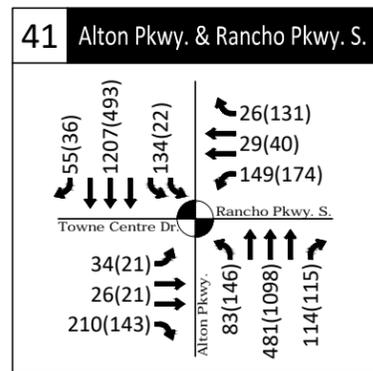
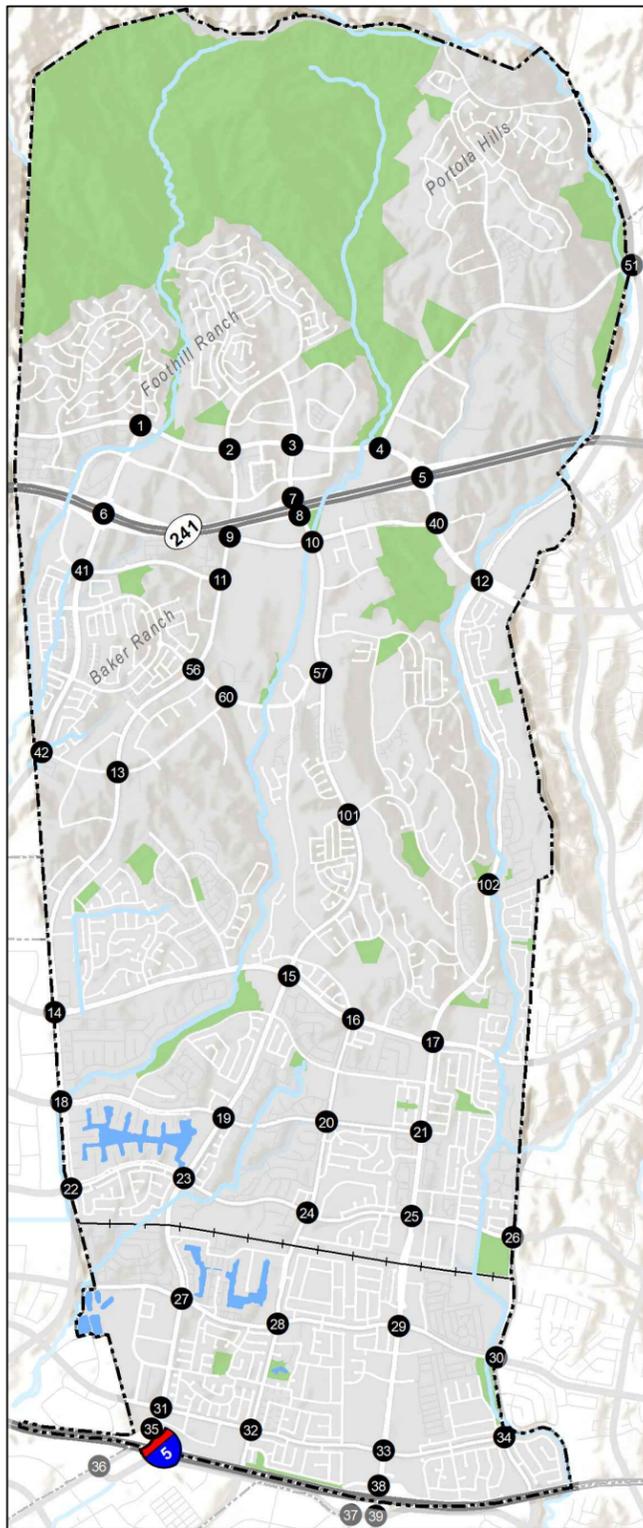
Figure
8



AM(PM) - Traffic Volume
 - Traffic Signal

Existing Intersection Volumes and Geometries
 Lake Forest, CA

Figure
 8



AM(PM) - Traffic Volume
 - Traffic Signal

Existing Intersection Volumes and Geometries
 Lake Forest, CA

Figure
 8

Section 4 Regulatory Setting

REGULATORY SETTING

This section summarizes applicable federal, state, regional and local plans pertinent to the City of Lake Forest and the California Environmental Quality Act (CEQA) review process for transportation and circulation. This information provides a context for the impact discussion related to the General Plan Update's consistency with applicable policies, plans, laws and regulations.

FEDERAL

Americans with Disabilities Act

The Americans with Disabilities Act of 1990 (ADA) provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living and economic self-sufficiency. To implement this goal, the United States Access Board has created accessibility guidelines for public rights-of-way. The guidelines address various issues, including roadway design practices, slope and terrain issues, pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way.

The City of Lake Forest is committed to ensure that people with disabilities have access to City programs, services, activities and facilities. In all of its services, programs, events, activities, facilities, and public meetings, the City strives to eliminate any barriers that prohibit people with disabilities from full access to facilities.

Federal Highway Administration

The Federal Highway Administration (FHWA) is a federal agency that focuses on national highway programs. FHWA administers and manages federal highway programs and establishes national standards. The FHWA publishes the Manual on Uniform Traffic Control Devices (MUTCD) which specifies the standards for street markings, traffic signals, and street signs in the United States. The California Department of Transportation (Caltrans) developed the California MUTCD based on the FHWA MUTCD.

STATE

California Department of Transportation

Caltrans is the primary state agency responsible for transportation issues. One of its duties is the construction and maintenance of the state highway system. Caltrans has established standards for roadway traffic flow and developed procedures to determine if State-controlled facilities require improvements. For projects that may physically affect facilities or require access to a state highway, Caltrans requires encroachment permits before such activity may be undertaken. For projects that would

not physically affect facilities but may influence traffic flow and levels of services at such facilities, Caltrans may recommend measures to mitigate the traffic impacts of such projects.

Additionally, the following Caltrans procedures and directives are relevant to transportation improvements in Lake Forest:

- **Level of Service Target.** Caltrans maintains a target level of service at the transition between level of service (LOS) C and LOS D for all of its facilities. Where an existing facility is operating at less than the LOS C/D threshold, the existing measure of effectiveness should be maintained.
- **Caltrans Project Development Procedures Manual.** This manual outlines pertinent statutory requirements, planning policies, and implementing procedures regarding transportation facilities. It is continually and incrementally updated to reflect changes in policy and procedures. For example, the most recent revision incorporates the Complete Streets policy from Deputy Directive 64-R1, which is detailed below.
- **Caltrans Deputy Directive 64 (2001).** This directive requires Caltrans to consider the needs of non-motorized travelers, including pedestrians, bicyclists, and persons with disabilities, in all programming, planning, maintenance, construction, operations, and project development activities and products. This includes incorporation of the best available standards in all of the Department's practices.
- **Caltrans Deputy Directive 64-R1 (2014).** This directive requires Caltrans to provide for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the state highway system. Caltrans supports bicycle, pedestrian, and transit travel with a focus on "complete streets" that begins early in system planning and continues through project construction and maintenance and operations.
- **Caltrans Director's Policy 22 (2001).** This policy establishes support for balancing transportation needs with community goals. Caltrans seeks to involve and integrate community goals in the planning, design, construction, and maintenance and operations processes, including accommodating the needs of bicyclists and pedestrians.
- **Environmental Assessment Review and Comment.** Caltrans, as a responsible agency under the California Environmental Quality Act (CEQA), is available for early consultation on a project to provide guidance on applicable transportation analysis methodologies or other transportation related issues and is responsible for reviewing the traffic impact study for errors and omissions pertaining to the state highway facilities. Caltrans published the Guide for the Preparation of Traffic Impact Studies (December 2002), which established the Measures of Effectiveness as described under "Level of Service Target" above. The Measures of Effectiveness is used to determine significant impact on state facilities. The Guide also mandates that the traffic analysis includes mitigation measures to lessen the potential project impacts on state facilities and the project's fair share responsibility for the impacts. However, the ultimate mitigation measures and their implementations are to be determined upon consultation between Caltrans, the City and the project proponent.

OPR General Plan Guidelines

The Governor’s Office of Planning and Research (OPR) publishes General Plan Guidelines as a “how to” for cities and counties developing their general plans. OPR released its updated guidelines in 2017, which includes legislative changes, new guidance, policy recommendations, external links to resource documents, and additional resources. For each general plan element, the guidelines discuss statutory requirements in detail, provide recommended policy language, and include examples of city and county general plans that have adopted similar policies.

Assembly Bill 32, Senate Bill 32 and Senate Bill 375

Assembly Bill (AB) 32, also known as the Global Warming Solutions Act of 2006, committed California to reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. The California Air Resources Board (ARB), which is coordinating the response to comply with AB 32, is currently on schedule to meet this deadline. In 2016, Senate Bill (SB) 32 added a new target: reducing statewide emissions to 40 percent below 1990 levels by 2030.

SB 375 provides guidance for curbing emissions from cars and light trucks to help California comply with AB 32. There are five major components to SB 375:

- ARB will guide the adoption of GHG emission targets to be met by each Metropolitan Planning Organization (MPO) in the state.
- MPOs are required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting these regional targets. The SCS must be consistent with the Regional Transportation Plan (RTP).
- Regional housing elements and transportation plans must be synchronized on eight-year schedules. Also, the SCS and Regional Housing Needs Assessment (RHNA) must be consistent with each other.
- CEQA is streamlined for preferred development types such as mixed-use projects and transit-oriented developments (TODs) if they meet specific requirements.
- MPOs must use transportation and air emission modeling methodologies consistent with California Transportation Commission (CTC) guidelines.

California Complete Streets Act of 2008 (AB 1358)

Originally passed in 2008, California’s Complete Streets Act took effect in 2011 and requires local jurisdictions to plan for land use transportation policies that reflect a “complete streets” approach to mobility. “Complete streets” comprises a suite of policies and street design guidelines which provide for the needs of all road users, including pedestrians, bicyclists, transit operators and riders, children, the elderly, and the disabled. From 2011 onward, any local jurisdiction—county or city—that undertakes a substantive update of the circulation element of its general plan must consider “complete streets” and incorporate corresponding policies and programs. In 2010, OPR released guidelines for compliance with

this legislation which provide direction on how circulation elements can best plan for a variety of travel modes such as transit, walking, bicycling, and freight.

Senate Bill 743

On September 27, 2013, Senate Bill (SB) 743 was signed into law.⁹ The Legislature found that with the adoption of the Sustainable Communities and Climate Protection Act of 2008 (SB 375), the State had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce vehicle miles traveled (VMT) and thereby contribute to the reduction of greenhouse gas emissions (GHG), as required by the California Global Warming Solutions Act of 2006 (AB 32). Additionally, the Complete Streets Act (AB 1358), requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users. To further the State's commitment to the goals of SB 375, AB 32 and AB 1358, SB 743 adds Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, to Division 13 (Section 21099) of the Public Resources Code.

SB 743 started a process that could fundamentally change transportation impact analysis as part of CEQA compliance. These changes will include the elimination of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts in many parts of California (if not statewide). Further, parking impacts will not be considered significant impacts on the environment for select development projects within infill areas with nearby frequent transit service. SB 743 includes amendments that revises the definition of "in-fill opportunity zones" to allow cities and counties to opt out of traditional LOS standards established by congestion management programs (CMPs) and requires OPR to update the CEQA Guidelines and establish "criteria for determining the significance of transportation impacts of projects within transit priority areas."¹⁰ As part of the new CEQA Guidelines, the new criteria "shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." OPR presented alternative metrics in a preliminary discussion draft in summer of 2014 and released a final advisory in December 2018. Key guidance includes:

- VMT is the most appropriate metric to evaluate a project's transportation impact.
- OPR recommends tour- and trip-based travel models to estimate VMT, but ultimately defers to local agencies to determine the appropriate tools.
- OPR recommends measuring VMT for residential and office projects on a "per rate" basis. Specifically, OPR recommends VMT per capita for residential projects and VMT per employee for office projects.

⁹ An act to amend Sections 65088.1 and 65088.4 of the Government Code, and to amend Sections 21181, 21183, 21186, 21187, 21189.1, and 21189.3 of, to add Section 21155.4 to, to add Chapter 2.7 (commencing with Section 21099) to Division 13 of, to add and repeal Section 21168.6.6 of, and to repeal and add Section 21185 of, the Public Resources Code, relating to environmental quality.

¹⁰ A "transit priority area" is defined in as an area within one-half mile of an existing or planned major transit stop. A "major transit stop" is defined in Public Resources Code Section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

- OPR's recommended impact threshold for residential and office projects is VMT per capita fifteen percent below the city or regional average (whichever is applied). In other words, an office project that generates VMT per employee that is more than 85 percent of the regional VMT per employee could result in a significant impact. This threshold is in line with statewide greenhouse gas emission reduction targets.
- For retail projects, OPR recommends measuring the net decrease or increase in VMT in the study area with and without the project. The recommended impact threshold is any increase in total VMT.
- Lead agencies ultimately have the discretion to set or apply their own significance thresholds, provided they are based on significant evidence.
- Cities and counties still have the ability to use metrics such as LOS for other plans, studies, or network monitoring. However, LOS and similar metrics cannot constitute the sole basis for CEQA impacts.

SB 743-compliant CEQA analysis will become mandatory on July 1, 2020.

Assembly Bill 417

In October 2013, AB 417 created a statutory CEQA exemption for bicycle plans in urbanized areas. Before the passage of this bill, cities and counties that prepared bicycle plans were required to carry out a CEQA review. AB 417 exempts the following types of bicycle projects in an urbanized area:

- Restriping of streets and highways
- Bicycle parking and storage
- Signal timing to improve intersection operations
- Signage for bicycles, pedestrians, and vehicles

However, not all bicycle plans are exempt if certain conditions are met (e.g., a new Class I bicycle trail through a sensitive natural area).

REGIONAL

Southern California Association of Governments (SCAG)

SCAG is a federally designated MPO and is made up of six counties and 191 cities. SCAG develops long-range regional transportation plans including sustainable communities strategies and growth forecast components, regional transportation improvement programs, regional housing needs allocations, and a portion of the South Coast Air Quality Management Plans.

SCAG approved its most-recent Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in April 2016, which outlines the long-range vision and the region's transportation system investments through 2040.

Orange County Transportation Authority (OCTA)

The Orange County Transportation Authority (OCTA) coordinates transportation planning efforts throughout Orange County and programs funding for project implementation. Additionally, it prepares the Congestion Management Program (CMP), a plan mandated by California law to describe the strategies to address congestion problems on the CMP network, which includes State highways and principal arterials. The CMP Guidelines require analysis of the CMP network and uses level of service standards as a means to measure congestion and to determine how local governments meet CMP standards. OCTA also administers the Master Plan of Arterial Highways (MPAH), which was established in 1956 to ensure that the county's regional highway network would be planned, developed, and preserved in order to supplement the freeway system. The MPAH defines the intended functions and carrying capacities of regional roads in the county. In order to be eligible for Measure M2 funding, a city's General Plan Circulation Element must be consistent with the MPAH; specifically, local circulation elements must maintain an equivalent number of minimum through lanes on each arterial highway that is included as part of the MPAH.

OCTA's Long Range Transportation Plan (LRTP) is a long-range policy document that assesses the county's transportation system over a 20-year horizon and identifies the projects that best address future population, housing, and employment needs. The most recent LRTP was finalized in September 2014 and outlines a vision of multimodal transportation improvements in the county to meet expected demand through 2035, including expanding system choices, improving performance, improving multimodal integration, and ensuring financial sustainability. The 2014 – 2019 OCTA Strategic Plan aims to address the county's short-term (five year) transportation needs and facilitates ongoing planning and implementation within OCTA. The Strategic Plan also sets out OCTA's principals and goals for guiding decision-making and planning.

OCTA also provides bus transit and paratransit services within Orange County, as well as to Los Angeles and Riverside. The OC Transit Vision, published in January 2018, is OCTA's transit-specific master plan that aims to improve transit service for the next 20 years. The plan looks at long-term transit needs, including bus, rail, paratransit, and new types of transportation services and technologies. The plan also identifies the corridors within the county with the highest expected demand and assesses which modes would be appropriate to meet that demand, such as streetcars, bus rapid transit (BRT), or other emerging modes.

OC Active, initiated in March 2017 and currently ongoing, is OCTA's Bike and Pedestrian Plan. The plan's primary goal is to recognize the areas and opportunities for active transportation across the county. The OC Active goals include advancing the strategic walking and biking network, enhancing walking and biking access to transit, improving high-need pedestrian areas, reducing pedestrian and bicyclist collisions, and leveraging funding opportunities for active transportation projects.

Orange County Council of Governments (OCCOG)

The Orange County Council of Governments (OCCOG) is a voluntary joint-powers agency that is Orange County's sub-regional planning organization and serves as a channel for local jurisdictions to engage cooperatively on matters such as land use, energy, mobility, air quality, and water. OCCOG's first three-year Strategic Plan, published in May 2016, outlines goals for the organization through 2019 including county advocacy at the regional level. OCCOG also recently completed its Complete Streets Initiative Design Handbook and Funding Toolkit, which aims to help local jurisdictions comply with state Complete Streets legislation, helps guide policy development, and provides design guidance for implementing Complete Streets principles in communities.

Foothill Circulation Phasing Plan (FCPP)

Adopted in September 1987, the Foothill Circulation Phasing Plan (FCPP) provides for roadway construction and improvements in the Foothill area to accommodate new development. Cities in the Foothill area that are subject to the FCPP, including Lake Forest, collect FCPP fees at the time building permits are issued. Roadway construction and improvements are financed and constructed to correspond with development in the Foothill area.

Foothill and Eastern Transportation Corridor Fee Program

The Transportation Corridor Agencies (TCA) operate the publicly-owned toll facilities in Orange County: State Route (SR) 73 (SR-73), State Route 133 (SR-133), State Route 241 (SR-241), and State Route 261 (SR-261). These roads were financed with bonds which are backed by toll revenues and development impact fees. Development impact fees are assessed on new construction in areas that benefit from these four toll facilities. Lake Forest falls within two fee zones: Foothill/Eastern (F/E) Zone A (north of Trabuco Road) and F/E Zone B (south of Trabuco Road), which run parallel to SR-241 and I-5, respectively. Fees are assessed on a per-unit basis for residential development and on a per square footage basis for non-residential square footage and are collected when a building permit is issued.

Metrolink

Metrolink is a regional transportation agency providing passenger rail service to Los Angeles, Ventura, Riverside, San Bernardino, Orange, and San Diego¹¹ Counties. Metrolink's 10-year Strategic Plan and 5-Year Short Range Transit Plan were approved by the Metrolink Board of Directors in March 2016. These plans are policy documents that guide transportation funding decisions and establishes goals for the agency in the upcoming years. Metrolink does not provide a station in the City of Lake Forest, but Lake Forest residents can access Metrolink trains at the Irvine and Laguna Niguel/Mission Viejo stations. These stations provide directions to downtown Los Angeles, San Bernardino, and Oceanside.

¹¹ Metrolink Inland Empire-Orange County Line and Orange County Line service extend to one station in San Diego County (Oceanside).

LOCAL

Lake Forest General Plan Update

As part of the Lake Forest General Plan Update, the Mobility Element provides the framework for decisions concerning the city's multimodal transportation system, which includes roadway, transit, bicycle, pedestrian, and rail modes of travel. The Mobility Element provides for coordination with the Orange County Transportation Authority (OCTA), which serves as the coordinating agency for transportation funding for Orange County. The goals detailed in the updated Mobility Element are noted below.

- **Goal M-1: Regional and Local Roads** – A transportation system that meets and balances local and regional mobility needs.
- **Goal M-2: Traffic Flow/System Efficiency** – Provide a vehicular transportation system with adequate levels of traffic flow and operations while maximizing efficiency.
- **Goal M-3: Complete Streets** – Provide a citywide a transportation network that is safe and accessible for all transportation modes and users.
- **Goal M-4: Public Transit** – Support increased public transportation use in the City.
- **Goal M-5: Bicycle, Pedestrian, and Equestrian Use** – Support and promote the use of pedestrian, bicycle, and equestrian facilities.
- **Goal M-6: Safety** – Provide a safe transportation system for all users.
- **Goal M-7: Parking** – Ensure an adequate and convenient parking supply in the City.
- **Goal M-8: Vehicle Miles Traveled** – Reduce citywide vehicle miles traveled per capita and contribute to regional and statewide greenhouse gas emission targets.
- **Goal M-9: Goods Movement** – Accommodate safe goods movement through the City's transportation network.
- **Goal M-10: Funding** – Ensure the utilization of various financing methods to improve and provide a fiscally sound transportation system.

Lake Forest Transportation Mitigation Program (LFTM)

The Lake Forest Transportation Mitigation Program (LFTM) was established to provide funding for the coordination and phased installation of transportation improvements in the city to mitigate the impacts of specific projects within the city. Fees are based on typical trip lengths and average daily trips for each type of land use. The City conducts a review of LFTM every five years. These updates assess whether any LFTM improvements should be reduced or eliminated and whether improvement costs should be updated or reallocated between projects; no new improvements are added to LFTM during these reviews. The City assesses mitigation needs and allocates fees using the Lake Forest Traffic Analysis Model (LFTAM), which was developed based on the Orange County Transportation Analysis Model (OCTAM), the subregional model developed by OCTA and based on the SCAG regional travel demand model.

Lake Forest Capital Improvement Plan

The City of Lake Forest Capital Improvement Plan (CIP) is a list of projects programmed for funding from identified funding sources for a three-year period. The most recent (2019-2021) CIP includes projects designed to improve safety, traffic flow, median and parkway landscaping, and maintain the roadway network. Transportation-related improvements in the current CIP include:

- Sidewalk repairs
- ADA ramps
- Roadway widening and turn lanes at intersections
- Traffic signal improvements
- Pavement resurfacing

Section 5
Level of Service Analysis

LEVEL OF SERVICE ANALYSIS

This chapter provides an assessment of roadway operations for the long-term buildout Cumulative (2040) Plus Plan Conditions. Under the requirements of SB 743, metrics such as LOS can no longer be used to assess transportation-related CEQA impacts. Therefore, this chapter provides roadway segment and intersection level of service for informational purposes. LOS for these facilities is compared to existing conditions; where needed, recommended improvements are provided to bring operations to acceptable levels and attain the City's goals for traffic flow and system efficiency.

TRAFFIC VOLUME FORECASTING

Daily roadway segment and AM and PM peak hours intersection traffic volume forecasts under Cumulative (2040) Plus Plan Conditions were developed utilizing the Orange County Transportation Analysis Model (OCTAM) and the Lake Forest Traffic Analysis Model (LFTAM) as follows.

Long-Range (2040) ADT roadway volumes for a scenario reflecting the current General Plan land uses and buildout of the Lake Forest and countywide roadway circulation system were developed using OCTAM Version 4 (OCTAM 4). Traffic growth factors were derived for each roadway segment by comparing existing daily volumes to the baseline Long-Range (2040) ADT forecasts. Baseline Long-Range (2040) peak hour intersection volumes were developed by applying the traffic growth factors for each individual roadway to the existing peak hour intersection counts. The Lake Forest Traffic Analysis Model (LFTAM) was then used to determine the incremental traffic volume differences between the current general plan and the General Plan Update under 2040 conditions for daily segment volumes as well as peak hour intersection turning movements. The resulting LFTAM-based incremental volume differences were applied to the 2040 baseline (current General Plan land use) OCTAM Version 4 volumes to develop the 2040 daily roadway and peak hour intersection forecasts for the General Plan Update scenario.

ASSUMED FUTURE ROADWAY IMPROVEMENTS

As part of both the travel demand modeling and the roadway segment and intersection operational analyses, roadway improvements were included as part of the 2040 assumptions. Improvements were included from the following sources, which are included in Appendix 3:

- Roadway widenings and lane additions that are assumed to be in place by 2040 (e.g. committed funding).
- Intersection improvements proposed as part of the 2019-2021 CIP.
- Intersection improvements included as part of LFTM.

ROADWAY SEGMENT ANALYSIS

The daily roadway segment volumes and operations under the Cumulative (2040) Plus Plan scenario are shown in Table 11. The daily roadway segment LOS was used to develop recommended roadway segment improvements for segments that either:

- Degraded from acceptable LOS (A/B/C/D) under Existing conditions to unacceptable LOS (E/F) under Cumulative (2040) Plus Plan conditions, or
- Operate at unacceptable LOS (E/F) under Existing Conditions and V/C increased by greater than 0.01 under Cumulative (2040) Plus Plan conditions

Under Cumulative (2040) Plus Plan conditions, the following roadway segments are projected to operate beyond the standard LOS D at the daily level:

- Portola Parkway, North of El Toro Road (LOS E)
- Bake Parkway, East of Commercentre Drive (LOS F)
- Bake Parkway, West of Commercentre Drive (LOS F)
- Bake Parkway, West of Trabuco Road (LOS F)
- Bake Parkway, West of Toledo Way (LOS F)
- Lake Forest Drive, East of Trabuco Road (LOS F)
- Lake Forest Drive, West of Rockfield Boulevard (LOS F)

With the addition of cumulative and Plan traffic, recommended roadway segment improvements are provided later in this chapter for the following facilities:

- Portola Parkway, North of El Toro Road: Degrades from acceptable LOS B to unacceptable LOS E.
- Bake Parkway, East of Commercentre Drive: Degrades from acceptable LOS C to unacceptable LOS F.
- Bake Parkway, West of Commercentre Drive: Degrades from acceptable LOS D to unacceptable LOS F.
- Bake Parkway, West of Trabuco Road: Degrades from acceptable LOS D to unacceptable LOS F.
- Bake Parkway, West of Toledo Way: Degrades from acceptable LOS D to unacceptable LOS F.
- Lake Forest Drive, East of Trabuco Road: Degrades from acceptable LOS D to unacceptable LOS F.
- Lake Forest Drive, West of Rockfield Boulevard: Operates at unacceptable LOS F under Existing conditions and V/C increases by greater than 0.01.

Table 11: Cumulative (2040) Plus Plan Roadway Segment Level of Service

Roadway	Segment	Existing			2040 Plus Plan			V/C Change
		Road way Type ¹	ADT ²	LOS	Road way Type ¹	ADT ²	LOS	
Trabuco Road	North of Lake Forest Drive	6D	21,535	A	6D	26,300	A	0.09

Roadway	Segment	Existing			2040 Plus Plan			V/C Change
		Road way Type ¹	ADT ²	LOS	Road way Type ¹	ADT ²	LOS	
	North of Ridge Route Drive	6D	22,336	A	6D	28,100	A	0.10
	North of El Toro Road	6D	25,107	A	6D	31,100	A	0.10
	South of El Toro Road	4D	21,730	A	4D	24,500	B	0.07
Toledo Way	North of Lake Forest Drive	4D	6,063	A	4D	9,700	A	0.10
	South of Lake Forest Drive	4U	5,812	A	4U	8,500	A	0.11
	South of Ridge Route Drive	4D	5,985	A	4D	8,500	A	0.07
Jeronimo Road	North of Lake Forest Drive	4D	13,482	A	4D	15,700	A	0.06
	North of Ridge Route Drive	4U	13,349	A	4U	16,200	B	0.12
	North of El Toro Road	4D	14,359	A	4D	16,300	A	0.05
	South of El Toro Road	4D	21,648	A	4D	24,300	B	0.07
Muirlands Boulevard	North of Lake Forest Drive	4D	13,936	A	4D	15,200	A	0.04
	North of Ridge Route Drive	4D	17,180	A	4D	22,000	A	0.13
	South of Ridge Route Drive	4D	19,578	A	4D	23,600	B	0.11
	South of El Toro Road	4D	20,709	A	4D	24,200	B	0.10
Rockfield Boulevard	North of Lake Forest Drive	4D	21,911	A	4D	30,000	C	0.22
	North of Ridge Route Drive	4D	17,549	A	4D	31,600	D	0.37
	North of El Toro Road	4D	18,642	A	4D	25,700	B	0.19
	North of Los Alisos Boulevard	4D	13,707	A	4D	20,700	A	0.18
Portola Parkway	North of Alton Parkway	4D	5,976	A	4D	14,700	A	0.23
	North of Bake Parkway	5D	17,526	A	6D	22,900	A	0.04

Roadway	Segment	Existing			2040 Plus Plan			V/C Change
		Road way Type ¹	ADT ²	LOS	Road way Type ¹	ADT ²	LOS	
	North of Lake Forest Drive	5D	23,677	A	6D	33,700	A	0.09
	North of Glenn Ranch Road	6D	32,283	A	6D	41,900	C	0.17
	North of SR-241	6D	25,325	A	6D	43,200	C	0.32
	South of SR-241	6D	27,477	A	6D	37,900	B	0.18
	North of El Toro Road	6D	35,739	B	6D	51,100	E	0.27
	South of El Toro Road	7D	37,996	A	6D	46,100	D	0.24
Rancho Parkway South	North of Bake Parkway	4D	7,400	A	4D	13,100	A	0.15
Rancho Parkway	South of Bake Parkway	4D	13,914	A	4D	22,900	B	0.24
	South of Lake Forest Drive	4D	19,440	A	4D	29,800	C	0.27
Glenn Ranch Road	Portola Parkway to Saddleback Ranch Road	4D	16,076	A	4D	27,200	C	0.30
	Saddleback Ranch Road to El Toro Road	4D	6,849	A	4D	7,400	A	0.02
Alton Parkway	West of Portola Parkway	6D	13,231	A	6D	30,500	A	0.30
	West of SR-241	6D	19,122	A	6D	31,600	A	0.22
	West of Rancho Parkway South	6D	23,261	A	6D	35,400	B	0.22
	East of Trabuco Road	6D	24,382	A	6D	39,300	B	0.27
Bake Parkway	West of Towne Center Drive	4D	26,318	B	4D	33,400	D	0.19
	East of Commercentre Drive	4D	29,630	C	4D	43,300	F	0.36

Roadway	Segment	Existing			2040 Plus Plan			V/C Change
		Road way Type ¹	ADT ²	LOS	Road way Type ¹	ADT ²	LOS	
	West of Commercentre Drive	4D	32,335	D	4D	54,100	F	0.58
	West of Trabuco Road	6D	46,162	D	6D	62,400	F	0.29
	West of Toledo Way	6D	49,268	D	6D	66,300	F	0.30
Lake Forest Drive	West of Portola Parkway	4D	9,502	A	4D	21,400	A	0.32
	East of Rancho Parkway	4D	18,493	A	4D	29,400	C	0.29
	West of Rancho Parkway	4D	20,894	A	4D	27,200	C	0.17
	East of Trabuco Road	4D	31,667	D	4D	39,400	F	0.21
	West of Trabuco Road	6D	31,178	A	6D	37,500	B	0.12
	East of Jeronimo Road	6D	33,027	A	6D	41,300	C	0.14
	East of Muirlands Boulevard	6D	32,627	A	6D	40,200	C	0.13
	West of Muirlands Boulevard	6D	36,011	B	6D	45,700	D	0.17
	West of Rockfield Boulevard	6D	59,276	F	6D	74,300	F	0.27
Ridge Route Drive	East of Toledo Way	4D	6,666	A	4D	11,200	A	0.12
	East of Jeronimo Road	4U	7,428	A	4U	11,500	A	0.16
	West of Jeronimo Road	2D	7,689	A	2D	12,500	B	0.26
	East of Muirlands Boulevard	4D	6,886	A	4D	12,400	A	0.15
	East of Rockfield Boulevard	4D	6,811	A	4D	9,600	A	0.08

Roadway	Segment	Existing			2040 Plus Plan			V/C Change
		Road way Type ¹	ADT ²	LOS	Road way Type ¹	ADT ²	LOS	
	West of Rockfield Boulevard	4D	2,524	A	4D	4,700	A	0.06
El Toro Road	East of Glenn Ranch Road	3D	13,969	A	6D	19,400	A	-0.16
	West of Glenn Ranch Road	3D	14,800	A	6D	19,700	A	-0.18
	East of Santa Margarita Parkway	5D	13,832	A	6D	17,400	A	0.01
	West of Santa Margarita Parkway	6D	25,322	A	6D	28,400	A	0.05
	East of Trabuco Road	5D	31,358	B	6D	39,200	B	0.03
	West of Trabuco Road	6D	35,784	B	6D	38,300	B	0.04
	East of Jeronimo Road	6D	38,539	B	6D	42,200	C	0.06
	East of Muirlands Boulevard	6D	40,733	C	6D	46,800	D	0.11
	West of Muirlands Boulevard	8D	44,716	A	8D	52,900	C	0.11
	West of Rockfield Boulevard	9D	54,028	B	9D	76,000	D	0.26
	Los Alisos Boulevard	East of Jeronimo Road	6D	28,974	A	6D	33,000	A
East of Muirlands Boulevard		6D	30,001	A	6D	36,500	B	0.12
West of Muirlands Boulevard		6D	27,284	A	6D	30,100	A	0.05
West of Rockfield Boulevard		4D	25,047	B	4D	27,500	C	0.06
Commercentre Drive	South of Alton Parkway	4D	7,546	A	4D	19,300	A	0.31
	South of Bake Parkway	4D	11,085	A	4D	19,100	A	0.21

Roadway	Segment	Existing			2040 Plus Plan			V/C Change
		Road way Type ¹	ADT ²	LOS	Road way Type ¹	ADT ²	LOS	
	North of Dimension Drive	4D	7,896	A	4D	14,500	A	0.18
Dimension Drive	North of Commercentre Drive	4D	5,963	A	4D	13,900	A	0.21
	South of Commercentre Drive	4D	12,021	A	4D	24,500	B	0.33

Note: **Bold** signifies unacceptable level of service.

Shading signifies improvements recommended.

1. Roadway type refers to number of lanes and divided (D) or undivided (U)

2. ADT denotes Average Daily Traffic

Source: Kittelson & Associates, Inc., 2019

INTERSECTION ANALYSIS

The weekday AM and PM peak hour intersection turning movement volumes and lane configurations for Cumulative (2040) Plus Plan conditions are provided in Figure 9. The AM and PM operations under the Cumulative (2040) Plus Plan scenario (under the ICU analysis methodology) are shown in Table 12. The intersection operations under the ICU methodology were used to develop recommended intersection improvements for area-wide intersections that either:

- Degraded from acceptable LOS (A/B/C/D) under Existing conditions to unacceptable LOS (E/F) under Cumulative (2040) Plus Plan conditions, or
- Operate at unacceptable LOS (E/F) under Existing Conditions and V/C increased by greater than 0.01 under Cumulative (2040) Plus Plan conditions

Additionally, the AM and PM operations of freeway/highway ramp intersections under the Cumulative (2040) Plus Plan scenario (using the HCM analysis methodology) are shown in Table 13. The ramp intersection operations under the HCM methodology were used to develop recommended intersection improvements for ramp intersections that either:

- Degraded from acceptable LOS (A/B/C) under Existing conditions to unacceptable LOS (D/E/F) under Cumulative (2040) Plus Plan conditions, or
- Operate at unacceptable LOS (D/E/F) under Existing Conditions and delay increased by 2.0 seconds or greater under Cumulative (2040) Plus Plan conditions

Table 12: Cumulative (2040) Plus Plan Intersection Level of Service (ICU Methodology)

Intersection		Peak Hour	Existing		2040 Plus Plan		Change
			V/C	LOS	V/C	LOS	
1	Alton Parkway & Portola Parkway	AM	0.41	A	0.48	A	0.07
		PM	0.30	A	0.43	A	0.13
2	Bake Parkway & Portola Parkway	AM	0.45	A	0.48	A	0.03
		PM	0.51	A	0.62	B	0.11
3	Lake Forest Drive & Portola Parkway	AM	0.44	A	0.56	A	0.12
		PM	0.43	A	0.61	B	0.18
4	Glenn Ranch Road & Portola Parkway	AM	0.36	A	0.55	A	0.19
		PM	0.47	A	0.62	B	0.15
5	Portola Parkway & SR-241 Ramps	AM	0.38	A	0.66	B	0.28
		PM	0.39	A	0.77	C	0.38
6	Alton Parkway & SR-241 Ramps	AM	0.41	A	0.67	B	0.26
		PM	0.37	A	0.69	B	0.32
7	Lake Forest Drive & SR-241 NB On-Ramp	AM	0.23	A	0.39	A	0.16
		PM	0.26	A	0.46	A	0.20
8	Lake Forest Drive & SR-241 SB Off-Ramp	AM	0.28	A	0.47	A	0.19
		PM	0.30	A	0.57	A	0.27
9	Bake Parkway & Rancho Parkway	AM	0.47	A	0.63	B	0.16
		PM	0.59	A	0.76	C	0.17
10	Lake Forest Drive & Rancho Parkway	AM	0.45	A	0.73	C	0.28
		PM	0.59	A	0.89	D	0.30
11	Bake Parkway & Rancho Parkway South	AM	0.55	A	0.96	E	0.42
		PM	0.53	A	0.85	D	0.36
12	El Toro Road & Portola Parkway/Santa Margarita Parkway	AM	0.61	B	0.64	B	0.03
		PM	0.68	B	0.76	C	0.08
13	Bake Parkway & Commercentre Drive	AM	0.47	A	0.78	C	0.31
		PM	0.47	A	0.68	B	0.21
14	Bake Parkway & Irvine Boulevard/Trabuco Road	AM	0.65	B	0.74	C	0.09
		PM	0.68	B	0.78	C	0.10
15	Lake Forest Drive & Trabuco Road	AM	0.58	A	0.71	C	0.13
		PM	0.58	A	0.71	C	0.13
16	Ridge Route Drive & Trabuco Road	AM	0.43	A	0.60	A	0.17
		PM	0.50	A	0.61	B	0.11
17	El Toro Road & Trabuco Road	AM	0.62	B	0.68	B	0.06
		PM	0.60	A	0.69	B	0.09
18	Bake Parkway & Toledo Way	AM	0.73	C	0.87	D	0.14
		PM	0.57	A	0.82	D	0.25
19	Lake Forest Drive & Toledo Way	AM	0.53	A	0.66	B	0.13
		PM	0.53	A	0.69	B	0.16

Intersection		Peak Hour	Existing		2040 Plus Plan		Change
			V/C	LOS	V/C	LOS	
20	Ridge Route Drive & Toledo Way	AM	0.33	A	0.60	A	0.27
		PM	0.27	A	0.40	A	0.13
21	El Toro Road & Toledo Way	AM	0.53	A	0.58	A	0.05
		PM	0.44	A	0.53	A	0.09
22	Bake Parkway & Jeronimo Road	AM	0.92	E	0.93	E	0.01
		PM	0.74	C	0.95	E	0.21
23	Lake Forest Drive & Jeronimo Road	AM	0.64	B	0.69	B	0.05
		PM	0.72	C	0.86	D	0.14
24	Ridge Route Drive & Jeronimo Road	AM	0.47	A	0.56	A	0.09
		PM	0.46	A	0.59	A	0.13
25	El Toro Road & Jeronimo Road	AM	0.66	B	0.69	B	0.03
		PM	0.81	D	0.85	D	0.04
26	Los Alisos Boulevard & Jeronimo Road	AM	0.65	B	0.78	C	0.13
		PM	0.66	B	0.74	C	0.08
27	Lake Forest Drive & Muirlands Boulevard	AM	0.49	A	0.59	A	0.10
		PM	0.70	B	0.79	C	0.09
28	Ridge Route Drive & Muirlands Boulevard	AM	0.42	A	0.49	A	0.07
		PM	0.54	A	0.59	A	0.05
29	El Toro Road & Muirlands Boulevard	AM	0.61	B	0.74	C	0.13
		PM	0.70	B	0.81	D	0.11
30	Los Alisos Boulevard & Muirlands Boulevard	AM	0.68	B	0.66	B	-0.02
		PM	0.70	B	0.66	B	-0.04
31	Lake Forest Drive & Rockfield Boulevard	AM	0.55	A	0.69	B	0.14
		PM	0.66	B	0.95	E	0.29
32	Ridge Route Drive & Rockfield Boulevard	AM	0.35	A	0.45	A	0.10
		PM	0.45	A	0.73	C	0.28
33	El Toro Road & Rockfield Boulevard	AM	0.56	A	0.82	D	0.26
		PM	0.61	B	0.73	C	0.12
34	Los Alisos Boulevard & Rockfield Boulevard	AM	0.69	B	0.66	B	-0.03
		PM	0.54	A	0.59	A	0.05
35	Lake Forest Drive & I-5 NB Ramps	AM	0.42	A	0.52	A	0.10
		PM	0.47	A	0.62	B	0.15
36	Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota	AM	0.46	A	0.65	B	0.19
		PM	0.78	C	1.07	F	0.29
37	Paseo De Valencia & Avenida De La Carlota	AM	0.48	A	0.61	B	0.13
		PM	0.51	A	0.62	B	0.11
38	El Toro Road & Bridger Road/I-5 NB Ramps	AM	0.63	B	0.78	C	0.15
		PM	0.66	B	0.96	E	0.30

Intersection		Peak Hour	Existing		2040 Plus Plan		Change
			V/C	LOS	V/C	LOS	
39	El Toro Road & Avenida De La Carlota	AM	0.37	A	0.47	A	0.10
		PM	0.56	A	0.78	C	0.22
40	Portola Parkway & Rancho Parkway	AM	0.46	A	0.61	B	0.19
		PM	0.58	A	0.54	A	0.23
41	Alton Parkway & Rancho Parkway South	AM	0.46	A	0.67	B	0.15
		PM	0.40	A	0.82	D	0.14
42	Alton Parkway & Commercentre	AM	0.42	A	0.44	A	0.25
		PM	0.52	A	0.46	A	0.30
51	El Toro Road & Glenn Ranch Road	AM	0.47	A	0.81	D	-0.03
		PM	0.58	A	0.88	D	-0.12
56	Bake Parkway & Dimension Drive	AM	0.44	A	0.58	A	0.37
		PM	0.59	A	0.70	B	0.29
57	Lake Forest Drive & Dimension Drive	AM	0.34	A	0.59	A	0.24
		PM	0.48	A	0.89	D	0.22
60	Dimension Drive & Commercentre Drive	AM	0.39	A	0.65	B	0.20
		PM	0.53	A	0.51	A	0.36
101	Lake Forest Drive & Pittsford Drive	AM	0.59	A	0.49	A	0.06
		PM	0.42	A	0.39	A	0.09
102	El Toro Road & Northcrest Drive	AM	0.42	A	0.61	B	0.07
		PM	0.45	A	0.54	A	-0.06

Note: **Bold** signifies unacceptable level of service.

Shading signifies improvements recommended.

Source: Kittelson & Associates, Inc., 2019

Table 13: Cumulative (2040) Plus Plan Intersection Level of Service (HCM Methodology)

Intersection		Peak Hour	Existing		2040 Plus Plan		Change
			Delay	LOS	Delay	LOS	
5	Portola Parkway & SR-241 Ramps	AM	23.8	C	43.1	D	19.3
		PM	21.5	C	49.5	D	28.0
6	Alton Parkway & SR-241 Ramps	AM	24.6	C	36.7	D	12.1
		PM	21.6	C	34.0	C	12.4
7	Lake Forest Drive & SR-241 NB On-Ramp	AM	4.0	A	3.5	A	-0.5
		PM	3.7	A	3.8	A	0.1
8	Lake Forest Drive & SR-241 SB Off-Ramp	AM	7.9	A	8.2	A	0.3
		PM	6.0	A	7.8	A	1.8
35	Lake Forest Drive & I-5 NB Ramps	AM	11.4	B	16.5	B	5.1
		PM	31.0	C	27.4	C	-3.6
36	Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota	AM	25.2	C	29.8	C	4.6
		PM	28.0	C	80.1	F	52.1
37	Paseo De Valencia & Avenida De La Carlota	AM	43.1	D	42.7	D	-0.4
		PM	41.3	D	52.1	D	10.8
38	El Toro Road & Bridger Road/I-5 NB Ramps	AM	21.4	C	31.1	C	9.7
		PM	41.4	D	61.9	E	20.5

Note: **Bold** signifies unacceptable level of service.

Shading signifies improvements recommended.

Source: Kittelson & Associates, Inc., 2019

Under Cumulative (2040) Plus Plan conditions, the following intersections are projected to operate beyond the standard LOS D under the ICU methodology:

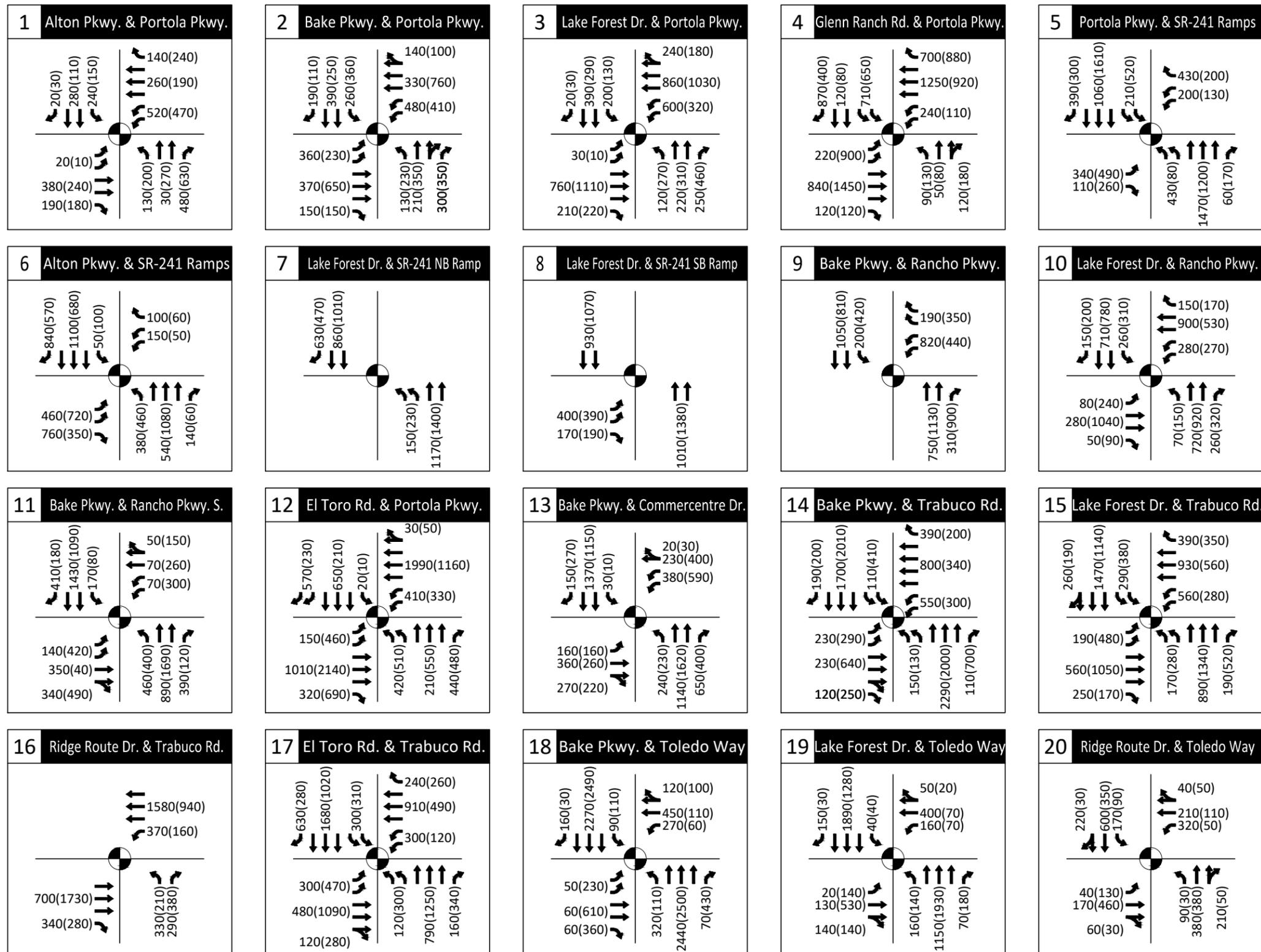
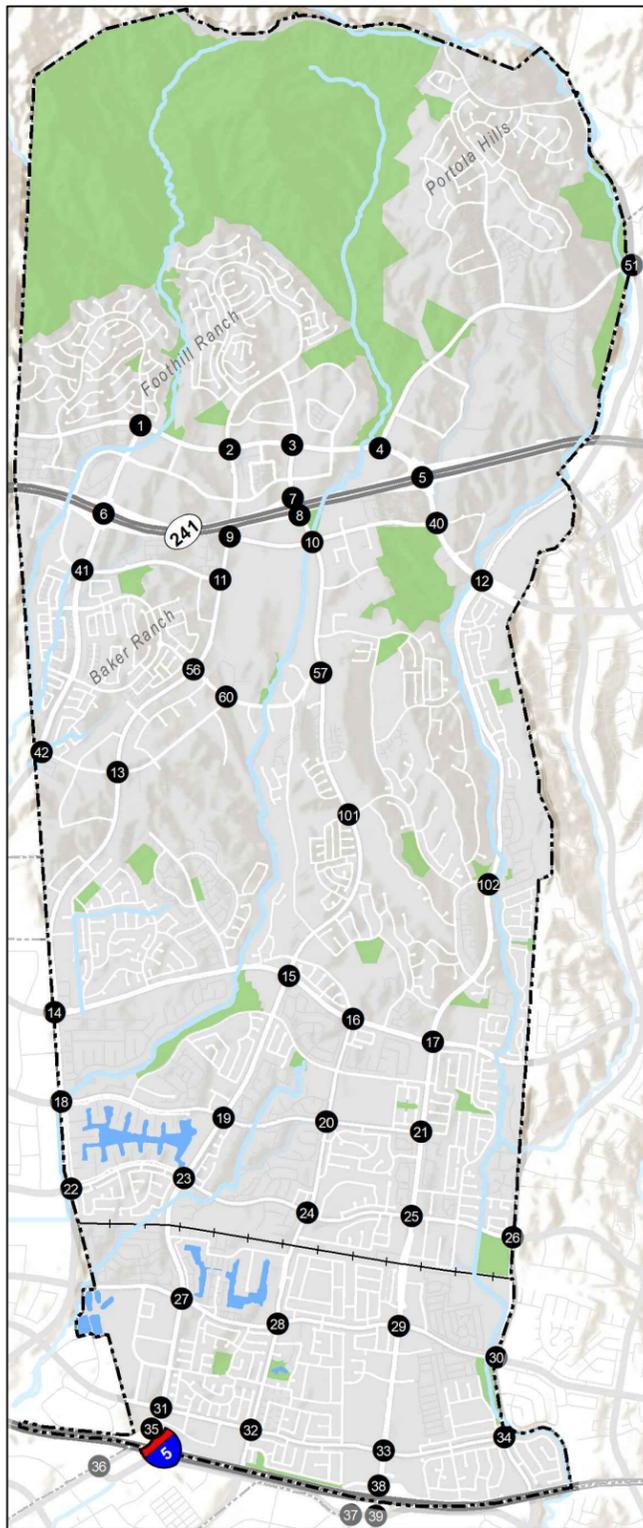
- #11 Bake Parkway & Rancho Parkway South (LOS E during the AM peak hour)
- #22 Bake Parkway & Jeronimo Road (LOS E during the AM and PM peak hours)
- #31 Lake Forest Drive & Rockfield Boulevard (LOS E during the PM peak hour)
- #36 Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota (LOS F during the PM peak hour)
- #38 El Toro Road & Bridger Road/I-5 NB Ramps (LOS E during the PM peak hour)

In addition, under Cumulative (2040) Plus Plan conditions, the following ramp intersections are projected to operate beyond the standard LOS C under the HCM methodology:

- #5 Portola Parkway & SR-241 Ramps (LOS D during the AM and PM peak hours)
- #6 Alton Parkway & SR-241 Ramps (LOS D during the AM peak hour)
- #36 Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota (LOS F during the PM peak hour)
- #37 Paseo De Valencia & Avenida De La Carlota (LOS D during the AM and PM peak hours)
- #38 El Toro Road & Bridger Road/I-5 NB Ramps (LOS E during the PM peak hour)

With the addition of cumulative and Plan traffic, recommended intersection improvements are provided later in this chapter for the following facilities:

- #5 Portola Parkway & SR-241 Ramps:
 - Degrades from acceptable LOS C to unacceptable LOS D during the AM and PM peak hours (under the HCM methodology).
- #6 Alton Parkway & SR-241 Ramps:
 - Degrades from acceptable LOS C to unacceptable LOS D during the AM peak hour (under the HCM methodology).
- #11 Bake Parkway & Rancho Parkway South:
 - Degrades from acceptable LOS A to unacceptable LOS E during the AM peak hour (under the ICU methodology).
- #22 Bake Parkway & Jeronimo Road:
 - Degrades from acceptable LOS C to unacceptable LOS E during the PM peak hour (under the ICU methodology).
- #31 Lake Forest Drive & Rockfield Boulevard:
 - Degrades from acceptable LOS B to unacceptable LOS E during the AM peak hour (under the ICU methodology).
- #36 Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota:
 - Degrades from acceptable LOS C to unacceptable LOS E during the PM peak hour (under the ICU methodology).
 - Degrades from acceptable LOS C to unacceptable LOS F during the PM peak hour (under the HCM methodology).
- #37 Paseo De Valencia & Avenida De La Carlota:
 - Operates at unacceptable LOS D during the PM peak hour under Existing conditions and delay increases by 2.0 or more seconds (under the HCM methodology).
- #38. El Toro Road & Bridger Road/I-5 NB Ramps:
 - Degrades from acceptable LOS B to unacceptable LOS E during the PM peak hour (under the ICU methodology).
 - Operates at unacceptable LOS D during the PM peak hour under Existing conditions and delay increases by 2.0 or more seconds and degrades to LOS E (under the HCM methodology).

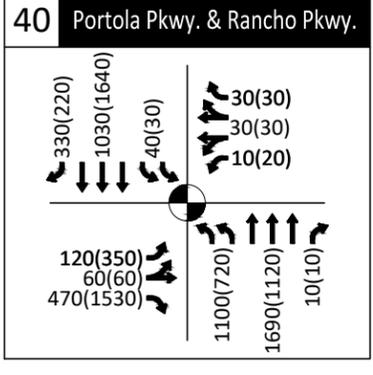
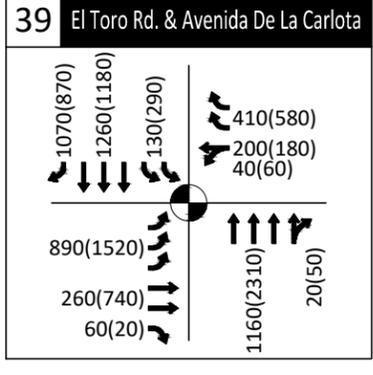
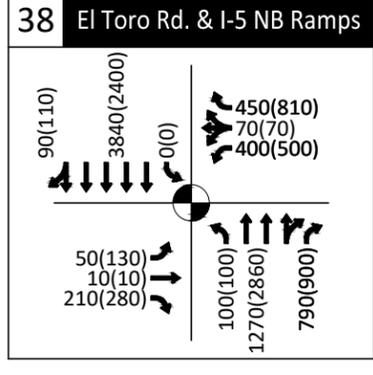
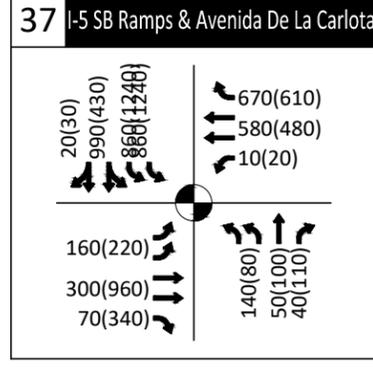
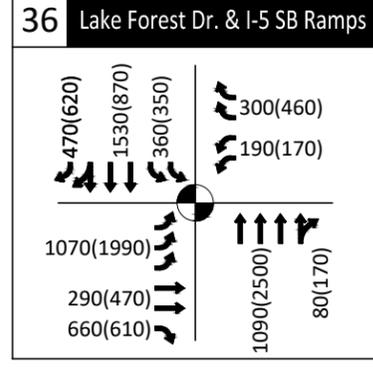
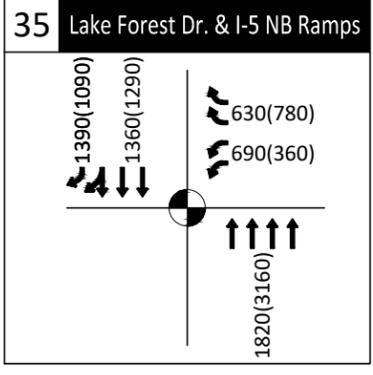
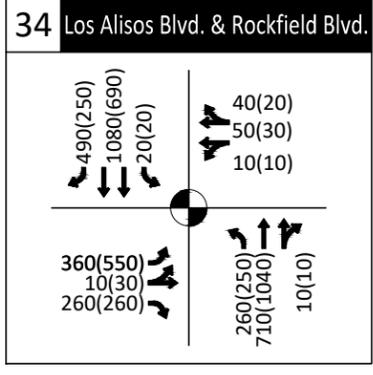
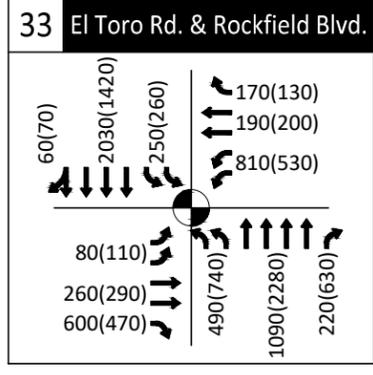
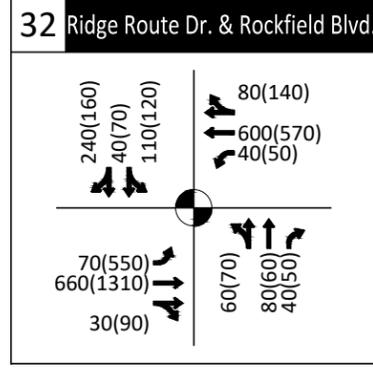
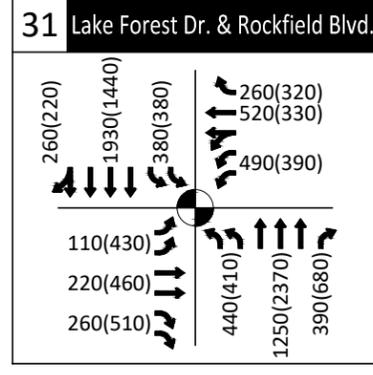
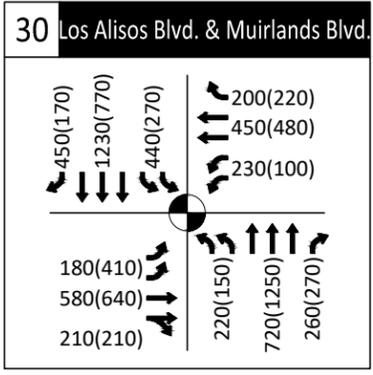
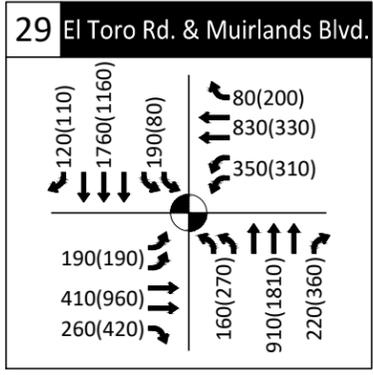
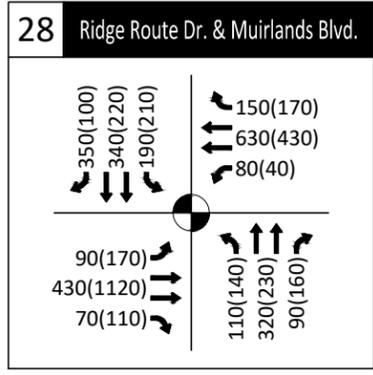
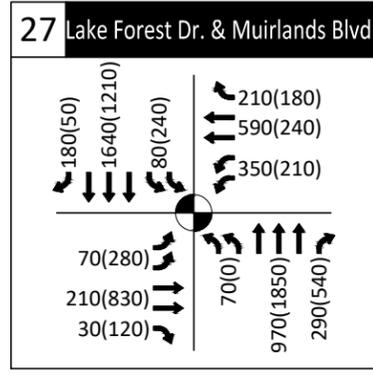
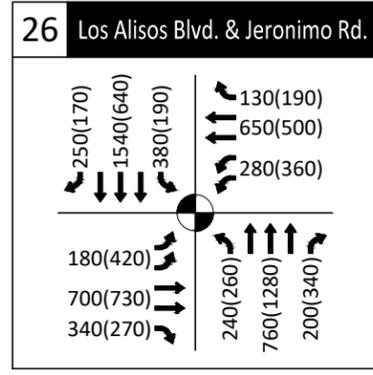
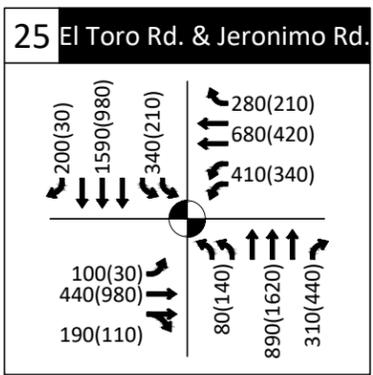
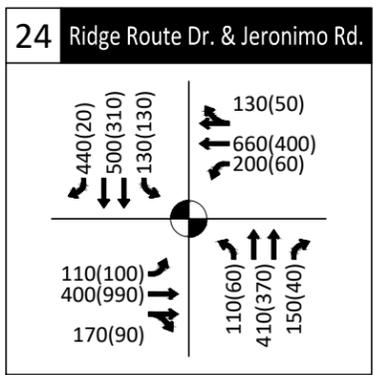
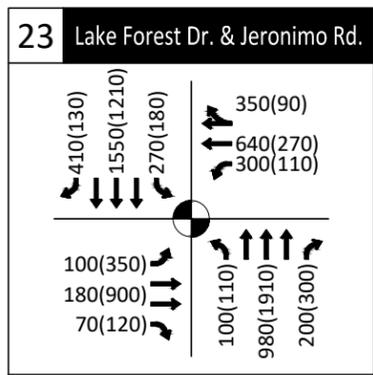
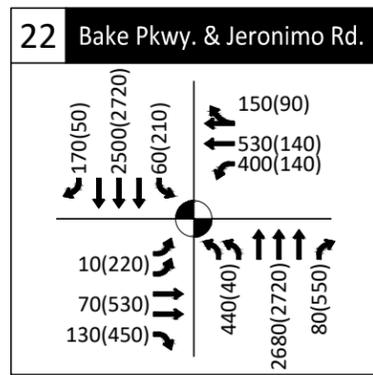
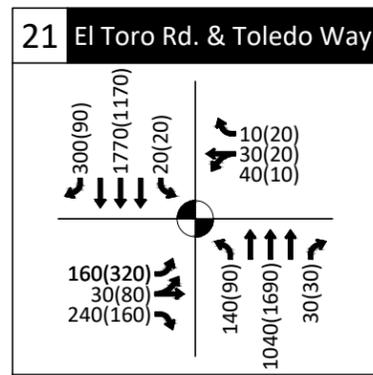
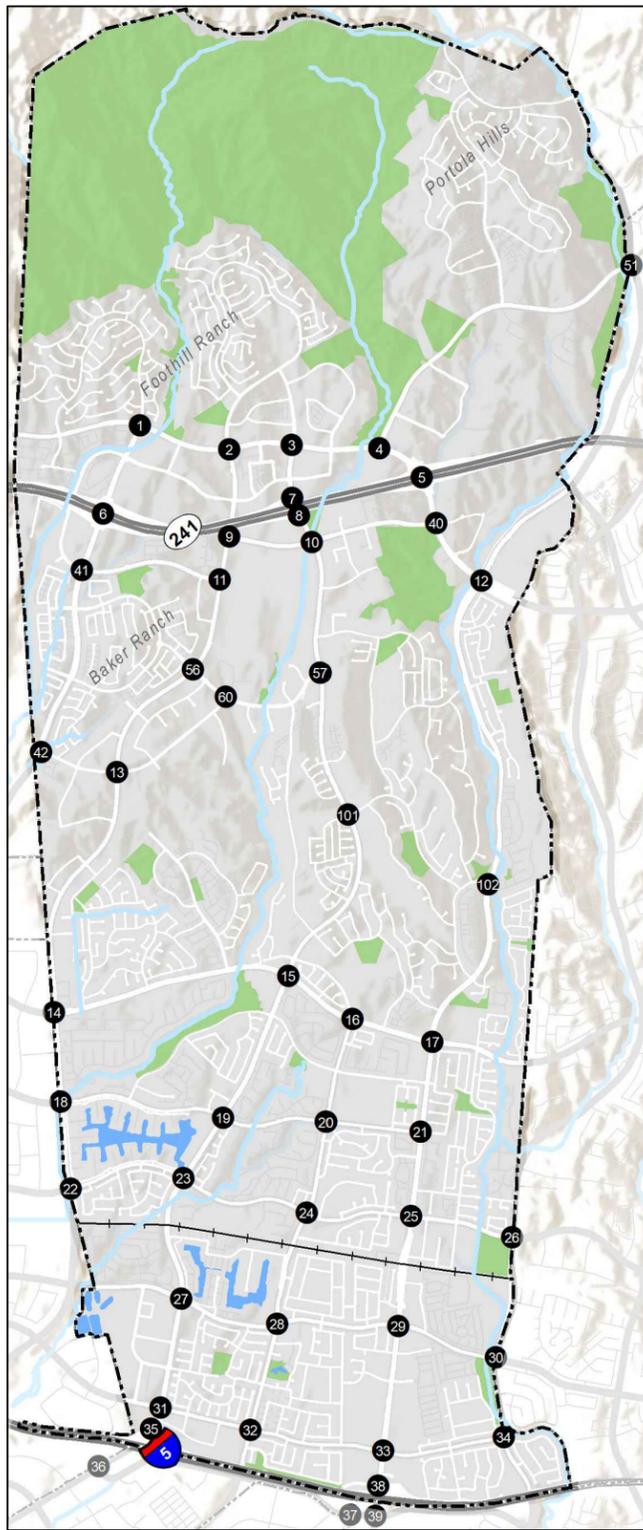


AM(PM) - Traffic Volume

- Traffic Signal

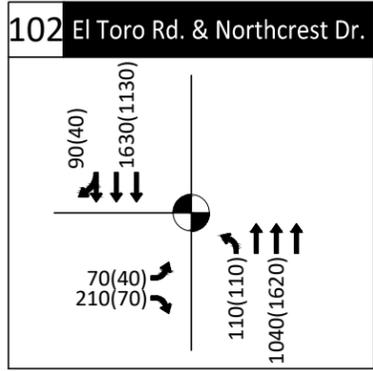
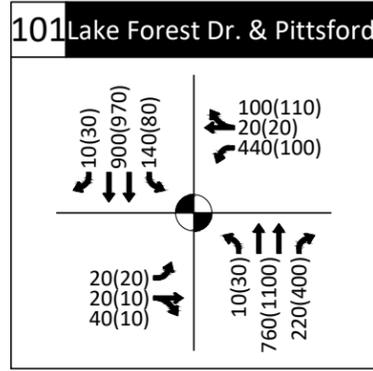
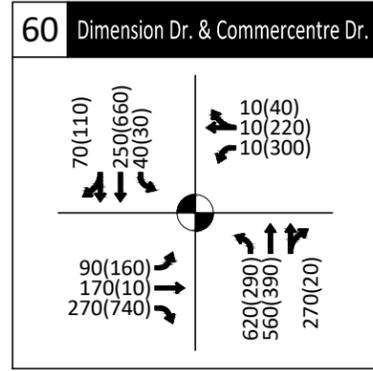
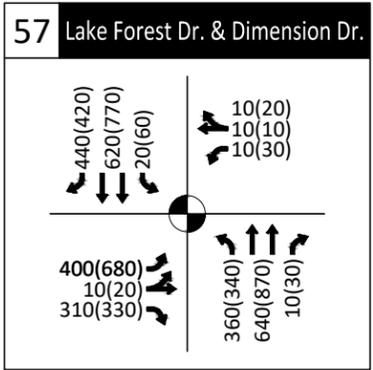
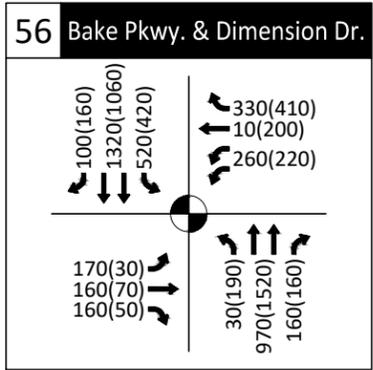
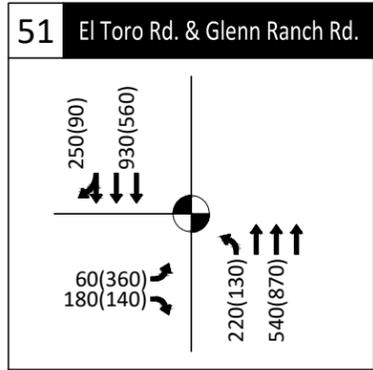
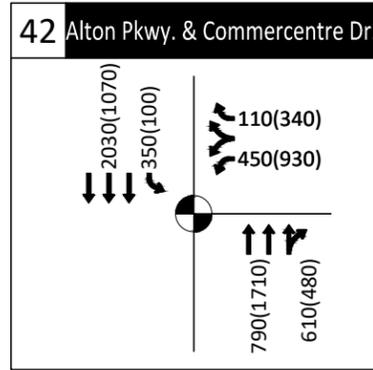
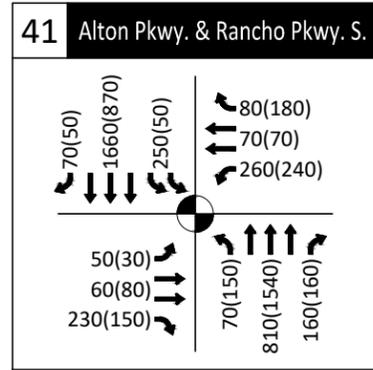
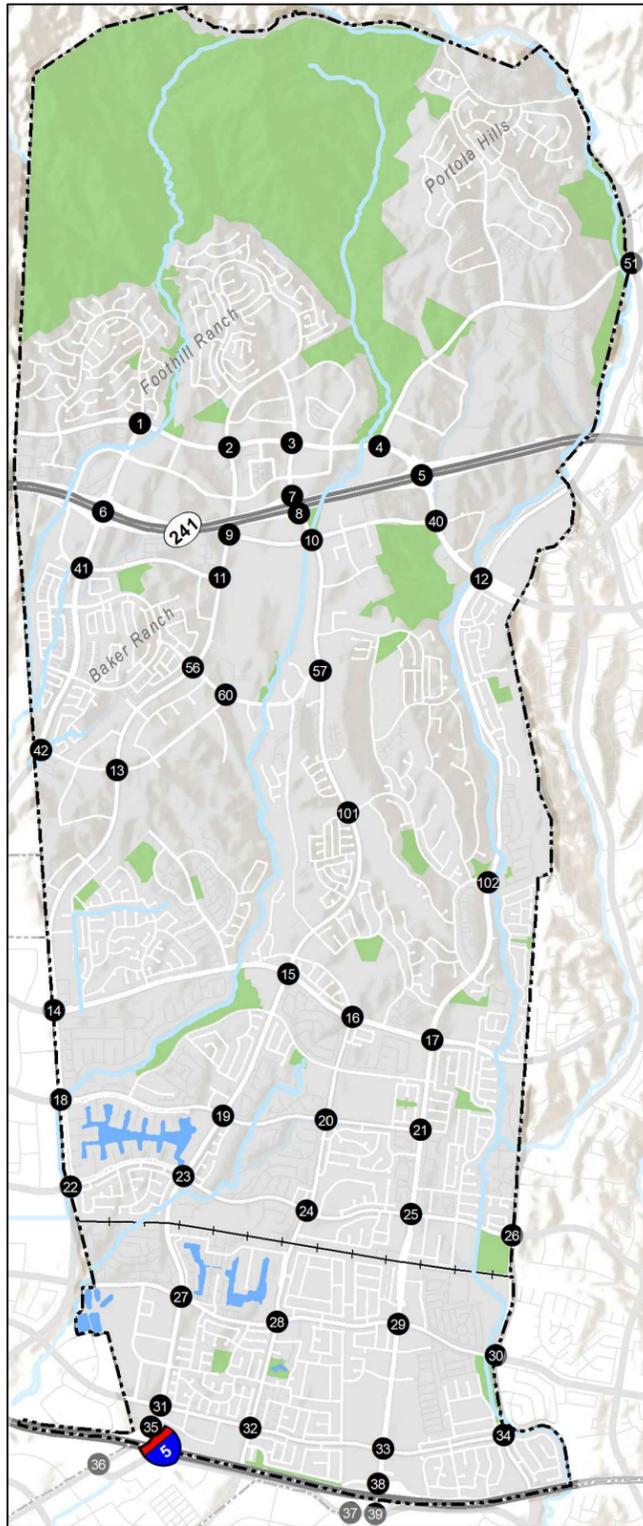
Cumulative (2040) Plus Plan AM & PM Peak Hour Traffic Volumes and Lane Geometries
Lake Forest, CA

Figure
9



AM(PM) - Traffic Volume
 - Traffic Signal

Cumulative (2040) Plus Plan AM & PM Peak Hour Traffic Volumes and Lane Geometries
 Lake Forest, CA



AM(PM) - Traffic Volume
 - Traffic Signal

Cumulative (2040) Plus Plan AM & PM Peak Hour Traffic Volumes and Lane Geometries
 Lake Forest, CA

RECOMMENDED IMPROVEMENTS

Based on the LOS analysis results and the operational standards outlined earlier in this chapter, recommended roadway segment and intersection improvements were developed to accommodate Cumulative (2040) Plus Plan traffic levels at acceptable levels, and to attain the City's goals for traffic flow and system efficiency.

Recommended Roadway Segment Improvements

Roadway segment improvements are recommended to accommodate daily traffic levels under the Cumulative (2040) Plus Plan scenario. These improvements consist of installing one or more through lanes on each segment. As land use projects throughout the City are approved and developed, the City should continue to monitor conditions along these segments to determine the appropriate timing and/or level of improvement along these facilities, and implement improvements as appropriate.

Portola Parkway, North of El Toro Road: Under Cumulative (2040) Plus Plan conditions, this segment degrades from acceptable LOS B to unacceptable LOS E at the daily level. With the addition of one more lane (seven total), this segment would operate acceptably at LOS C.

Bake Parkway, East of Commercentre Drive: Under Cumulative (2040) Plus Plan conditions, this segment degrades from acceptable LOS C to unacceptable LOS F at the daily level. With the addition of two more lanes (six total), this segment would operate acceptably at LOS C.

Bake Parkway, West of Commercentre Drive: Under Cumulative (2040) Plus Plan conditions, this segment degrades from acceptable LOS D to unacceptable LOS F at the daily level. With the addition of three more lanes (seven total), this segment would operate acceptably at LOS D.

Bake Parkway, West of Trabuco Road: Under Cumulative (2040) Plus Plan conditions, this segment degrades from acceptable LOS D to unacceptable LOS F at the daily level. With the addition of two more lanes (eight total), this segment would operate acceptably at LOS D.

Bake Parkway, West of Toledo Way: Under Cumulative (2040) Plus Plan conditions, this segment degrades from acceptable LOS D to unacceptable LOS F at the daily level. With the addition of two more lanes (eight total), this segment would operate acceptably at LOS D.

Lake Forest Drive, East of Trabuco Road: Under Cumulative (2040) Plus Plan conditions, this segment degrades from acceptable LOS D to unacceptable LOS F at the daily level. With the addition of one more lane (five total), this segment would operate acceptably at LOS D.

Lake Forest Drive, West of Rockfield Boulevard: This segment operates at unacceptable LOS F at the daily level under Existing conditions and the V/C increases by greater than 0.01 under Cumulative (2040) Plus Plan conditions. With the addition of two more lanes (eight total), this segment would operate at better than pre-project conditions at LOS E.

Recommended Intersection Improvements

Intersection improvements are recommended to accommodate AM and PM peak hours traffic levels under the Cumulative (2040) Plus Plan scenario under both the ICU and HCM methodologies. These improvements consist of either intersection lane geometry and/or signal timing changes. Similar to the recommended roadway segment improvements, as land use projects throughout the City are approved and developed, the City should continue to monitor conditions at these intersections to determine the appropriate timing and/or level of improvement along these facilities.

The following intersection improvements could be implemented with either restriping or minimal right-of-way acquisition and curb modifications:

#11 Bake Parkway & Rancho Parkway South: Under Cumulative (2040) Plus Plan conditions, this intersection degrades from acceptable LOS A to unacceptable LOS E during the AM peak hour (under the ICU methodology). The intersection would operate acceptably at LOS D (V/C ratio of 0.90) with the conversion of the outer southbound left turn lane to a southbound through lane, which could be accommodated with restriping.

#22 Bake Parkway & Jeronimo Road: Under Cumulative (2040) Plus Plan conditions, this intersection degrades from acceptable LOS C to unacceptable LOS E during the PM peak hour (under the ICU methodology). The intersection would operate acceptably at LOS D (V/C ratio of 0.89) with the installation of an additional westbound left turn lane; this improvement may require minor widening of the intersection's east leg.

#31 Lake Forest Drive & Rockfield Boulevard: Under Cumulative (2040) Plus Plan conditions, this intersection degrades from acceptable LOS B to unacceptable LOS E during the AM peak hour (under the ICU methodology). This intersection would operate acceptably at LOS D (V/C ratio of 0.88) with the conversion of the northbound right-turn lane to a northbound shared through-right lane; this improvement could be accommodated with restriping, and a receiving lane is available on the intersection's north leg.

The following intersection improvements may not be feasible due to jurisdictional and/or right-of-way concerns. The City should monitor conditions at these intersections and determine the level of feasible improvements possible at these locations, coordinating with relevant jurisdictions or agencies as needed.

#5 Portola Parkway & SR-241 Ramps: Under Cumulative (2040) Plus Plan conditions, this intersection degrades from acceptable LOS C to unacceptable LOS D during the AM and PM peak hours (under the HCM methodology). This intersection could operate acceptably at LOS C during both peak hours (32.0 and 33.0 seconds of delay) with the installation of a second eastbound left turn lane. This improvement may be infeasible due to the need to restructure/widen the off-ramp and is also under Caltrans jurisdiction.

#6 Alton Parkway & SR-241 Ramps: Under Cumulative (2040) Plus Plan conditions, this intersection degrades from acceptable LOS C to unacceptable LOS D during the AM peak hour (under the HCM

methodology). This intersection could operate acceptably at LOS C (30.7 seconds of delay) with the installation of a second eastbound left turn lane. While the intersection could accommodate the additional turn lane, this improvement may be infeasible due to the need to restructure/widen the receiving on-ramp; in addition, the intersection and on-ramp are under Caltrans jurisdiction.

#36 Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota: Under Cumulative (2040) Plus Plan conditions, this intersection degrades from acceptable LOS C to unacceptable LOS E during the PM peak hour (under the ICU methodology); the intersection also degrades from acceptable LOS C to unacceptable LOS F during the PM peak hour (under the HCM methodology). This intersection could operate acceptably under both methodologies (LOS D with a V/C of 0.90; LOS C with a delay of 31.7 seconds) with the implementation of the following improvements: add an eastbound right turn lane; add a northbound right turn lane with turn pocket; convert the inner southbound through lane to a left turn lane; add a southbound right turn lane; add a third westbound left turn lane; optimize signal timing splits. This improvement may be infeasible due to right-of-way constraints on additional turn lanes at this location, including for receiving lanes on the intersection's east leg; in addition, this intersection is under Caltrans jurisdiction.

#37 Paseo De Valencia & Avenida De La Carlota: This intersection operates at unacceptable LOS D during the PM peak hour under Existing conditions and delay increases by 2.0 or more seconds under Cumulative (2040) Plus Plan conditions (under the HCM methodology). This intersection could operate at pre-project conditions at LOS D (41.3 seconds of delay) with the conversion of the westbound through-left turn lane to a left turn lane, and signal timing optimization. While this improvement could be implemented with restriping and signal timing adjustments, it may be infeasible since the intersection is under Caltrans jurisdiction. It should be noted that this location is under study for future improvements by Caltrans and OCTA as part of the I-5/El Toro Road Interchange Project.

#38. El Toro Road & Bridger Road/I-5 NB Ramps: Under Cumulative (2040) Plus Plan conditions, this intersection degrades from acceptable LOS B to unacceptable LOS E during the PM peak hour (under the ICU methodology); this intersection also operates at unacceptable LOS D during the PM peak hour under Existing conditions and delay increases by 2.0 or more seconds and degrades to LOS E under Cumulative (2040) Plus Plan conditions (under the HCM methodology). This intersection could operate acceptably under the ICU methodology (LOS D with a V/C of 0.82) and better than pre-project conditions under the HCM methodology (LOS D with 40.1 seconds of delay) with the implementation of the following improvements: add an additional eastbound through lane; add an additional northbound right turn lane. This improvement may be infeasible due to physical constraints at the I-5 overpass; in addition, this intersection is under Caltrans jurisdiction. It should be noted that this location is under study for future improvements by Caltrans and OCTA as part of the I-5/El Toro Road Interchange Project.

Section 6
Transportation Impact Analysis

TRANSPORTATION IMPACT ANALYSIS

This transportation impact analysis assesses how the study area's transportation system would operate with the implementation of the City of Lake Forest General Plan Update. The potential impacts were identified based on a set of significance criteria based on the California Environmental Quality Act (CEQA) guidelines. The significance criteria are presented below after a discussion on traffic generated by the Specific Plan.

GENERAL PLAN TRAFFIC

The Plan proposes significant infill development in the city with a mix of uses, as noted below. Please note, the proposed land uses represent the full citywide buildout and include existing development in the city.

- 29,167 single family residential units
- 22,167 multi-family residential units
- Approximately 5,567,524 square feet of office uses
- Approximately 9,733,234 square feet of retail uses
- Approximately 12,425,826 square feet of other non-residential uses

In total, the General Plan would result in a buildout of approximately 51,334 housing units, 152,462 residents, 27,726,585 non-residential square feet, and 52,241 employees within the City's boundaries.

As noted in Section 5, daily, AM peak hour, and PM peak hour volume forecasts for the General Plan were developed using the OCTAM and LFTAM travel demand models. Trip generation specific to the General Plan can be derived from LFTAM, which computes weekday daily, weekday AM and weekday PM peak hour trips. Under Cumulative Plus Plan conditions, the plan area would generate approximately 830,313 daily trips on a typical weekday.

STANDARDS OF SIGNIFICANCE

For the purposes of this transportation impact analysis, a significant transportation impact would occur if implementation of the Plan would:

1. Increase VMT per person above No Project conditions.
2. Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

5. Result in inadequate emergency access.
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

VMT Thresholds

As part of the new CEQA Guidelines updated for SB 743, the new criteria to replace LOS “shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” OPR released a final advisory in December 2018, which provided guidance for implementing VMT analysis as the most appropriate metric to evaluate a project’s transportation impact. Therefore, this study assesses VMT (as opposed to LOS) to be consistent with requirements that will become mandatory on July 1, 2020.

The City of Lake Forest has not yet adopted guidelines on the appropriate metrics and thresholds of significance for SB 743-consistent VMT analysis. Therefore, this study assesses the changes in VMT per person between Cumulative (2040) No Project (Previous General Plan) and Cumulative (2040) Plus Plan (Proposed General Plan Update) to determine if the Plan would result in an increase in VMT per person in the city. Given that the Proposed General Plan Update consists of a land use and mobility plan with proposed changes at the citywide level, a threshold of no increase from the previous plan is appropriate to consider the effect of the plan on the environment. In particular, the Proposed General Plan update includes increases in residential, office, retail, and other land uses within the city. A threshold of no increase in VMT per capita and VMT per employee from the Previous General Plan indicates that the Proposed General Plan would maintain travel characteristics within the city and not result in longer travel distances. Consistent with OPR guidance, LFTAM was utilized to estimate the following metrics for comparison purposes:

- Residential VMT per person (Home-based trip VMT per resident in the city)
- Commuter VMT per person (Work-based trip VMT per employee in the city)

Congestion Management Program (CMP) Operations Thresholds

Under Cumulative (2040) Plus Plan conditions, CMP intersections were analyzed. As documented in Section 2, CMP intersections are analyzed using the ICU methodology (Table 6). The following intersections are CMP-designated intersections according to the Orange County CMP and to be analyzed under CMP standards:

- #17 – El Toro Road & Trabuco Road
- #38 – El Toro Road & Bridger Road/I-5 NB Ramps
- #39 – El Toro Road & Avenida De La Carlota (in Laguna Hills)

The maximum acceptable level of service under this analysis is LOS E. For these intersections, the impact would be considered significant if:

- Plan traffic would cause the LOS at an intersection to degrade from LOS E or better to LOS F, or

- Project traffic would increase V/C by more than 0.10 at an intersection operating LOS F under no project conditions.

ITEM 1: VMT

The residential and commuter VMT under the previous General Plan and the proposed General Plan Update for the city of Lake Forest are shown in Table 14. As shown in the table, the General Plan Update is not expected to increase VMT per person above No Project/previous General Plan conditions. In fact, home-based VMT per resident is expected to decrease by 4% and work-based VMT per employee is expected to decrease by approximately 6% under the proposed General Plan Update. Part of this reduction could be attributed to the increasing amounts of residential and employment opportunities within the city with the Proposed General Plan Update. For example, the increase of office, retail, and other uses within the City would decrease the need for Lake Forest residents to travel long distances inside and outside the City for their employment or other needs, resulting in shorter vehicular travel distances per capita. In addition, the increased amount of residential uses within would help serve the current and future employment base and thus reduce the amount of inter-city commuting required.

Table 14: Cumulative (2040) VMT Comparison

Statistic	Previous General Plan	Proposed General Plan Update	Change in VMT per Resident/Employee
<i>Home-Based VMT</i>			
Home-Based Trip VMT	1,966,070	2,531,888	- 4.2%
Total Residents	102,567	137,776	
Home-Based VMT per Resident	19.2	18.4	
<i>Work-Based VMT</i>			
Work-Based Trip VMT	1,413,984	1,425,619	- 6.2%
Total Employees	62,193	66,775	
Work-Based VMT per Employee	22.7	21.3	

Source: Stantec, Inc., 2019

As shown in Table 14, the proposed General Plan update is not expected to increase VMT per person above No Project conditions. Therefore, the VMT-related impacts of the Plan would be considered **less than significant**.

ITEM 2: CONGESTION MANAGEMENT PROGRAM

Orange County Congestion Management Program (CMP) intersections were analyzed to identify potential impacts of the Plan on the CMP system. LOS under the ICU methodology for the three CMP intersections in the study area are shown in Table 15.

Table 15: Cumulative (2040) Plus Plan Intersection Level of Service (CMP Intersections)

Intersection	Peak Hour	Existing		2040 Plus Plan		Change
		V/C	LOS	V/C	LOS	
17 El Toro Road & Trabuco Road	AM	0.62	B	0.68	B	0.06
	PM	0.60	A	0.69	B	0.09
38 El Toro Road & Bridger Road/I-5 NB Ramps	AM	0.63	B	0.78	C	0.15
	PM	0.66	B	0.96	E	0.30
39 El Toro Road & Avenida De La Carlota	AM	0.37	A	0.47	A	0.10
	PM	0.56	A	0.78	C	0.22

Source: Kittelson & Associates, Inc., 2019

As shown in Table 15, the CMP intersections are expected to operate acceptably (LOS E or better) under Cumulative (2040) Plus Project conditions. Therefore, the impacts of the Plan to CMP facilities would be considered **less than significant**.

ITEM 3: INFLUENCE AIR TRAVEL PATTERNS

While Lake Forest is located approximately 10 miles southeast of John Wayne Airport, the nature of the Plan as a local plan for residential and commercial development (including mixed-used development) within the city of Lake Forest is such that it would not result in a change in air traffic patterns. Therefore, the impacts of the Plan to air travel patterns would be considered **less than significant**.

ITEM 4: DESIGN AND INCOMPATIBLE USE HAZARDS

The types of uses included within the city of Lake Forest as part of the Plan are generally similar to existing and surrounding uses and thereby are compatible with the existing uses in the Plan area and in the surrounding area.

In addition, the Mobility Element developed as part of the General Plan update contains policies in support of roadway network safety and reducing design hazards, including:

- **M-1.3 Traffic Diversion.** Explore discouraging non-local traffic through neighborhoods and diverting traffic to arterial roadways using tools such as traffic control devices, restrictions, speed limits, and other strategies.
- **M-3.1 Transportation Improvements for All Users.** Strive to apply Complete Streets principles to new roadways and to new transportation improvements on City facilities to serve all types of travel (including pedestrians, bicyclists, motorists, public transportation, and goods movement) and all abilities.
- **M-3.2 Eliminating Gaps.** Continue to identify and address gaps in networks serving automobiles, bicyclists, pedestrians, transit users, equestrians, and other users. Remove man-made barriers to accessibility and connectivity.

- **M-3.3 ADA Accessibility.** Ensure the City's transportation network is safe, accessible, and consistent with the Americans with Disabilities Act (ADA), to allow impaired users, such as disabled persons and seniors, to safely travel within and beyond the city.
- **M-3.4 Safe Routes to School.** Work with the Saddleback Valley Unified School District and other schools in the City to establish a Safe Routes to School Program, encouraging parents and children to walk or bike to schools within the city.
- **M-3.5 Context Sensitivity.** Consider the land use and design context of the surrounding areas when designing Complete Streets.
- **M-5.2 Pedestrian Access Between Uses.** Improve pedestrian access between complementary uses such as residential and commercial areas.
- **M-5.4 Effective Roadway Projects.** Consider the implementation of active transportation improvements (such as high visibility crosswalks) when roadways are undergoing rehabilitation, resurfacing, or other modifications.
- **M-6.1 Speeds on Residential Streets.** Explore innovative ways to reduce vehicular speeds through residential neighborhoods to posted speed limits, such as implementing traffic calming strategies.
- **M-6.2 Speeds on Arterial Roadways.** Encourage programming and design strategies to maintain safe vehicular speeds on its arterial roadways.
- **M-6.3 Site Designs and Safety.** Ensure that development projects follow best design practices to reduce conflicts between multiple travel modes.
- **M-6.4 Bicyclist and Pedestrian Safety.** Develop safe and convenient bicycle and pedestrian facilities and crossings at key intersections and other locations.
- **M-6.5 Freeway Ramp Safety.** Encourage Caltrans and the Transportation Corridor Agencies (TCA) to provide safe pedestrian crossings and other facilities at freeway ramps in Lake Forest.
- **M-9.2 Roadway Design.** Maintain roadway design standards along City arterials to facilitate truck access to light industrial, manufacturing, commercial, and mixed-use areas along designated truck routes.

Therefore, the impact of the Plan with respect to design and incompatible use hazards would be considered **less than significant**.

ITEM 5: EMERGENCY ACCESS

The Plan is a programmatic level document; emergency accessibility is typically assessed at the project level. In addition, the Mobility Element developed as part of the General Plan update contains policies in support of emergency access along local roads, including:

- **M-1.2 New Development.** Work with developers to minimize the effects of new development on the local and regional transportation system.
- **M-1.6 Freeway Coordination.** Coordinate with Caltrans and Transportation Corridor Agencies (TCA) on matters such as:
 - Reducing the effects of I-5 and SR-241 ramp operations on City streets

- Participating in discussions pertaining to ramp improvements currently being studied and any future improvements in the vicinity of Lake Forest
- Encouraging freeway improvements that would ease local congestion
- **M-2.2 Intersection Capacity.** Monitor and improve capacity at key intersections in the City.
- **M-2.3 Monitoring and Implementing Improvements.** Monitor roadway operations and ensure that LFTM and other appropriate improvements are implemented in a timely manner.
- **M-2.4 Transportation System Efficiency.** Continue to maximize transportation network efficiency and minimize delay and congestion by investing in Traffic System Management (TSM) and signal maintenance and coordination.

Therefore, the impact of the Plan with respect to emergency access would be considered **less than significant**.

ITEM 6: TRANSIT, BICYCLE, OR PEDESTRIAN IMPACTS

The Mobility Element developed as part of the General Plan update contains several policies that support access to and the performance of transit, bicycle, and pedestrian facilities. These policies include:

- **M-3.1 Transportation Improvements for All Users.** Strive to apply Complete Streets principles to new roadways and to new transportation improvements on City facilities to serve all types of travel (including pedestrians, bicyclists, motorists, public transportation, and goods movement) and all abilities.
- **M-3.2 Eliminating Gaps.** Continue to identify and address gaps in networks serving automobiles, bicyclists, pedestrians, transit users, equestrians, and other users. Remove man-made barriers to accessibility and connectivity.
- **M-3.3 ADA Accessibility.** Ensure the City's transportation network is safe, accessible, and consistent with the Americans with Disabilities Act (ADA), to allow impaired users, such as disabled persons and seniors, to safely travel within and beyond the city.
- **M-3.4 Safe Routes to School.** Work with the Saddleback Valley Unified School District and other schools in the City to establish a Safe Routes to School Program, encouraging parents and children to walk or bike to schools within the city.
- **M-4.1 Public Transit Use.** Support programs encouraging public transit use by people living in, working in, or visiting Lake Forest.
- **M-4.2 New Transit Facilities.** Promote the provision of public transit and supportive transit facilities within areas of major development.
- **M-4.3 Improve Local Public Transit Service and Stops.** Work with OCTA to improve local transit service in the City and bus stop amenities along roads that have local transit service.
- **M-4.4 Paratransit Service.** Continue to support OCTA ACCESS paratransit and other special transit services in Lake Forest.
- **M-4.5 Regional Transit Connectivity.** Encourage OCTA to provide access and public transit service between Lake Forest and the Irvine Transportation Center and other regional-serving transportation centers.

- **M-4.6 Metrolink Service.** Monitor and participate in discussions pertaining to Metrolink service to encourage a level of service that meets Lake Forest's needs.
- **M-5.2 Pedestrian Access Between Uses.** Improve pedestrian access between complementary uses such as residential and commercial areas.
- **M-5.4 Effective Roadway Projects.** Consider the implementation of active transportation improvements (such as high visibility crosswalks) when roadways are undergoing rehabilitation, resurfacing, or other modifications.
- **M-5.5 Coordination with Adjacent Jurisdictions.** Coordinate with adjacent jurisdictions to ensure connected and consistent non-vehicular facilities.
- **M-6.3 Site Designs and Safety.** Ensure that development projects follow best design practices to reduce conflicts between multiple travel modes.
- **M-6.4 Bicyclist and Pedestrian Safety.** Develop safe and convenient bicycle and pedestrian facilities and crossings at key intersections and other locations.
- **M-6.5 Freeway Ramp Safety.** Encourage Caltrans and the Transportation Corridor Agencies (TCA) to provide safe pedestrian crossings and other facilities at freeway ramps in Lake Forest.

In addition, the Plan includes mixed-use development that is supportive of non-automotive modes.

Therefore, the impact of the Plan with respect to access to and performance of transit, bicycle, and pedestrian impacts would be considered **less than significant**.

Section 7
Conclusions and Recommendations

CONCLUSIONS AND RECOMMENDATIONS

This chapter outlines the findings documented in this report.

SIGNIFICANT TRANSPORTATION IMPACTS

The California Environmental Quality Act (CEQA) transportation impact analysis of the Plan found no significant impacts for the following topics:

- Vehicle Miles Traveled (VMT)
- Air Traffic
- Safety Hazards
- Emergency Access
- Public Transit, Bicycle, or Pedestrian Facilities

ROADWAY IMPROVEMENT RECOMMENDATIONS

In addition to the transportation analysis conducted under CEQA requirements, Kittelson analyzed roadway segment and intersection operations with Plan implementation, to address the City's goal of providing satisfactory roadway operations and traffic flow within Lake Forest. Recommended improvements on these facilities were provided to accommodate long-term buildout of vehicular traffic. It is recommended that the City continue to monitor traffic volumes on these and other roadway facilities to determine the timing and extent of any improvements as development projects are implemented in the city.

The three roadway segments with recommended improvements are as follows:

- Portola Parkway
- Bake Parkway
- Lake Forest Drive

The eight intersections with recommended improvements are as follows:

- Portola Parkway & SR-241 Ramps
- Alton Parkway & SR-241 Ramps
- Bake Parkway & Rancho Parkway South
- Bake Parkway & Jeronimo Road
- Lake Forest Drive & Rockfield Boulevard
- Lake Forest Drive & I-5 SB Ramps/Avenida De La Carlota
- Paseo De Valencia & Avenida De La Carlota
- El Toro Road & Bridger Road/I-5 NB Ramps

Appendix 1: Existing Traffic Count Data

VOLUME

Trabuco Rd W/O Lake Forest Dr

Day: Tuesday
 Date: 4/17/2018

City: Lake Forest
 Project #: CA18_1076_001

DAILY TOTALS						NB	SB	EB	WB	Total					
						0	0	11,354	10,181	21,535					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL				
00:00	0	0	21	12	33	12:00	0	0	173	146	319				
00:15	0	0	15	15	30	12:15	0	0	160	152	312				
00:30	0	0	18	9	27	12:30	0	0	137	159	296				
00:45	0	0	14	68	11	47	12:45	0	0	176	646	174	631	350	1277
01:00	0	0	19	14	33	13:00	0	0	160	165	325				
01:15	0	0	12	11	23	13:15	0	0	136	167	303				
01:30	0	0	4	5	9	13:30	0	0	156	125	281				
01:45	0	0	6	41	2	32	13:45	0	0	177	629	137	594	314	1223
02:00	0	0	3	5	8	14:00	0	0	196	137	333				
02:15	0	0	5	3	8	14:15	0	0	184	153	337				
02:30	0	0	4	2	6	14:30	0	0	178	188	366				
02:45	0	0	4	16	1	11	14:45	0	0	215	773	164	642	379	1415
03:00	0	0	7	5	12	15:00	0	0	222	158	380				
03:15	0	0	4	2	6	15:15	0	0	200	208	408				
03:30	0	0	6	10	16	15:30	0	0	212	171	383				
03:45	0	0	8	25	12	29	15:45	0	0	249	883	183	720	432	1603
04:00	0	0	8	12	20	16:00	0	0	227	152	379				
04:15	0	0	11	7	18	16:15	0	0	228	175	403				
04:30	0	0	17	18	35	16:30	0	0	280	164	444				
04:45	0	0	19	55	34	71	16:45	0	0	276	1011	187	678	463	1689
05:00	0	0	12	25	37	17:00	0	0	327	192	519				
05:15	0	0	25	27	52	17:15	0	0	323	198	521				
05:30	0	0	33	64	97	17:30	0	0	286	217	503				
05:45	0	0	54	124	75	191	17:45	0	0	274	1210	173	780	447	1990
06:00	0	0	43	75	118	18:00	0	0	273	172	445				
06:15	0	0	56	91	147	18:15	0	0	260	158	418				
06:30	0	0	93	118	211	18:30	0	0	207	174	381				
06:45	0	0	187	379	139	423	18:45	0	0	204	944	145	649	349	1593
07:00	0	0	131	190	321	19:00	0	0	164	155	319				
07:15	0	0	138	209	347	19:15	0	0	152	121	273				
07:30	0	0	218	215	433	19:30	0	0	120	117	237				
07:45	0	0	247	734	231	845	19:45	0	0	96	532	131	524	227	1056
08:00	0	0	170	216	386	20:00	0	0	107	101	208				
08:15	0	0	225	259	484	20:15	0	0	124	103	227				
08:30	0	0	173	233	406	20:30	0	0	107	103	210				
08:45	0	0	132	700	193	901	20:45	0	0	94	432	84	391	178	823
09:00	0	0	131	151	282	21:00	0	0	99	72	171				
09:15	0	0	129	132	261	21:15	0	0	76	100	176				
09:30	0	0	128	133	261	21:30	0	0	72	83	155				
09:45	0	0	130	518	119	535	21:45	0	0	66	313	39	294	105	607
10:00	0	0	127	105	232	22:00	0	0	53	59	112				
10:15	0	0	109	123	232	22:15	0	0	46	31	77				
10:30	0	0	109	106	215	22:30	0	0	41	35	76				
10:45	0	0	124	469	120	454	22:45	0	0	35	175	36	161	71	336
11:00	0	0	123	107	230	23:00	0	0	26	25	51				
11:15	0	0	136	105	241	23:15	0	0	25	34	59				
11:30	0	0	174	130	304	23:30	0	0	32	28	60				
11:45	0	0	147	580	132	474	23:45	0	0	14	97	17	104	31	201
TOTALS			3709	4013	7722	TOTALS			7645	6168	13813				
SPLIT %			48.0%	52.0%	35.9%	SPLIT %			55.3%	44.7%	64.1%				

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	11,354	10,181	21,535

AM Peak Hour		07:30	07:45	07:30	PM Peak Hour		16:45	16:45	16:45		
AM Pk Volume		860	939	1781	PM Pk Volume		1212	794	2006		
Pk Hr Factor		0.870	0.906	0.920	Pk Hr Factor		0.927	0.915	0.963		
7 - 9 Volume	0	0	1434	1746	3180	4 - 6 Volume	0	0	2221	1458	3679
7 - 9 Peak Hour		07:30	07:45	07:30	4 - 6 Peak Hour		16:45	16:45	16:45	16:45	
7 - 9 Pk Volume	0	0	860	939	1781	4 - 6 Pk Volume	0	0	1212	794	2006
Pk Hr Factor	0.000	0.000	0.870	0.906	0.920	Pk Hr Factor	0.000	0.000	0.927	0.915	0.963

VOLUME

Trabuco Rd W/O Ridge Route Dr

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_002

DAILY TOTALS						NB	SB	EB	WB	Total				
						0	0	11,766	10,570	22,336				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			23	10	33	12:00			178	146	324			
00:15			11	11	22	12:15			210	165	375			
00:30			19	15	34	12:30			153	196	349			
00:45			17	70	7	12:45			171	712	188	695	359	1407
01:00			7	3	10	13:00			195	149	344			
01:15			12	2	14	13:15			159	146	305			
01:30			5	2	7	13:30			181	134	315			
01:45			14	38	3	13:45			170	705	163	592	333	1297
02:00			4	7	11	14:00			183	154	337			
02:15			3	4	7	14:15			176	176	352			
02:30			6	4	10	14:30			186	188	374			
02:45			5	18	1	14:45			214	759	162	680	376	1439
03:00			6	2	8	15:00			193	213	406			
03:15			4	4	8	15:15			238	195	433			
03:30			12	12	24	15:30			206	177	383			
03:45			5	27	12	15:45			228	865	145	730	373	1595
04:00			5	12	17	16:00			244	140	384			
04:15			5	15	20	16:15			288	160	448			
04:30			11	22	33	16:30			284	128	412			
04:45			18	39	27	16:45			306	1122	189	617	495	1739
05:00			15	34	49	17:00			338	174	512			
05:15			27	40	67	17:15			353	190	543			
05:30			34	56	90	17:30			363	154	517			
05:45			31	107	88	17:45			356	1410	185	703	541	2113
06:00			32	73	105	18:00			301	154	455			
06:15			53	99	152	18:15			278	174	452			
06:30			57	146	203	18:30			272	153	425			
06:45			79	221	196	18:45			221	1072	147	628	368	1700
07:00			101	203	304	19:00			184	136	320			
07:15			94	259	353	19:15			200	109	309			
07:30			145	245	390	19:30			186	105	291			
07:45			153	493	347	19:45			141	711	96	446	237	1157
08:00			151	265	416	20:00			154	86	240			
08:15			155	318	473	20:15			130	85	215			
08:30			140	263	403	20:30			145	84	229			
08:45			128	574	236	20:45			120	549	94	349	214	898
09:00			129	176	305	21:00			108	75	183			
09:15			101	141	242	21:15			92	69	161			
09:30			109	149	258	21:30			108	55	163			
09:45			117	456	142	21:45			65	373	60	259	125	632
10:00			108	157	265	22:00			69	54	123			
10:15			112	156	268	22:15			61	31	92			
10:30			100	114	214	22:30			48	24	72			
10:45			109	429	116	22:45			44	222	21	130	65	352
11:00			148	101	249	23:00			47	24	71			
11:15			187	94	281	23:15			32	18	50			
11:30			156	137	293	23:30			34	17	51			
11:45			169	660	143	23:45			21	134	13	72	34	206
TOTALS				3132	4669	7801	TOTALS			8634	5901	14535		
SPLIT %				40.1%	59.9%	34.9%	SPLIT %			59.4%	40.6%	65.1%		

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	11,766	10,570	22,336	
AM Peak Hour			11:30	07:45	07:45	PM Peak Hour			17:00	14:30	17:00
AM Pk Volume			713	1193	1792	PM Pk Volume			1410	758	2113
Pk Hr Factor			0.849	0.860	0.896	Pk Hr Factor			0.971	0.890	0.973
7 - 9 Volume	0	0	1067	2136	3203	4 - 6 Volume	0	0	2532	1320	3852
7 - 9 Peak Hour			07:30	07:45	07:45	4 - 6 Peak Hour			17:00	16:45	17:00
7 - 9 Pk Volume	0	0	604	1193	1792	4 - 6 Pk Volume	0	0	1410	707	2113
Pk Hr Factor	0.000	0.000	0.974	0.860	0.896	Pk Hr Factor	0.000	0.000	0.971	0.930	0.973

VOLUME

Trabuco Rd W/O El Toro Rd

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_003

DAILY TOTALS						NB	SB	EB	WB	Total				
						0	0	13,113	11,994	25,107				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			21	10	31	12:00			199	171	370			
00:15			14	14	28	12:15			219	186	405			
00:30			19	14	33	12:30			234	184	418			
00:45			18	72	9	47	12:45		198	850	210	751	408	1601
01:00			7	8	15	13:00			203	175	378			
01:15			11	3	14	13:15			172	189	361			
01:30			8	2	10	13:30			201	159	360			
01:45			12	38	4	17	13:45		184	760	192	715	376	1475
02:00			10	6	16	14:00			186	183	369			
02:15			5	5	10	14:15			234	170	404			
02:30			6	6	12	14:30			198	222	420			
02:45			6	27	2	19	14:45		238	856	223	798	461	1654
03:00			5	7	12	15:00			249	236	485			
03:15			9	6	15	15:15			287	169	456			
03:30			12	12	24	15:30			237	191	428			
03:45			10	36	15	40	15:45		238	1011	183	779	421	1790
04:00			6	10	16	16:00			262	187	449			
04:15			8	13	21	16:15			306	202	508			
04:30			13	16	29	16:30			320	163	483			
04:45			20	47	34	73	16:45		330	1218	220	772	550	1990
05:00			15	27	42	17:00			351	193	544			
05:15			24	39	63	17:15			382	232	614			
05:30			38	63	101	17:30			404	179	583			
05:45			33	110	87	216	17:45		379	1516	225	829	604	2345
06:00			35	66	101	18:00			358	201	559			
06:15			61	102	163	18:15			327	198	525			
06:30			61	147	208	18:30			312	177	489			
06:45			87	244	200	515	18:45		265	1262	184	760	449	2022
07:00			113	214	327	19:00			217	174	391			
07:15			98	250	348	19:15			214	130	344			
07:30			153	262	415	19:30			191	139	330			
07:45			222	586	383	1109	19:45		155	777	125	568	280	1345
08:00			178	291	469	20:00			168	119	287			
08:15			185	320	505	20:15			150	106	256			
08:30			149	269	418	20:30			169	115	284			
08:45			146	658	258	1138	20:45		115	602	115	455	230	1057
09:00			145	185	330	21:00			111	84	195			
09:15			113	154	267	21:15			93	90	183			
09:30			127	164	291	21:30			112	71	183			
09:45			127	512	129	632	21:45		67	383	66	311	133	694
10:00			151	151	302	22:00			69	68	137			
10:15			126	147	273	22:15			55	49	104			
10:30			116	133	249	22:30			49	38	87			
10:45			121	514	139	570	22:45		40	213	31	186	71	399
11:00			157	136	293	23:00			47	31	78			
11:15			167	132	299	23:15			32	20	52			
11:30			176	171	347	23:30			29	18	47			
11:45			196	696	170	609	23:45		17	125	16	85	33	210
TOTALS			3540	4985	8525	TOTALS			9573	7009	16582			
SPLIT %			41.5%	58.5%	34.0%	SPLIT %			57.7%	42.3%	66.0%			

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	13,113	11,994	25,107	
AM Peak Hour			11:45	07:45	07:45	PM Peak Hour			17:15	14:15	17:15
AM Pk Volume			848	1263	1997	PM Pk Volume			1523	851	2360
Pk Hr Factor			0.906	0.824	0.825	Pk Hr Factor			0.942	0.901	0.961
7 - 9 Volume	0	0	1244	2247	3491	4 - 6 Volume	0	0	2734	1601	4335
7 - 9 Peak Hour			07:30	07:45	07:45	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	738	1263	1997	4 - 6 Pk Volume	0	0	1516	829	2345
Pk Hr Factor	0.000	0.000	0.831	0.824	0.825	Pk Hr Factor	0.000	0.000	0.938	0.893	0.955

VOLUME

Trabuco Rd E/O El Toro Rd

Day: Tuesday
 Date: 4/17/2018

City: Lake Forest
 Project #: CA18_1076_004

DAILY TOTALS					NB	SB	EB	WB	Total						
					0	0	10,526	11,204	21,730						
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL				
00:00	0	0	17	12	29	12:00	0	0	157	162	319				
00:15	0	0	13	14	27	12:15	0	0	151	138	289				
00:30	0	0	17	10	27	12:30	0	0	127	199	326				
00:45	0	0	9	56	6	42	12:45	0	0	132	567	177	676	309	1243
01:00	0	0	7	5	12	13:00	0	0	153	150	303				
01:15	0	0	5	3	8	13:15	0	0	126	160	286				
01:30	0	0	10	0	10	13:30	0	0	135	161	296				
01:45	0	0	8	30	2	10	13:45	0	0	127	541	191	662	318	1203
02:00	0	0	3	4	7	14:00	0	0	166	157	323				
02:15	0	0	6	5	11	14:15	0	0	180	153	333				
02:30	0	0	2	5	7	14:30	0	0	166	179	345				
02:45	0	0	3	14	2	16	14:45	0	0	204	716	194	683	398	1399
03:00	0	0	8	3	11	15:00	0	0	217	209	426				
03:15	0	0	1	5	6	15:15	0	0	240	182	422				
03:30	0	0	4	9	13	15:30	0	0	260	185	445				
03:45	0	0	9	22	14	31	15:45	0	0	208	925	180	756	388	1681
04:00	0	0	5	12	17	16:00	0	0	238	182	420				
04:15	0	0	5	13	18	16:15	0	0	250	156	406				
04:30	0	0	4	32	36	16:30	0	0	278	159	437				
04:45	0	0	13	27	23	80	16:45	0	0	264	1030	211	708	475	1738
05:00	0	0	4	32	36	17:00	0	0	302	178	480				
05:15	0	0	15	38	53	17:15	0	0	406	185	591				
05:30	0	0	18	66	84	17:30	0	0	323	163	486				
05:45	0	0	23	60	71	207	17:45	0	0	281	1312	196	722	477	2034
06:00	0	0	22	78	100	18:00	0	0	291	167	458				
06:15	0	0	40	108	148	18:15	0	0	248	160	408				
06:30	0	0	52	128	180	18:30	0	0	235	144	379				
06:45	0	0	62	176	199	513	18:45	0	0	228	1002	143	614	371	1616
07:00	0	0	107	205	312	19:00	0	0	197	148	345				
07:15	0	0	84	267	351	19:15	0	0	177	141	318				
07:30	0	0	154	261	415	19:30	0	0	145	109	254				
07:45	0	0	203	548	350	1083	19:45	0	0	127	646	115	513	242	1159
08:00	0	0	196	339	535	20:00	0	0	129	101	230				
08:15	0	0	159	329	488	20:15	0	0	107	98	205				
08:30	0	0	161	307	468	20:30	0	0	100	95	195				
08:45	0	0	109	625	245	1220	20:45	0	0	83	419	90	384	173	803
09:00	0	0	98	170	268	21:00	0	0	75	85	160				
09:15	0	0	87	154	241	21:15	0	0	99	81	180				
09:30	0	0	90	151	241	21:30	0	0	68	62	130				
09:45	0	0	114	389	178	653	21:45	0	0	59	301	57	285	116	586
10:00	0	0	85	165	250	22:00	0	0	58	48	106				
10:15	0	0	89	114	203	22:15	0	0	47	55	102				
10:30	0	0	80	121	201	22:30	0	0	37	34	71				
10:45	0	0	108	362	134	534	22:45	0	0	39	181	25	162	64	343
11:00	0	0	103	139	242	23:00	0	0	30	23	53				
11:15	0	0	122	135	257	23:15	0	0	37	20	57				
11:30	0	0	125	150	275	23:30	0	0	26	16	42				
11:45	0	0	115	465	153	577	23:45	0	0	19	112	14	73	33	185
TOTALS			2774	4966	7740	TOTALS			7752	6238	13990				
SPLIT %			35.8%	64.2%	35.6%	SPLIT %			55.4%	44.6%	64.4%				

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	10,526	11,204	21,730		
AM Peak Hour			07:45	07:45	07:45	PM Peak Hour			17:00	14:45	17:00
AM Pk Volume			719	1325	2044	PM Pk Volume			1312	770	2034
Pk Hr Factor			0.885	0.946	0.924	Pk Hr Factor			0.808	0.921	0.860
7 - 9 Volume	0	0	1173	2303	3476	4 - 6 Volume	0	0	2342	1430	3772
7 - 9 Peak Hour			07:45	07:45	07:45	4 - 6 Peak Hour			17:00	16:45	17:00
7 - 9 Pk Volume	0	0	719	1325	2044	4 - 6 Pk Volume	0	0	1312	737	2034
Pk Hr Factor	0.000	0.000	0.885	0.946	0.924	Pk Hr Factor	0.000	0.000	0.808	0.873	0.860

VOLUME

Toledo Way W/O Lake Forest Dr

Day: Tuesday
Date: 4/17/2018

City: Lake Forest
Project #: CA18_1076_005

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	3,555	2,508	6,063		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			10	5	15	12:00			55	34	89	
00:15			3	1	4	12:15			44	41	85	
00:30			2	1	3	12:30			68	40	108	
00:45			3	18	0	12:45			43	210	48	163
01:00			0	2	2	13:00			43	47	90	
01:15			2	1	3	13:15			41	36	77	
01:30			0	0	0	13:30			45	31	76	
01:45			2	4	0	13:45			42	171	42	156
02:00			0	0	0	14:00			43	33	76	
02:15			1	0	1	14:15			47	54	101	
02:30			0	2	2	14:30			62	30	92	
02:45			0	1	0	14:45			61	213	32	149
03:00			0	0	0	15:00			82	63	145	
03:15			0	0	0	15:15			62	53	115	
03:30			2	2	4	15:30			66	46	112	
03:45			1	3	4	15:45			64	274	30	192
04:00			0	2	2	16:00			65	24	89	
04:15			0	4	4	16:15			75	33	108	
04:30			2	2	4	16:30			105	40	145	
04:45			3	5	11	16:45			107	352	31	128
05:00			6	5	11	17:00			136	29	165	
05:15			4	6	10	17:15			139	42	181	
05:30			8	19	27	17:30			150	32	182	
05:45			13	31	24	17:45			127	552	37	140
06:00			10	22	32	18:00			101	33	134	
06:15			11	12	23	18:15			71	30	101	
06:30			16	22	38	18:30			88	17	105	
06:45			22	59	47	18:45			78	338	36	116
07:00			21	57	78	19:00			50	36	86	
07:15			36	81	117	19:15			45	23	68	
07:30			44	59	103	19:30			62	25	87	
07:45			46	147	100	19:45			40	197	21	105
08:00			50	111	161	20:00			27	38	65	
08:15			49	104	153	20:15			38	25	63	
08:30			35	56	91	20:30			38	15	53	
08:45			41	175	44	20:45			19	122	19	97
09:00			21	33	54	21:00			26	22	48	
09:15			46	36	82	21:15			32	16	48	
09:30			34	31	65	21:30			20	10	30	
09:45			42	143	41	21:45			36	114	14	62
10:00			50	35	85	22:00			34	14	48	
10:15			38	33	71	22:15			10	8	18	
10:30			26	23	49	22:30			12	5	17	
10:45			49	163	11	22:45			10	66	4	31
11:00			50	26	76	23:00			9	3	12	
11:15			43	26	69	23:15			5	4	9	
11:30			47	21	68	23:30			5	2	7	
11:45			36	176	35	23:45			2	21	3	12
TOTALS			925	1157	2082	TOTALS			2630	1351	3981	
SPLIT %			44.4%	55.6%	34.3%	SPLIT %			66.1%	33.9%	65.7%	

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	3,555	2,508	6,063

AM Peak Hour			11:45	07:30	07:30	PM Peak Hour			17:00	14:45	17:00
AM Pk Volume			203	374	563	PM Pk Volume			552	194	692
Pk Hr Factor			0.746	0.842	0.874	Pk Hr Factor			0.920	0.770	0.951
7 - 9 Volume	0	0	322	612	934	4 - 6 Volume	0	0	904	268	1172
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	16:30	17:00
7 - 9 Pk Volume	0	0	189	374	563	4 - 6 Pk Volume	0	0	552	142	692
Pk Hr Factor	0.000	0.000	0.945	0.842	0.874	Pk Hr Factor	0.000	0.000	0.920	0.845	0.951

VOLUME

Toledo Way E/O Lake Forest Dr

Day: Tuesday
Date: 4/24/2018

City: Lake Forest
Project #: CA18_1076_006

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	3,202	2,610	5,812	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			7	2	9	12:00			40	29	69
00:15			3	0	3	12:15			46	32	78
00:30			3	0	3	12:30			46	61	107
00:45			1	14	15	12:45			34	166	200
01:00			3	0	3	13:00			36	33	69
01:15			1	1	2	13:15			53	24	77
01:30			0	2	2	13:30			36	33	69
01:45			1	5	6	13:45			53	178	231
02:00			1	1	2	14:00			57	31	88
02:15			0	0	0	14:15			55	62	117
02:30			0	1	1	14:30			57	37	94
02:45			2	3	5	14:45			55	224	279
03:00			2	0	2	15:00			79	80	159
03:15			0	1	1	15:15			71	63	134
03:30			2	3	5	15:30			50	40	90
03:45			2	6	8	15:45			58	258	316
04:00			0	1	1	16:00			83	39	122
04:15			2	1	3	16:15			74	23	97
04:30			5	1	6	16:30			71	30	101
04:45			1	8	9	16:45			86	314	400
05:00			2	12	14	17:00			119	26	145
05:15			1	15	16	17:15			152	28	180
05:30			3	20	23	17:30			94	28	122
05:45			4	10	14	17:45			116	481	597
06:00			8	22	30	18:00			77	35	112
06:15			14	20	34	18:15			69	23	92
06:30			27	35	62	18:30			78	39	117
06:45			48	97	145	18:45			64	288	352
07:00			41	102	143	19:00			61	26	87
07:15			35	81	116	19:15			41	23	64
07:30			62	84	146	19:30			44	20	64
07:45			84	222	306	19:45			30	176	206
08:00			49	110	159	20:00			40	23	63
08:15			41	99	140	20:15			36	13	49
08:30			24	54	78	20:30			35	12	47
08:45			33	147	180	20:45			31	142	173
09:00			16	28	44	21:00			28	15	43
09:15			19	32	51	21:15			25	21	46
09:30			25	25	50	21:30			25	13	38
09:45			16	76	92	21:45			23	101	124
10:00			19	39	58	22:00			16	5	21
10:15			24	32	56	22:15			16	9	25
10:30			31	25	56	22:30			11	9	20
10:45			27	101	128	22:45			10	53	63
11:00			21	17	38	23:00			13	6	19
11:15			14	20	34	23:15			8	8	16
11:30			30	26	56	23:30			4	8	12
11:45			35	100	135	23:45			7	32	39
TOTALS			789	1290	2079	TOTALS			2413	1320	3733
SPLIT %			38.0%	62.0%	35.8%	SPLIT %			64.6%	35.4%	64.2%

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	3,202	2,610	5,812	
AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			17:00	14:45	17:00
AM Pk Volume			236	418	654	PM Pk Volume			481	237	599
Pk Hr Factor			0.702	0.836	0.782	Pk Hr Factor			0.791	0.741	0.832
7 - 9 Volume	0	0	369	709	1078	4 - 6 Volume	0	0	795	241	1036
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	16:00	17:00
7 - 9 Pk Volume	0	0	236	418	654	4 - 6 Pk Volume	0	0	481	123	599
Pk Hr Factor	0.000	0.000	0.702	0.836	0.782	Pk Hr Factor	0.000	0.000	0.791	0.788	0.832

VOLUME

Toledo Way E/O Ridge Route Dr

Day: Tuesday
Date: 4/17/2018

City: Lake Forest
Project #: CA18_1076_007

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	3,289	2,696	5,985		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			4	1	5	12:00			35	24	59	
00:15			2	1	3	12:15			43	44	87	
00:30			2	2	4	12:30			61	83	144	
00:45			1	9	0	12:45			41	180	33	184
01:00			1	1	2	13:00			44	43	87	
01:15			0	0	0	13:15			47	48	95	
01:30			0	1	1	13:30			34	57	91	
01:45			2	3	0	13:45			35	160	61	209
02:00			1	0	1	14:00			56	41	97	
02:15			1	1	2	14:15			70	67	137	
02:30			0	1	1	14:30			51	34	85	
02:45			0	2	0	14:45			61	238	36	178
03:00			1	0	1	15:00			147	121	268	
03:15			1	0	1	15:15			106	83	189	
03:30			1	0	1	15:30			66	44	110	
03:45			0	3	1	15:45			59	378	24	272
04:00			0	1	1	16:00			59	35	94	
04:15			1	2	3	16:15			56	28	84	
04:30			1	1	2	16:30			83	41	124	
04:45			2	4	6	16:45			71	269	31	135
05:00			0	4	4	17:00			102	44	146	
05:15			1	3	4	17:15			128	39	167	
05:30			2	13	15	17:30			128	47	175	
05:45			2	5	11	17:45			108	466	45	175
06:00			4	11	15	18:00			87	30	117	
06:15			9	11	20	18:15			50	32	82	
06:30			9	18	27	18:30			71	23	94	
06:45			20	42	33	18:45			72	280	40	125
07:00			29	42	71	19:00			44	40	84	
07:15			30	52	82	19:15			35	44	79	
07:30			62	77	139	19:30			31	40	71	
07:45			144	265	120	19:45			28	138	46	170
08:00			63	71	134	20:00			28	55	83	
08:15			44	68	112	20:15			16	21	37	
08:30			34	36	70	20:30			27	13	40	
08:45			21	162	35	20:45			27	98	16	105
09:00			19	29	48	21:00			29	25	54	
09:15			24	23	47	21:15			27	25	52	
09:30			26	32	58	21:30			21	24	45	
09:45			71	140	53	21:45			15	92	12	86
10:00			115	94	209	22:00			16	4	20	
10:15			47	63	110	22:15			6	7	13	
10:30			18	16	34	22:30			7	6	13	
10:45			24	204	16	22:45			8	37	3	20
11:00			31	19	50	23:00			3	3	6	
11:15			17	19	36	23:15			4	6	10	
11:30			27	20	47	23:30			3	2	5	
11:45			24	99	16	23:45			5	15	2	13
TOTALS			938	1024	1962	TOTALS			2351	1672	4023	
SPLIT %			47.8%	52.2%	32.8%	SPLIT %			58.4%	41.6%	67.2%	

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	3,289	2,696	5,985

AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			17:00	14:45	14:45
AM Pk Volume			313	336	649	PM Pk Volume			466	284	664
Pk Hr Factor			0.543	0.700	0.615	Pk Hr Factor			0.910	0.587	0.619
7 - 9 Volume	0	0	427	501	928	4 - 6 Volume	0	0	735	310	1045
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	313	336	649	4 - 6 Pk Volume	0	0	466	175	641
Pk Hr Factor	0.000	0.000	0.543	0.700	0.615	Pk Hr Factor	0.000	0.000	0.910	0.931	0.916

VOLUME

Jeronimo Rd W/O Lake Forest Dr

Day: Tuesday
Date: 4/17/2018

City: Lake Forest
Project #: CA18_1076_008

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	6,633	6,849	13,482			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			9	3	12	12:00			98	86	184	
00:15			9	5	14	12:15			121	98	219	
00:30			8	3	11	12:30			89	125	214	
00:45			6	32	3	14	12:45		82	390	107	416
01:00			2	3	5	13:00			66	124	190	
01:15			3	2	5	13:15			79	104	183	
01:30			4	6	10	13:30			66	117	183	
01:45			6	15	3	14	13:45		73	284	80	425
02:00			7	5	12	14:00			97	90	187	
02:15			5	2	7	14:15			83	91	174	
02:30			3	3	6	14:30			109	83	192	
02:45			4	19	4	14	14:45		110	399	75	339
03:00			3	2	5	15:00			122	112	234	
03:15			2	2	4	15:15			101	85	186	
03:30			4	5	9	15:30			126	90	216	
03:45			3	12	5	14	15:45		144	493	82	369
04:00			4	6	10	16:00			165	61	226	
04:15			2	10	12	16:15			185	66	251	
04:30			6	17	23	16:30			212	84	296	
04:45			4	16	21	54	16:45		213	775	58	269
05:00			3	18	21	17:00			262	84	346	
05:15			9	30	39	17:15			326	73	399	
05:30			7	46	53	17:30			277	63	340	
05:45			14	33	77	171	17:45		231	1096	75	295
06:00			10	77	87	18:00			200	66	266	
06:15			28	103	131	18:15			194	68	262	
06:30			24	129	153	18:30			172	77	249	
06:45			17	79	171	480	18:45		136	702	48	259
07:00			40	192	232	19:00			98	68	166	
07:15			41	234	275	19:15			121	59	180	
07:30			71	219	290	19:30			74	63	137	
07:45			90	242	270	915	19:45		69	362	51	241
08:00			72	250	322	20:00			77	41	118	
08:15			51	280	331	20:15			73	50	123	
08:30			56	195	251	20:30			63	35	98	
08:45			65	244	212	937	20:45		57	270	39	165
09:00			43	161	204	21:00			66	31	97	
09:15			55	146	201	21:15			52	42	94	
09:30			49	151	200	21:30			48	34	82	
09:45			57	204	103	561	21:45		46	212	24	131
10:00			52	94	146	22:00			49	24	73	
10:15			52	106	158	22:15			28	18	46	
10:30			54	78	132	22:30			29	14	43	
10:45			60	218	72	350	22:45		32	138	10	66
11:00			77	77	154	23:00			21	14	35	
11:15			74	71	145	23:15			15	10	25	
11:30			91	83	174	23:30			16	7	23	
11:45			92	334	83	314	23:45		12	64	5	36
TOTALS			1448	3838	5286	TOTALS			5185	3011	8196	
SPLIT %			27.4%	72.6%	39.2%	SPLIT %			63.3%	36.7%	60.8%	

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	6,633	6,849	13,482

AM Peak Hour			11:30	07:30	07:30	PM Peak Hour			17:00	12:30	17:00
AM Pk Volume			402	1019	1303	PM Pk Volume			1096	460	1391
Pk Hr Factor			0.831	0.910	0.905	Pk Hr Factor			0.840	0.920	0.872
7 - 9 Volume	0	0	486	1852	2338	4 - 6 Volume	0	0	1871	564	2435
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	16:30	17:00
7 - 9 Pk Volume	0	0	284	1019	1303	4 - 6 Pk Volume	0	0	1096	299	1391
Pk Hr Factor	0.000	0.000	0.789	0.910	0.905	Pk Hr Factor	0.000	0.000	0.840	0.890	0.872

VOLUME

Jeronimo Rd W/O Ridge Route Dr

Day: Tuesday
Date: 4/24/2018

City: Lake Forest
Project #: CA18_1076_009

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	7,190	6,159	13,349		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			10	11	21	12:00			129	81	210
00:15			8	5	13	12:15			78	74	152
00:30			4	4	8	12:30			67	98	165
00:45			5	27	4	12:45			97	371	200
01:00			4	2	6	13:00			74	113	187
01:15			4	0	4	13:15			81	97	178
01:30			2	2	4	13:30			105	116	221
01:45			4	14	3	13:45			95	355	209
02:00			3	2	5	14:00			84	135	219
02:15			2	3	5	14:15			103	96	199
02:30			1	2	3	14:30			111	100	211
02:45			3	9	1	14:45			125	423	227
03:00			0	2	2	15:00			325	64	389
03:15			3	4	7	15:15			174	83	257
03:30			2	2	4	15:30			171	84	255
03:45			3	8	5	15:45			163	833	264
04:00			4	6	10	16:00			173	101	274
04:15			4	7	11	16:15			212	62	274
04:30			7	8	15	16:30			221	86	307
04:45			3	18	13	16:45			205	811	280
05:00			3	10	13	17:00			268	87	355
05:15			5	17	22	17:15			283	92	375
05:30			4	30	34	17:30			259	88	347
05:45			14	26	31	17:45			226	1036	311
06:00			19	40	59	18:00			204	75	279
06:15			17	58	75	18:15			182	84	266
06:30			26	92	118	18:30			138	59	197
06:45			38	100	128	18:45			114	638	177
07:00			63	156	219	19:00			95	62	157
07:15			52	161	213	19:15			91	49	140
07:30			82	179	261	19:30			61	61	122
07:45			164	361	298	19:45			67	314	110
08:00			239	285	524	20:00			78	37	115
08:15			91	231	322	20:15			72	44	116
08:30			72	157	229	20:30			47	42	89
08:45			60	462	148	20:45			44	241	85
09:00			49	111	160	21:00			49	38	87
09:15			55	100	155	21:15			47	21	68
09:30			56	84	140	21:30			38	26	64
09:45			57	217	96	21:45			34	168	52
10:00			50	67	117	22:00			47	15	62
10:15			64	59	123	22:15			21	15	36
10:30			75	69	144	22:30			12	18	30
10:45			67	256	73	22:45			24	104	38
11:00			63	70	133	23:00			11	15	26
11:15			99	76	175	23:15			8	11	19
11:30			100	79	179	23:30			12	6	18
11:45			93	355	70	23:45			12	43	16
TOTALS			1853	3061	4914	TOTALS			5337	3098	8435
SPLIT %			37.7%	62.3%	36.8%	SPLIT %			63.3%	36.7%	63.2%

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	7,190	6,159	13,349

AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			17:00	13:15	17:00
AM Pk Volume			576	993	1569	PM Pk Volume			1036	462	1388
Pk Hr Factor			0.603	0.833	0.749	Pk Hr Factor			0.915	0.856	0.925
7 - 9 Volume	0	0	823	1615	2438	4 - 6 Volume	0	0	1847	676	2523
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	576	993	1569	4 - 6 Pk Volume	0	0	1036	352	1388
Pk Hr Factor	0.000	0.000	0.603	0.833	0.749	Pk Hr Factor	0.000	0.000	0.915	0.957	0.925

VOLUME

Jeronimo Rd W/O El Toro Rd

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_010

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	7,563	6,796	14,359		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			8	13	21	12:00			91	100	191	
00:15			7	9	16	12:15			109	96	205	
00:30			4	5	9	12:30			117	107	224	
00:45			4	23	6	12:45			104	421	117	420
01:00			6	2	8	13:00			96	107	203	
01:15			11	1	12	13:15			75	107	182	
01:30			1	3	4	13:30			97	135	232	
01:45			2	20	3	13:45			103	371	142	491
02:00			2	3	5	14:00			168	143	311	
02:15			1	3	4	14:15			162	112	274	
02:30			0	2	2	14:30			132	103	235	
02:45			1	4	2	14:45			133	595	115	473
03:00			2	3	5	15:00			129	92	221	
03:15			5	4	9	15:15			164	87	251	
03:30			5	1	6	15:30			166	90	256	
03:45			7	19	5	15:45			159	618	109	378
04:00			7	3	10	16:00			195	114	309	
04:15			7	6	13	16:15			204	105	309	
04:30			8	4	12	16:30			190	105	295	
04:45			6	28	14	16:45			189	778	101	425
05:00			10	12	22	17:00			259	103	362	
05:15			11	14	25	17:15			263	130	393	
05:30			13	22	35	17:30			259	107	366	
05:45			19	53	29	17:45			236	1017	110	450
06:00			28	22	50	18:00			171	97	268	
06:15			35	61	96	18:15			197	96	293	
06:30			39	66	105	18:30			135	91	226	
06:45			51	153	118	18:45			101	604	78	362
07:00			72	126	198	19:00			116	85	201	
07:15			81	155	236	19:15			104	80	184	
07:30			107	181	288	19:30			80	94	174	
07:45			159	419	275	19:45			63	363	52	311
08:00			177	268	445	20:00			62	54	116	
08:15			147	195	342	20:15			55	70	125	
08:30			110	168	278	20:30			53	55	108	
08:45			107	541	130	20:45			59	229	58	237
09:00			95	123	218	21:00			64	52	116	
09:15			86	92	178	21:15			50	25	75	
09:30			75	86	161	21:30			28	39	67	
09:45			81	337	100	21:45			30	172	23	139
10:00			81	80	161	22:00			19	21	40	
10:15			73	71	144	22:15			25	26	51	
10:30			70	72	142	22:30			11	22	33	
10:45			87	311	84	22:45			18	73	12	81
11:00			80	80	160	23:00			15	12	27	
11:15			66	88	154	23:15			13	10	23	
11:30			85	113	198	23:30			10	8	18	
11:45			132	363	72	23:45			13	51	4	34
TOTALS			2271	2995	5266	TOTALS			5292	3801	9093	
SPLIT %			43.1%	56.9%	36.7%	SPLIT %			58.2%	41.8%	63.3%	

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	7,563	6,796	14,359	
AM Peak Hour			07:45	07:30	07:30	PM Peak Hour			17:00	13:30	17:00
AM Pk Volume			593	919	1509	PM Pk Volume			1017	532	1467
Pk Hr Factor			0.838	0.835	0.848	Pk Hr Factor			0.967	0.930	0.933
7 - 9 Volume	0	0	960	1498	2458	4 - 6 Volume	0	0	1795	875	2670
7 - 9 Peak Hour			07:45	07:30	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	593	919	1509	4 - 6 Pk Volume	0	0	1017	450	1467
Pk Hr Factor	0.000	0.000	0.838	0.835	0.848	Pk Hr Factor	0.000	0.000	0.967	0.865	0.933

VOLUME

Jeronimo Rd E/O El Toro Rd

Day: Tuesday
Date: 4/17/2018

City: Lake Forest
Project #: CA18_1076_011

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	10,790	10,858	21,648					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			18	16	34	12:00			160	140	300			
00:15			8	7	15	12:15			170	168	338			
00:30			6	5	11	12:30			164	159	323			
00:45			9	41	5	33	12:45		174	668	191	658	365	1326
01:00			8	4	12	13:00			138	194	332			
01:15			7	6	13	13:15			181	196	377			
01:30			4	7	11	13:30			156	171	327			
01:45			7	26	7	24	13:45		163	638	173	734	336	1372
02:00			2	6	8	14:00			178	188	366			
02:15			4	5	9	14:15			189	174	363			
02:30			2	1	3	14:30			207	173	380			
02:45			4	12	2	14	14:45		189	763	179	714	368	1477
03:00			6	8	14	15:00			204	171	375			
03:15			7	4	11	15:15			216	177	393			
03:30			7	4	11	15:30			236	146	382			
03:45			7	27	8	24	15:45		241	897	201	695	442	1592
04:00			4	6	10	16:00			265	194	459			
04:15			7	18	25	16:15			258	160	418			
04:30			5	10	15	16:30			273	176	449			
04:45			10	26	19	53	16:45		271	1067	185	715	456	1782
05:00			9	26	35	17:00			329	179	508			
05:15			10	35	45	17:15			334	191	525			
05:30			22	47	69	17:30			334	189	523			
05:45			36	77	42	150	17:45		301	1298	167	726	468	2024
06:00			26	48	74	18:00			274	153	427			
06:15			51	93	144	18:15			262	160	422			
06:30			59	125	184	18:30			175	157	332			
06:45			60	196	173	439	18:45		163	874	144	614	307	1488
07:00			86	183	269	19:00			170	121	291			
07:15			89	222	311	19:15			136	128	264			
07:30			131	269	400	19:30			112	151	263			
07:45			193	499	373	1047	19:45		105	523	112	512	217	1035
08:00			176	306	482	20:00			114	126	240			
08:15			202	329	531	20:15			107	112	219			
08:30			189	248	437	20:30			96	93	189			
08:45			156	723	202	1085	20:45		89	406	104	435	193	841
09:00			134	166	300	21:00			71	94	165			
09:15			122	157	279	21:15			72	54	126			
09:30			132	129	261	21:30			50	59	109			
09:45			116	504	132	584	21:45		70	263	47	254	117	517
10:00			120	149	269	22:00			31	43	74			
10:15			134	128	262	22:15			41	47	88			
10:30			132	128	260	22:30			26	32	58			
10:45			128	514	136	541	22:45		25	123	26	148	51	271
11:00			126	156	282	23:00			25	26	51			
11:15			119	151	270	23:15			19	15	34			
11:30			125	158	283	23:30			13	13	26			
11:45			174	544	126	591	23:45		24	81	14	68	38	149
TOTALS			3189	4585	7774	TOTALS			7601	6273	13874			
SPLIT %			41.0%	59.0%	35.9%	SPLIT %			54.8%	45.2%	64.1%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	10,790	10,858	21,648

AM Peak Hour			07:45	07:30	07:45	PM Peak Hour			17:00	12:45	17:00
AM Pk Volume			760	1277	2016	PM Pk Volume			1298	752	2024
Pk Hr Factor			0.941	0.856	0.890	Pk Hr Factor			0.972	0.959	0.964
7 - 9 Volume	0	0	1222	2132	3354	4 - 6 Volume	0	0	2365	1441	3806
7 - 9 Peak Hour			07:45	07:30	07:45	4 - 6 Peak Hour			17:00	16:45	17:00
7 - 9 Pk Volume	0	0	760	1277	2016	4 - 6 Pk Volume	0	0	1298	744	2024
Pk Hr Factor	0.000	0.000	0.941	0.856	0.890	Pk Hr Factor	0.000	0.000	0.972	0.974	0.964

VOLUME

Muirlands Blvd W/O Lake Forest Dr

Day: Tuesday
Date: 4/24/2018City: Lake Forest
Project #: CA18_1076_012

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	8,045	5,891	13,936			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			7	5	12	12:00			208	94	302	
00:15			7	7	14	12:15			172	139	311	
00:30			4	5	9	12:30			155	123	278	
00:45			10	28	3	12:45			149	684	121	477
01:00			1	4	5	13:00			127	109	236	
01:15			7	2	9	13:15			128	119	247	
01:30			5	1	6	13:30			107	104	211	
01:45			2	15	3	13:45			132	494	90	422
02:00			1	2	3	14:00			94	88	182	
02:15			3	2	5	14:15			103	74	177	
02:30			1	2	3	14:30			139	99	238	
02:45			5	10	2	14:45			131	467	91	352
03:00			0	2	2	15:00			152	96	248	
03:15			0	4	4	15:15			163	92	255	
03:30			6	6	12	15:30			147	85	232	
03:45			7	13	7	15:45			158	620	73	346
04:00			4	7	11	16:00			188	63	251	
04:15			2	13	15	16:15			239	65	304	
04:30			2	15	17	16:30			231	70	301	
04:45			10	18	38	16:45			231	889	73	271
05:00			3	22	25	17:00			273	74	347	
05:15			3	20	23	17:15			298	61	359	
05:30			16	27	43	17:30			259	67	326	
05:45			14	36	43	17:45			274	1104	57	259
06:00			21	69	90	18:00			273	61	334	
06:15			16	111	127	18:15			213	65	278	
06:30			36	76	112	18:30			168	49	217	
06:45			30	103	98	18:45			153	807	59	234
07:00			49	110	159	19:00			154	53	207	
07:15			61	159	220	19:15			95	38	133	
07:30			74	169	243	19:30			84	56	140	
07:45			65	249	173	19:45			73	406	35	182
08:00			67	225	292	20:00			71	45	116	
08:15			78	194	272	20:15			58	36	94	
08:30			62	206	268	20:30			62	29	91	
08:45			81	288	143	20:45			44	235	21	131
09:00			89	117	206	21:00			42	22	64	
09:15			73	99	172	21:15			57	25	82	
09:30			81	117	198	21:30			40	23	63	
09:45			94	337	108	21:45			31	170	11	81
10:00			89	82	171	22:00			33	10	43	
10:15			73	84	157	22:15			20	11	31	
10:30			82	79	161	22:30			17	11	28	
10:45			87	331	79	22:45			18	88	7	39
11:00			147	79	226	23:00			13	7	20	
11:15			127	76	203	23:15			12	5	17	
11:30			156	88	244	23:30			12	3	15	
11:45			182	612	97	23:45			4	41	2	17
TOTALS				2040	3080	5120	TOTALS			6005	2811	8816
SPLIT %				39.8%	60.2%	36.7%	SPLIT %			68.1%	31.9%	63.3%

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	8,045	5,891	13,936		
AM Peak Hour			11:30	07:45	11:45	PM Peak Hour			17:00	12:15	17:00
AM Pk Volume			718	798	1170	PM Pk Volume			1104	492	1363
Pk Hr Factor			0.863	0.887	0.941	Pk Hr Factor			0.926	0.885	0.949
7 - 9 Volume	0	0	537	1379	1916	4 - 6 Volume	0	0	1993	530	2523
7 - 9 Peak Hour			08:00	07:45	07:45	4 - 6 Peak Hour			17:00	16:15	17:00
7 - 9 Pk Volume	0	0	288	798	1070	4 - 6 Pk Volume	0	0	1104	282	1363
Pk Hr Factor	0.000	0.000	0.889	0.887	0.916	Pk Hr Factor	0.000	0.000	0.926	0.953	0.949

VOLUME

Muirlands Blvd W/O Ridge Route Dr

Day: Tuesday
Date: 4/24/2018

City: Lake Forest
Project #: CA18_1076_013

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	8,957	8,223	17,180			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			9	10	19	12:00			166	135	301	
00:15			14	9	23	12:15			164	154	318	
00:30			5	5	10	12:30			156	151	307	
00:45			11	39	5	29	12:45		147	633	149	589
01:00			3	14	17	13:00			129	150	279	
01:15			9	3	12	13:15			134	141	275	
01:30			5	4	9	13:30			114	122	236	
01:45			5	22	4	25	13:45		160	537	123	536
02:00			0	3	3	14:00			136	147	283	
02:15			3	7	10	14:15			140	123	263	
02:30			2	1	3	14:30			137	152	289	
02:45			3	8	5	16	14:45		196	609	133	555
03:00			5	3	8	15:00			183	154	337	
03:15			6	4	10	15:15			184	159	343	
03:30			8	8	16	15:30			163	138	301	
03:45			5	24	7	22	15:45		173	703	129	580
04:00			4	10	14	16:00			218	120	338	
04:15			2	10	12	16:15			244	126	370	
04:30			4	18	22	16:30			251	127	378	
04:45			8	18	33	71	16:45		244	957	113	486
05:00			10	25	35	17:00			245	143	388	
05:15			7	19	26	17:15			338	143	481	
05:30			11	31	42	17:30			285	125	410	
05:45			17	45	40	115	17:45		269	1137	130	541
06:00			26	33	59	18:00			282	106	388	
06:15			20	75	95	18:15			239	111	350	
06:30			39	81	120	18:30			208	93	301	
06:45			48	133	126	315	18:45		168	897	98	408
07:00			64	147	211	19:00			187	100	287	
07:15			76	180	256	19:15			121	81	202	
07:30			87	192	279	19:30			104	75	179	
07:45			107	334	241	760	19:45		86	498	86	342
08:00			116	269	385	20:00			85	86	171	
08:15			108	236	344	20:15			70	85	155	
08:30			89	242	331	20:30			79	54	133	
08:45			100	413	153	900	20:45		59	293	46	271
09:00			90	117	207	21:00			44	61	105	
09:15			86	124	210	21:15			57	33	90	
09:30			78	123	201	21:30			40	34	74	
09:45			106	360	115	479	21:45		45	186	34	162
10:00			94	107	201	22:00			36	28	64	
10:15			104	117	221	22:15			26	23	49	
10:30			84	107	191	22:30			29	22	51	
10:45			107	389	95	426	22:45		27	118	14	87
11:00			124	111	235	23:00			20	14	34	
11:15			109	103	212	23:15			27	18	45	
11:30			160	125	285	23:30			21	20	41	
11:45			129	522	106	445	23:45		14	82	11	63
TOTALS			2307	3603	5910	TOTALS			6650	4620	11270	
SPLIT %			39.0%	61.0%	34.4%	SPLIT %			59.0%	41.0%	65.6%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	8,957	8,223	17,180		
AM Peak Hour			11:30	07:45	07:45	PM Peak Hour			17:15	12:15	17:00
AM Pk Volume			619	988	1408	PM Pk Volume			1174	604	1678
Pk Hr Factor			0.932	0.918	0.914	Pk Hr Factor			0.868	0.981	0.872
7 - 9 Volume	0	0	747	1660	2407	4 - 6 Volume	0	0	2094	1027	3121
7 - 9 Peak Hour			07:45	07:45	07:45	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	420	988	1408	4 - 6 Pk Volume	0	0	1137	541	1678
Pk Hr Factor	0.000	0.000	0.905	0.918	0.914	Pk Hr Factor	0.000	0.000	0.841	0.946	0.872

VOLUME

Muirlands Blvd E/O Ridge Route Dr

Day: Tuesday
Date: 4/24/2018

City: Lake Forest
Project #: CA18_1076_014

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	10,618	8,960	19,578			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			7	10	17	12:00			150	141	291	
00:15			17	9	26	12:15			192	136	328	
00:30			9	5	14	12:30			183	151	334	
00:45			16	49	2	12:45			160	685	157	585
01:00			2	9	11	13:00			185	147	332	
01:15			8	2	10	13:15			153	155	308	
01:30			7	5	12	13:30			145	148	293	
01:45			6	23	2	13:45			185	668	132	582
02:00			2	1	3	14:00			150	154	304	
02:15			3	5	8	14:15			156	145	301	
02:30			4	2	6	14:30			173	156	329	
02:45			3	12	6	14:45			247	726	155	610
03:00			2	1	3	15:00			202	169	371	
03:15			2	3	5	15:15			226	189	415	
03:30			11	7	18	15:30			208	144	352	
03:45			4	19	5	15:45			216	852	155	657
04:00			3	9	12	16:00			246	153	399	
04:15			3	9	12	16:15			262	141	403	
04:30			5	19	24	16:30			295	148	443	
04:45			8	19	37	16:45			277	1080	150	592
05:00			11	21	32	17:00			286	138	424	
05:15			9	18	27	17:15			358	157	515	
05:30			14	33	47	17:30			313	146	459	
05:45			23	57	47	17:45			331	1288	142	583
06:00			31	40	71	18:00			308	127	435	
06:15			31	77	108	18:15			298	114	412	
06:30			49	95	144	18:30			246	100	346	
06:45			63	174	131	18:45			206	1058	110	451
07:00			78	165	243	19:00			219	117	336	
07:15			97	206	303	19:15			146	95	241	
07:30			105	190	295	19:30			125	85	210	
07:45			126	406	272	19:45			109	599	95	392
08:00			135	295	430	20:00			111	81	192	
08:15			133	291	424	20:15			95	85	180	
08:30			129	252	381	20:30			101	61	162	
08:45			128	525	171	20:45			86	393	51	278
09:00			116	133	249	21:00			80	55	135	
09:15			101	148	249	21:15			72	37	109	
09:30			94	132	226	21:30			78	41	119	
09:45			112	423	139	21:45			70	300	31	164
10:00			110	117	227	22:00			48	36	84	
10:15			102	113	215	22:15			35	23	58	
10:30			94	116	210	22:30			40	24	64	
10:45			135	441	106	22:45			41	164	13	96
11:00			131	117	248	23:00			24	15	39	
11:15			118	109	227	23:15			32	11	43	
11:30			160	126	286	23:30			25	11	36	
11:45			155	564	112	23:45			12	93	13	50
TOTALS			2712	3920	6632	TOTALS			7906	5040	12946	
SPLIT %			40.9%	59.1%	33.9%	SPLIT %			61.1%	38.9%	66.1%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	10,618	8,960	19,578		
AM Peak Hour			11:45	07:45	07:45	PM Peak Hour			17:15	14:30	17:15
AM Pk Volume			680	1110	1633	PM Pk Volume			1310	669	1882
Pk Hr Factor			0.885	0.941	0.949	Pk Hr Factor			0.915	0.885	0.914
7 - 9 Volume	0	0	931	1842	2773	4 - 6 Volume	0	0	2368	1175	3543
7 - 9 Peak Hour			08:00	07:45	07:45	4 - 6 Peak Hour			17:00	16:30	17:00
7 - 9 Pk Volume	0	0	525	1110	1633	4 - 6 Pk Volume	0	0	1288	593	1871
Pk Hr Factor	0.000	0.000	0.972	0.941	0.949	Pk Hr Factor	0.000	0.000	0.899	0.944	0.908

VOLUME

Muirlands Blvd E/O El Toro Rd

Day: Tuesday
Date: 4/24/2018City: Lake Forest
Project #: CA18_1076_015

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	10,977	9,732	20,709		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			10	16	26	12:00			160	151	311	
00:15			12	12	24	12:15			167	146	313	
00:30			7	11	18	12:30			163	152	315	
00:45			12	41	10	12:45			144	634	130	579
01:00			8	2	10	13:00			132	147	279	
01:15			8	4	12	13:15			155	111	266	
01:30			4	6	10	13:30			153	137	290	
01:45			8	28	5	13:45			180	620	131	526
02:00			2	6	8	14:00			155	133	288	
02:15			2	9	11	14:15			159	157	316	
02:30			3	2	5	14:30			234	124	358	
02:45			7	14	8	14:45			214	762	156	570
03:00			3	7	10	15:00			225	242	467	
03:15			3	5	8	15:15			228	205	433	
03:30			5	7	12	15:30			212	173	385	
03:45			6	17	9	15:45			227	892	171	791
04:00			12	10	22	16:00			257	162	419	
04:15			9	10	19	16:15			285	168	453	
04:30			10	13	23	16:30			241	172	413	
04:45			11	42	32	16:45			292	1075	217	719
05:00			14	20	34	17:00			304	164	468	
05:15			18	25	43	17:15			323	179	502	
05:30			27	29	56	17:30			307	180	487	
05:45			34	93	48	17:45			297	1231	146	669
06:00			30	29	59	18:00			303	168	471	
06:15			45	64	109	18:15			263	130	393	
06:30			88	90	178	18:30			242	135	377	
06:45			97	260	128	18:45			216	1024	130	563
07:00			103	158	261	19:00			228	117	345	
07:15			116	202	318	19:15			138	126	264	
07:30			190	223	413	19:30			141	119	260	
07:45			195	604	295	19:45			108	615	114	476
08:00			175	308	483	20:00			122	95	217	
08:15			144	270	414	20:15			117	96	213	
08:30			158	260	418	20:30			104	83	187	
08:45			136	613	148	20:45			100	443	92	366
09:00			124	157	281	21:00			101	64	165	
09:15			100	153	253	21:15			78	85	163	
09:30			106	148	254	21:30			72	54	126	
09:45			119	449	128	21:45			73	324	44	247
10:00			118	121	239	22:00			52	30	82	
10:15			99	111	210	22:15			34	35	69	
10:30			112	131	243	22:30			40	22	62	
10:45			119	448	119	22:45			27	153	12	99
11:00			122	114	236	23:00			35	30	65	
11:15			116	132	248	23:15			23	19	42	
11:30			136	126	262	23:30			17	14	31	
11:45			130	504	133	23:45			16	91	10	73
TOTALS			3113	4054	7167	TOTALS			7864	5678	13542	
SPLIT %			43.4%	56.6%	34.6%	SPLIT %			58.1%	41.9%	65.4%	

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	10,977	9,732	20,709	
AM Peak Hour			07:30	07:45	07:45	PM Peak Hour			17:00	15:00	16:45
AM Pk Volume			704	1133	1805	PM Pk Volume			1231	791	1966
Pk Hr Factor			0.903	0.920	0.921	Pk Hr Factor			0.953	0.817	0.966
7 - 9 Volume	0	0	1217	1864	3081	4 - 6 Volume	0	0	2306	1388	3694
7 - 9 Peak Hour			07:30	07:45	07:45	4 - 6 Peak Hour			17:00	16:45	16:45
7 - 9 Pk Volume	0	0	704	1133	1805	4 - 6 Pk Volume	0	0	1231	740	1966
Pk Hr Factor	0.000	0.000	0.903	0.920	0.921	Pk Hr Factor	0.000	0.000	0.953	0.853	0.966

VOLUME

Rockfield Blvd W/O Lake Forest Dr

Day: Wednesday
Date: 4/18/2018

City: Lake Forest
Project #: CA18_1076_016

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	10,870	11,041	21,911			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			24	9	33	12:00			268	249	517	
00:15			13	10	23	12:15			255	263	518	
00:30			8	5	13	12:30			252	265	517	
00:45			13	58	2	26	12:45		245	1020	254	1031
01:00			7	4	11	13:00			261	262	523	
01:15			8	3	11	13:15			236	248	484	
01:30			8	4	12	13:30			233	248	481	
01:45			9	32	4	15	13:45		233	963	220	978
02:00			5	1	6	14:00			187	249	436	
02:15			5	2	7	14:15			233	195	428	
02:30			4	0	4	14:30			224	185	409	
02:45			1	15	2	5	14:45		190	834	190	819
03:00			4	1	5	15:00			222	155	377	
03:15			2	4	6	15:15			166	168	334	
03:30			3	4	7	15:30			184	171	355	
03:45			2	11	5	14	15:45		204	776	171	665
04:00			2	3	5	16:00			219	161	380	
04:15			5	4	9	16:15			204	173	377	
04:30			8	18	26	16:30			243	162	405	
04:45			9	24	19	44	16:45		223	889	156	652
05:00			8	17	25	17:00			279	173	452	
05:15			9	25	34	17:15			250	175	425	
05:30			17	43	60	17:30			247	153	400	
05:45			29	63	50	135	17:45		219	995	199	700
06:00			33	72	105	18:00			237	148	385	
06:15			22	66	88	18:15			191	138	329	
06:30			36	105	141	18:30			192	141	333	
06:45			44	135	157	400	18:45		179	799	139	566
07:00			66	161	227	19:00			160	127	287	
07:15			77	172	249	19:15			133	110	243	
07:30			71	167	238	19:30			115	99	214	
07:45			62	276	202	702	19:45		144	552	95	431
08:00			85	210	295	20:00			143	97	240	
08:15			92	218	310	20:15			121	83	204	
08:30			126	207	333	20:30			138	65	203	
08:45			104	407	213	848	20:45		105	507	53	298
09:00			103	166	269	21:00			115	57	172	
09:15			110	169	279	21:15			110	40	150	
09:30			129	178	307	21:30			87	28	115	
09:45			141	483	213	726	21:45		77	389	44	169
10:00			125	179	304	22:00			49	40	89	
10:15			179	179	358	22:15			41	35	76	
10:30			181	190	371	22:30			39	25	64	
10:45			143	628	190	738	22:45		35	164	12	112
11:00			163	183	346	23:00			15	27	42	
11:15			183	219	402	23:15			26	15	41	
11:30			217	255	472	23:30			23	9	32	
11:45			212	775	252	909	23:45		11	75	7	58
TOTALS			2907	4562	7469	TOTALS			7963	6479	14442	
SPLIT %			38.9%	61.1%	34.1%	SPLIT %			55.1%	44.9%	65.9%	

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	10,870	11,041	21,911

AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			12:00	12:15	12:15
AM Pk Volume			987	1029	2016	PM Pk Volume			1020	1044	2057
Pk Hr Factor			0.921	0.971	0.973	Pk Hr Factor			0.951	0.985	0.983
7 - 9 Volume	0	0	683	1550	2233	4 - 6 Volume	0	0	1884	1352	3236
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:45	17:00	17:00
7 - 9 Pk Volume	0	0	407	848	1255	4 - 6 Pk Volume	0	0	999	700	1695
Pk Hr Factor	0.000	0.000	0.808	0.972	0.942	Pk Hr Factor	0.000	0.000	0.895	0.879	0.938

VOLUME

Rockfield Blvd W/O Ridge Route Dr

Day: Wednesday
Date: 4/18/2018

City: Lake Forest
Project #: CA18_1076_017

DAILY TOTALS						NB	SB	EB	WB	Total				
						0	0	10,497	7,052	17,549				
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			19	7	26	12:00			190	132	322			
00:15			20		25	12:15			205	134	339			
00:30			11	5	16	12:30			197	138	335			
00:45			10	60	5	22	12:45		220	812	147	551	367	1363
01:00			9		0	9	13:00		202		140	342		
01:15			7		4	11	13:15		172		146	318		
01:30			9		4	13	13:30		188		167	355		
01:45			5	30	3	11	8	41	199	761	137	590	336	1351
02:00			12		5	17	14:00		179		137	316		
02:15			3		3	6	14:15		161		110	271		
02:30			7		4	11	14:30		196		125	321		
02:45			3	25	2	14	5	39	183	719	105	477	288	1196
03:00			3		5	8	15:00		197		91	288		
03:15			7		3	10	15:15		209		112	321		
03:30			4		3	7	15:30		199		92	291		
03:45			2	16	2	13	4	29	235	840	112	407	347	1247
04:00			6		4	10	16:00		233		113	346		
04:15			5		8	13	16:15		250		87	337		
04:30			10		17	27	16:30		236		109	345		
04:45			9	30	20	49	29	79	278	997	97	406	375	1403
05:00			9		17	26	17:00		304		111	415		
05:15			9		17	26	17:15		292		100	392		
05:30			15		33	48	17:30		298		114	412		
05:45			23	56	44	111	67	167	282	1176	99	424	381	1600
06:00			20		47	67	18:00		278		102	380		
06:15			29		66	95	18:15		246		111	357		
06:30			42		84	126	18:30		218		99	317		
06:45			58	149	115	312	173	461	201	943	100	412	301	1355
07:00			60		103	163	19:00		147		87	234		
07:15			64		133	197	19:15		148		65	213		
07:30			70		119	189	19:30		170		83	253		
07:45			63	257	172	527	235	784	143	608	74	309	217	917
08:00			85		178	263	20:00		137		62	199		
08:15			91		144	235	20:15		112		52	164		
08:30			82		149	231	20:30		114		52	166		
08:45			82	340	145	616	227	956	90	453	46	212	136	665
09:00			112		93	205	21:00		85		48	133		
09:15			115		116	231	21:15		89		42	131		
09:30			110		115	225	21:30		67		23	90		
09:45			123	460	121	445	244	905	64	305	35	148	99	453
10:00			126		117	243	22:00		69		25	94		
10:15			131		104	235	22:15		59		19	78		
10:30			114		113	227	22:30		60		19	79		
10:45			113	484	102	436	215	920	37	225	12	75	49	300
11:00			139		99	238	23:00		25		12	37		
11:15			152		99	251	23:15		35		8	43		
11:30			180		139	319	23:30		34		8	42		
11:45			161	632	111	448	272	1080	25	119	9	37	34	156
TOTALS				2539	3004	5543	TOTALS			7958	4048	12006		
SPLIT %				45.8%	54.2%	31.6%	SPLIT %			66.3%	33.7%	68.4%		

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	10,497	7,052	17,549

AM Peak Hour			11:45	07:45	11:45	PM Peak Hour			17:00	12:45	17:00
AM Pk Volume			753	643	1268	PM Pk Volume			1176	600	1600
Pk Hr Factor			0.918	0.903	0.935	Pk Hr Factor			0.967	0.898	0.964
7 - 9 Volume	0	0	597	1143	1740	4 - 6 Volume	0	0	2173	830	3003
7 - 9 Peak Hour			08:00	07:45	07:45	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	340	643	964	4 - 6 Pk Volume	0	0	1176	424	1600
Pk Hr Factor	0.000	0.000	0.934	0.903	0.916	Pk Hr Factor	0.000	0.000	0.967	0.930	0.964

VOLUME

Rockfield Blvd W/O El Toro Rd

Day: Wednesday
 Date: 4/18/2018

City: Lake Forest
 Project #: CA18_1076_018

DAILY TOTALS						NB	SB	EB	WB	Total					
						0	0	10,639	8,003	18,642					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL				
00:00	0	0	9	6	15	12:00	0	0	206	161	367				
00:15	0	0	19	9	28	12:15	0	0	230	161	391				
00:30	0	0	8	11	19	12:30	0	0	210	158	368				
00:45	0	0	6	42	8	34	12:45	0	0	210	856	173	653	383	1509
01:00	0	0	7	7	14	13:00	0	0	245	159	404				
01:15	0	0	4	8	12	13:15	0	0	213	167	380				
01:30	0	0	5	3	8	13:30	0	0	238	164	402				
01:45	0	0	5	21	4	22	13:45	0	0	219	915	137	627	356	1542
02:00	0	0	5	5	10	14:00	0	0	188	129	317				
02:15	0	0	4	3	7	14:15	0	0	194	110	304				
02:30	0	0	6	2	8	14:30	0	0	196	126	322				
02:45	0	0	3	18	4	14	14:45	0	0	191	769	123	488	314	1257
03:00	0	0	2	3	5	15:00	0	0	217	126	343				
03:15	0	0	2	1	3	15:15	0	0	202	113	315				
03:30	0	0	5	4	9	15:30	0	0	210	117	327				
03:45	0	0	7	16	1	9	15:45	0	0	184	813	140	496	324	1309
04:00	0	0	5	1	6	16:00	0	0	207	179	386				
04:15	0	0	10	3	13	16:15	0	0	224	187	411				
04:30	0	0	13	3	16	16:30	0	0	248	190	438				
04:45	0	0	24	52	7	14	16:45	0	0	228	907	176	732	404	1639
05:00	0	0	15	7	22	17:00	0	0	270	162	432				
05:15	0	0	14	4	18	17:15	0	0	253	167	420				
05:30	0	0	20	12	32	17:30	0	0	252	201	453				
05:45	0	0	35	84	18	41	17:45	0	0	260	1035	168	698	428	1733
06:00	0	0	33	24	57	18:00	0	0	224	150	374				
06:15	0	0	51	40	91	18:15	0	0	225	103	328				
06:30	0	0	67	48	115	18:30	0	0	180	122	302				
06:45	0	0	76	227	68	180	18:45	0	0	182	811	112	487	294	1298
07:00	0	0	88	73	161	19:00	0	0	127	119	246				
07:15	0	0	105	109	214	19:15	0	0	136	87	223				
07:30	0	0	111	102	213	19:30	0	0	141	100	241				
07:45	0	0	118	422	137	421	19:45	0	0	136	540	78	384	214	924
08:00	0	0	152	172	324	20:00	0	0	117	89	206				
08:15	0	0	141	146	287	20:15	0	0	91	72	163				
08:30	0	0	122	147	269	20:30	0	0	76	54	130				
08:45	0	0	105	520	132	597	20:45	0	0	80	364	74	289	154	653
09:00	0	0	160	98	258	21:00	0	0	60	60	120				
09:15	0	0	122	111	233	21:15	0	0	65	56	121				
09:30	0	0	100	105	205	21:30	0	0	42	32	74				
09:45	0	0	147	529	101	415	21:45	0	0	41	208	42	190	83	398
10:00	0	0	147	104	251	22:00	0	0	42	38	80				
10:15	0	0	138	103	241	22:15	0	0	41	30	71				
10:30	0	0	140	116	256	22:30	0	0	34	30	64				
10:45	0	0	145	570	133	456	22:45	0	0	35	152	23	121	58	273
11:00	0	0	157	123	280	23:00	0	0	15	23	38				
11:15	0	0	156	146	302	23:15	0	0	19	20	39				
11:30	0	0	193	160	353	23:30	0	0	24	18	42				
11:45	0	0	193	699	130	559	23:45	0	0	11	69	15	76	26	145
TOTALS			3200	2762	5962	TOTALS			7439	5241	12680				
SPLIT %			53.7%	46.3%	32.0%	SPLIT %			58.7%	41.3%	68.0%				

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	10,639	8,003	18,642

AM Peak Hour		11:45	11:30	11:45	PM Peak Hour		17:00	16:00	17:00		
AM Pk Volume		839	612	1449	PM Pk Volume		1035	732	1733		
Pk Hr Factor		0.912	0.950	0.926	Pk Hr Factor		0.958	0.963	0.956		
7 - 9 Volume	0	0	942	1018	1960	4 - 6 Volume	0	0	1942	1430	3372
7 - 9 Peak Hour		07:45	07:45	07:45	4 - 6 Peak Hour		17:00	16:00	17:00		
7 - 9 Pk Volume	0	0	533	602	1135	4 - 6 Pk Volume	0	0	1035	732	1733
Pk Hr Factor	0.000	0.000	0.877	0.875	0.876	Pk Hr Factor	0.000	0.000	0.958	0.963	0.956

VOLUME

Rockfield Blvd W/O Los Alisos Blvd

Day: Wednesday
Date: 4/18/2018

City: Lake Forest
Project #: CA18_1076_019

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	7,329	6,378	13,707		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			15	12	27	12:00			118	112	230	
00:15			12	11	23	12:15			123	113	236	
00:30			10	5	15	12:30			129	93	222	
00:45			8	45	4	12:45			140	510	118	436
01:00			6	6	12	13:00			127	90	217	
01:15			3	2	5	13:15			160	158	318	
01:30			5	4	9	13:30			192	131	323	
01:45			5	19	2	13:45			165	644	107	486
02:00			2	2	4	14:00			120	87	207	
02:15			2	3	5	14:15			127	75	202	
02:30			2	2	4	14:30			133	86	219	
02:45			6	12	4	14:45			135	515	115	363
03:00			4	3	7	15:00			139	84	223	
03:15			3	5	8	15:15			128	92	220	
03:30			7	6	13	15:30			133	73	206	
03:45			4	18	7	15:45			140	540	88	337
04:00			5	6	11	16:00			115	108	223	
04:15			6	11	17	16:15			171	91	262	
04:30			3	19	22	16:30			143	88	231	
04:45			8	22	29	16:45			151	580	108	395
05:00			9	33	42	17:00			173	104	277	
05:15			12	32	44	17:15			195	98	293	
05:30			15	46	61	17:30			167	103	270	
05:45			20	56	51	17:45			166	701	91	396
06:00			26	57	83	18:00			156	96	252	
06:15			26	67	93	18:15			161	115	276	
06:30			38	86	124	18:30			143	92	235	
06:45			56	146	109	18:45			129	589	97	400
07:00			50	100	150	19:00			107	82	189	
07:15			56	111	167	19:15			123	79	202	
07:30			86	100	186	19:30			93	71	164	
07:45			109	301	117	19:45			103	426	68	300
08:00			110	143	253	20:00			112	64	176	
08:15			105	138	243	20:15			74	62	136	
08:30			108	130	238	20:30			87	56	143	
08:45			69	392	101	20:45			79	352	51	233
09:00			71	85	156	21:00			71	52	123	
09:15			63	84	147	21:15			76	37	113	
09:30			69	98	167	21:30			48	35	83	
09:45			53	256	88	21:45			56	251	36	160
10:00			64	98	162	22:00			54	31	85	
10:15			86	104	190	22:15			39	24	63	
10:30			80	105	185	22:30			29	21	50	
10:45			91	321	90	22:45			34	156	15	91
11:00			86	94	180	23:00			21	17	38	
11:15			98	95	193	23:15			18	16	34	
11:30			117	127	244	23:30			16	10	26	
11:45			110	411	98	23:45			11	66	8	51
TOTALS			1999	2730	4729	TOTALS			5330	3648	8978	
SPLIT %			42.3%	57.7%	34.5%	SPLIT %			59.4%	40.6%	65.5%	

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	7,329	6,378	13,707	
AM Peak Hour			11:45	07:45	07:45	PM Peak Hour			17:00	12:45	13:00
AM Pk Volume			480	528	960	PM Pk Volume			701	497	1130
Pk Hr Factor			0.930	0.923	0.949	Pk Hr Factor			0.899	0.786	0.875
7 - 9 Volume	0	0	693	940	1633	4 - 6 Volume	0	0	1281	791	2072
7 - 9 Peak Hour			07:45	07:45	07:45	4 - 6 Peak Hour			17:00	16:45	16:45
7 - 9 Pk Volume	0	0	432	528	960	4 - 6 Pk Volume	0	0	701	413	1099
Pk Hr Factor	0.000	0.000	0.982	0.923	0.949	Pk Hr Factor	0.000	0.000	0.899	0.956	0.938

VOLUME

Portola Pkwy W/O Alton Pkwy

Day: Wednesday
Date: 4/18/2018

City: Foothill Ranch
Project #: CA18_1076_020

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	3,063	2,913	5,976			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			3	7	10	12:00			49	36	85	
00:15			3	7	10	12:15			37	35	72	
00:30			2	6	8	12:30			39	58	97	
00:45			1	9	3	12:45			42	167	40	169
01:00			1	1	2	13:00			42	48	90	
01:15			0	1	1	13:15			69	46	115	
01:30			0	1	1	13:30			50	41	91	
01:45			0	1	1	13:45			47	208	83	218
02:00			2	1	3	14:00			41	42	83	
02:15			0	0	0	14:15			40	36	76	
02:30			0	0	0	14:30			40	53	93	
02:45			3	5	0	14:45			45	166	29	160
03:00			0	2	2	15:00			43	39	82	
03:15			1	0	1	15:15			38	62	100	
03:30			2	1	3	15:30			48	61	109	
03:45			3	6	0	15:45			41	170	47	209
04:00			1	0	1	16:00			43	44	87	
04:15			4	1	5	16:15			47	74	121	
04:30			11	0	11	16:30			41	62	103	
04:45			11	27	1	16:45			42	173	84	264
05:00			13	0	13	17:00			58	88	146	
05:15			12	0	12	17:15			44	79	123	
05:30			19	0	19	17:30			46	78	124	
05:45			24	68	6	17:45			51	199	70	315
06:00			28	6	34	18:00			34	67	101	
06:15			36	5	41	18:15			43	59	102	
06:30			64	8	72	18:30			54	61	115	
06:45			71	199	16	18:45			51	182	70	257
07:00			60	21	81	19:00			50	64	114	
07:15			85	19	104	19:15			22	56	78	
07:30			112	31	143	19:30			31	64	95	
07:45			107	364	25	19:45			27	130	61	245
08:00			105	30	135	20:00			31	43	74	
08:15			103	54	157	20:15			26	40	66	
08:30			40	47	87	20:30			26	60	86	
08:45			56	304	38	20:45			20	103	40	183
09:00			32	23	55	21:00			22	39	61	
09:15			58	24	82	21:15			11	37	48	
09:30			54	27	81	21:30			13	21	34	
09:45			47	191	27	21:45			14	60	19	116
10:00			29	20	49	22:00			6	15	21	
10:15			29	30	59	22:15			8	25	33	
10:30			47	17	64	22:30			5	11	16	
10:45			36	141	28	22:45			4	23	10	61
11:00			36	26	62	23:00			6	12	18	
11:15			44	35	79	23:15			4	9	13	
11:30			32	42	74	23:30			3	6	9	
11:45			39	151	42	23:45			3	16	9	36
TOTALS			1466	680	2146	TOTALS			1597	2233	3830	
SPLIT %			68.3%	31.7%	35.9%	SPLIT %			41.7%	58.3%	64.1%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	3,063	2,913	5,976		
AM Peak Hour			07:30	11:45	07:30	PM Peak Hour			13:00	16:45	16:45
AM Pk Volume			427	171	567	PM Pk Volume			208	329	519
Pk Hr Factor			0.953	0.737	0.903	Pk Hr Factor			0.754	0.935	0.889
7 - 9 Volume	0	0	668	265	933	4 - 6 Volume	0	0	372	579	951
7 - 9 Peak Hour			07:30	08:00	07:30	4 - 6 Peak Hour			17:00	16:45	16:45
7 - 9 Pk Volume	0	0	427	169	567	4 - 6 Pk Volume	0	0	199	329	519
Pk Hr Factor	0.000	0.000	0.953	0.782	0.903	Pk Hr Factor	0.000	0.000	0.858	0.935	0.889

VOLUME

Portola Pkwy W/O Bake Pkwy

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_021

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	9,168	8,358	17,526		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			7	8	15	12:00			128	141	269	
00:15			9	14	23	12:15			166	132	298	
00:30			12	2	14	12:30			155	156	311	
00:45			9	37	5	12:45			196	645	128	557
01:00			4	2	6	13:00			140	193	333	
01:15			8	1	9	13:15			142	146	288	
01:30			2	3	5	13:30			160	137	297	
01:45			2	16	5	13:45			142	584	164	640
02:00			8	4	12	14:00			173	109	282	
02:15			5	2	7	14:15			160	134	294	
02:30			7	6	13	14:30			165	119	284	
02:45			5	25	4	14:45			183	681	113	475
03:00			1	3	4	15:00			177	120	297	
03:15			4	2	6	15:15			141	140	281	
03:30			6	5	11	15:30			184	129	313	
03:45			2	13	9	15:45			156	658	115	504
04:00			7	4	11	16:00			156	135	291	
04:15			11	7	18	16:15			185	120	305	
04:30			38	10	48	16:30			163	163	326	
04:45			52	108	15	16:45			191	695	155	573
05:00			20	28	48	17:00			187	185	372	
05:15			26	29	55	17:15			230	175	405	
05:30			34	28	62	17:30			196	170	366	
05:45			46	126	45	17:45			197	810	163	693
06:00			34	48	82	18:00			188	157	345	
06:15			61	65	126	18:15			183	129	312	
06:30			84	85	169	18:30			168	150	318	
06:45			105	284	111	18:45			157	696	149	585
07:00			76	137	213	19:00			165	118	283	
07:15			120	146	266	19:15			136	117	253	
07:30			180	145	325	19:30			112	111	223	
07:45			175	551	159	19:45			111	524	92	438
08:00			192	213	405	20:00			100	76	176	
08:15			157	186	343	20:15			108	100	208	
08:30			114	176	290	20:30			110	82	192	
08:45			110	573	138	20:45			85	403	55	313
09:00			96	132	228	21:00			96	83	179	
09:15			102	108	210	21:15			76	78	154	
09:30			88	114	202	21:30			54	40	94	
09:45			85	371	91	21:45			52	278	40	241
10:00			86	87	173	22:00			55	43	98	
10:15			90	87	177	22:15			31	30	61	
10:30			89	92	181	22:30			26	22	48	
10:45			105	370	88	22:45			33	145	17	112
11:00			124	114	238	23:00			25	16	41	
11:15			118	110	228	23:15			29	14	43	
11:30			123	144	267	23:30			11	15	26	
11:45			137	502	154	23:45			8	73	11	56
TOTALS			2976	3171	6147	TOTALS			6192	5187	11379	
SPLIT %			48.4%	51.6%	35.1%	SPLIT %			54.4%	45.6%	64.9%	

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	9,168	8,358	17,526	
AM Peak Hour			07:30	07:45	07:30	PM Peak Hour			17:15	17:00	17:00
AM Pk Volume			704	734	1407	PM Pk Volume			811	693	1503
Pk Hr Factor			0.917	0.862	0.869	Pk Hr Factor			0.882	0.936	0.928
7 - 9 Volume	0	0	1124	1300	2424	4 - 6 Volume	0	0	1505	1266	2771
7 - 9 Peak Hour			07:30	07:45	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	704	734	1407	4 - 6 Pk Volume	0	0	810	693	1503
Pk Hr Factor	0.000	0.000	0.917	0.862	0.869	Pk Hr Factor	0.000	0.000	0.880	0.936	0.928

VOLUME

Portola Pkwy W/O Lake Forest Dr

Day: Thursday
 Date: 4/12/2018

City: Lake Forest
 Project #: CA18_1076_022

DAILY TOTALS						NB	SB	EB	WB	Total		
						0	0	12,381	11,296	23,677		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	0	0	13	22	35	12:00	0	0	218	199	417	
00:15	0	0	11	12	23	12:15	0	0	225	197	422	
00:30	0	0	11	15	26	12:30	0	0	257	217	474	
00:45	0	0	12	47	13	12:45	0	0	219	919	241	854
01:00	0	0	3	7	10	13:00	0	0	212	254	466	
01:15	0	0	7	10	17	13:15	0	0	200	238	438	
01:30	0	0	10	5	15	13:30	0	0	203	206	409	
01:45	0	0	8	28	6	13:45	0	0	186	801	144	842
02:00	0	0	5	8	13	14:00	0	0	179	133	312	
02:15	0	0	3	4	7	14:15	0	0	155	161	316	
02:30	0	0	2	2	4	14:30	0	0	200	196	396	
02:45	0	0	2	12	3	14:45	0	0	225	759	168	658
03:00	0	0	6	4	10	15:00	0	0	236	157	393	
03:15	0	0	7	4	11	15:15	0	0	196	177	373	
03:30	0	0	11	6	17	15:30	0	0	208	170	378	
03:45	0	0	23	47	15	15:45	0	0	208	848	162	666
04:00	0	0	19	12	31	16:00	0	0	224	184	408	
04:15	0	0	42	10	52	16:15	0	0	245	141	386	
04:30	0	0	111	24	135	16:30	0	0	219	175	394	
04:45	0	0	138	310	28	16:45	0	0	252	940	192	692
05:00	0	0	25	49	74	17:00	0	0	254	241	495	
05:15	0	0	36	63	99	17:15	0	0	313	196	509	
05:30	0	0	58	72	130	17:30	0	0	299	222	521	
05:45	0	0	61	180	57	17:45	0	0	292	1158	172	831
06:00	0	0	45	57	102	18:00	0	0	282	182	464	
06:15	0	0	80	97	177	18:15	0	0	277	183	460	
06:30	0	0	106	138	244	18:30	0	0	235	174	409	
06:45	0	0	162	393	161	18:45	0	0	209	1003	195	734
07:00	0	0	103	186	289	19:00	0	0	228	153	381	
07:15	0	0	144	180	324	19:15	0	0	213	155	368	
07:30	0	0	205	201	406	19:30	0	0	219	151	370	
07:45	0	0	169	621	283	19:45	0	0	161	821	160	619
08:00	0	0	137	262	399	20:00	0	0	155	119	274	
08:15	0	0	141	218	359	20:15	0	0	164	93	257	
08:30	0	0	154	191	345	20:30	0	0	163	94	257	
08:45	0	0	120	552	184	20:45	0	0	164	646	82	388
09:00	0	0	109	146	255	21:00	0	0	139	131	270	
09:15	0	0	125	134	259	21:15	0	0	106	130	236	
09:30	0	0	98	121	219	21:30	0	0	90	87	177	
09:45	0	0	134	466	148	21:45	0	0	81	416	59	407
10:00	0	0	85	146	231	22:00	0	0	78	44	122	
10:15	0	0	123	133	256	22:15	0	0	49	34	83	
10:30	0	0	105	140	245	22:30	0	0	54	34	88	
10:45	0	0	115	428	151	22:45	0	0	33	214	26	138
11:00	0	0	167	152	319	23:00	0	0	49	18	67	
11:15	0	0	153	149	302	23:15	0	0	24	15	39	
11:30	0	0	153	176	329	23:30	0	0	20	33	53	
11:45	0	0	176	649	181	23:45	0	0	30	123	15	81
TOTALS			3733	4386	8119	TOTALS			8648	6910	15558	
SPLIT %			46.0%	54.0%	34.3%	SPLIT %			55.6%	44.4%	65.7%	

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	12,381	11,296	23,677

AM Peak Hour		11:45	07:30	11:45	PM Peak Hour		17:15	12:30	17:00		
AM Pk Volume		876	964	1670	PM Pk Volume		1186	950	1989		
Pk Hr Factor		0.852	0.852	0.881	Pk Hr Factor		0.947	0.935	0.954		
7 - 9 Volume	0	0	1173	1705	2878	4 - 6 Volume	0	0	2098	1523	3621
7 - 9 Peak Hour		07:15	07:30	07:30	4 - 6 Peak Hour		17:00	16:45	17:00		
7 - 9 Pk Volume	0	0	655	964	1616	4 - 6 Pk Volume	0	0	1158	851	1989
Pk Hr Factor	0.000	0.000	0.799	0.852	0.894	Pk Hr Factor	0.000	0.000	0.925	0.883	0.954

VOLUME

Portola Pkwy W/O Glenn Ranch Rd

Day: Thursday
Date: 4/12/2018

City: Foothill Ranch
Project #: CA18_1076_023

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	16,363	15,920	32,283					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			26	17	43	12:00			296	230	526			
00:15			17	17	34	12:15			264	247	511			
00:30			17	20	37	12:30			278	282	560			
00:45			22	82	9	63	12:45		284	1122	311	1070	595	2192
01:00			10	14	24	13:00			236	363	599			
01:15			11	11	22	13:15			238	300	538			
01:30			14	10	24	13:30			237	281	518			
01:45			14	49	9	44	13:45		245	956	217	1161	462	2117
02:00			7	13	20	14:00			242	205	447			
02:15			4	6	10	14:15			230	232	462			
02:30			3	2	5	14:30			252	271	523			
02:45			3	17	5	26	14:45		283	1007	236	944	519	1951
03:00			4	3	7	15:00			311	244	555			
03:15			10	6	16	15:15			316	261	577			
03:30			13	10	23	15:30			310	235	545			
03:45			24	51	17	36	15:45		316	1253	234	974	550	2227
04:00			18	11	29	16:00			338	223	561			
04:15			43	14	57	16:15			342	193	535			
04:30			105	29	134	16:30			356	210	566			
04:45			155	321	54	108	16:45		400	1436	272	898	672	2334
05:00			26	74	100	17:00			469	260	729			
05:15			32	102	134	17:15			487	264	751			
05:30			60	90	150	17:30			431	244	675			
05:45			83	201	115	381	17:45		400	1787	242	1010	642	2797
06:00			70	102	172	18:00			380	216	596			
06:15			84	148	232	18:15			362	242	604			
06:30			143	205	348	18:30			319	223	542			
06:45			213	510	271	726	18:45		287	1348	270	951	557	2299
07:00			132	293	425	19:00			301	176	477			
07:15			164	302	466	19:15			266	190	456			
07:30			230	339	569	19:30			254	188	442			
07:45			235	761	467	1401	19:45		218	1039	217	771	435	1810
08:00			154	472	626	20:00			207	160	367			
08:15			180	391	571	20:15			200	127	327			
08:30			170	311	481	20:30			209	129	338			
08:45			158	662	289	1463	20:45		171	787	109	525	280	1312
09:00			135	258	393	21:00			182	165	347			
09:15			161	229	390	21:15			125	168	293			
09:30			146	198	344	21:30			107	112	219			
09:45			158	600	198	883	21:45		103	517	80	525	183	1042
10:00			134	202	336	22:00			99	47	146			
10:15			156	193	349	22:15			71	42	113			
10:30			142	200	342	22:30			71	45	116			
10:45			155	587	204	799	22:45		41	282	39	173	80	455
11:00			201	205	406	23:00			56	25	81			
11:15			203	203	406	23:15			32	21	53			
11:30			199	230	429	23:30			29	35	64			
11:45			238	841	249	887	23:45		30	147	20	101	50	248
TOTALS			4682	6817	11499	TOTALS			11681	9103	20784			
SPLIT %			40.7%	59.3%	35.6%	SPLIT %			56.2%	43.8%	64.4%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	16,363	15,920	32,283

AM Peak Hour			11:45	07:30	07:30	PM Peak Hour			16:45	12:30	16:45
AM Pk Volume			1076	1669	2468	PM Pk Volume			1787	1256	2827
Pk Hr Factor			0.909	0.884	0.879	Pk Hr Factor			0.917	0.865	0.941
7 - 9 Volume	0	0	1423	2864	4287	4 - 6 Volume	0	0	3223	1908	5131
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	799	1669	2468	4 - 6 Pk Volume	0	0	1787	1040	2827
Pk Hr Factor	0.000	0.000	0.850	0.884	0.879	Pk Hr Factor	0.000	0.000	0.917	0.956	0.941

VOLUME

Portola Pkwy E/O SR-241

Day: Thursday
Date: 4/12/2018

City: Foothill Ranch
Project #: CA18_1076_024

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	12,626	12,699	25,325			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			16	12	28	12:00			188	173	361	
00:15			11	14	25	12:15			213	212	425	
00:30			9	13	22	12:30			184	234	418	
00:45			13	49	7	12:45			198	783	230	849
01:00			9	10	19	13:00			224	199	423	
01:15			8	7	15	13:15			189	210	399	
01:30			6	7	13	13:30			224	166	390	
01:45			10	33	4	13:45			193	830	178	753
02:00			7	9	16	14:00			197	152	349	
02:15			5	3	8	14:15			189	184	373	
02:30			2	5	7	14:30			219	192	411	
02:45			3	17	8	14:45			261	866	171	699
03:00			4	6	10	15:00			293	195	488	
03:15			3	6	9	15:15			216	267	483	
03:30			4	5	9	15:30			250	192	442	
03:45			3	14	15	15:45			261	1020	207	861
04:00			6	4	10	16:00			285	166	451	
04:15			9	11	20	16:15			259	230	489	
04:30			10	24	34	16:30			325	192	517	
04:45			26	51	67	16:45			331	1200	258	846
05:00			20	34	54	17:00			377	266	643	
05:15			28	34	62	17:15			362	261	623	
05:30			35	49	84	17:30			343	225	568	
05:45			36	119	81	17:45			285	1367	222	974
06:00			40	63	103	18:00			266	215	481	
06:15			70	104	174	18:15			264	234	498	
06:30			133	151	284	18:30			262	221	483	
06:45			191	434	187	18:45			208	1000	197	867
07:00			106	216	322	19:00			218	152	370	
07:15			136	202	338	19:15			195	157	352	
07:30			224	252	476	19:30			191	162	353	
07:45			224	690	351	19:45			162	766	161	632
08:00			152	383	535	20:00			140	151	291	
08:15			156	329	485	20:15			159	128	287	
08:30			133	223	356	20:30			110	123	233	
08:45			142	583	255	20:45			112	521	108	510
09:00			111	185	296	21:00			141	112	253	
09:15			131	188	319	21:15			97	96	193	
09:30			114	157	271	21:30			71	80	151	
09:45			140	496	168	21:45			66	375	74	362
10:00			114	160	274	22:00			60	45	105	
10:15			107	145	252	22:15			38	41	79	
10:30			123	138	261	22:30			41	41	82	
10:45			125	469	152	22:45			29	168	34	161
11:00			184	159	343	23:00			36	19	55	
11:15			156	147	303	23:15			18	18	36	
11:30			168	185	353	23:30			17	13	30	
11:45			178	686	185	23:45			18	89	15	65
TOTALS			3641	5120	8761	TOTALS			8985	7579	16564	
SPLIT %			41.6%	58.4%	34.6%	SPLIT %			54.2%	45.8%	65.4%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	12,626	12,699	25,325		
AM Peak Hour			11:45	07:30	07:30	PM Peak Hour			16:45	16:45	16:45
AM Pk Volume			763	1315	2071	PM Pk Volume			1413	1010	2423
Pk Hr Factor			0.896	0.858	0.900	Pk Hr Factor			0.937	0.949	0.942
7 - 9 Volume	0	0	1273	2211	3484	4 - 6 Volume	0	0	2567	1820	4387
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	756	1315	2071	4 - 6 Pk Volume	0	0	1413	1010	2423
Pk Hr Factor	0.000	0.000	0.844	0.858	0.900	Pk Hr Factor	0.000	0.000	0.937	0.949	0.942

VOLUME

Portola Pkwy S/O SR-241

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_025

DAILY TOTALS						NB	SB	EB	WB	Total	
						13,395	14,082	0	0	27,477	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	21	18			39	12:00	183	199			382
00:15	15	19			34	12:15	178	218			396
00:30	12	14			26	12:30	248	184			432
00:45	19	67	8	59	27	12:45	227	836	206	807	433
01:00	7	12			19	13:00	197	205			402
01:15	7	19			26	13:15	177	183			360
01:30	15	8			23	13:30	175	207			382
01:45	8	37	3	42	11	13:45	160	709	246	841	406
02:00	10	4			14	14:00	204	241			445
02:15	11	6			17	14:15	230	203			433
02:30	10	7			17	14:30	189	242			431
02:45	10	41	6	23	16	14:45	209	832	215	901	424
03:00	9	6			15	15:00	209	254			463
03:15	8	6			14	15:15	269	231			500
03:30	12	8			20	15:30	235	274			509
03:45	22	51	9	29	31	15:45	233	946	298	1057	531
04:00	18	10			28	16:00	221	304			525
04:15	21	12			33	16:15	204	277			481
04:30	40	17			57	16:30	221	341			562
04:45	64	143	18	57	82	16:45	251	897	278	1200	529
05:00	34	28			62	17:00	264	382			646
05:15	54	28			82	17:15	251	376			627
05:30	62	37			99	17:30	247	339			586
05:45	95	245	49	142	144	17:45	227	989	341	1438	568
06:00	85	61			146	18:00	232	330			562
06:15	104	90			194	18:15	211	295			506
06:30	139	130			269	18:30	215	307			522
06:45	244	572	215	496	459	18:45	190	848	268	1200	458
07:00	270	133			403	19:00	165	252			417
07:15	277	139			416	19:15	152	199			351
07:30	322	243			565	19:30	163	192			355
07:45	359	1228	301	816	660	19:45	139	619	136	779	275
08:00	353	193			546	20:00	124	152			276
08:15	314	196			510	20:15	149	141			290
08:30	232	223			455	20:30	120	142			262
08:45	250	1149	199	811	449	20:45	116	509	130	565	246
09:00	204	143			347	21:00	132	117			249
09:15	186	184			370	21:15	92	103			195
09:30	143	159			302	21:30	60	109			169
09:45	185	718	168	654	353	21:45	68	352	72	401	140
10:00	157	159			316	22:00	66	64			130
10:15	148	170			318	22:15	54	61			115
10:30	164	180			344	22:30	38	46			84
10:45	163	632	155	664	318	22:45	31	189	48	219	79
11:00	171	161			332	23:00	36	55			91
11:15	142	178			320	23:15	17	24			41
11:30	193	214			407	23:30	13	28			41
11:45	190	696	186	739	376	23:45	24	90	35	142	59
TOTALS	5579	4532			10111	TOTALS	7816	9550			17366
SPLIT %	55.2%	44.8%			36.8%	SPLIT %	45.0%	55.0%			63.2%

DAILY TOTALS						NB	SB	EB	WB	Total	
						13,395	14,082	0	0	27,477	
AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	16:45	17:00		17:00	
AM Pk Volume	1348	933			2281	PM Pk Volume	1013	1438		2427	
Pk Hr Factor	0.939	0.775			0.864	Pk Hr Factor	0.959	0.941		0.939	
7 - 9 Volume	2377	1627	0	0	4004	4 - 6 Volume	1886	2638	0	0	4524
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	16:45	17:00			17:00
7 - 9 Pk Volume	1348	933	0	0	2281	4 - 6 Pk Volume	1013	1438	0	0	2427
Pk Hr Factor	0.939	0.775	0.000	0.000	0.864	Pk Hr Factor	0.959	0.941	0.000	0.000	0.939

VOLUME

Portola Pkwy W/O El Toro Rd

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_026

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	17,097	18,642	35,739					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			20	30	50	12:00			251	212	463			
00:15			22	17	39	12:15			244	222	466			
00:30			16	15	31	12:30			214	334	548			
00:45			12	70	15	12:45			237	946	279	1047	516	1993
01:00			13	12	25	13:00			263	277	540			
01:15			21	10	31	13:15			191	264	455			
01:30			16	13	29	13:30			242	224	466			
01:45			10	60	12	13:45			265	961	220	985	485	1946
02:00			8	11	19	14:00			293	267	560			
02:15			9	14	23	14:15			205	309	514			
02:30			5	11	16	14:30			291	218	509			
02:45			7	29	11	14:45			251	1040	290	1084	541	2124
03:00			6	12	18	15:00			330	256	586			
03:15			8	12	20	15:15			277	330	607			
03:30			10	21	31	15:30			349	254	603			
03:45			8	32	36	15:45			387	1343	282	1122	669	2465
04:00			7	25	32	16:00			351	259	610			
04:15			9	42	51	16:15			369	273	642			
04:30			13	74	87	16:30			417	256	673			
04:45			14	43	99	16:45			421	1558	337	1125	758	2683
05:00			21	74	95	17:00			522	285	807			
05:15			21	98	119	17:15			601	336	937			
05:30			27	132	159	17:30			467	267	734			
05:45			51	120	155	17:45			454	2044	347	1235	801	3279
06:00			57	162	219	18:00			542	273	815			
06:15			86	196	282	18:15			425	289	714			
06:30			133	238	371	18:30			432	285	717			
06:45			196	472	382	18:45			361	1760	258	1105	619	2865
07:00			102	400	502	19:00			353	241	594			
07:15			114	434	548	19:15			283	224	507			
07:30			215	478	693	19:30			287	235	522			
07:45			236	667	545	19:45			257	1180	200	900	457	2080
08:00			145	575	720	20:00			249	178	427			
08:15			126	525	651	20:15			230	174	404			
08:30			150	435	585	20:30			223	153	376			
08:45			146	567	380	20:45			211	913	142	647	353	1560
09:00			122	343	465	21:00			182	156	338			
09:15			150	292	442	21:15			148	114	262			
09:30			135	252	387	21:30			158	86	244			
09:45			169	576	262	21:45			121	609	83	439	204	1048
10:00			172	216	388	22:00			117	74	191			
10:15			158	221	379	22:15			107	53	160			
10:30			176	236	412	22:30			77	47	124			
10:45			182	688	208	22:45			71	372	39	213	110	585
11:00			174	216	390	23:00			91	41	132			
11:15			193	206	399	23:15			49	20	69			
11:30			230	253	483	23:30			38	19	57			
11:45			228	825	228	23:45			44	222	26	106	70	328
TOTALS			4149	8634	12783	TOTALS			12948	10008	22956			
SPLIT %			32.5%	67.5%	35.8%	SPLIT %			56.4%	43.6%	64.2%			

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	17,097	18,642	35,739		
AM Peak Hour			11:30	07:30	07:30	PM Peak Hour			17:15	17:00	17:15
AM Pk Volume			953	2123	2845	PM Pk Volume			2064	1235	3287
Pk Hr Factor			0.949	0.923	0.911	Pk Hr Factor			0.859	0.890	0.877
7 - 9 Volume	0	0	1234	3772	5006	4 - 6 Volume	0	0	3602	2360	5962
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	722	2123	2845	4 - 6 Pk Volume	0	0	2044	1235	3279
Pk Hr Factor	0.000	0.000	0.765	0.923	0.911	Pk Hr Factor	0.000	0.000	0.850	0.890	0.875

VOLUME

Portola Pkwy E/O El Toro Rd

Day: Tuesday
Date: 4/17/2018

City: Lake Forest
Project #: CA18_1076_027

DAILY TOTALS					NB	SB					Total			
					0	0	EB	WB			37,996			
							19,148	18,848						
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			17	27	44	12:00			272	254	526			
00:15			29	19	48	12:15			262	228	490			
00:30			17	22	39	12:30			231	363	594			
00:45			16	79	16	84	12:45		293	1058	219	1064	512	2122
01:00			15	14	29	13:00			299	298	597			
01:15			25	15	40	13:15			243	268	511			
01:30			16	12	28	13:30			295	241	536			
01:45			13	69	16	57	13:45		297	1134	227	1034	524	2168
02:00			11	11	22	14:00			324	287	611			
02:15			12	10	22	14:15			259	326	585			
02:30			11	9	20	14:30			308	293	601			
02:45			10	44	8	38	14:45		307	1198	282	1188	589	2386
03:00			9	11	20	15:00			333	339	672			
03:15			12	10	22	15:15			335	341	676			
03:30			16	22	38	15:30			384	302	686			
03:45			12	49	32	75	15:45		396	1448	295	1277	691	2725
04:00			11	37	48	16:00			400	291	691			
04:15			15	40	55	16:15			382	288	670			
04:30			27	71	98	16:30			393	279	672			
04:45			37	90	97	245	16:45		432	1607	319	1177	751	2784
05:00			30	68	98	17:00			496	302	798			
05:15			29	84	113	17:15			595	328	923			
05:30			40	99	139	17:30			483	318	801			
05:45			79	178	154	405	17:45		494	2068	323	1271	817	3339
06:00			68	148	216	18:00			521	274	795			
06:15			114	204	318	18:15			423	292	715			
06:30			157	249	406	18:30			417	247	664			
06:45			305	644	354	955	18:45		382	1743	226	1039	608	2782
07:00			144	414	558	19:00			348	217	565			
07:15			204	388	592	19:15			285	236	521			
07:30			291	459	750	19:30			308	216	524			
07:45			379	1018	472	1733	19:45		274	1215	192	861	466	2076
08:00			230	544	774	20:00			259	165	424			
08:15			194	494	688	20:15			235	204	439			
08:30			205	392	597	20:30			254	155	409			
08:45			202	831	362	1792	20:45		232	980	152	676	384	1656
09:00			185	309	494	21:00			185	155	340			
09:15			170	326	496	21:15			168	138	306			
09:30			171	292	463	21:30			158	110	268			
09:45			201	727	240	1167	21:45		139	650	91	494	230	1144
10:00			191	232	423	22:00			129	82	211			
10:15			183	229	412	22:15			109	63	172			
10:30			202	214	416	22:30			85	59	144			
10:45			200	776	227	902	22:45		76	399	35	239	111	638
11:00			185	232	417	23:00			89	53	142			
11:15			209	223	432	23:15			57	29	86			
11:30			255	248	503	23:30			45	23	68			
11:45			253	902	241	944	23:45		50	241	26	131	76	372
TOTALS			5407	8397	13804	TOTALS			13741	10451	24192			
SPLIT %			39.2%	60.8%	36.3%	SPLIT %			56.8%	43.2%	63.7%			

DAILY TOTALS					NB	SB					Total
					0	0	EB	WB			37,996
							19,148	18,848			

AM Peak Hour			07:15	07:30	07:30	PM Peak Hour			17:15	15:00	17:00
AM Pk Volume			1104	1969	3063	PM Pk Volume			2093	1277	3339
Pk Hr Factor			0.728	0.905	0.900	Pk Hr Factor			0.879	0.936	0.904
7 - 9 Volume	0	0	1849	3525	5374	4 - 6 Volume	0	0	3675	2448	6123
7 - 9 Peak Hour			07:15	07:30	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	1104	1969	3063	4 - 6 Pk Volume	0	0	2068	1271	3339
Pk Hr Factor	0.000	0.000	0.728	0.905	0.900	Pk Hr Factor	0.000	0.000	0.869	0.969	0.904

VOLUME

Rancho Pkwy S W/O Bake Pkwy

Day: Tuesday
Date: 4/10/2018

City: Lake Forest
Project #: CA18_1076_028

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	3,642	3,758	7,400					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			9	5	14	12:00			78	79	157			
00:15			4	1	5	12:15			60	55	115			
00:30			11	10	21	12:30			53	78	131			
00:45			2	26	6	22	12:45		54	245	82	294	136	539
01:00			1	1	2	13:00			61	82	143			
01:15			0	1	1	13:15			65	70	135			
01:30			2	8	10	13:30			71	60	131			
01:45			0	3	0	10	13:45		64	261	56	268	120	529
02:00			2	1	3	14:00			68	67	135			
02:15			1	2	3	14:15			60	45	105			
02:30			1	0	1	14:30			59	50	109			
02:45			0	4	1	4	14:45		48	235	54	216	102	451
03:00			0	0	0	15:00			63	56	119			
03:15			3	4	7	15:15			61	47	108			
03:30			1	1	2	15:30			78	52	130			
03:45			2	6	5	10	15:45		65	267	71	226	136	493
04:00			2	1	3	16:00			96	56	152			
04:15			2	3	5	16:15			58	58	116			
04:30			2	6	8	16:30			72	70	142			
04:45			8	14	12	22	16:45		66	292	74	258	140	550
05:00			5	8	13	17:00			115	95	210			
05:15			15	13	28	17:15			85	67	152			
05:30			11	11	22	17:30			86	72	158			
05:45			24	55	30	62	17:45		77	363	45	279	122	642
06:00			19	20	39	18:00			80	54	134			
06:15			20	30	50	18:15			72	59	131			
06:30			45	44	89	18:30			48	54	102			
06:45			41	125	60	154	18:45		53	253	47	214	100	467
07:00			50	53	103	19:00			41	45	86			
07:15			46	65	111	19:15			43	29	72			
07:30			65	72	137	19:30			37	40	77			
07:45			74	235	104	294	19:45		24	145	42	156	66	301
08:00			72	90	162	20:00			38	42	80			
08:15			59	110	169	20:15			40	30	70			
08:30			57	98	155	20:30			33	23	56			
08:45			60	248	81	379	20:45		22	133	20	115	42	248
09:00			52	69	121	21:00			29	32	61			
09:15			61	64	125	21:15			21	20	41			
09:30			50	54	104	21:30			16	24	40			
09:45			45	208	56	243	21:45		13	79	21	97	34	176
10:00			31	41	72	22:00			12	18	30			
10:15			26	38	64	22:15			14	19	33			
10:30			30	26	56	22:30			10	14	24			
10:45			40	127	53	158	22:45		7	43	10	61	17	104
11:00			48	38	86	23:00			19	19	38			
11:15			60	48	108	23:15			7	9	16			
11:30			50	44	94	23:30			8	2	10			
11:45			79	237	53	183	23:45		4	38	3	33	7	71
TOTALS			1288	1541	2829	TOTALS			2354	2217	4571			
SPLIT %			45.5%	54.5%	38.2%	SPLIT %			51.5%	48.5%	61.8%			

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	3,642	3,758	7,400		
AM Peak Hour			07:30	07:45	07:45	PM Peak Hour			17:00	12:30	16:45
AM Pk Volume			270	402	664	PM Pk Volume			363	312	660
Pk Hr Factor			0.912	0.914	0.933	Pk Hr Factor			0.789	0.951	0.786
7 - 9 Volume	0	0	483	673	1156	4 - 6 Volume	0	0	655	537	1192
7 - 9 Peak Hour			07:30	07:45	07:45	4 - 6 Peak Hour			17:00	16:45	16:45
7 - 9 Pk Volume	0	0	270	402	664	4 - 6 Pk Volume	0	0	363	308	660
Pk Hr Factor	0.000	0.000	0.912	0.914	0.933	Pk Hr Factor	0.000	0.000	0.789	0.811	0.786

VOLUME

Rancho Pkwy E/O Bake Pkwy

Day: Tuesday
Date: 4/10/2018City: Lake Forest
Project #: CA18_1076_029

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	6,764	7,150	13,914			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			8	10	18	12:00			139	134	273	
00:15			9	8	17	12:15			106	141	247	
00:30			5	6	11	12:30			131	139	270	
00:45			8	30	2	12:45			101	477	166	580
01:00			5	4	9	13:00			123	144	267	
01:15			4	7	11	13:15			113	117	230	
01:30			5	4	9	13:30			116	141	257	
01:45			3	17	8	13:45			96	448	109	511
02:00			2	1	3	14:00			115	108	223	
02:15			1	6	7	14:15			112	131	243	
02:30			4	5	9	14:30			96	124	220	
02:45			3	10	2	14:45			109	432	98	461
03:00			2	2	4	15:00			98	98	196	
03:15			1	4	5	15:15			108	110	218	
03:30			7	6	13	15:30			113	117	230	
03:45			8	18	8	15:45			156	475	131	456
04:00			3	8	11	16:00			136	101	237	
04:15			9	10	19	16:15			149	90	239	
04:30			7	13	20	16:30			164	118	282	
04:45			14	33	21	16:45			148	597	100	409
05:00			17	17	34	17:00			215	133	348	
05:15			18	22	40	17:15			174	99	273	
05:30			33	31	64	17:30			180	121	301	
05:45			20	88	51	17:45			185	754	104	457
06:00			32	38	70	18:00			164	126	290	
06:15			32	78	110	18:15			146	100	246	
06:30			56	78	134	18:30			153	91	244	
06:45			59	179	111	18:45			153	616	82	399
07:00			61	110	171	19:00			117	88	205	
07:15			53	122	175	19:15			119	80	199	
07:30			74	135	209	19:30			88	104	192	
07:45			79	267	154	19:45			106	430	71	343
08:00			65	182	247	20:00			103	83	186	
08:15			58	160	218	20:15			91	58	149	
08:30			62	131	193	20:30			90	47	137	
08:45			73	258	166	20:45			61	345	44	232
09:00			68	123	191	21:00			52	48	100	
09:15			81	114	195	21:15			54	35	89	
09:30			71	94	165	21:30			38	32	70	
09:45			64	284	109	21:45			36	180	22	137
10:00			64	89	153	22:00			34	37	71	
10:15			60	104	164	22:15			26	40	66	
10:30			64	91	155	22:30			30	20	50	
10:45			61	249	107	22:45			13	103	10	107
11:00			89	103	192	23:00			31	17	48	
11:15			92	98	190	23:15			24	16	40	
11:30			94	131	225	23:30			21	17	38	
11:45			112	387	116	23:45			11	87	8	58
TOTALS			1820	3000	4820	TOTALS			4944	4150	9094	
SPLIT %			37.8%	62.2%	34.6%	SPLIT %			54.4%	45.6%	65.4%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	6,764	7,150	13,914		
AM Peak Hour			11:45	08:00	11:45	PM Peak Hour			17:00	12:15	17:00
AM Pk Volume			488	639	1018	PM Pk Volume			754	590	1211
Pk Hr Factor			0.878	0.878	0.932	Pk Hr Factor			0.877	0.889	0.870
7 - 9 Volume	0	0	525	1160	1685	4 - 6 Volume	0	0	1351	866	2217
7 - 9 Peak Hour			07:30	08:00	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	276	639	907	4 - 6 Pk Volume	0	0	754	457	1211
Pk Hr Factor	0.000	0.000	0.873	0.878	0.918	Pk Hr Factor	0.000	0.000	0.877	0.859	0.870

VOLUME

Rancho Pkwy E/O Lake Forest Dr

Day: Tuesday
Date: 4/10/2018

City: Lake Forest
Project #: CA18_1076_030

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	9,662	9,778	19,440			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			11	10	21	12:00			168	181	349	
00:15			9	7	16	12:15			154	166	320	
00:30			2	4	6	12:30			155	166	321	
00:45			9	31	5	12:45			170	647	146	659
01:00			3	7	10	13:00			152	190	342	
01:15			2	10	12	13:15			170	143	313	
01:30			5	4	9	13:30			179	147	326	
01:45			6	16	8	13:45			166	667	113	593
02:00			3	5	8	14:00			147	127	274	
02:15			2	4	6	14:15			179	175	354	
02:30			5	4	9	14:30			152	168	320	
02:45			7	17	4	14:45			179	657	129	599
03:00			5	4	9	15:00			191	128	319	
03:15			6	10	16	15:15			148	156	304	
03:30			12	6	18	15:30			187	189	376	
03:45			12	35	18	15:45			223	749	140	613
04:00			5	15	20	16:00			228	139	367	
04:15			9	20	29	16:15			253	146	399	
04:30			9	14	23	16:30			259	165	424	
04:45			21	44	29	16:45			264	1004	139	589
05:00			15	26	41	17:00			284	203	487	
05:15			36	37	73	17:15			289	168	457	
05:30			44	39	83	17:30			302	142	444	
05:45			38	133	66	17:45			320	1195	140	653
06:00			34	57	91	18:00			232	165	397	
06:15			57	105	162	18:15			223	147	370	
06:30			84	116	200	18:30			200	152	352	
06:45			112	287	168	18:45			180	835	127	591
07:00			85	177	262	19:00			181	129	310	
07:15			75	208	283	19:15			134	90	224	
07:30			97	203	300	19:30			114	95	209	
07:45			117	374	234	19:45			141	570	99	413
08:00			88	285	373	20:00			139	110	249	
08:15			72	254	326	20:15			96	73	169	
08:30			96	223	319	20:30			116	79	195	
08:45			105	361	240	20:45			70	421	66	328
09:00			86	217	303	21:00			75	75	150	
09:15			105	169	274	21:15			59	51	110	
09:30			83	117	200	21:30			72	45	117	
09:45			70	344	160	21:45			41	247	36	207
10:00			101	116	217	22:00			39	51	90	
10:15			87	123	210	22:15			38	46	84	
10:30			95	108	203	22:30			23	23	46	
10:45			73	356	136	22:45			22	122	13	133
11:00			114	133	247	23:00			28	19	47	
11:15			89	133	222	23:15			24	12	36	
11:30			111	163	274	23:30			21	24	45	
11:45			149	463	137	23:45			14	87	7	62
TOTALS			2461	4338	6799	TOTALS			7201	5440	12641	
SPLIT %			36.2%	63.8%	35.0%	SPLIT %			57.0%	43.0%	65.0%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	9,662	9,778	19,440		
AM Peak Hour			11:45	08:00	07:45	PM Peak Hour			17:00	16:30	17:00
AM Pk Volume			626	1002	1369	PM Pk Volume			1195	675	1848
Pk Hr Factor			0.932	0.879	0.918	Pk Hr Factor			0.934	0.831	0.949
7 - 9 Volume	0	0	735	1824	2559	4 - 6 Volume	0	0	2199	1242	3441
7 - 9 Peak Hour			07:15	08:00	07:45	4 - 6 Peak Hour			17:00	16:30	17:00
7 - 9 Pk Volume	0	0	377	1002	1369	4 - 6 Pk Volume	0	0	1195	675	1848
Pk Hr Factor	0.000	0.000	0.806	0.879	0.918	Pk Hr Factor	0.000	0.000	0.934	0.831	0.949

VOLUME

Glenn Ranch Rd Bet. Portola Pkwy & Saddleback Ranch Rd

Day: Thursday
Date: 4/12/2018City: Foothill Ranch
Project #: CA18_1076_031

DAILY TOTALS					NB	SB	EB	WB	Total		
					8,386	7,690	0	0	16,076		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	15	6			21	12:00	149	109			258
00:15	7	5			12	12:15	135	89			224
00:30	18	6			24	12:30	151	132			283
00:45	14	54	6	23	20	12:45	126	561	132	462	258
01:00	3	5			8	13:00	99	189			288
01:15	5	7			12	13:15	108	141			249
01:30	9	7			16	13:30	97	112			209
01:45	7	24	6	25	13	13:45	112	416	96	538	208
02:00	15	3			18	14:00	115	84			199
02:15	4	4			8	14:15	86	98			184
02:30	2	4			6	14:30	116	100			216
02:45	2	23	3	14	5	14:45	119	436	100	382	219
03:00	3	9			12	15:00	115	90			205
03:15	6	8			14	15:15	143	76			219
03:30	4	5			9	15:30	156	102			258
03:45	17	30	11	33	28	15:45	151	565	93	361	244
04:00	21	10			31	16:00	195	109			304
04:15	23	13			36	16:15	185	80			265
04:30	69	22			91	16:30	185	101			286
04:45	99	212	36	81	135	16:45	177	742	94	384	271
05:00	72	50			122	17:00	257	94			351
05:15	65	77			142	17:15	247	91			338
05:30	70	73			143	17:30	258	104			362
05:45	52	259	85	285	137	17:45	188	950	106	395	294
06:00	45	83			128	18:00	222	76			298
06:15	57	110			167	18:15	215	84			299
06:30	60	167			227	18:30	190	84			274
06:45	95	257	187	547	282	18:45	154	781	91	335	245
07:00	91	178			269	19:00	151	72			223
07:15	59	228			287	19:15	138	78			216
07:30	74	244			318	19:30	133	66			199
07:45	73	297	288	938	361	19:45	114	536	49	265	163
08:00	80	277			357	20:00	124	58			182
08:15	77	216			293	20:15	114	38			152
08:30	62	190			252	20:30	137	37			174
08:45	77	296	181	864	258	20:45	93	468	37	170	130
09:00	63	152			215	21:00	98	88			186
09:15	79	141			220	21:15	76	49			125
09:30	67	113			180	21:30	75	34			109
09:45	68	277	114	520	182	21:45	66	315	21	192	87
10:00	74	94			168	22:00	49	13			62
10:15	73	109			182	22:15	45	14			59
10:30	71	98			169	22:30	37	12			49
10:45	74	292	110	411	184	22:45	32	163	9	48	41
11:00	85	83			168	23:00	33	9			42
11:15	86	100			186	23:15	23	7			30
11:30	71	88			159	23:30	21	16			37
11:45	96	338	106	377	202	23:45	17	94	8	40	25
TOTALS	2359	4118			6477	TOTALS	6027	3572			9599
SPLIT %	36.4%	63.6%			40.3%	SPLIT %	62.8%	37.2%			59.7%

DAILY TOTALS					NB	SB	EB	WB	Total
					8,386	7,690	0	0	16,076
AM Peak Hour	11:45	07:15			07:30	PM Peak Hour	17:00	12:30	17:00
AM Pk Volume	531	1037			1329	PM Pk Volume	950	594	1345
Pk Hr Factor	0.879	0.900			0.920	Pk Hr Factor	0.921	0.786	0.929
7 - 9 Volume	593	1802	0	0	2395	4 - 6 Volume	1692	779	0
7 - 9 Peak Hour	07:30	07:15			07:30	4 - 6 Peak Hour	17:00	17:00	17:00
7 - 9 Pk Volume	304	1037	0	0	1329	4 - 6 Pk Volume	950	395	0
Pk Hr Factor	0.950	0.900	0.000	0.000	0.920	Pk Hr Factor	0.921	0.932	0.000

VOLUME

Glenn Ranch Rd Bet. El Toro Rd & Saddleback Ranch Rd

Day: Tuesday
Date: 4/17/2018

City: Lake Forest
Project #: CA18_1076_032

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	3,388	3,461	6,849	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			6	1	7	12:00			39	63	102
00:15			2	0	2	12:15			28	71	99
00:30			1	2	3	12:30			44	68	112
00:45			0	9	3	12:45			35	146	79
01:00			2	1	3	13:00			42	66	108
01:15			1	1	2	13:15			61	36	97
01:30			2	0	2	13:30			38	47	85
01:45			0	5	1	13:45			43	184	90
02:00			1	0	1	14:00			37	43	80
02:15			4	1	5	14:15			70	53	123
02:30			1	1	2	14:30			73	42	115
02:45			2	8	4	14:45			77	257	130
03:00			2	0	2	15:00			60	45	105
03:15			0	3	3	15:15			80	84	164
03:30			2	3	5	15:30			83	53	136
03:45			2	6	7	15:45			61	284	115
04:00			1	2	3	16:00			101	54	155
04:15			2	6	8	16:15			90	38	128
04:30			1	7	8	16:30			88	48	136
04:45			3	7	17	16:45			82	361	128
05:00			3	10	13	17:00			109	46	155
05:15			7	14	21	17:15			106	69	175
05:30			10	14	24	17:30			119	52	171
05:45			9	29	30	17:45			84	418	141
06:00			12	25	37	18:00			98	46	144
06:15			11	39	50	18:15			69	52	121
06:30			35	59	94	18:30			64	42	106
06:45			46	104	122	18:45			57	288	103
07:00			37	85	122	19:00			53	42	95
07:15			55	92	147	19:15			44	43	87
07:30			63	103	166	19:30			49	40	89
07:45			82	237	243	19:45			38	184	73
08:00			61	101	162	20:00			38	18	56
08:15			45	85	130	20:15			24	27	51
08:30			51	68	119	20:30			41	22	63
08:45			34	191	90	20:45			24	127	49
09:00			34	34	68	21:00			24	26	50
09:15			38	48	86	21:15			15	18	33
09:30			29	42	71	21:30			23	14	37
09:45			38	139	81	21:45			19	81	33
10:00			28	44	72	22:00			15	21	36
10:15			34	49	83	22:15			15	13	28
10:30			27	54	81	22:30			10	10	20
10:45			24	113	64	22:45			9	49	17
11:00			46	31	77	23:00			6	5	11
11:15			41	43	84	23:15			5	5	10
11:30			32	37	69	23:30			3	3	6
11:45			26	145	100	23:45			2	16	8
TOTALS			993	1601	2594	TOTALS			2395	1860	4255
SPLIT %			38.3%	61.7%	37.9%	SPLIT %			56.3%	43.7%	62.1%

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	3,388	3,461	6,849	
AM Peak Hour			07:15	07:15	07:15	PM Peak Hour			17:00	12:15	17:00
AM Pk Volume			261	457	718	PM Pk Volume			418	249	642
Pk Hr Factor			0.796	0.710	0.739	Pk Hr Factor			0.878	0.877	0.917
7 - 9 Volume	0	0	428	751	1179	4 - 6 Volume	0	0	779	410	1189
7 - 9 Peak Hour			07:15	07:15	07:15	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	261	457	718	4 - 6 Pk Volume	0	0	418	224	642
Pk Hr Factor	0.000	0.000	0.796	0.710	0.739	Pk Hr Factor	0.000	0.000	0.878	0.812	0.917

VOLUME

Alton Pkwy S/O Portola Pkwy

Day: Thursday
Date: 4/12/2018City: Lake Forest
Project #: CA18_1076_033

DAILY TOTALS					NB	SB	EB	WB	Total		
					6,618	6,613	0	0	13,231		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	16	11			27	12:00	131	93			224
00:15	7	7			14	12:15	147	105			252
00:30	10	3			13	12:30	131	89			220
00:45	10	43	7	28	17	12:45	94	503	107	394	201
01:00	12	2			14	13:00	102	116			218
01:15	4	4			8	13:15	87	131			218
01:30	4	4			8	13:30	82	99			181
01:45	2	22	2	12	4	13:45	83	354	101	447	184
02:00	7	2			9	14:00	89	81			170
02:15	6	1			7	14:15	99	86			185
02:30	3	3			6	14:30	109	121			230
02:45	5	21	4	10	9	14:45	121	418	118	406	239
03:00	4	5			9	15:00	82	112			194
03:15	3	6			9	15:15	121	74			195
03:30	6	7			13	15:30	127	105			232
03:45	9	22	10	28	19	15:45	115	445	89	380	204
04:00	7	12			19	16:00	113	78			191
04:15	11	7			18	16:15	129	86			215
04:30	46	12			58	16:30	136	86			222
04:45	41	105	16	47	57	16:45	156	534	90	340	246
05:00	22	34			56	17:00	154	117			271
05:15	13	33			46	17:15	152	110			262
05:30	25	47			72	17:30	192	94			286
05:45	31	91	45	159	76	17:45	174	672	107	428	281
06:00	21	55			76	18:00	136	81			217
06:15	21	75			96	18:15	151	78			229
06:30	31	118			149	18:30	171	76			247
06:45	55	128	121	369	176	18:45	120	578	76	311	196
07:00	34	150			184	19:00	120	74			194
07:15	59	198			257	19:15	108	65			173
07:30	76	210			286	19:30	108	65			173
07:45	117	286	217	775	334	19:45	83	419	47	251	130
08:00	97	201			298	20:00	84	51			135
08:15	98	209			307	20:15	102	48			150
08:30	78	157			235	20:30	80	38			118
08:45	77	350	126	693	203	20:45	65	331	37	174	102
09:00	64	106			170	21:00	55	44			99
09:15	66	112			178	21:15	64	65			129
09:30	75	88			163	21:30	57	38			95
09:45	51	256	107	413	158	21:45	51	227	28	175	79
10:00	58	90			148	22:00	50	23			73
10:15	47	79			126	22:15	47	20			67
10:30	50	75			125	22:30	30	21			51
10:45	67	222	82	326	149	22:45	33	160	8	72	41
11:00	96	74			170	23:00	31	15			46
11:15	82	91			173	23:15	15	12			27
11:30	85	94			179	23:30	11	9			20
11:45	96	359	72	331	168	23:45	15	72	8	44	23
TOTALS	1905	3191			5096	TOTALS	4713	3422			8135
SPLIT %	37.4%	62.6%			38.5%	SPLIT %	57.9%	42.1%			61.5%

DAILY TOTALS					NB	SB	EB	WB	Total
					6,618	6,613	0	0	13,231
AM Peak Hour	11:45	07:30			07:30	PM Peak Hour	17:00	12:45	17:00
AM Pk Volume	505	837			1225	PM Pk Volume	672	453	1100
Pk Hr Factor	0.859	0.964			0.917	Pk Hr Factor	0.875	0.865	0.962
7 - 9 Volume	636	1468	0	0	2104	4 - 6 Volume	1206	768	0
7 - 9 Peak Hour	07:45	07:30			07:30	4 - 6 Peak Hour	17:00	17:00	17:00
7 - 9 Pk Volume	390	837	0	0	1225	4 - 6 Pk Volume	672	428	0
Pk Hr Factor	0.833	0.964	0.000	0.000	0.917	Pk Hr Factor	0.875	0.915	0.000

VOLUME

Alton Pkwy S/O SR-241

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_034

DAILY TOTALS					NB	SB	EB	WB	Total		
					10,445	8,677	0	0	19,122		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	8	7			15	12:00	197	126			323
00:15	7	4			11	12:15	179	150			329
00:30	9	8			17	12:30	192	134			326
00:45	8	32	9	28	17	12:45	179	747	148	558	327
01:00	9	10			19	13:00	150	161			311
01:15	0	9			9	13:15	141	148			289
01:30	7	8			15	13:30	171	141			312
01:45	10	26	8	35	18	13:45	162	624	107	557	269
02:00	4	6			10	14:00	148	112			260
02:15	0	6			6	14:15	166	124			290
02:30	0	7			7	14:30	159	127			286
02:45	2	6	3	22	5	14:45	159	632	106	469	265
03:00	4	4			8	15:00	166	102			268
03:15	1	9			10	15:15	185	114			299
03:30	7	8			15	15:30	193	105			298
03:45	8	20	14	35	22	15:45	241	785	112	433	353
04:00	14	11			25	16:00	257	118			375
04:15	18	17			35	16:15	243	95			338
04:30	51	20			71	16:30	260	97			357
04:45	40	123	42	90	82	16:45	256	1016	102	412	358
05:00	19	44			63	17:00	322	118			440
05:15	34	43			77	17:15	373	117			490
05:30	34	68			102	17:30	319	120			439
05:45	36	123	90	245	126	17:45	279	1293	130	485	409
06:00	56	89			145	18:00	242	112			354
06:15	54	135			189	18:15	241	94			335
06:30	65	154			219	18:30	186	87			273
06:45	98	273	185	563	283	18:45	147	816	76	369	223
07:00	118	188			306	19:00	164	90			254
07:15	128	221			349	19:15	139	86			225
07:30	133	258			391	19:30	118	87			205
07:45	169	548	282	949	451	19:45	120	541	59	322	179
08:00	145	306			451	20:00	104	55			159
08:15	144	295			439	20:15	90	50			140
08:30	150	281			431	20:30	99	49			148
08:45	134	573	224	1106	358	20:45	90	383	52	206	142
09:00	104	194			298	21:00	75	54			129
09:15	97	171			268	21:15	57	60			117
09:30	111	150			261	21:30	42	38			80
09:45	94	406	146	661	240	21:45	47	221	48	200	95
10:00	96	92			188	22:00	40	27			67
10:15	117	109			226	22:15	35	30			65
10:30	106	104			210	22:30	41	15			56
10:45	101	420	91	396	192	22:45	19	135	12	84	31
11:00	123	110			233	23:00	18	11			29
11:15	130	83			213	23:15	22	11			33
11:30	165	86			251	23:30	15	14			29
11:45	213	631	127	406	340	23:45	16	71	10	46	26
TOTALS	3181	4536			7717	TOTALS	7264	4141			11405
SPLIT %	41.2%	58.8%			40.4%	SPLIT %	63.7%	36.3%			59.6%

DAILY TOTALS					NB	SB	EB	WB	Total	
					10,445	8,677	0	0	19,122	
AM Peak Hour	11:45	07:45			07:45	PM Peak Hour	17:00	12:45	17:00	
AM Pk Volume	781	1164			1772	PM Pk Volume	1293	598	1778	
Pk Hr Factor	0.917	0.951			0.982	Pk Hr Factor	0.867	0.929	0.907	
7 - 9 Volume	1121	2055	0	0	3176	4 - 6 Volume	2309	897	0	3206
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	17:00	17:00		17:00
7 - 9 Pk Volume	608	1164	0	0	1772	4 - 6 Pk Volume	1293	485	0	1778
Pk Hr Factor	0.899	0.951	0.000	0.000	0.982	Pk Hr Factor	0.867	0.933	0.000	0.907

VOLUME

Alton Pkwy S/O Rancho Pkwy

Day: Tuesday
 Date: 4/10/2018

City: Lake Forest
 Project #: CA18_1076_035

DAILY TOTALS						NB	SB	EB	WB	Total	
						11,738	11,523	0	0	23,261	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	16	10	0	0	26	12:00	201	144	0	0	345
00:15	16	9	0	0	25	12:15	194	138	0	0	332
00:30	12	5	0	0	17	12:30	194	185	0	0	379
00:45	8	52	5	29	13	12:45	171	760	185	652	356
01:00	14	6	0	0	20	13:00	161	179	0	0	340
01:15	8	5	0	0	13	13:15	142	179	0	0	321
01:30	9	5	0	0	14	13:30	164	150	0	0	314
01:45	5	36	4	20	9	13:45	165	632	183	691	348
02:00	7	4	0	0	11	14:00	147	146	0	0	293
02:15	8	5	0	0	13	14:15	181	145	0	0	326
02:30	7	3	0	0	10	14:30	198	159	0	0	357
02:45	4	26	4	16	8	14:45	155	681	140	590	295
03:00	6	4	0	0	10	15:00	182	139	0	0	321
03:15	5	7	0	0	12	15:15	210	132	0	0	342
03:30	11	13	0	0	24	15:30	215	197	0	0	412
03:45	15	37	14	38	29	15:45	222	829	148	616	370
04:00	13	12	0	0	25	16:00	279	163	0	0	442
04:15	27	25	0	0	52	16:15	242	146	0	0	388
04:30	65	33	0	0	98	16:30	288	172	0	0	460
04:45	70	175	40	110	110	16:45	286	1095	166	647	452
05:00	34	57	0	0	91	17:00	327	207	0	0	534
05:15	54	50	0	0	104	17:15	416	195	0	0	611
05:30	45	85	0	0	130	17:30	344	170	0	0	514
05:45	56	189	96	288	152	17:45	297	1384	157	729	454
06:00	63	133	0	0	196	18:00	291	167	0	0	458
06:15	71	150	0	0	221	18:15	279	150	0	0	429
06:30	105	200	0	0	305	18:30	191	133	0	0	324
06:45	114	353	267	750	381	18:45	214	975	137	587	351
07:00	109	275	0	0	384	19:00	182	128	0	0	310
07:15	124	333	0	0	457	19:15	161	104	0	0	265
07:30	157	350	0	0	507	19:30	151	108	0	0	259
07:45	190	580	410	1368	600	19:45	153	647	95	435	248
08:00	155	402	0	0	557	20:00	126	75	0	0	201
08:15	166	350	0	0	516	20:15	129	80	0	0	209
08:30	197	341	0	0	538	20:30	95	64	0	0	159
08:45	166	684	302	1395	468	20:45	123	473	66	285	189
09:00	138	219	0	0	357	21:00	86	77	0	0	163
09:15	109	207	0	0	316	21:15	76	81	0	0	157
09:30	132	181	0	0	313	21:30	61	55	0	0	116
09:45	120	499	174	781	294	21:45	67	290	58	271	125
10:00	106	132	0	0	238	22:00	51	54	0	0	105
10:15	104	134	0	0	238	22:15	51	39	0	0	90
10:30	88	130	0	0	218	22:30	49	26	0	0	75
10:45	112	410	100	496	212	22:45	31	182	20	139	51
11:00	137	119	0	0	256	23:00	28	52	0	0	80
11:15	147	130	0	0	277	23:15	35	17	0	0	52
11:30	173	116	0	0	289	23:30	28	17	0	0	45
11:45	182	639	125	490	307	23:45	19	110	14	100	33
TOTALS	3680	5781			9461	TOTALS	8058	5742			13800
SPLIT %	38.9%	61.1%			40.7%	SPLIT %	58.4%	41.6%			59.3%

DAILY TOTALS						NB	SB	EB	WB	Total
						11,738	11,523	0	0	23,261

AM Peak Hour	11:45	07:30			07:45	PM Peak Hour	17:00	16:30			17:00
AM Pk Volume	771	1512			2211	PM Pk Volume	1384	740			2113
Pk Hr Factor	0.959	0.922			0.921	Pk Hr Factor	0.832	0.894			0.865
7 - 9 Volume	1264	2763	0	0	4027	4 - 6 Volume	2479	1376	0	0	3855
7 - 9 Peak Hour	07:45	07:30			07:45	4 - 6 Peak Hour	17:00	16:30			17:00
7 - 9 Pk Volume	708	1512	0	0	2211	4 - 6 Pk Volume	1384	740	0	0	2113
Pk Hr Factor	0.898	0.922	0.000	0.000	0.921	Pk Hr Factor	0.832	0.894	0.000	0.000	0.865

VOLUME

Alton Pkwy N/O Trabuco Rd

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_036

DAILY TOTALS						NB	SB	EB	WB	Total	
						12,015	12,367	0	0	24,382	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	14	20			34	12:00	144	159			303
00:15	12	16			28	12:15	130	158			288
00:30	17	13			30	12:30	167	186			353
00:45	4	47	18	67	22	12:45	180	621	154	657	334
01:00	9	8			17	13:00	166	146			312
01:15	6	13			19	13:15	175	131			306
01:30	6	14			20	13:30	172	138			310
01:45	3	24	8	43	11	13:45	124	637	166	581	290
02:00	4	14			18	14:00	141	168			309
02:15	8	6			14	14:15	138	162			300
02:30	9	10			19	14:30	213	172			385
02:45	6	27	9	39	15	14:45	156	648	152	654	308
03:00	3	8			11	15:00	172	190			362
03:15	2	11			13	15:15	179	169			348
03:30	8	15			23	15:30	277	238			515
03:45	23	36	28	62	51	15:45	218	846	220	817	438
04:00	11	13			24	16:00	257	254			511
04:15	30	25			55	16:15	244	251			495
04:30	62	62			124	16:30	239	292			531
04:45	72	175	76	176	148	16:45	322	1062	264	1061	586
05:00	27	48			75	17:00	339	363			702
05:15	52	42			94	17:15	404	385			789
05:30	37	67			104	17:30	388	340			728
05:45	68	184	107	264	175	17:45	351	1482	318	1406	669
06:00	52	85			137	18:00	310	267			577
06:15	83	127			210	18:15	296	282			578
06:30	94	173			267	18:30	189	213			402
06:45	121	350	234	619	355	18:45	200	995	195	957	395
07:00	166	156			322	19:00	148	214			362
07:15	182	178			360	19:15	151	156			307
07:30	218	159			377	19:30	145	142			287
07:45	244	810	181	674	425	19:45	124	568	134	646	258
08:00	274	234			508	20:00	134	109			243
08:15	255	227			482	20:15	131	98			229
08:30	235	195			430	20:30	95	122			217
08:45	214	978	213	869	427	20:45	106	466	102	431	208
09:00	190	211			401	21:00	74	99			173
09:15	154	140			294	21:15	70	74			144
09:30	145	143			288	21:30	50	90			140
09:45	116	605	130	624	246	21:45	67	261	80	343	147
10:00	112	120			232	22:00	49	71			120
10:15	90	102			192	22:15	49	65			114
10:30	107	121			228	22:30	42	53			95
10:45	112	421	127	470	239	22:45	35	175	48	237	83
11:00	82	135			217	23:00	29	38			67
11:15	94	130			224	23:15	36	27			63
11:30	151	134			285	23:30	31	23			54
11:45	156	483	162	561	318	23:45	18	114	21	109	39
TOTALS	4140	4468			8608	TOTALS	7875	7899			15774
SPLIT %	48.1%	51.9%			35.3%	SPLIT %	49.9%	50.1%			64.7%

DAILY TOTALS						NB	SB	EB	WB	Total	
						12,015	12,367	0	0	24,382	
AM Peak Hour	07:45	08:00			08:00	PM Peak Hour	17:00	17:00		17:00	
AM Pk Volume	1008	869			1847	PM Pk Volume	1482	1406		2888	
Pk Hr Factor	0.920	0.928			0.909	Pk Hr Factor	0.917	0.913		0.915	
7 - 9 Volume	1788	1543	0	0	3331	4 - 6 Volume	2544	2467	0	0	5011
7 - 9 Peak Hour	07:45	08:00			08:00	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	1008	869	0	0	1847	4 - 6 Pk Volume	1482	1406	0	0	2888
Pk Hr Factor	0.920	0.928	0.000	0.000	0.909	Pk Hr Factor	0.917	0.913	0.000	0.000	0.915

VOLUME

Bake Pkwy S/O Towne Centre Drive

Day: Tuesday
Date: 4/10/2018City: Lake Forest
Project #: CA18_1076_037

DAILY TOTALS					NB	SB	EB	WB	Total		
					13,361	12,957	0	0	26,318		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	7	29			36	12:00	378	246			624
00:15	17	22			39	12:15	291	254			545
00:30	4	14			18	12:30	317	296			613
00:45	6	34	10	75	16	12:45	256	1242	311	1107	567
01:00	8	8			16	13:00	243	291			534
01:15	9	7			16	13:15	210	312			522
01:30	3	3			6	13:30	251	289			540
01:45	12	32	8	26	20	13:45	199	903	275	1167	474
02:00	6	11			17	14:00	180	238			418
02:15	2	5			7	14:15	167	206			373
02:30	6	3			9	14:30	187	222			409
02:45	2	16	6	25	8	14:45	201	735	203	869	404
03:00	4	6			10	15:00	179	203			382
03:15	8	10			18	15:15	215	158			373
03:30	14	13			27	15:30	195	223			418
03:45	18	44	10	39	28	15:45	217	806	158	742	375
04:00	14	12			26	16:00	246	199			445
04:15	32	12			44	16:15	252	203			455
04:30	69	24			93	16:30	264	202			466
04:45	117	232	27	75	144	16:45	244	1006	219	823	463
05:00	27	58			85	17:00	301	233			534
05:15	35	63			98	17:15	314	241			555
05:30	92	74			166	17:30	310	215			525
05:45	103	257	69	264	172	17:45	293	1218	201	890	494
06:00	59	67			126	18:00	298	239			537
06:15	81	71			152	18:15	258	220			478
06:30	110	135			245	18:30	267	217			484
06:45	159	409	154	427	313	18:45	252	1075	225	901	477
07:00	124	155			279	19:00	200	170			370
07:15	146	191			337	19:15	193	197			390
07:30	128	197			325	19:30	175	163			338
07:45	167	565	219	762	386	19:45	173	741	151	681	324
08:00	217	233			450	20:00	137	157			294
08:15	165	255			420	20:15	146	131			277
08:30	171	217			388	20:30	141	137			278
08:45	146	699	186	891	332	20:45	122	546	137	562	259
09:00	152	159			311	21:00	102	102			204
09:15	158	151			309	21:15	90	113			203
09:30	141	159			300	21:30	80	92			172
09:45	149	600	170	639	319	21:45	65	337	75	382	140
10:00	124	123			247	22:00	66	68			134
10:15	128	148			276	22:15	48	58			106
10:30	155	124			279	22:30	42	50			92
10:45	168	575	127	522	295	22:45	28	184	44	220	72
11:00	212	135			347	23:00	40	44			84
11:15	232	162			394	23:15	17	33			50
11:30	276	180			456	23:30	20	35			55
11:45	293	1013	238	715	531	23:45	15	92	41	153	56
TOTALS	4476	4460			8936	TOTALS	8885	8497			17382
SPLIT %	50.1%	49.9%			34.0%	SPLIT %	51.1%	48.9%			66.0%

DAILY TOTALS					NB	SB	EB	WB	Total
					13,361	12,957	0	0	26,318
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	12:00	12:30	12:00
AM Pk Volume	1279	1034			2313	PM Pk Volume	1242	1210	2349
Pk Hr Factor	0.846	0.873			0.927	Pk Hr Factor	0.821	0.970	0.941
7 - 9 Volume	1264	1653	0	0	2917	4 - 6 Volume	2224	1713	3937
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	17:00	16:45	17:00
7 - 9 Pk Volume	720	924	0	0	1644	4 - 6 Pk Volume	1218	908	2108
Pk Hr Factor	0.829	0.906	0.000	0.000	0.913	Pk Hr Factor	0.970	0.942	0.950

VOLUME

Bake Pkwy N/O Commercentre Dr

Day: Tuesday
 Date: 4/17/2018

City: Lake Forest
 Project #: CA18_1076_038

DAILY TOTALS						NB	SB	EB	WB	Total	
						14,874	14,756	0	0	29,630	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	22	25	0	0	47	12:00	299	249	0	0	548
00:15	7	20	0	0	27	12:15	260	263	0	0	523
00:30	9	15	0	0	24	12:30	261	294	0	0	555
00:45	10	48	12	72	22	12:45	269	1089	289	1095	558
01:00	9	12	0	0	21	13:00	239	293	0	0	532
01:15	7	10	0	0	17	13:15	252	294	0	0	546
01:30	13	11	0	0	24	13:30	197	277	0	0	474
01:45	8	37	10	43	18	13:45	195	883	311	1175	506
02:00	6	8	0	0	14	14:00	181	237	0	0	418
02:15	3	8	0	0	11	14:15	211	215	0	0	426
02:30	8	8	0	0	16	14:30	195	286	0	0	481
02:45	4	21	7	31	11	14:45	204	791	251	989	455
03:00	10	2	0	0	12	15:00	197	255	0	0	452
03:15	11	7	0	0	18	15:15	228	216	0	0	444
03:30	19	9	0	0	28	15:30	266	242	0	0	508
03:45	30	70	20	38	50	15:45	222	913	222	935	444
04:00	20	12	0	0	32	16:00	301	209	0	0	510
04:15	43	19	0	0	62	16:15	286	205	0	0	491
04:30	67	23	0	0	90	16:30	303	240	0	0	543
04:45	130	260	44	98	174	16:45	306	1196	227	881	533
05:00	56	68	0	0	124	17:00	341	274	0	0	615
05:15	77	91	0	0	168	17:15	332	263	0	0	595
05:30	113	94	0	0	207	17:30	359	232	0	0	591
05:45	143	389	114	367	257	17:45	331	1363	225	994	556
06:00	104	112	0	0	216	18:00	308	254	0	0	562
06:15	129	145	0	0	274	18:15	269	242	0	0	511
06:30	166	212	0	0	378	18:30	260	211	0	0	471
06:45	164	563	241	710	405	18:45	247	1084	192	899	439
07:00	192	230	0	0	422	19:00	206	196	0	0	402
07:15	156	237	0	0	393	19:15	200	159	0	0	359
07:30	208	281	0	0	489	19:30	169	182	0	0	351
07:45	264	820	341	1089	605	19:45	167	742	143	680	310
08:00	223	342	0	0	565	20:00	136	131	0	0	267
08:15	263	319	0	0	582	20:15	164	120	0	0	284
08:30	238	287	0	0	525	20:30	131	117	0	0	248
08:45	218	942	264	1212	482	20:45	134	565	104	472	238
09:00	214	202	0	0	416	21:00	103	112	0	0	215
09:15	175	179	0	0	354	21:15	93	127	0	0	220
09:30	184	183	0	0	367	21:30	99	116	0	0	215
09:45	187	760	247	811	434	21:45	91	386	72	427	163
10:00	162	150	0	0	312	22:00	70	90	0	0	160
10:15	134	159	0	0	293	22:15	68	70	0	0	138
10:30	142	144	0	0	286	22:30	45	36	0	0	81
10:45	178	616	138	591	316	22:45	43	226	47	243	90
11:00	252	182	0	0	434	23:00	27	43	0	0	70
11:15	223	191	0	0	414	23:15	32	29	0	0	61
11:30	265	193	0	0	458	23:30	21	33	0	0	54
11:45	268	1008	216	782	484	23:45	22	102	17	122	39
TOTALS	5534	5844			11378	TOTALS	9340	8912			18252
SPLIT %	48.6%	51.4%			38.4%	SPLIT %	51.2%	48.8%			61.6%

DAILY TOTALS						NB	SB	EB	WB	Total	
						14,874	14,756	0	0	29,630	
AM Peak Hour	11:30	07:45			07:45	PM Peak Hour	17:00	13:00		17:00	
AM Pk Volume	1092	1289			2277	PM Pk Volume	1363	1175		2357	
Pk Hr Factor	0.913	0.942			0.941	Pk Hr Factor	0.949	0.945		0.958	
7 - 9 Volume	1762	2301	0	0	4063	4 - 6 Volume	2559	1875	0	0	4434
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	17:00	16:30			17:00
7 - 9 Pk Volume	988	1289	0	0	2277	4 - 6 Pk Volume	1363	1004	0	0	2357
Pk Hr Factor	0.936	0.942	0.000	0.000	0.941	Pk Hr Factor	0.949	0.916	0.000	0.000	0.958

VOLUME

Bake Pkwy S/O Commercentre Dr

Day: Tuesday
Date: 4/24/2018City: Lake Forest
Project #: CA18_1076_039

DAILY TOTALS					NB	SB	EB	WB	Total		
					16,968	15,367	0	0	32,335		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	21	30			51	12:00	238	227			465
00:15	38	31			69	12:15	236	182			418
00:30	19	16			35	12:30	252	220			472
00:45	15	93	17	94	32	12:45	227	953	239	868	466
01:00	8	19			27	13:00	254	212			466
01:15	15	13			28	13:15	204	223			427
01:30	16	40			56	13:30	275	246			521
01:45	13	52	14	86	27	13:45	200	933	272	953	472
02:00	7	18			25	14:00	228	221			449
02:15	10	21			31	14:15	225	196			421
02:30	17	16			33	14:30	202	344			546
02:45	14	48	10	65	24	14:45	236	891	255	1016	491
03:00	12	13			25	15:00	228	258			486
03:15	23	6			29	15:15	223	238			461
03:30	19	10			29	15:30	235	286			521
03:45	52	106	9	38	61	15:45	223	909	303	1085	526
04:00	21	20			41	16:00	275	359			634
04:15	69	19			88	16:15	284	310			594
04:30	102	43			145	16:30	289	338			627
04:45	156	348	42	124	198	16:45	311	1159	318	1325	629
05:00	105	62			167	17:00	321	414			735
05:15	121	103			224	17:15	362	325			687
05:30	171	108			279	17:30	359	319			678
05:45	311	708	105	378	416	17:45	354	1396	295	1353	649
06:00	166	103			269	18:00	306	339			645
06:15	206	129			335	18:15	266	272			538
06:30	250	197			447	18:30	277	269			546
06:45	343	965	202	631	545	18:45	226	1075	244	1124	470
07:00	270	222			492	19:00	186	224			410
07:15	330	238			568	19:15	172	180			352
07:30	359	246			605	19:30	171	153			324
07:45	377	1336	299	1005	676	19:45	178	707	141	698	319
08:00	357	318			675	20:00	156	164			320
08:15	345	253			598	20:15	141	116			257
08:30	338	249			587	20:30	162	96			258
08:45	355	1395	226	1046	581	20:45	122	581	103	479	225
09:00	293	176			469	21:00	92	117			209
09:15	226	186			412	21:15	106	135			241
09:30	250	155			405	21:30	80	124			204
09:45	208	977	156	673	364	21:45	60	338	75	451	135
10:00	215	177			392	22:00	64	64			128
10:15	171	161			332	22:15	71	62			133
10:30	204	141			345	22:30	52	72			124
10:45	177	767	149	628	326	22:45	50	237	43	241	93
11:00	220	186			406	23:00	52	89			141
11:15	173	150			323	23:15	27	54			81
11:30	233	241			474	23:30	16	60			76
11:45	247	873	203	780	450	23:45	26	121	23	226	49
TOTALS	7668	5548			13216	TOTALS	9300	9819			19119
SPLIT %	58.0%	42.0%			40.9%	SPLIT %	48.6%	51.4%			59.1%

DAILY TOTALS					NB	SB	EB	WB	Total
					16,968	15,367	0	0	32,335
AM Peak Hour	07:30	07:45			07:30	PM Peak Hour	17:00	16:30	17:00
AM Pk Volume	1438	1119			2554	PM Pk Volume	1396	1395	2749
Pk Hr Factor	0.954	0.880			0.945	Pk Hr Factor	0.964	0.842	0.935
7 - 9 Volume	2731	2051	0	0	4782	4 - 6 Volume	2555	2678	0
7 - 9 Peak Hour	07:30	07:45			07:30	4 - 6 Peak Hour	17:00	16:30	17:00
7 - 9 Pk Volume	1438	1119	0	0	2554	4 - 6 Pk Volume	1396	1395	0
Pk Hr Factor	0.954	0.880	0.000	0.000	0.945	Pk Hr Factor	0.964	0.842	0.000

VOLUME

Bake Pkwy S/O Trabuco Rd

Day: Tuesday
 Date: 4/17/2018

City: Lake Forest
 Project #: CA18_1076_040

DAILY TOTALS					NB	SB	EB	WB	Total		
					23,850	22,312	0	0	46,162		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	28	46	0	0	74	12:00	324	329	0	0	653
00:15	21	29	0	0	50	12:15	297	319	0	0	616
00:30	17	14	0	0	31	12:30	315	347	0	0	662
00:45	18	84	25	114	43	12:45	313	1249	321	1316	634
01:00	20	32	0	0	52	13:00	286	329	0	0	615
01:15	22	30	0	0	52	13:15	336	373	0	0	709
01:30	13	31	0	0	44	13:30	254	345	0	0	599
01:45	20	75	11	104	31	13:45	361	1237	321	1368	682
02:00	9	15	0	0	24	14:00	276	383	0	0	659
02:15	8	15	0	0	23	14:15	306	325	0	0	631
02:30	10	16	0	0	26	14:30	331	471	0	0	802
02:45	23	50	9	55	32	14:45	328	1241	413	1592	741
03:00	12	8	0	0	20	15:00	332	404	0	0	736
03:15	20	7	0	0	27	15:15	343	338	0	0	681
03:30	44	23	0	0	67	15:30	340	471	0	0	811
03:45	57	133	30	68	87	15:45	361	1376	340	1553	701
04:00	37	28	0	0	65	16:00	409	389	0	0	798
04:15	59	30	0	0	89	16:15	406	380	0	0	786
04:30	157	34	0	0	191	16:30	379	429	0	0	808
04:45	199	452	74	166	273	16:45	453	1647	386	1584	839
05:00	117	105	0	0	222	17:00	421	533	0	0	954
05:15	167	129	0	0	296	17:15	503	417	0	0	920
05:30	317	126	0	0	443	17:30	463	416	0	0	879
05:45	394	995	162	522	556	17:45	465	1852	378	1744	843
06:00	290	193	0	0	483	18:00	437	433	0	0	870
06:15	355	243	0	0	598	18:15	394	390	0	0	784
06:30	356	317	0	0	673	18:30	385	348	0	0	733
06:45	448	1449	358	1111	806	18:45	342	1558	326	1497	668
07:00	385	390	0	0	775	19:00	279	287	0	0	566
07:15	414	455	0	0	869	19:15	268	272	0	0	540
07:30	432	445	0	0	877	19:30	278	244	0	0	522
07:45	468	1699	418	1708	886	19:45	266	1091	217	1020	483
08:00	467	419	0	0	886	20:00	219	170	0	0	389
08:15	420	410	0	0	830	20:15	205	199	0	0	404
08:30	482	396	0	0	878	20:30	201	144	0	0	345
08:45	454	1823	380	1605	834	20:45	214	839	120	633	334
09:00	422	346	0	0	768	21:00	184	135	0	0	319
09:15	370	319	0	0	689	21:15	194	182	0	0	376
09:30	364	296	0	0	660	21:30	143	138	0	0	281
09:45	332	1488	319	1280	651	21:45	158	679	123	578	281
10:00	276	231	0	0	507	22:00	103	112	0	0	215
10:15	260	269	0	0	529	22:15	123	80	0	0	203
10:30	262	254	0	0	516	22:30	109	84	0	0	193
10:45	266	1064	253	1007	519	22:45	85	420	61	337	146
11:00	286	305	0	0	591	23:00	64	69	0	0	133
11:15	264	300	0	0	564	23:15	49	45	0	0	94
11:30	308	285	0	0	593	23:30	43	35	0	0	78
11:45	309	1167	284	1174	593	23:45	26	182	27	176	53
TOTALS	10479	8914			19393	TOTALS	13371	13398			26769
SPLIT %	54.0%	46.0%			42.0%	SPLIT %	49.9%	50.1%			58.0%

DAILY TOTALS					NB	SB	EB	WB	Total
					23,850	22,312	0	0	46,162
AM Peak Hour	07:45	07:15	07:15		3518	PM Peak Hour	17:15	16:30	17:00
AM Pk Volume	1837	1737			3518	PM Pk Volume	1868	1765	3596
Pk Hr Factor	0.953	0.954			0.993	Pk Hr Factor	0.928	0.828	0.942
7 - 9 Volume	3522	3313	0	0	6835	4 - 6 Volume	3499	3328	6827
7 - 9 Peak Hour	07:45	07:15	07:15		3518	4 - 6 Peak Hour	17:00	16:30	17:00
7 - 9 Pk Volume	1837	1737	0	0	3518	4 - 6 Pk Volume	1852	1765	3596
Pk Hr Factor	0.953	0.954	0.000	0.000	0.993	Pk Hr Factor	0.920	0.828	0.942

VOLUME

Bake Pkwy S/O Toledo Way

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_041

DAILY TOTALS					NB	SB	EB	WB	Total		
					25,386	23,882	0	0	49,268		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	41	75			116	12:00	310	338			648
00:15	21	42			63	12:15	279	358			637
00:30	20	30			50	12:30	338	347			685
00:45	26	108	27	174	53	12:45	319	1246	287	1330	606
01:00	25	36			61	13:00	344	344			688
01:15	19	38			57	13:15	324	353			677
01:30	13	38			51	13:30	267	447			714
01:45	17	74	17	129	34	13:45	388	1323	333	1477	721
02:00	11	30			41	14:00	321	417			738
02:15	12	13			25	14:15	281	333			614
02:30	16	16			32	14:30	325	577			902
02:45	22	61	17	76	39	14:45	332	1259	502	1829	834
03:00	19	13			32	15:00	353	468			821
03:15	21	21			42	15:15	366	430			796
03:30	86	19			105	15:30	363	527			890
03:45	88	214	24	77	112	15:45	400	1482	409	1834	809
04:00	55	31			86	16:00	405	467			872
04:15	91	34			125	16:15	435	426			861
04:30	204	46			250	16:30	366	511			877
04:45	274	624	83	194	357	16:45	507	1713	439	1843	946
05:00	146	115			261	17:00	405	530			935
05:15	203	118			321	17:15	518	506			1024
05:30	338	151			489	17:30	505	457			962
05:45	483	1170	170	554	653	17:45	484	1912	393	1886	877
06:00	324	200			524	18:00	450	456			906
06:15	338	256			594	18:15	419	420			839
06:30	401	304			705	18:30	420	358			778
06:45	502	1565	373	1133	875	18:45	356	1645	331	1565	687
07:00	432	365			797	19:00	313	280			593
07:15	474	500			974	19:15	251	250			501
07:30	457	463			920	19:30	298	258			556
07:45	581	1944	496	1824	1077	19:45	268	1130	202	990	470
08:00	462	420			882	20:00	233	198			431
08:15	474	451			925	20:15	237	185			422
08:30	532	469			1001	20:30	235	141			376
08:45	485	1953	378	1718	863	20:45	223	928	114	638	337
09:00	449	369			818	21:00	184	140			324
09:15	356	297			653	21:15	214	161			375
09:30	427	322			749	21:30	170	129			299
09:45	321	1553	308	1296	629	21:45	163	731	128	558	291
10:00	309	263			572	22:00	111	92			203
10:15	250	247			497	22:15	102	87			189
10:30	289	279			568	22:30	85	79			164
10:45	232	1080	241	1030	473	22:45	78	376	71	329	149
11:00	282	296			578	23:00	62	87			149
11:15	237	287			524	23:15	41	54			95
11:30	312	308			620	23:30	39	54			93
11:45	280	1111	279	1170	559	23:45	42	184	33	228	75
TOTALS	11457	9375			20832	TOTALS	13929	14507			28436
SPLIT %	55.0%	45.0%			42.3%	SPLIT %	49.0%	51.0%			57.7%

DAILY TOTALS					NB	SB	EB	WB	Total
					25,386	23,882	0	0	49,268
AM Peak Hour	07:45	07:15			07:45	PM Peak Hour	17:15	16:30	16:45
AM Pk Volume	2049	1879			3885	PM Pk Volume	1957	1986	3867
Pk Hr Factor	0.882	0.940			0.902	Pk Hr Factor	0.944	0.937	0.944
7 - 9 Volume	3897	3542	0	0	7439	4 - 6 Volume	3625	3729	7354
7 - 9 Peak Hour	07:45	07:15			07:45	4 - 6 Peak Hour	16:45	16:30	16:45
7 - 9 Pk Volume	2049	1879	0	0	3885	4 - 6 Pk Volume	1935	1986	3867
Pk Hr Factor	0.882	0.940	0.000	0.000	0.902	Pk Hr Factor	0.934	0.937	0.944

VOLUME

Lake Forest Dr S/O Portola Blvd

Day: Thursday
Date: 4/12/2018City: Lake Forest
Project #: CA18_1076_042

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,753	4,749	0	0	9,502	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	10	6			16	12:00	98	114			212
00:15	6	4			10	12:15	80	87			167
00:30	5	5			10	12:30	85	103			188
00:45	6	27	7	22	13	12:45	77	340	98	402	175
01:00	5	4			9	13:00	68	110			178
01:15	3	3			6	13:15	63	101			164
01:30	2	2			4	13:30	53	98			151
01:45	3	13	1	10	4	13:45	70	254	75	384	145
02:00	2	2			4	14:00	51	62			113
02:15	1	0			1	14:15	90	79			169
02:30	2	3			5	14:30	70	90			160
02:45	1	6	1	6	2	14:45	58	269	77	308	135
03:00	4	4			8	15:00	79	95			174
03:15	3	1			4	15:15	107	84			191
03:30	4	4			8	15:30	59	85			144
03:45	5	16	3	12	8	15:45	90	335	83	347	173
04:00	6	3			9	16:00	93	92			185
04:15	8	3			11	16:15	111	72			183
04:30	14	8			22	16:30	102	83			185
04:45	35	63	9	23	44	16:45	132	438	95	342	227
05:00	9	13			22	17:00	137	124			261
05:15	12	18			30	17:15	150	93			243
05:30	17	12			29	17:30	114	79			193
05:45	31	69	23	66	54	17:45	108	509	87	383	195
06:00	28	33			61	18:00	103	78			181
06:15	35	25			60	18:15	88	60			148
06:30	44	49			93	18:30	79	70			149
06:45	52	159	56	163	108	18:45	78	348	61	269	139
07:00	60	59			119	19:00	67	59			126
07:15	58	55			113	19:15	66	51			117
07:30	66	83			149	19:30	71	46			117
07:45	97	281	76	273	173	19:45	47	251	38	194	85
08:00	87	106			193	20:00	51	42			93
08:15	92	93			185	20:15	47	29			76
08:30	63	74			137	20:30	42	34			76
08:45	57	299	80	353	137	20:45	45	185	31	136	76
09:00	53	85			138	21:00	34	28			62
09:15	49	91			140	21:15	28	27			55
09:30	48	59			107	21:30	25	16			41
09:45	54	204	84	319	138	21:45	22	109	11	82	33
10:00	54	67			121	22:00	26	7			33
10:15	67	72			139	22:15	30	5			35
10:30	44	66			110	22:30	24	8			32
10:45	45	210	86	291	131	22:45	14	94	13	33	27
11:00	61	69			130	23:00	10	8			18
11:15	64	69			133	23:15	6	5			11
11:30	51	91			142	23:30	9	3			12
11:45	67	243	83	312	150	23:45	6	31	3	19	9
TOTALS	1590	1850			3440	TOTALS	3163	2899			6062
SPLIT %	46.2%	53.8%			36.2%	SPLIT %	52.2%	47.8%			63.8%

DAILY TOTALS						NB	SB	EB	WB	Total
						4,753	4,749	0	0	9,502
AM Peak Hour	07:30	11:45			11:45	PM Peak Hour	16:45	12:30		16:45
AM Pk Volume	342	387			717	PM Pk Volume	533	412		924
Pk Hr Factor	0.881	0.849			0.846	Pk Hr Factor	0.888	0.936		0.885
7 - 9 Volume	580	626	0	0	1206	4 - 6 Volume	947	725	0	0
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	16:45	16:30		16:45
7 - 9 Pk Volume	342	358	0	0	700	4 - 6 Pk Volume	533	395	0	0
Pk Hr Factor	0.881	0.844	0.000	0.000	0.907	Pk Hr Factor	0.888	0.796	0.000	0.000

VOLUME

Lake Forest Dr N/O Rancho Pkwy

Day: Tuesday
Date: 4/10/2018City: Lake Forest
Project #: CA18_1076_043

DAILY TOTALS					NB	SB	EB	WB	Total			
					9,063	9,430	0	0	18,493			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	10	8			18	12:00	180	173			353	
00:15	6	11			17	12:15	159	177			336	
00:30	7	10			17	12:30	191	175			366	
00:45	6	29	7	36	13	12:45	184	714	211	736	395	1450
01:00	6	5			11	13:00	185	209			394	
01:15	7	7			14	13:15	163	176			339	
01:30	4	2			6	13:30	167	190			357	
01:45	2	19	8	22	10	13:45	139	654	174	749	313	1403
02:00	5	2			7	14:00	121	155			276	
02:15	3	0			3	14:15	121	137			258	
02:30	1	3			4	14:30	140	172			312	
02:45	0	9	3	8	3	14:45	135	517	161	625	296	1142
03:00	3	3			6	15:00	176	166			342	
03:15	3	0			3	15:15	151	144			295	
03:30	11	6			17	15:30	183	166			349	
03:45	6	23	3	12	9	15:45	206	716	158	634	364	1350
04:00	7	8			15	16:00	197	160			357	
04:15	5	11			16	16:15	174	156			330	
04:30	21	15			36	16:30	222	196			418	
04:45	34	67	22	56	56	16:45	206	799	186	698	392	1497
05:00	17	17			34	17:00	216	235			451	
05:15	28	27			55	17:15	223	200			423	
05:30	26	34			60	17:30	208	186			394	
05:45	62	133	37	115	99	17:45	211	858	174	795	385	1653
06:00	46	57			103	18:00	211	184			395	
06:15	58	57			115	18:15	162	158			320	
06:30	61	70			131	18:30	164	155			319	
06:45	94	259	108	292	202	18:45	127	664	144	641	271	1305
07:00	99	82			181	19:00	123	143			266	
07:15	126	126			252	19:15	116	144			260	
07:30	130	154			284	19:30	97	124			221	
07:45	164	519	167	529	331	19:45	86	422	96	507	182	929
08:00	147	145			292	20:00	116	102			218	
08:15	133	143			276	20:15	74	73			147	
08:30	152	148			300	20:30	88	98			186	
08:45	130	562	149	585	279	20:45	66	344	69	342	135	686
09:00	102	128			230	21:00	56	90			146	
09:15	113	160			273	21:15	44	58			102	
09:30	101	118			219	21:30	30	65			95	
09:45	116	432	136	542	252	21:45	36	166	43	256	79	422
10:00	103	133			236	22:00	45	27			72	
10:15	102	132			234	22:15	22	40			62	
10:30	114	111			225	22:30	23	25			48	
10:45	116	435	109	485	225	22:45	16	106	16	108	32	214
11:00	129	129			258	23:00	18	24			42	
11:15	148	137			285	23:15	12	23			35	
11:30	144	142			286	23:30	10	12			22	
11:45	146	567	173	581	319	23:45	9	49	17	76	26	125
TOTALS		3054	3263		6317	TOTALS		6009	6167		12176	
SPLIT %		48.3%	51.7%		34.2%	SPLIT %		49.4%	50.6%		65.8%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					9,063	9,430	0	0	18,493		
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	16:30	16:30			16:30
AM Pk Volume	676	698			1374	PM Pk Volume	867	817			1684
Pk Hr Factor	0.885	0.986			0.939	Pk Hr Factor	0.972	0.869			0.933
7 - 9 Volume	1081	1114	0	0	2195	4 - 6 Volume	1657	1493	0	0	3150
7 - 9 Peak Hour	07:45	07:30			07:45	4 - 6 Peak Hour	16:30	16:30			16:30
7 - 9 Pk Volume	596	609	0	0	1199	4 - 6 Pk Volume	867	817	0	0	1684
Pk Hr Factor	0.909	0.912	0.000	0.000	0.906	Pk Hr Factor	0.972	0.869	0.000	0.000	0.933

VOLUME

Lake Forest Dr S/O Rancho Pkwy

Day: Tuesday
 Date: 4/10/2018

City: Lake Forest
 Project #: CA18_1076_044

DAILY TOTALS						NB	SB	EB	WB	Total			
						10,970	9,924	0	0	20,894			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL		
00:00	8	10	0	0	18	12:00	199	171	0	0	370		
00:15	7	10	0	0	17	12:15	181	165	0	0	346		
00:30	9	12	0	0	21	12:30	179	150	0	0	329		
00:45	6	30	6	38	0	0	12	68	12	68	381		
01:00	7	4	0	0	11	12:45	188	747	193	679	0	0	1426
01:15	6	4	0	0	11	13:00	169	181	0	0	350		
01:30	6	6	0	0	12	13:15	159	170	0	0	329		
01:45	3	2	0	0	8	13:30	177	176	0	0	353		
02:00	5	10	22	0	13	13:45	151	656	159	686	0	0	1342
02:15	6	4	0	0	9	14:00	149	176	0	0	325		
02:30	2	2	0	0	8	14:15	138	158	0	0	296		
02:45	1	4	0	0	6	14:30	163	161	0	0	324		
03:00	2	14	2	12	3	14:45	160	610	154	649	0	0	1259
03:15	5	2	0	0	4	15:00	200	151	0	0	351		
03:30	12	4	0	0	9	15:15	180	158	0	0	338		
03:45	10	7	17	0	16	15:30	202	177	0	0	379		
04:00	7	9	0	0	16	15:45	214	796	149	635	0	0	1431
04:15	9	12	0	0	21	16:00	229	148	0	0	377		
04:30	29	14	0	0	43	16:15	214	149	0	0	363		
04:45	57	102	25	60	0	0	249	168	0	0	417		
05:00	25	13	0	0	38	16:45	264	956	195	660	0	0	1616
05:15	44	36	0	0	80	17:00	297	246	0	0	543		
05:30	45	33	0	0	78	17:15	273	201	0	0	474		
05:45	77	191	48	130	0	0	278	181	0	0	459		
06:00	64	75	0	0	139	17:30	242	1090	159	787	0	0	1877
06:15	67	71	0	0	138	18:00	252	185	0	0	437		
06:30	71	74	0	0	145	18:15	220	160	0	0	380		
06:45	145	347	116	336	0	0	187	167	0	0	354		
07:00	125	683	261	683	0	0	154	813	174	686	0	0	1499
07:15	125	109	0	0	234	19:00	178	159	0	0	337		
07:30	157	149	0	0	306	19:15	131	146	0	0	277		
07:45	157	163	0	0	320	19:30	146	138	0	0	284		
08:00	213	652	207	628	0	0	125	580	111	554	0	0	1134
08:15	200	182	0	0	382	19:45	125	580	111	554	0	0	247
08:30	182	178	0	0	360	20:00	148	99	0	0	247		
08:45	172	175	0	0	347	20:15	124	99	0	0	223		
09:00	170	724	160	695	0	0	116	105	0	0	221		
09:15	127	184	0	0	311	20:30	90	478	100	403	0	0	881
09:30	135	166	0	0	301	21:00	65	102	0	0	167		
09:45	131	137	0	0	268	21:15	65	78	0	0	143		
10:00	141	534	154	641	0	0	55	79	0	0	134		
10:15	121	114	0	0	235	21:30	50	235	63	322	0	0	557
10:30	129	117	0	0	246	21:45	50	235	63	322	0	0	113
10:45	150	113	0	0	263	22:00	53	37	0	0	90		
11:00	126	526	116	460	0	0	40	56	0	0	96		
11:15	150	133	0	0	283	22:15	33	47	0	0	80		
11:30	150	136	0	0	286	22:30	22	148	19	159	0	0	307
11:45	162	129	0	0	291	22:45	25	27	0	0	52		
TOTALS	3788	3610			7398	TOTALS	7182	6314			13496		
SPLIT %	51.2%	48.8%			35.4%	SPLIT %	53.2%	46.8%			64.6%		

DAILY TOTALS						NB	SB	EB	WB	Total	
						10,970	9,924	0	0	20,894	
AM Peak Hour	07:45	07:45	07:45	PM Peak Hour	16:45	16:45	16:45	16:45	16:45	16:45	
AM Pk Volume	767	742	1509	PM Pk Volume	1112	823	1935	1935	1935	1935	
Pk Hr Factor	0.900	0.896	0.898	Pk Hr Factor	0.936	0.836	0.891	0.891	0.891	0.891	
7 - 9 Volume	1376	1323	0	0	2699	4 - 6 Volume	2046	1447	0	0	3493
7 - 9 Peak Hour	07:45	07:45	07:45	4 - 6 Peak Hour	16:45	16:45	16:45	16:45	16:45	16:45	
7 - 9 Pk Volume	767	742	0	0	1509	4 - 6 Pk Volume	1112	823	0	0	1935
Pk Hr Factor	0.900	0.896	0.000	0.000	0.898	Pk Hr Factor	0.936	0.836	0.000	0.000	0.891

VOLUME

Lake Forest Dr N/O Trabuco Rd

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_045

DAILY TOTALS					NB	SB	EB	WB	Total		
					16,267	15,400	0	0	31,667		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	24	20			44	12:00	227	250			477
00:15	18	17			35	12:15	212	215			427
00:30	24	17			41	12:30	273	218			491
00:45	11	77	14	68	25	12:45	264	976	237	920	501
01:00	23	9			32	13:00	223	210			433
01:15	11	8			19	13:15	217	196			413
01:30	7	11			18	13:30	217	221			438
01:45	9	50	7	35	16	13:45	220	877	206	833	426
02:00	8	11			19	14:00	201	230			431
02:15	6	10			16	14:15	253	219			472
02:30	10	8			18	14:30	249	299			548
02:45	5	29	11	40	16	14:45	254	957	265	1013	519
03:00	6	6			12	15:00	313	282			595
03:15	7	8			15	15:15	323	219			542
03:30	16	18			34	15:30	275	285			560
03:45	7	36	10	42	17	15:45	281	1192	256	1042	537
04:00	7	17			24	16:00	335	298			633
04:15	23	26			49	16:15	325	235			560
04:30	44	52			96	16:30	378	324			702
04:45	46	120	53	148	99	16:45	348	1386	272	1129	620
05:00	26	47			73	17:00	374	354			728
05:15	49	79			128	17:15	405	359			764
05:30	57	89			146	17:30	393	321			714
05:45	110	242	121	336	231	17:45	421	1593	276	1310	697
06:00	85	126			211	18:00	322	260			582
06:15	105	167			272	18:15	381	249			630
06:30	136	202			338	18:30	290	224			514
06:45	194	520	241	736	435	18:45	310	1303	223	956	533
07:00	173	283			456	19:00	291	196			487
07:15	197	308			505	19:15	244	162			406
07:30	250	351			601	19:30	219	184			403
07:45	374	994	407	1349	781	19:45	200	954	141	683	341
08:00	297	330			627	20:00	187	142			329
08:15	315	280			595	20:15	197	153			350
08:30	278	270			548	20:30	187	126			313
08:45	230	1120	250	1130	480	20:45	156	727	116	537	272
09:00	180	227			407	21:00	155	85			240
09:15	186	169			355	21:15	129	109			238
09:30	198	218			416	21:30	135	91			226
09:45	212	776	224	838	436	21:45	119	538	69	354	188
10:00	187	207			394	22:00	103	95			198
10:15	182	195			377	22:15	102	52			154
10:30	144	194			338	22:30	68	39			107
10:45	144	657	145	741	289	22:45	37	310	21	207	58
11:00	142	197			339	23:00	44	43			87
11:15	149	226			375	23:15	35	30			65
11:30	198	204			402	23:30	37	25			62
11:45	196	685	209	836	405	23:45	32	148	19	117	51
TOTALS	5306	6299			11605	TOTALS	10961	9101			20062
SPLIT %	45.7%	54.3%			36.6%	SPLIT %	54.6%	45.4%			63.4%

DAILY TOTALS					NB	SB	EB	WB	Total
					16,267	15,400	0	0	31,667
AM Peak Hour	07:45	07:15			07:30	PM Peak Hour	17:00	17:00	17:00
AM Pk Volume	1264	1396			2604	PM Pk Volume	1593	1310	2903
Pk Hr Factor	0.845	0.857			0.834	Pk Hr Factor	0.946	0.912	0.950
7 - 9 Volume	2114	2479	0	0	4593	4 - 6 Volume	2979	2439	0
7 - 9 Peak Hour	07:45	07:15			07:30	4 - 6 Peak Hour	17:00	17:00	17:00
7 - 9 Pk Volume	1264	1396	0	0	2604	4 - 6 Pk Volume	1593	1310	2903
Pk Hr Factor	0.845	0.857	0.000	0.000	0.834	Pk Hr Factor	0.946	0.912	0.000

VOLUME

Lake Forest Dr S/O Trabuco Rd

Day: Tuesday
Date: 4/17/2018

City: Lake Forest
Project #: CA18_1076_046

DAILY TOTALS						NB	SB	EB	WB	Total	
						15,703	15,475	0	0	31,178	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	21	15			36	12:00	216	230			446
00:15	18	24			42	12:15	226	211			437
00:30	20	17			37	12:30	251	226			477
00:45	20	79	9	65	29	12:45	213	906	166	833	379
01:00	18	7			25	13:00	191	201			392
01:15	9	6			15	13:15	204	191			395
01:30	10	12			22	13:30	204	216			420
01:45	16	53	6	31	22	13:45	224	823	208	816	432
02:00	10	5			15	14:00	203	214			417
02:15	8	7			15	14:15	229	241			470
02:30	9	6			15	14:30	276	255			531
02:45	9	36	5	23	14	14:45	296	1004	238	948	534
03:00	6	9			15	15:00	347	244			591
03:15	10	7			17	15:15	334	214			548
03:30	17	22			39	15:30	268	239			507
03:45	12	45	15	53	27	15:45	286	1235	255	952	541
04:00	15	18			33	16:00	306	288			594
04:15	17	33			50	16:15	372	249			621
04:30	37	49			86	16:30	369	266			635
04:45	52	121	64	164	116	16:45	337	1384	303	1106	640
05:00	31	59			90	17:00	406	381			787
05:15	40	74			114	17:15	393	366			759
05:30	54	90			144	17:30	430	305			735
05:45	107	232	130	353	237	17:45	453	1682	268	1320	721
06:00	82	139			221	18:00	354	233			587
06:15	110	173			283	18:15	343	201			544
06:30	124	222			346	18:30	265	183			448
06:45	143	459	312	846	455	18:45	302	1264	166	783	468
07:00	159	333			492	19:00	222	170			392
07:15	145	361			506	19:15	268	144			412
07:30	207	410			617	19:30	206	138			344
07:45	272	783	509	1613	781	19:45	173	869	135	587	308
08:00	261	431			692	20:00	184	106			290
08:15	334	444			778	20:15	182	118			300
08:30	264	312			576	20:30	184	111			295
08:45	192	1051	318	1505	510	20:45	154	704	96	431	250
09:00	157	240			397	21:00	137	77			214
09:15	154	214			368	21:15	128	71			199
09:30	142	219			361	21:30	138	61			199
09:45	175	628	225	898	400	21:45	107	510	63	272	170
10:00	148	210			358	22:00	98	66			164
10:15	157	208			365	22:15	103	50			153
10:30	164	199			363	22:30	73	40			113
10:45	148	617	187	804	335	22:45	67	341	29	185	96
11:00	144	178			322	23:00	41	33			74
11:15	158	195			353	23:15	40	20			60
11:30	221	206			427	23:30	48	24			72
11:45	197	720	212	791	409	23:45	28	157	19	96	47
TOTALS	4824	7146			11970	TOTALS	10879	8329			19208
SPLIT %	40.3%	59.7%			38.4%	SPLIT %	56.6%	43.4%			61.6%

DAILY TOTALS						NB	SB	EB	WB	Total	
						15,703	15,475	0	0	31,178	
AM Peak Hour	07:45	07:30			07:30	PM Peak Hour	17:00	16:45			17:00
AM Pk Volume	1131	1794			2868	PM Pk Volume	1682	1355			3002
Pk Hr Factor	0.847	0.881			0.918	Pk Hr Factor	0.928	0.889			0.954
7 - 9 Volume	1834	3118	0	0	4952	4 - 6 Volume	3066	2426	0	0	5492
7 - 9 Peak Hour	07:45	07:30			07:30	4 - 6 Peak Hour	17:00	16:45			17:00
7 - 9 Pk Volume	1131	1794	0	0	2868	4 - 6 Pk Volume	1682	1355	0	0	3002
Pk Hr Factor	0.847	0.881	0.000	0.000	0.918	Pk Hr Factor	0.928	0.889	0.000	0.000	0.954

VOLUME

Lake Forest Dr N/O Jeronimo Rd

Day: Tuesday
 Date: 4/17/2018

City: Lake Forest
 Project #: CA18_1076_047

DAILY TOTALS					NB	SB	EB	WB	Total		
					16,990	16,037	0	0	33,027		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	27	2	0	0	29	12:00	233	259	0	0	492
00:15	22	4	0	0	26	12:15	232	207	0	0	439
00:30	16	18	0	0	34	12:30	269	263	0	0	532
00:45	18	83	8	32	26	12:45	236	970	239	968	475
01:00	21	6	0	0	27	13:00	229	219	0	0	448
01:15	9	5	0	0	14	13:15	229	198	0	0	427
01:30	16	11	0	0	27	13:30	210	228	0	0	438
01:45	15	61	5	27	20	13:45	266	934	234	879	500
02:00	13	7	0	0	20	14:00	237	204	0	0	441
02:15	8	5	0	0	13	14:15	235	250	0	0	485
02:30	10	5	0	0	15	14:30	272	322	0	0	594
02:45	8	39	4	21	12	14:45	283	1027	301	1077	584
03:00	10	7	0	0	17	15:00	399	346	0	0	745
03:15	13	5	0	0	18	15:15	320	240	0	0	560
03:30	13	25	0	0	38	15:30	316	299	0	0	615
03:45	7	43	12	49	19	15:45	311	1346	260	1145	571
04:00	15	15	0	0	30	16:00	365	268	0	0	633
04:15	15	27	0	0	42	16:15	377	230	0	0	607
04:30	38	45	0	0	83	16:30	379	289	0	0	668
04:45	44	112	66	153	110	16:45	412	1533	307	1094	719
05:00	32	70	0	0	102	17:00	420	286	0	0	706
05:15	41	84	0	0	125	17:15	470	359	0	0	829
05:30	61	100	0	0	161	17:30	451	269	0	0	720
05:45	118	252	124	378	242	17:45	448	1789	248	1162	696
06:00	80	152	0	0	232	18:00	383	225	0	0	608
06:15	104	175	0	0	279	18:15	388	220	0	0	608
06:30	141	250	0	0	391	18:30	342	241	0	0	583
06:45	160	485	300	877	460	18:45	306	1419	166	852	472
07:00	159	317	0	0	476	19:00	245	157	0	0	402
07:15	167	370	0	0	537	19:15	266	138	0	0	404
07:30	222	374	0	0	596	19:30	243	123	0	0	366
07:45	293	841	427	1488	720	19:45	207	961	151	569	358
08:00	340	396	0	0	736	20:00	229	111	0	0	340
08:15	239	381	0	0	620	20:15	203	131	0	0	334
08:30	215	380	0	0	595	20:30	205	104	0	0	309
08:45	182	976	331	1488	513	20:45	175	812	92	438	267
09:00	171	248	0	0	419	21:00	170	87	0	0	257
09:15	189	220	0	0	409	21:15	146	109	0	0	255
09:30	156	226	0	0	382	21:30	163	64	0	0	227
09:45	178	694	234	928	412	21:45	130	609	79	339	209
10:00	166	195	0	0	361	22:00	111	92	0	0	203
10:15	165	263	0	0	428	22:15	110	52	0	0	162
10:30	161	221	0	0	382	22:30	76	47	0	0	123
10:45	173	665	196	875	369	22:45	77	374	40	231	117
11:00	151	192	0	0	343	23:00	56	49	0	0	105
11:15	170	210	0	0	380	23:15	61	46	0	0	107
11:30	238	236	0	0	474	23:30	59	32	0	0	91
11:45	211	770	179	817	390	23:45	19	195	23	150	42
TOTALS	5021	7133			12154	TOTALS	11969	8904			20873
SPLIT %	41.3%	58.7%			36.8%	SPLIT %	57.3%	42.7%			63.2%

DAILY TOTALS					NB	SB	EB	WB	Total
					16,990	16,037	0	0	33,027
AM Peak Hour	07:30	07:45			07:30	PM Peak Hour	17:00	16:30	16:45
AM Pk Volume	1094	1584			2672	PM Pk Volume	1789	1241	2974
Pk Hr Factor	0.804	0.927			0.908	Pk Hr Factor	0.952	0.864	0.897
7 - 9 Volume	1817	2976	0	0	4793	4 - 6 Volume	3322	2256	5578
7 - 9 Peak Hour	07:30	07:45			07:30	4 - 6 Peak Hour	17:00	16:30	16:45
7 - 9 Pk Volume	1094	1584	0	0	2672	4 - 6 Pk Volume	1789	1241	2974
Pk Hr Factor	0.804	0.927	0.000	0.000	0.908	Pk Hr Factor	0.952	0.864	0.897

VOLUME

Lake Forest Dr N/O Muirlands Blvd

Day: Tuesday
Date: 4/24/2018City: Lake Forest
Project #: CA18_1076_048

DAILY TOTALS						NB	SB	EB	WB	Total	
						17,002	15,625	0	0	32,627	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	30	10			40	12:00	240	195			435
00:15	33	23			56	12:15	222	230			452
00:30	20	13			33	12:30	250	214			464
00:45	19	102	12	58	31	12:45	218	930	249	888	467
01:00	22	12			34	13:00	241	222			463
01:15	14	6			20	13:15	235	234			469
01:30	13	6			19	13:30	206	229			435
01:45	13	62	9	33	22	13:45	279	961	183	868	462
02:00	10	10			20	14:00	195	190			385
02:15	14	5			19	14:15	240	223			463
02:30	12	6			18	14:30	252	246			498
02:45	15	51	9	30	24	14:45	260	947	254	913	514
03:00	10	8			18	15:00	305	240			545
03:15	16	15			31	15:15	314	277			591
03:30	14	21			35	15:30	300	275			575
03:45	15	55	15	59	30	15:45	301	1220	264	1056	565
04:00	10	16			26	16:00	355	247			602
04:15	16	30			46	16:15	391	262			653
04:30	34	56			90	16:30	419	255			674
04:45	50	110	52	154	102	16:45	424	1589	286	1050	710
05:00	31	67			98	17:00	476	294			770
05:15	44	78			122	17:15	477	301			778
05:30	73	110			183	17:30	453	302			755
05:45	134	282	152	407	286	17:45	432	1838	248	1145	680
06:00	122	143			265	18:00	397	227			624
06:15	244	198			442	18:15	392	238			630
06:30	143	217			360	18:30	349	198			547
06:45	171	680	277	835	448	18:45	345	1483	190	853	535
07:00	147	355			502	19:00	287	167			454
07:15	195	378			573	19:15	255	117			372
07:30	249	391			640	19:30	228	148			376
07:45	286	877	368	1492	654	19:45	232	1002	146	578	378
08:00	284	371			655	20:00	190	102			292
08:15	234	395			629	20:15	185	125			310
08:30	172	371			543	20:30	187	99			286
08:45	199	889	339	1476	538	20:45	161	723	78	404	239
09:00	153	238			391	21:00	165	62			227
09:15	173	249			422	21:15	157	89			246
09:30	170	226			396	21:30	139	70			209
09:45	174	670	261	974	435	21:45	122	583	48	269	170
10:00	162	221			383	22:00	113	54			167
10:15	159	236			395	22:15	97	43			140
10:30	165	219			384	22:30	74	47			121
10:45	178	664	233	909	411	22:45	63	347	44	188	107
11:00	177	196			373	23:00	48	29			77
11:15	198	216			414	23:15	65	42			107
11:30	182	241			423	23:30	34	22			56
11:45	203	760	228	881	431	23:45	30	177	12	105	42
TOTALS	5202	7308			12510	TOTALS	11800	8317			20117
SPLIT %	41.6%	58.4%			38.3%	SPLIT %	58.7%	41.3%			61.7%

DAILY TOTALS						NB	SB	EB	WB	Total	
						17,002	15,625	0	0	32,627	
AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	17:00	16:45		16:45	
AM Pk Volume	1053	1525			2578	PM Pk Volume	1838	1183		3013	
Pk Hr Factor	0.920	0.965			0.984	Pk Hr Factor	0.963	0.979		0.968	
7 - 9 Volume	1766	2968	0	0	4734	4 - 6 Volume	3427	2195	0	0	5622
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	17:00	16:45			16:45
7 - 9 Pk Volume	1053	1525	0	0	2578	4 - 6 Pk Volume	1838	1183	0	0	3013
Pk Hr Factor	0.920	0.965	0.000	0.000	0.984	Pk Hr Factor	0.963	0.979	0.000	0.000	0.968

VOLUME

Lake Forest Dr S/O Muirlands Blvd

Day: Tuesday
 Date: 4/24/2018

City: Lake Forest
 Project #: CA18_1076_049

DAILY TOTALS						NB	SB	EB	WB	Total	
						18,281	17,730	0	0	36,011	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	26	12	0	0	38	12:00	240	232	0	0	472
00:15	37	25	0	0	62	12:15	272	263	0	0	535
00:30	25	13	0	0	38	12:30	247	253	0	0	500
00:45	25	113	13	63	38	12:45	274	1033	298	1046	572
01:00	26	19	0	0	45	13:00	209	309	0	0	518
01:15	15	10	0	0	25	13:15	262	283	0	0	545
01:30	12	7	0	0	19	13:30	265	265	0	0	530
01:45	15	68	6	42	21	13:45	289	1025	243	1100	532
02:00	9	11	0	0	20	14:00	211	233	0	0	444
02:15	12	12	0	0	24	14:15	258	290	0	0	548
02:30	8	9	0	0	17	14:30	280	258	0	0	538
02:45	11	40	8	40	19	14:45	317	1066	260	1041	577
03:00	7	8	0	0	15	15:00	309	264	0	0	573
03:15	15	17	0	0	32	15:15	329	330	0	0	659
03:30	14	30	0	0	44	15:30	320	308	0	0	628
03:45	17	53	23	78	40	15:45	354	1312	309	1211	663
04:00	13	17	0	0	30	16:00	386	288	0	0	674
04:15	16	30	0	0	46	16:15	440	269	0	0	709
04:30	37	52	0	0	89	16:30	435	321	0	0	756
04:45	50	116	58	157	108	16:45	440	1701	306	1184	746
05:00	33	64	0	0	97	17:00	515	340	0	0	855
05:15	49	82	0	0	131	17:15	465	334	0	0	799
05:30	77	113	0	0	190	17:30	487	300	0	0	787
05:45	131	290	151	410	282	17:45	442	1909	305	1279	747
06:00	174	135	0	0	309	18:00	392	263	0	0	655
06:15	304	221	0	0	525	18:15	424	266	0	0	690
06:30	157	225	0	0	382	18:30	370	224	0	0	594
06:45	171	806	300	881	471	18:45	349	1535	225	978	574
07:00	167	389	0	0	556	19:00	323	182	0	0	505
07:15	195	419	0	0	614	19:15	290	164	0	0	454
07:30	241	407	0	0	648	19:30	223	188	0	0	411
07:45	287	890	403	1618	690	19:45	232	1068	182	716	414
08:00	290	390	0	0	680	20:00	192	133	0	0	325
08:15	237	418	0	0	655	20:15	209	159	0	0	368
08:30	198	375	0	0	573	20:30	192	138	0	0	330
08:45	207	932	366	1549	573	20:45	174	767	103	533	277
09:00	163	250	0	0	413	21:00	176	102	0	0	278
09:15	194	271	0	0	465	21:15	159	88	0	0	247
09:30	188	234	0	0	422	21:30	158	91	0	0	249
09:45	173	718	280	1035	453	21:45	130	623	74	355	204
10:00	174	272	0	0	446	22:00	119	78	0	0	197
10:15	173	263	0	0	436	22:15	109	56	0	0	165
10:30	195	261	0	0	456	22:30	81	55	0	0	136
10:45	204	746	246	1042	450	22:45	63	372	57	246	120
11:00	207	231	0	0	438	23:00	50	30	0	0	80
11:15	220	242	0	0	462	23:15	74	43	0	0	117
11:30	223	243	0	0	466	23:30	45	31	0	0	76
11:45	238	888	275	991	513	23:45	41	210	31	135	72
TOTALS	5660	7906			13566	TOTALS	12621	9824			22445
SPLIT %	41.7%	58.3%			37.7%	SPLIT %	56.2%	43.8%			62.3%

DAILY TOTALS						NB	SB	EB	WB	Total
						18,281	17,730	0	0	36,011

AM Peak Hour	07:30	07:15			07:30	PM Peak Hour	17:00	16:30			17:00
AM Pk Volume	1055	1619			2673	PM Pk Volume	1909	1301			3188
Pk Hr Factor	0.909	0.966			0.968	Pk Hr Factor	0.927	0.957			0.932
7 - 9 Volume	1822	3167	0	0	4989	4 - 6 Volume	3610	2463	0	0	6073
7 - 9 Peak Hour	07:30	07:15			07:30	4 - 6 Peak Hour	17:00	16:30			17:00
7 - 9 Pk Volume	1055	1619	0	0	2673	4 - 6 Pk Volume	1909	1301	0	0	3188
Pk Hr Factor	0.909	0.966	0.000	0.000	0.968	Pk Hr Factor	0.927	0.957	0.000	0.000	0.932

VOLUME

Lake Forest Dr S/O Rockfield Blvd

Day: Tuesday
Date: 4/24/2018City: Lake Forest
Project #: CA18_1076_050

DAILY TOTALS						NB	SB	EB	WB	Total	
						31,715	27,561	0	0	59,276	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	98	52			150	12:00	509	463			972
00:15	86	45			131	12:15	574	434			1008
00:30	63	40			103	12:30	527	452			979
00:45	46	293	32	169	78	12:45	524	2134	493	1842	1017
01:00	61	35			96	13:00	508	476			984
01:15	52	50			102	13:15	527	470			997
01:30	40	49			89	13:30	475	506			981
01:45	37	190	27	161	64	13:45	480	1990	487	1939	967
02:00	55	36			91	14:00	472	469			941
02:15	53	17			70	14:15	463	444			907
02:30	74	34			108	14:30	463	453			916
02:45	89	271	31	118	120	14:45	501	1899	435	1801	936
03:00	30	21			51	15:00	534	454			988
03:15	49	29			78	15:15	512	432			944
03:30	78	39			117	15:30	581	401			982
03:45	87	244	31	120	118	15:45	566	2193	431	1718	997
04:00	55	62			117	16:00	616	439			1055
04:15	92	51			143	16:15	663	461			1124
04:30	196	79			275	16:30	707	380			1087
04:45	248	591	78	270	326	16:45	722	2708	421	1701	1143
05:00	136	96			232	17:00	770	449			1219
05:15	79	122			201	17:15	761	529			1290
05:30	128	137			265	17:30	724	480			1204
05:45	153	496	193	548	346	17:45	729	2984	464	1922	1193
06:00	170	235			405	18:00	639	434			1073
06:15	196	273			469	18:15	637	421			1058
06:30	242	341			583	18:30	520	366			886
06:45	291	899	414	1263	705	18:45	462	2258	315	1536	777
07:00	291	398			689	19:00	458	348			806
07:15	369	466			835	19:15	367	296			663
07:30	404	524			928	19:30	326	233			559
07:45	433	1497	522	1910	955	19:45	351	1502	278	1155	629
08:00	420	489			909	20:00	315	267			582
08:15	419	477			896	20:15	309	254			563
08:30	408	496			904	20:30	245	241			486
08:45	489	1736	424	1886	913	20:45	253	1122	186	948	439
09:00	373	465			838	21:00	291	207			498
09:15	374	403			777	21:15	277	241			518
09:30	369	426			795	21:30	244	173			417
09:45	405	1521	397	1691	802	21:45	196	1008	168	789	364
10:00	363	411			774	22:00	188	138			326
10:15	364	361			725	22:15	172	127			299
10:30	368	405			773	22:30	148	131			279
10:45	382	1477	426	1603	808	22:45	147	655	103	499	250
11:00	347	388			735	23:00	134	92			226
11:15	461	406			867	23:15	45	90			135
11:30	476	437			913	23:30	52	68			120
11:45	492	1776	433	1664	925	23:45	40	271	58	308	98
TOTALS	10991	11403			22394	TOTALS	20724	16158			36882
SPLIT %	49.1%	50.9%			37.8%	SPLIT %	56.2%	43.8%			62.2%

DAILY TOTALS						NB	SB	EB	WB	Total	
						31,715	27,561	0	0	59,276	
AM Peak Hour	11:45	07:30			11:45	PM Peak Hour	17:00	12:45		17:00	
AM Pk Volume	2102	2012			3884	PM Pk Volume	2984	1945		4906	
Pk Hr Factor	0.916	0.960			0.963	Pk Hr Factor	0.969	0.961		0.951	
7 - 9 Volume	3233	3796	0	0	7029	4 - 6 Volume	5692	3623	0	0	9315
7 - 9 Peak Hour	08:00	07:30			07:30	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	1736	2012	0	0	3688	4 - 6 Pk Volume	2984	1922	0	0	4906
Pk Hr Factor	0.888	0.960	0.000	0.000	0.965	Pk Hr Factor	0.969	0.908	0.000	0.000	0.951

VOLUME

Ridge Route Dr N/O Toledo Way

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_051

DAILY TOTALS						NB	SB	EB	WB	Total	
						3,318	3,348	0	0	6,666	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	1	2			3	12:00	36	39			75
00:15	3	0			3	12:15	43	69			112
00:30	1	2			3	12:30	63	88			151
00:45	4	9	1	5	5	12:45	45	187	47	243	92
01:00	1	0			1	13:00	39	30			69
01:15	0	1			1	13:15	36	42			78
01:30	2	0			2	13:30	37	49			86
01:45	2	5	0	1	2	13:45	48	160	39	160	87
02:00	1	0			1	14:00	42	58			100
02:15	2	1			3	14:15	64	81			145
02:30	0	0			0	14:30	53	52			105
02:45	0	3	1	2	1	14:45	55	214	123	314	178
03:00	1	0			1	15:00	123	113			236
03:15	1	1			2	15:15	111	76			187
03:30	2	1			3	15:30	70	58			128
03:45	1	5	0	2	1	15:45	50	354	49	296	99
04:00	3	1			4	16:00	51	48			99
04:15	3	0			3	16:15	61	46			107
04:30	3	2			5	16:30	78	84			162
04:45	2	11	6	9	8	16:45	83	273	65	243	148
05:00	3	3			6	17:00	93	72			165
05:15	3	8			11	17:15	77	53			130
05:30	3	3			6	17:30	115	73			188
05:45	7	16	4	18	11	17:45	75	360	72	270	147
06:00	9	11			20	18:00	76	51			127
06:15	8	15			23	18:15	69	47			116
06:30	8	15			23	18:30	82	54			136
06:45	12	37	30	71	42	18:45	73	300	52	204	125
07:00	21	40			61	19:00	57	58			115
07:15	34	46			80	19:15	35	48			83
07:30	70	72			142	19:30	47	20			67
07:45	82	207	159	317	241	19:45	41	180	34	160	75
08:00	88	117			205	20:00	39	30			69
08:15	83	139			222	20:15	28	28			56
08:30	37	69			106	20:30	34	23			57
08:45	36	244	33	358	69	20:45	31	132	21	102	52
09:00	27	36			63	21:00	32	26			58
09:15	33	35			68	21:15	21	25			46
09:30	32	35			67	21:30	25	17			42
09:45	32	124	52	158	84	21:45	21	99	8	76	29
10:00	79	85			164	22:00	18	10			28
10:15	61	45			106	22:15	13	7			20
10:30	23	27			50	22:30	11	4			15
10:45	24	187	22	179	46	22:45	8	50	2	23	10
11:00	31	25			56	23:00	9	4			13
11:15	31	28			59	23:15	10	7			17
11:30	36	29			65	23:30	6	2			8
11:45	31	129	40	122	71	23:45	7	32	2	15	9
TOTALS	977	1242			2219	TOTALS	2341	2106			4447
SPLIT %	44.0%	56.0%			33.3%	SPLIT %	52.6%	47.4%			66.7%

DAILY TOTALS						NB	SB	EB	WB	Total	
						3,318	3,348	0	0	6,666	
AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	16:45	14:45		14:45	
AM Pk Volume	323	487			810	PM Pk Volume	368	370		729	
Pk Hr Factor	0.918	0.766			0.840	Pk Hr Factor	0.800	0.752		0.772	
7 - 9 Volume	451	675	0	0	1126	4 - 6 Volume	633	513	0	0	1146
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	16:45	16:30			16:45
7 - 9 Pk Volume	323	487	0	0	810	4 - 6 Pk Volume	368	274	0	0	631
Pk Hr Factor	0.918	0.766	0.000	0.000	0.840	Pk Hr Factor	0.800	0.815	0.000	0.000	0.839

VOLUME

Ridge Route Dr N/O Jeronimo Rd

Day: Tuesday
Date: 4/24/2018City: Lake Forest
Project #: CA18_1076_052

DAILY TOTALS					NB	SB	EB	WB	Total		
					3,653	3,775	0	0	7,428		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	7	5			12	12:00	29	37			66
00:15	5	2			7	12:15	40	39			79
00:30	4	2			6	12:30	50	86			136
00:45	3	19	3	12	6	12:45	54	173	71	233	406
01:00	1	0			1	13:00	52	34			86
01:15	2	1			3	13:15	60	94			154
01:30	1	2			3	13:30	53	66			119
01:45	0	4	1	4	1	13:45	68	233	81	275	508
02:00	1	0			1	14:00	120	62			182
02:15	0	1			1	14:15	81	101			182
02:30	0	1			1	14:30	71	61			132
02:45	2	3	2	4	4	14:45	74	346	70	294	640
03:00	0	0			0	15:00	72	103			175
03:15	2	2			4	15:15	76	88			164
03:30	1	1			2	15:30	74	66			140
03:45	0	3	4	7	4	15:45	62	284	61	318	602
04:00	0	3			3	16:00	73	64			137
04:15	0	2			2	16:15	77	47			124
04:30	3	7			10	16:30	67	57			124
04:45	2	5	9	21	11	16:45	85	302	39	207	509
05:00	4	5			9	17:00	77	47			124
05:15	3	9			12	17:15	92	59			151
05:30	2	9			11	17:30	74	51			125
05:45	6	15	8	31	14	17:45	83	326	57	214	540
06:00	6	17			23	18:00	79	60			139
06:15	8	33			41	18:15	56	48			104
06:30	29	43			72	18:30	73	37			110
06:45	68	111	102	195	170	18:45	73	281	48	193	474
07:00	71	103			174	19:00	50	45			95
07:15	79	112			191	19:15	35	23			58
07:30	160	105			265	19:30	42	38			80
07:45	118	428	196	516	314	19:45	48	175	32	138	313
08:00	107	195			302	20:00	30	19			49
08:15	97	124			221	20:15	36	24			60
08:30	58	83			141	20:30	29	21			50
08:45	34	296	55	457	89	20:45	31	126	19	83	209
09:00	31	46			77	21:00	28	32			60
09:15	20	39			59	21:15	22	30			52
09:30	20	36			56	21:30	17	14			31
09:45	23	94	38	159	61	21:45	14	81	13	89	170
10:00	25	43			68	22:00	15	10			25
10:15	23	27			50	22:15	12	8			20
10:30	29	29			58	22:30	19	7			26
10:45	32	109	39	138	71	22:45	11	57	3	28	85
11:00	36	31			67	23:00	6	5			11
11:15	42	30			72	23:15	5	2			7
11:30	32	34			66	23:30	14	3			17
11:45	40	150	51	146	91	23:45	7	32	3	13	45
TOTALS	1237	1690			2927	TOTALS	2416	2085			4501
SPLIT %	42.3%	57.7%			39.4%	SPLIT %	53.7%	46.3%			60.6%

DAILY TOTALS					NB	SB	EB	WB	Total
					3,653	3,775	0	0	7,428
AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	14:00	14:15	13:45
AM Pk Volume	482	620			1102	PM Pk Volume	346	335	645
Pk Hr Factor	0.753	0.791			0.877	Pk Hr Factor	0.721	0.813	0.886
7 - 9 Volume	724	973	0	0	1697	4 - 6 Volume	628	421	1049
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	16:45	17:00	17:00
7 - 9 Pk Volume	482	620	0	0	1102	4 - 6 Pk Volume	328	214	540
Pk Hr Factor	0.753	0.791	0.000	0.000	0.877	Pk Hr Factor	0.891	0.907	0.894

VOLUME

Ridge Route Dr S/O Jeronimo Rd

Day: Tuesday
Date: 4/24/2018City: Lake Forest
Project #: CA18_1076_053

DAILY TOTALS					NB	SB	EB	WB	Total		
					3,900	3,789	0	0	7,689		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	9	6			15	12:00	59	48			107
00:15	3	1			4	12:15	55	46			101
00:30	2	1			3	12:30	56	86			142
00:45	1	15	2	10	3	12:45	72	242	65	245	137
01:00	1	1			2	13:00	81	45			126
01:15	0	2			2	13:15	69	53			122
01:30	2	2			4	13:30	52	41			93
01:45	0	3	2	7	2	13:45	68	270	45	184	113
02:00	2	0			2	14:00	74	46			120
02:15	0	1			1	14:15	70	98			168
02:30	1	0			1	14:30	59	56			115
02:45	0	3	1	2	1	14:45	82	285	78	278	160
03:00	0	0			0	15:00	96	149			245
03:15	2	1			3	15:15	123	133			256
03:30	1	1			2	15:30	91	78			169
03:45	0	3	2	4	2	15:45	72	382	63	423	135
04:00	1	4			5	16:00	77	55			132
04:15	0	1			1	16:15	85	57			142
04:30	2	2			4	16:30	81	72			153
04:45	0	3	6	13	6	16:45	75	318	65	249	140
05:00	2	7			9	17:00	74	76			150
05:15	3	6			9	17:15	96	81			177
05:30	2	7			9	17:30	82	54			136
05:45	2	9	8	28	10	17:45	91	343	72	283	163
06:00	3	13			16	18:00	86	45			131
06:15	8	13			21	18:15	70	59			129
06:30	28	24			52	18:30	59	73			132
06:45	77	116	58	108	135	18:45	65	280	49	226	114
07:00	42	91			133	19:00	72	45			117
07:15	35	61			96	19:15	69	42			111
07:30	82	66			148	19:30	50	40			90
07:45	109	268	133	351	242	19:45	38	229	44	171	82
08:00	111	199			310	20:00	46	27			73
08:15	108	141			249	20:15	43	31			74
08:30	81	90			171	20:30	40	12			52
08:45	51	351	70	500	121	20:45	29	158	17	87	46
09:00	39	32			71	21:00	31	22			53
09:15	35	46			81	21:15	22	18			40
09:30	29	35			64	21:30	19	11			30
09:45	33	136	44	157	77	21:45	17	89	15	66	32
10:00	44	33			77	22:00	14	10			24
10:15	39	37			76	22:15	14	8			22
10:30	35	42			77	22:30	12	12			24
10:45	35	153	43	155	78	22:45	11	51	14	44	25
11:00	40	41			81	23:00	9	5			14
11:15	41	33			74	23:15	6	5			11
11:30	33	52			85	23:30	10	4			14
11:45	47	161	50	176	97	23:45	7	32	8	22	15
TOTALS	1221	1511			2732	TOTALS	2679	2278			4957
SPLIT %	44.7%	55.3%			35.5%	SPLIT %	54.0%	46.0%			64.5%

DAILY TOTALS					NB	SB	EB	WB	Total		
					3,900	3,789	0	0	7,689		
AM Peak Hour	07:30	07:45		07:45	PM Peak Hour	14:45	14:45		14:45		
AM Pk Volume	410	563		972	PM Pk Volume	392	438		830		
Pk Hr Factor	0.923	0.707		0.784	Pk Hr Factor	0.797	0.735		0.811		
7 - 9 Volume	619	851	0	0	1470	4 - 6 Volume	661	532	0	0	1193
7 - 9 Peak Hour	07:30	07:45		07:45	4 - 6 Peak Hour	17:00	16:30			17:00	
7 - 9 Pk Volume	410	563	0	0	972	4 - 6 Pk Volume	343	294	0	0	626
Pk Hr Factor	0.923	0.707	0.000	0.000	0.784	Pk Hr Factor	0.893	0.907	0.000	0.000	0.884

VOLUME

Ridge Route Dr N/O Muirlands Blvd

Day: Tuesday
Date: 4/24/2018City: Lake Forest
Project #: CA18_1076_054

DAILY TOTALS					NB	SB	EB	WB	Total			
					3,334	3,552	0	0	6,886			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	2	2			4	12:00	59	42			101	
00:15	11	0			11	12:15	39	68			107	
00:30	2	2			4	12:30	57	78			135	
00:45	1	16	3	7	4	12:45	34	189	39	227	73	416
01:00	1	3			4	13:00	45	55			100	
01:15	1	0			1	13:15	59	56			115	
01:30	0	2			2	13:30	44	50			94	
01:45	1	3	1	6	2	13:45	52	200	42	203	94	403
02:00	2	2			4	14:00	62	56			118	
02:15	0	3			3	14:15	74	75			149	
02:30	1	2			3	14:30	71	76			147	
02:45	0	3	0	7	0	14:45	85	292	56	263	141	555
03:00	1	0			1	15:00	83	119			202	
03:15	0	1			1	15:15	76	120			196	
03:30	0	2			2	15:30	45	71			116	
03:45	2	3	1	4	3	15:45	77	281	54	364	131	645
04:00	1	0			1	16:00	62	47			109	
04:15	0	0			0	16:15	73	63			136	
04:30	0	4			4	16:30	79	63			142	
04:45	3	4	3	7	6	16:45	94	308	67	240	161	548
05:00	1	8			9	17:00	78	65			143	
05:15	2	9			11	17:15	80	69			149	
05:30	3	11			14	17:30	95	59			154	
05:45	4	10	11	39	15	17:45	73	326	58	251	131	577
06:00	5	14			19	18:00	70	68			138	
06:15	9	27			36	18:15	57	46			103	
06:30	15	19			34	18:30	67	57			124	
06:45	23	52	39	99	62	18:45	43	237	45	216	88	453
07:00	27	49			76	19:00	52	54			106	
07:15	28	53			81	19:15	58	35			93	
07:30	40	65			105	19:30	56	34			90	
07:45	92	187	113	280	205	19:45	46	212	41	164	87	376
08:00	86	115			201	20:00	27	22			49	
08:15	46	89			135	20:15	33	38			71	
08:30	32	81			113	20:30	35	25			60	
08:45	37	201	65	350	102	20:45	30	125	18	103	48	228
09:00	35	50			85	21:00	22	26			48	
09:15	39	45			84	21:15	22	15			37	
09:30	37	42			79	21:30	29	14			43	
09:45	60	171	53	190	113	21:45	15	88	15	70	30	158
10:00	86	58			144	22:00	21	22			43	
10:15	43	71			114	22:15	6	14			20	
10:30	33	48			81	22:30	8	12			20	
10:45	29	191	41	218	70	22:45	11	46	7	55	18	101
11:00	26	28			54	23:00	6	7			13	
11:15	41	39			80	23:15	12	9			21	
11:30	33	43			76	23:30	8	4			12	
11:45	57	157	49	159	106	23:45	6	32	10	30	16	62
TOTALS	998	1366			2364	TOTALS	2336	2186			4522	
SPLIT %	42.2%	57.8%			34.3%	SPLIT %	51.7%	48.3%			65.7%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					3,334	3,552	0	0	6,886		
AM Peak Hour	07:30	07:45			07:45	PM Peak Hour	16:45	14:30			14:30
AM Pk Volume	264	398			654	PM Pk Volume	347	371			686
Pk Hr Factor	0.717	0.865			0.798	Pk Hr Factor	0.913	0.773			0.849
7 - 9 Volume	388	630	0	0	1018	4 - 6 Volume	634	491	0	0	1125
7 - 9 Peak Hour	07:30	07:45			07:45	4 - 6 Peak Hour	16:45	16:30			16:45
7 - 9 Pk Volume	264	398	0	0	654	4 - 6 Pk Volume	347	264	0	0	607
Pk Hr Factor	0.717	0.865	0.000	0.000	0.798	Pk Hr Factor	0.913	0.957	0.000	0.000	0.943

VOLUME

Ridge Route Dr N/O Rockfield Blvd

Day: Wednesday
Date: 4/18/2018City: Lake Forest
Project #: CA18_1076_055

DAILY TOTALS						NB	SB	EB	WB	Total	
						3,590	3,221	0	0	6,811	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	7	2			9	12:00	43	52			95
00:15	3	2			5	12:15	70	53			123
00:30	5	2			7	12:30	63	64			127
00:45	2	17	0	6	23	12:45	65	241	62	231	472
01:00	4	0			4	13:00	56	67			123
01:15	2	1			3	13:15	60	48			108
01:30	1	1			2	13:30	62	63			125
01:45	0	7	1	3	10	13:45	71	249	47	225	474
02:00	2	0			2	14:00	70	62			132
02:15	1	0			1	14:15	56	39			95
02:30	1	3			4	14:30	56	55			111
02:45	1	5	1	4	9	14:45	65	247	47	203	450
03:00	1	2			3	15:00	71	40			111
03:15	4	1			5	15:15	78	64			142
03:30	4	2			6	15:30	66	56			122
03:45	3	12	2	7	19	15:45	75	290	49	209	499
04:00	5	2			7	16:00	82	61			143
04:15	7	6			13	16:15	64	43			107
04:30	4	7			11	16:30	76	47			123
04:45	3	19	9	24	43	16:45	103	325	63	214	539
05:00	5	7			12	17:00	101	57			158
05:15	2	7			9	17:15	94	63			157
05:30	6	9			15	17:30	91	56			147
05:45	8	21	21	44	65	17:45	89	375	46	222	597
06:00	13	22			35	18:00	81	53			134
06:15	11	32			43	18:15	83	53			136
06:30	19	44			63	18:30	65	36			101
06:45	32	75	52	150	225	18:45	57	286	43	185	471
07:00	25	69			94	19:00	66	47			113
07:15	30	51			81	19:15	61	45			106
07:30	46	57			103	19:30	64	43			107
07:45	50	151	100	277	428	19:45	60	251	47	182	433
08:00	39	78			117	20:00	53	35			88
08:15	40	78			118	20:15	35	25			60
08:30	33	61			94	20:30	43	24			67
08:45	36	148	49	266	414	20:45	40	171	24	108	279
09:00	33	47			80	21:00	34	21			55
09:15	42	49			91	21:15	25	21			46
09:30	33	41			74	21:30	23	12			35
09:45	40	148	50	187	335	21:45	29	111	10	64	175
10:00	42	45			87	22:00	26	13			39
10:15	34	47			81	22:15	19	8			27
10:30	45	54			99	22:30	22	6			28
10:45	34	155	38	184	339	22:45	16	83	9	36	119
11:00	39	37			76	23:00	9	5			14
11:15	42	45			87	23:15	8	5			13
11:30	46	39			85	23:30	13	4			17
11:45	38	165	50	171	336	23:45	8	38	5	19	57
TOTALS	923	1323			2246	TOTALS	2667	1898			4565
SPLIT %	41.1%	58.9%			33.0%	SPLIT %	58.4%	41.6%			67.0%

DAILY TOTALS						NB	SB	EB	WB	Total	
						3,590	3,221	0	0	6,811	
AM Peak Hour	11:45	07:45			07:30	PM Peak Hour	16:45	12:15		16:45	
AM Pk Volume	214	317			488	PM Pk Volume	389	246		628	
Pk Hr Factor	0.764	0.793			0.813	Pk Hr Factor	0.944	0.918		0.946	
7 - 9 Volume	299	543	0	0	842	4 - 6 Volume	700	436	0	0	1136
7 - 9 Peak Hour	07:30	07:45			07:30	4 - 6 Peak Hour	16:45	16:45			16:45
7 - 9 Pk Volume	175	317	0	0	488	4 - 6 Pk Volume	389	239	0	0	628
Pk Hr Factor	0.875	0.793	0.000	0.000	0.813	Pk Hr Factor	0.944	0.948	0.000	0.000	0.946

VOLUME

Ridge Route Dr S/O Rockfield Blvd

Day: Wednesday
Date: 4/18/2018City: Lake Forest
Project #: CA18_1076_056

DAILY TOTALS						NB	SB	EB	WB	Total	
						1,298	1,226	0	0	2,524	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	5	6			11	12:00	16	12			28
00:15	3	3			6	12:15	18	17			35
00:30	2	4			6	12:30	19	16			35
00:45	0	10	3	16	3	12:45	12	65	25	70	37
01:00	0	2			2	13:00	21	18			39
01:15	0	1			1	13:15	18	14			32
01:30	0	1			1	13:30	21	29			50
01:45	2	2	2	6	4	13:45	24	84	18	79	42
02:00	0	1			1	14:00	17	18			35
02:15	0	0			0	14:15	17	17			34
02:30	2	2			4	14:30	11	17			28
02:45	2	4	2	5	4	14:45	16	61	19	71	35
03:00	0	2			2	15:00	16	21			37
03:15	1	0			1	15:15	22	21			43
03:30	0	0			0	15:30	13	19			32
03:45	2	3	0	2	2	15:45	20	71	27	88	47
04:00	2	2			4	16:00	14	23			37
04:15	6	0			6	16:15	27	29			56
04:30	6	1			7	16:30	22	15			37
04:45	11	25	2	5	13	16:45	18	81	30	97	48
05:00	10	2			12	17:00	20	31			51
05:15	9	1			10	17:15	26	27			53
05:30	13	3			16	17:30	20	33			53
05:45	14	46	3	9	17	17:45	19	85	27	118	46
06:00	12	4			16	18:00	18	24			42
06:15	23	4			27	18:15	24	23			47
06:30	22	4			26	18:30	13	20			33
06:45	29	86	6	18	35	18:45	14	69	23	90	37
07:00	31	13			44	19:00	21	27			48
07:15	27	16			43	19:15	12	19			31
07:30	44	10			54	19:30	23	23			46
07:45	42	144	15	54	57	19:45	10	66	15	84	25
08:00	30	18			48	20:00	11	19			30
08:15	26	16			42	20:15	10	20			30
08:30	28	16			44	20:30	10	19			29
08:45	21	105	10	60	31	20:45	14	45	18	76	32
09:00	12	9			21	21:00	8	14			22
09:15	13	7			20	21:15	5	19			24
09:30	20	10			30	21:30	7	16			23
09:45	20	65	10	36	30	21:45	8	28	10	59	18
10:00	16	19			35	22:00	7	13			20
10:15	14	14			28	22:15	6	16			22
10:30	20	12			32	22:30	8	10			18
10:45	11	61	12	57	23	22:45	3	24	7	46	10
11:00	10	11			21	23:00	3	6			9
11:15	13	12			25	23:15	5	9			14
11:30	16	15			31	23:30	2	7			9
11:45	16	55	16	54	32	23:45	3	13	4	26	7
TOTALS	606	322			928	TOTALS	692	904			1596
SPLIT %	65.3%	34.7%			36.8%	SPLIT %	43.4%	56.6%			63.2%

DAILY TOTALS						NB	SB	EB	WB	Total	
						1,298	1,226	0	0	2,524	
AM Peak Hour	07:00	07:45			07:15	PM Peak Hour	16:15	16:45		16:45	
AM Pk Volume	144	65			202	PM Pk Volume	87	121		205	
Pk Hr Factor	0.818	0.903			0.886	Pk Hr Factor	0.806	0.917		0.967	
7 - 9 Volume	249	114	0	0	363	4 - 6 Volume	166	215	0	0	381
7 - 9 Peak Hour	07:00	07:45			07:15	4 - 6 Peak Hour	16:15	16:45			16:45
7 - 9 Pk Volume	144	65	0	0	202	4 - 6 Pk Volume	87	121	0	0	205
Pk Hr Factor	0.818	0.903	0.000	0.000	0.886	Pk Hr Factor	0.806	0.917	0.000	0.000	0.967

VOLUME

El Toro Rd N/O Glenn Ranch Rd

Day: Thursday
Date: 4/12/2018City: Lake Forest
Project #: CA18_1076_057

DAILY TOTALS					NB	SB	EB	WB	Total		
					7,411	6,558	0	0	13,969		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	18	4			22	12:00	70	85			155
00:15	7	7			14	12:15	96	79			175
00:30	15	2			17	12:30	78	73			151
00:45	13	53	8	21	21	12:45	92	336	79	316	171
01:00	7	3			10	13:00	71	85			156
01:15	3	3			6	13:15	91	77			168
01:30	4	5			9	13:30	115	74			189
01:45	9	23	2	13	11	13:45	106	383	100	336	206
02:00	2	3			5	14:00	96	77			173
02:15	4	2			6	14:15	115	75			190
02:30	10	16			26	14:30	132	90			222
02:45	2	18	2	23	4	14:45	157	500	90	332	247
03:00	2	2			4	15:00	143	100			243
03:15	2	7			9	15:15	185	86			271
03:30	2	11			13	15:30	186	91			277
03:45	0	6	5	25	5	15:45	210	724	108	385	318
04:00	2	7			9	16:00	202	82			284
04:15	2	12			14	16:15	203	88			291
04:30	2	18			20	16:30	207	112			319
04:45	3	9	25	62	28	16:45	195	807	105	387	300
05:00	5	24			29	17:00	223	101			324
05:15	10	29			39	17:15	270	105			375
05:30	21	36			57	17:30	207	117			324
05:45	18	54	60	149	78	17:45	199	899	116	439	315
06:00	33	46			79	18:00	208	128			336
06:15	42	72			114	18:15	178	86			264
06:30	60	130			190	18:30	140	80			220
06:45	84	219	174	422	258	18:45	110	636	81	375	191
07:00	92	143			235	19:00	114	76			190
07:15	95	216			311	19:15	104	72			176
07:30	89	257			346	19:30	106	60			166
07:45	108	384	272	888	380	19:45	97	421	65	273	162
08:00	118	189			307	20:00	96	43			139
08:15	121	147			268	20:15	84	34			118
08:30	96	158			254	20:30	85	48			133
08:45	88	423	138	632	226	20:45	60	325	42	167	102
09:00	67	114			181	21:00	54	38			92
09:15	59	110			169	21:15	60	47			107
09:30	41	110			151	21:30	58	32			90
09:45	65	232	99	433	164	21:45	47	219	20	137	67
10:00	61	79			140	22:00	45	22			67
10:15	63	78			141	22:15	38	18			56
10:30	56	78			134	22:30	28	24			52
10:45	75	255	74	309	149	22:45	26	137	17	81	43
11:00	64	69			133	23:00	16	12			28
11:15	71	76			147	23:15	17	7			24
11:30	69	79			148	23:30	17	14			31
11:45	77	281	86	310	163	23:45	17	67	10	43	27
TOTALS	1957	3287			5244	TOTALS	5454	3271			8725
SPLIT %	37.3%	62.7%			37.5%	SPLIT %	62.5%	37.5%			62.5%

DAILY TOTALS					NB	SB	EB	WB	Total		
					7,411	6,558	0	0	13,969		
AM Peak Hour	07:45	07:15	07:15		07:15	PM Peak Hour	17:00	17:15	17:15		
AM Pk Volume	443	934			1344	PM Pk Volume	899	466	1350		
Pk Hr Factor	0.915	0.858			0.884	Pk Hr Factor	0.832	0.910	0.900		
7 - 9 Volume	807	1520	0	0	2327	4 - 6 Volume	1706	826	0	0	2532
7 - 9 Peak Hour	07:45	07:15			07:15	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	443	934	0	0	1344	4 - 6 Pk Volume	899	439	0	0	1338
Pk Hr Factor	0.915	0.858	0.000	0.000	0.884	Pk Hr Factor	0.832	0.938	0.000	0.000	0.892

VOLUME

El Toro Rd S/O Glenn Ranch Rd

Day: Thursday
Date: 4/12/2018

City: Lake Forest
Project #: CA18_1076_058

DAILY TOTALS					NB	SB	EB	WB	Total		
					7,894	6,906	0	0	14,800		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	20	5			25	12:00	94	89			183
00:15	8	9			17	12:15	113	74			187
00:30	14	3			17	12:30	113	89			202
00:45	13	55	6	23	19 78	12:45	116	436	109	361	225 797
01:00	9	3			12	13:00	81	80			161
01:15	3	3			6	13:15	90	70			160
01:30	5	5			10	13:30	120	85			205
01:45	10	27	3	14	13 41	13:45	122	413	114	349	236 762
02:00	2	1			3	14:00	103	82			185
02:15	5	0			5	14:15	144	79			223
02:30	2	3			5	14:30	129	102			231
02:45	3	12	2	6	5 18	14:45	143	519	98	361	241 880
03:00	2	3			5	15:00	166	122			288
03:15	2	3			5	15:15	206	89			295
03:30	3	11			14	15:30	171	104			275
03:45	1	8	2	19	3 27	15:45	202	745	117	432	319 1177
04:00	2	5			7	16:00	205	86			291
04:15	4	11			15	16:15	209	104			313
04:30	3	13			16	16:30	194	125			319
04:45	6	15	19	48	25 63	16:45	201	809	123	438	324 1247
05:00	7	20			27	17:00	220	128			348
05:15	11	22			33	17:15	258	131			389
05:30	19	34			53	17:30	197	145			342
05:45	20	57	56	132	76 189	17:45	197	872	148	552	345 1424
06:00	34	45			79	18:00	187	145			332
06:15	50	56			106	18:15	155	103			258
06:30	70	116			186	18:30	127	98			225
06:45	95	249	173	390	268 639	18:45	109	578	91	437	200 1015
07:00	103	128			231	19:00	117	88			205
07:15	123	208			331	19:15	100	75			175
07:30	130	277			407	19:30	106	61			167
07:45	187	543	295	908	482 1451	19:45	112	435	73	297	185 732
08:00	156	191			347	20:00	82	57			139
08:15	136	123			259	20:15	88	54			142
08:30	107	148			255	20:30	76	52			128
08:45	106	505	119	581	225 1086	20:45	64	310	48	211	112 521
09:00	66	115			181	21:00	56	46			102
09:15	66	103			169	21:15	64	56			120
09:30	47	115			162	21:30	53	42			95
09:45	73	252	97	430	170 682	21:45	46	219	26	170	72 389
10:00	64	82			146	22:00	52	23			75
10:15	80	80			160	22:15	42	23			65
10:30	66	70			136	22:30	30	27			57
10:45	78	288	79	311	157 599	22:45	23	147	18	91	41 238
11:00	69	70			139	23:00	14	10			24
11:15	82	78			160	23:15	13	13			26
11:30	82	74			156	23:30	13	16			29
11:45	113	346	76	298	189 644	23:45	14	54	8	47	22 101
TOTALS	2357	3160			5517	TOTALS	5537	3746			9283
SPLIT %	42.7%	57.3%			37.3%	SPLIT %	59.6%	40.4%			62.7%

DAILY TOTALS					NB	SB	EB	WB	Total		
					7,894	6,906	0	0	14,800		
AM Peak Hour	07:30	07:15		07:15	PM Peak Hour	16:45	17:15		17:00		
AM Pk Volume	609	971		1567	PM Pk Volume	876	569		1424		
Pk Hr Factor	0.814	0.823		0.813	Pk Hr Factor	0.849	0.961		0.915		
7 - 9 Volume	1048	1489	0	0	2537	4 - 6 Volume	1681	990	0	0	2671
7 - 9 Peak Hour	07:30	07:15		07:15	4 - 6 Peak Hour	16:45	17:00		17:00		
7 - 9 Pk Volume	609	971	0	0	1567	4 - 6 Pk Volume	876	552	0	0	1424
Pk Hr Factor	0.814	0.823	0.000	0.000	0.813	Pk Hr Factor	0.849	0.932	0.000	0.000	0.915

VOLUME

El Toro Rd N/O Santa Margarita Pkwy

Day: Tuesday
Date: 4/17/2018

City: Lake Forest
Project #: CA18_1076_059

DAILY TOTALS					NB	SB	EB	WB	Total			
					6,435	7,397	0	0	13,832			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	14	10			24	12:00	69	100			169	
00:15	7	7			14	12:15	65	103			168	
00:30	9	5			14	12:30	92	84			176	
00:45	7	37	7	29	14	12:45	91	317	76	363	167	680
01:00	8	3			11	13:00	81	80			161	
01:15	3	1			4	13:15	58	71			129	
01:30	4	4			8	13:30	77	86			163	
01:45	5	20	2	10	7	13:45	72	288	67	304	139	592
02:00	4	8			12	14:00	94	86			180	
02:15	3	2			5	14:15	107	71			178	
02:30	2	4			6	14:30	101	110			211	
02:45	2	11	4	18	6	14:45	99	401	115	382	214	783
03:00	5	3			8	15:00	101	87			188	
03:15	5	7			12	15:15	159	87			246	
03:30	2	9			11	15:30	105	87			192	
03:45	4	16	6	25	10	15:45	118	483	90	351	208	834
04:00	3	11			14	16:00	124	92			216	
04:15	3	17			20	16:15	136	92			228	
04:30	4	25			29	16:30	178	104			282	
04:45	3	13	33	86	36	16:45	163	601	115	403	278	1004
05:00	5	31			36	17:00	163	91			254	
05:15	14	48			62	17:15	207	111			318	
05:30	22	77			99	17:30	197	88			285	
05:45	20	61	73	229	93	17:45	214	781	108	398	322	1179
06:00	17	86			103	18:00	185	103			288	
06:15	35	111			146	18:15	160	89			249	
06:30	39	163			202	18:30	139	102			241	
06:45	66	157	207	567	273	18:45	142	626	110	404	252	1030
07:00	66	201			267	19:00	120	76			196	
07:15	39	234			273	19:15	106	64			170	
07:30	66	311			377	19:30	109	81			190	
07:45	91	262	320	1066	411	19:45	96	431	55	276	151	707
08:00	65	238			303	20:00	88	66			154	
08:15	95	224			319	20:15	88	57			145	
08:30	58	175			233	20:30	80	48			128	
08:45	66	284	158	795	224	20:45	95	351	57	228	152	579
09:00	47	136			183	21:00	81	53			134	
09:15	54	111			165	21:15	79	47			126	
09:30	44	108			152	21:30	74	34			108	
09:45	57	202	124	479	181	21:45	57	291	27	161	84	452
10:00	70	114			184	22:00	42	25			67	
10:15	71	100			171	22:15	46	21			67	
10:30	58	90			148	22:30	40	14			54	
10:45	63	262	82	386	145	22:45	37	165	22	82	59	247
11:00	52	70			122	23:00	45	12			57	
11:15	91	83			174	23:15	26	9			35	
11:30	65	78			143	23:30	11	8			19	
11:45	72	280	80	311	152	23:45	13	95	15	44	28	139
TOTALS	1605	4001			5606	TOTALS	4830	3396			8226	
SPLIT %	28.6%	71.4%			40.5%	SPLIT %	58.7%	41.3%			59.5%	

DAILY TOTALS					NB	SB	EB	WB	Total
					6,435	7,397	0	0	13,832
AM Peak Hour	07:30	07:15	07:30	PM Peak Hour	17:15	16:30	17:15		
AM Pk Volume	317	1103	1410	PM Pk Volume	803	421	1213		
Pk Hr Factor	0.834	0.862	0.858	Pk Hr Factor	0.938	0.915	0.942		
7 - 9 Volume	546	1861	2407	4 - 6 Volume	1382	801	2183		
7 - 9 Peak Hour	07:30	07:15	07:30	4 - 6 Peak Hour	17:00	16:30	17:00		
7 - 9 Pk Volume	317	1103	1410	4 - 6 Pk Volume	781	421	1179		
Pk Hr Factor	0.834	0.862	0.858	Pk Hr Factor	0.912	0.915	0.915		

VOLUME

El Toro Rd S/O Santa Margarita Pkwy

Day: Tuesday
 Date: 4/17/2018

City: Lake Forest
 Project #: CA18_1076_060

DAILY TOTALS						NB	SB	EB	WB	Total		
						12,649	12,673	0	0	25,322		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	14	17	0	0	31	12:00	149	194	0	0	343	
00:15	16	15	0	0	31	12:15	137	166	0	0	303	
00:30	14	16	0	0	30	12:30	187	174	0	0	361	
00:45	13	57	8	56	0	12:45	187	660	154	688	0	341
01:00	11	15	0	0	26	13:00	161	164	0	0	325	
01:15	8	6	0	0	14	13:15	167	169	0	0	336	
01:30	14	4	0	0	18	13:30	155	160	0	0	315	
01:45	12	45	6	31	0	13:45	195	678	136	629	0	331
02:00	6	6	0	0	12	14:00	207	169	0	0	376	
02:15	5	2	0	0	7	14:15	180	198	0	0	378	
02:30	5	6	0	0	11	14:30	205	223	0	0	428	
02:45	6	22	4	18	0	14:45	192	784	229	819	0	421
03:00	6	4	0	0	10	15:00	197	216	0	0	413	
03:15	6	4	0	0	10	15:15	248	199	0	0	447	
03:30	11	11	0	0	22	15:30	224	215	0	0	439	
03:45	13	36	13	32	0	15:45	223	892	228	858	0	451
04:00	10	21	0	0	31	16:00	249	222	0	0	471	
04:15	20	20	0	0	40	16:15	254	230	0	0	484	
04:30	35	34	0	0	69	16:30	261	252	0	0	513	
04:45	37	102	47	122	0	16:45	300	1064	255	959	0	555
05:00	23	38	0	0	61	17:00	286	232	0	0	518	
05:15	42	56	0	0	98	17:15	337	288	0	0	625	
05:30	56	60	0	0	116	17:30	315	243	0	0	558	
05:45	79	200	88	242	0	17:45	335	1273	224	987	0	559
06:00	65	98	0	0	163	18:00	284	194	0	0	478	
06:15	82	118	0	0	200	18:15	273	224	0	0	497	
06:30	126	181	0	0	307	18:30	225	223	0	0	448	
06:45	166	439	188	585	0	18:45	262	1044	168	809	0	430
07:00	150	213	0	0	363	19:00	195	157	0	0	352	
07:15	189	224	0	0	413	19:15	188	160	0	0	348	
07:30	217	315	0	0	532	19:30	164	159	0	0	323	
07:45	291	847	292	1044	0	19:45	186	733	152	628	0	338
08:00	226	307	0	0	533	20:00	150	136	0	0	286	
08:15	204	246	0	0	450	20:15	127	122	0	0	249	
08:30	184	242	0	0	426	20:30	157	111	0	0	268	
08:45	188	802	175	970	0	20:45	151	585	113	482	0	264
09:00	157	185	0	0	342	21:00	111	109	0	0	220	
09:15	126	197	0	0	323	21:15	120	118	0	0	238	
09:30	130	185	0	0	315	21:30	96	107	0	0	203	
09:45	136	549	197	764	0	21:45	87	414	67	401	0	154
10:00	122	178	0	0	300	22:00	69	65	0	0	134	
10:15	149	161	0	0	310	22:15	66	45	0	0	111	
10:30	117	146	0	0	263	22:30	58	35	0	0	93	
10:45	123	511	154	639	0	22:45	50	243	35	180	0	85
11:00	98	144	0	0	242	23:00	45	43	0	0	88	
11:15	174	149	0	0	323	23:15	33	25	0	0	58	
11:30	137	161	0	0	298	23:30	24	22	0	0	46	
11:45	136	545	165	619	0	23:45	22	124	21	111	0	43
TOTALS	4155	5122			9277	TOTALS	8494	7551			16045	
SPLIT %	44.8%	55.2%			36.6%	SPLIT %	52.9%	47.1%			63.4%	

DAILY TOTALS						NB	SB	EB	WB	Total
						12,649	12,673	0	0	25,322

AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	17:00	16:30			17:00
AM Pk Volume	938	1160			2098	PM Pk Volume	1273	1027			2260
Pk Hr Factor	0.806	0.921			0.900	Pk Hr Factor	0.944	0.891			0.904
7 - 9 Volume	1649	2014	0	0	3663	4 - 6 Volume	2337	1946	0	0	4283
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	17:00	16:30			17:00
7 - 9 Pk Volume	938	1160	0	0	2098	4 - 6 Pk Volume	1273	1027	0	0	2260
Pk Hr Factor	0.806	0.921	0.000	0.000	0.900	Pk Hr Factor	0.944	0.891	0.000	0.000	0.904

VOLUME

El Toro Rd N/O Trabuco Rd

Day: Tuesday
Date: 4/17/2018

City: Lake Forest
Project #: CA18_1076_061

DAILY TOTALS					NB	SB	EB	WB	Total		
					16,669	14,689	0	0	31,358		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	22	15			37	12:00	205	195			400
00:15	33	14			47	12:15	189	208			397
00:30	23	8			31	12:30	264	195			459
00:45	15	93	10	47	25	12:45	220	878	214	812	434
01:00	13	12			25	13:00	216	196			412
01:15	17	8			25	13:15	211	190			401
01:30	13	4			17	13:30	226	174			400
01:45	11	54	5	29	16	13:45	242	895	170	730	412
02:00	8	9			17	14:00	236	206			442
02:15	7	6			13	14:15	290	227			517
02:30	4	4			8	14:30	251	247			498
02:45	5	24	10	29	15	14:45	266	1043	319	999	585
03:00	7	12			19	15:00	309	246			555
03:15	11	13			24	15:15	394	210			604
03:30	16	13			29	15:30	306	216			522
03:45	14	48	17	55	31	15:45	312	1321	220	892	532
04:00	12	25			37	16:00	336	206			542
04:15	13	32			45	16:15	326	262			588
04:30	31	47			78	16:30	358	255			613
04:45	34	90	58	162	92	16:45	380	1400	266	989	646
05:00	27	65			92	17:00	411	233			644
05:15	39	67			106	17:15	419	277			696
05:30	47	92			139	17:30	453	224			677
05:45	68	181	108	332	176	17:45	423	1706	235	969	658
06:00	55	148			203	18:00	383	183			566
06:15	80	158			238	18:15	368	204			572
06:30	100	227			327	18:30	324	201			525
06:45	153	388	249	782	402	18:45	304	1379	199	787	503
07:00	161	291			452	19:00	267	182			449
07:15	198	345			543	19:15	313	161			474
07:30	204	409			613	19:30	260	139			399
07:45	286	849	448	1493	734	19:45	254	1094	144	626	398
08:00	256	351			607	20:00	255	124			379
08:15	237	344			581	20:15	220	120			340
08:30	239	311			550	20:30	223	95			318
08:45	180	912	260	1266	440	20:45	229	927	109	448	338
09:00	177	237			414	21:00	195	92			287
09:15	160	251			411	21:15	181	95			276
09:30	138	260			398	21:30	171	90			261
09:45	174	649	247	995	421	21:45	151	698	57	334	208
10:00	183	270			453	22:00	95	68			163
10:15	169	206			375	22:15	102	49			151
10:30	160	176			336	22:30	97	38			135
10:45	169	681	210	862	379	22:45	72	366	38	193	110
11:00	157	170			327	23:00	74	40			114
11:15	222	211			433	23:15	58	21			79
11:30	189	187			376	23:30	37	23			60
11:45	214	782	189	757	403	23:45	42	211	17	101	59
TOTALS	4751	6809			11560	TOTALS	11918	7880			19798
SPLIT %	41.1%	58.9%			36.9%	SPLIT %	60.2%	39.8%			63.1%

DAILY TOTALS					NB	SB	EB	WB	Total		
					16,669	14,689	0	0	31,358		
AM Peak Hour	07:45	07:15			07:30	PM Peak Hour	17:00	14:15		17:00	
AM Pk Volume	1018	1553			2535	PM Pk Volume	1706	1039		2675	
Pk Hr Factor	0.890	0.867			0.863	Pk Hr Factor	0.942	0.814		0.961	
7 - 9 Volume	1761	2759	0	0	4520	4 - 6 Volume	3106	1958	0	0	5064
7 - 9 Peak Hour	07:45	07:15			07:30	4 - 6 Peak Hour	17:00	16:30			17:00
7 - 9 Pk Volume	1018	1553	0	0	2535	4 - 6 Pk Volume	1706	1031	0	0	2675
Pk Hr Factor	0.890	0.867	0.000	0.000	0.863	Pk Hr Factor	0.942	0.931	0.000	0.000	0.961

VOLUME

El Toro Rd S/O Trabuco Rd

Day: Tuesday
Date: 4/17/2018City: Lake Forest
Project #: CA18_1076_062

DAILY TOTALS						NB	SB	EB	WB	Total	
						17,623	18,161	0	0	35,784	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	29	22			51	12:00	222	250			472
00:15	33	14			47	12:15	220	263			483
00:30	30	15			45	12:30	274	243			517
00:45	18	110	15	66	33	12:45	234	950	277	1033	511
01:00	19	12			31	13:00	258	257			515
01:15	18	13			31	13:15	256	263			519
01:30	15	11			26	13:30	251	236			487
01:45	14	66	13	49	27	13:45	251	1016	232	988	483
02:00	12	14			26	14:00	283	254			537
02:15	8	7			15	14:15	312	279			591
02:30	7	10			17	14:30	296	300			596
02:45	6	33	15	46	21	14:45	278	1169	351	1184	629
03:00	10	12			22	15:00	332	293			625
03:15	15	11			26	15:15	407	268			675
03:30	16	12			28	15:30	336	278			614
03:45	17	58	17	52	34	15:45	333	1408	276	1115	609
04:00	16	34			50	16:00	356	259			615
04:15	12	35			47	16:15	347	295			642
04:30	26	61			87	16:30	376	309			685
04:45	39	93	78	208	117	16:45	414	1493	370	1233	784
05:00	27	81			108	17:00	434	302			736
05:15	45	84			129	17:15	448	306			754
05:30	47	129			176	17:30	454	292			746
05:45	72	191	125	419	197	17:45	441	1777	276	1176	717
06:00	56	166			222	18:00	373	228			601
06:15	91	181			272	18:15	389	273			662
06:30	113	240			353	18:30	335	246			581
06:45	155	415	299	886	454	18:45	333	1430	244	991	577
07:00	175	321			496	19:00	264	208			472
07:15	185	390			575	19:15	302	205			507
07:30	211	503			714	19:30	262	183			445
07:45	289	860	521	1735	810	19:45	230	1058	181	777	411
08:00	265	466			731	20:00	271	151			422
08:15	228	376			604	20:15	204	140			344
08:30	212	366			578	20:30	216	122			338
08:45	208	913	328	1536	536	20:45	251	942	118	531	369
09:00	186	294			480	21:00	193	129			322
09:15	154	306			460	21:15	193	114			307
09:30	169	288			457	21:30	158	127			285
09:45	185	694	316	1204	501	21:45	151	695	83	453	234
10:00	192	352			544	22:00	117	75			192
10:15	206	258			464	22:15	117	74			191
10:30	161	216			377	22:30	90	56			146
10:45	177	736	273	1099	450	22:45	75	399	35	240	110
11:00	186	212			398	23:00	87	63			150
11:15	224	279			503	23:15	74	33			107
11:30	243	251			494	23:30	41	32			73
11:45	214	867	245	987	459	23:45	48	250	25	153	73
TOTALS	5036	8287			13323	TOTALS	12587	9874			22461
SPLIT %	37.8%	62.2%			37.2%	SPLIT %	56.0%	44.0%			62.8%

DAILY TOTALS						NB	SB	EB	WB	Total	
						17,623	18,161	0	0	35,784	
AM Peak Hour	07:45	07:15			07:30	PM Peak Hour	17:00	16:30		16:45	
AM Pk Volume	994	1880			2859	PM Pk Volume	1777	1287		3020	
Pk Hr Factor	0.860	0.902			0.882	Pk Hr Factor	0.979	0.870		0.963	
7 - 9 Volume	1773	3271	0	0	5044	4 - 6 Volume	3270	2409	0	0	5679
7 - 9 Peak Hour	07:45	07:15			07:30	4 - 6 Peak Hour	17:00	16:30			16:45
7 - 9 Pk Volume	994	1880	0	0	2859	4 - 6 Pk Volume	1777	1287	0	0	3020
Pk Hr Factor	0.860	0.902	0.000	0.000	0.882	Pk Hr Factor	0.979	0.870	0.000	0.000	0.963

VOLUME

El Toro Rd N/O Jeronimo Rd

Day: Tuesday
 Date: 4/24/2018

City: Lake Forest
 Project #: CA18_1076_063

DAILY TOTALS					NB	SB	EB	WB	Total		
					19,528	19,011	0	0	38,539		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	37	22	0	0	59	12:00	294	248	0	0	542
00:15	29	33	0	0	62	12:15	291	248	0	0	539
00:30	27	19	0	0	46	12:30	291	265	0	0	556
00:45	26	119	18	92	44	12:45	296	1172	265	1026	561
01:00	29	44	0	0	73	13:00	281	285	0	0	566
01:15	12	28	0	0	40	13:15	260	287	0	0	547
01:30	14	10	0	0	24	13:30	296	246	0	0	542
01:45	12	67	13	95	25	13:45	331	1168	279	1097	610
02:00	16	3	0	0	19	14:00	305	258	0	0	563
02:15	7	4	0	0	11	14:15	319	284	0	0	603
02:30	10	6	0	0	16	14:30	358	303	0	0	661
02:45	11	44	28	41	39	14:45	377	1359	307	1152	684
03:00	13	14	0	0	27	15:00	461	331	0	0	792
03:15	11	13	0	0	24	15:15	436	347	0	0	783
03:30	24	16	0	0	40	15:30	404	321	0	0	725
03:45	10	58	28	71	38	15:45	375	1676	300	1299	675
04:00	10	30	0	0	40	16:00	396	225	0	0	621
04:15	18	40	0	0	58	16:15	379	310	0	0	689
04:30	24	54	0	0	78	16:30	410	300	0	0	710
04:45	43	95	72	196	115	16:45	425	1610	312	1147	737
05:00	22	75	0	0	97	17:00	412	323	0	0	735
05:15	55	101	0	0	156	17:15	451	330	0	0	781
05:30	34	154	0	0	188	17:30	469	347	0	0	816
05:45	69	180	144	474	213	17:45	403	1735	310	1310	713
06:00	87	152	0	0	239	18:00	397	329	0	0	726
06:15	121	217	0	0	338	18:15	405	308	0	0	713
06:30	135	280	0	0	415	18:30	350	258	0	0	608
06:45	199	542	331	980	530	18:45	359	1511	246	1141	605
07:00	169	365	0	0	534	19:00	336	192	0	0	528
07:15	188	368	0	0	556	19:15	325	212	0	0	537
07:30	216	424	0	0	640	19:30	276	154	0	0	430
07:45	356	929	590	1747	946	19:45	275	1212	162	720	437
08:00	274	488	0	0	762	20:00	243	138	0	0	381
08:15	297	466	0	0	763	20:15	228	157	0	0	385
08:30	246	403	0	0	649	20:30	242	129	0	0	371
08:45	244	1061	349	1706	593	20:45	285	998	104	528	389
09:00	188	290	0	0	478	21:00	215	124	0	0	339
09:15	203	338	0	0	541	21:15	177	160	0	0	337
09:30	165	269	0	0	434	21:30	205	114	0	0	319
09:45	169	725	311	1208	480	21:45	145	742	77	475	222
10:00	201	261	0	0	462	22:00	172	100	0	0	272
10:15	159	235	0	0	394	22:15	126	75	0	0	201
10:30	220	258	0	0	478	22:30	117	55	0	0	172
10:45	211	791	286	1040	497	22:45	103	518	43	273	146
11:00	194	246	0	0	440	23:00	82	43	0	0	125
11:15	229	225	0	0	454	23:15	73	43	0	0	116
11:30	248	292	0	0	540	23:30	61	31	0	0	92
11:45	277	948	280	1043	557	23:45	52	268	33	150	85
TOTALS	5559	8693			14252	TOTALS	13969	10318			24287
SPLIT %	39.0%	61.0%			37.0%	SPLIT %	57.5%	42.5%			63.0%

DAILY TOTALS					NB	SB	EB	WB	Total
					19,528	19,011	0	0	38,539
AM Peak Hour	07:45	07:30	07:45	PM Peak Hour	16:45	17:15	16:45		
AM Pk Volume	1173	1968	3120	PM Pk Volume	1757	1316	3069		
Pk Hr Factor	0.824	0.834	0.825	Pk Hr Factor	0.937	0.948	0.940		
7 - 9 Volume	1990	3453	5443	4 - 6 Volume	3345	2457	5802		
7 - 9 Peak Hour	07:45	07:30	07:45	4 - 6 Peak Hour	16:45	16:45	16:45		
7 - 9 Pk Volume	1173	1968	3120	4 - 6 Pk Volume	1757	1312	3069		
Pk Hr Factor	0.824	0.834	0.825	Pk Hr Factor	0.937	0.945	0.940		

VOLUME

El Toro Rd N/O Muirlands Blvd

Day: Tuesday
Date: 4/24/2018

City: Lake Forest
Project #: CA18_1076_064

DAILY TOTALS						NB	SB	EB	WB	Total	
						20,415	20,318	0	0	40,733	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	26	23			49	12:00	300	325			625
00:15	32	22			54	12:15	276	299			575
00:30	33	24			57	12:30	317	325			642
00:45	34	125	18	87	52	12:45	334	1227	295	1244	629
01:00	20	16			36	13:00	354	273			627
01:15	21	17			38	13:15	347	269			616
01:30	16	13			29	13:30	292	299			591
01:45	20	77	8	54	28	13:45	328	1321	264	1105	592
02:00	12	8			20	14:00	351	254			605
02:15	18	9			27	14:15	324	369			693
02:30	14	11			25	14:30	316	354			670
02:45	19	63	12	40	31	14:45	397	1388	348	1325	745
03:00	8	19			27	15:00	462	317			779
03:15	12	16			28	15:15	356	355			711
03:30	15	23			38	15:30	380	290			670
03:45	19	54	26	84	45	15:45	380	1578	324	1286	704
04:00	16	32			48	16:00	381	344			725
04:15	14	57			71	16:15	408	299			707
04:30	29	50			79	16:30	442	280			722
04:45	29	88	85	224	114	16:45	419	1650	303	1226	722
05:00	29	79			108	17:00	451	289			740
05:15	44	106			150	17:15	489	313			802
05:30	63	135			198	17:30	457	288			745
05:45	76	212	145	465	221	17:45	417	1814	309	1199	726
06:00	73	201			274	18:00	413	247			660
06:15	135	229			364	18:15	401	244			645
06:30	145	333			478	18:30	386	273			659
06:45	168	521	349	1112	517	18:45	370	1570	242	1006	612
07:00	149	379			528	19:00	349	270			619
07:15	211	411			622	19:15	360	200			560
07:30	241	537			778	19:30	314	205			519
07:45	327	928	506	1833	833	19:45	288	1311	190	865	478
08:00	293	574			867	20:00	269	209			478
08:15	240	522			762	20:15	279	190			469
08:30	261	416			677	20:30	260	150			410
08:45	209	1003	446	1958	655	20:45	265	1073	127	676	392
09:00	216	333			549	21:00	211	133			344
09:15	206	311			517	21:15	216	137			353
09:30	217	289			506	21:30	188	148			336
09:45	239	878	318	1251	557	21:45	162	777	115	533	277
10:00	208	278			486	22:00	126	103			229
10:15	252	292			544	22:15	146	84			230
10:30	236	259			495	22:30	100	63			163
10:45	218	914	288	1117	506	22:45	86	458	60	310	146
11:00	266	270			536	23:00	102	52			154
11:15	264	298			562	23:15	75	44			119
11:30	264	286			550	23:30	63	30			93
11:45	292	1086	309	1163	601	23:45	59	299	29	155	88
TOTALS	5949	9388			15337	TOTALS	14466	10930			25396
SPLIT %	38.8%	61.2%			37.7%	SPLIT %	57.0%	43.0%			62.3%

DAILY TOTALS						NB	SB	EB	WB	Total	
						20,415	20,318	0	0	40,733	
AM Peak Hour	11:45	07:30			07:30	PM Peak Hour	16:45	14:15		17:00	
AM Pk Volume	1185	2139			3240	PM Pk Volume	1816	1388		3013	
Pk Hr Factor	0.935	0.932			0.934	Pk Hr Factor	0.928	0.940		0.939	
7 - 9 Volume	1931	3791	0	0	5722	4 - 6 Volume	3464	2425	0	0	5889
7 - 9 Peak Hour	07:45	07:30			07:30	4 - 6 Peak Hour	16:45	16:00			17:00
7 - 9 Pk Volume	1121	2139	0	0	3240	4 - 6 Pk Volume	1816	1226	0	0	3013
Pk Hr Factor	0.857	0.932	0.000	0.000	0.934	Pk Hr Factor	0.928	0.891	0.000	0.000	0.939

VOLUME

El Toro Rd S/O Muirlands Blvd

Day: Tuesday
 Date: 4/24/2018

City: Lake Forest
 Project #: CA18_1076_065

DAILY TOTALS						NB	SB	EB	WB	Total	
						21,528	23,188	0	0	44,716	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	15	23	0	0	38	12:00	308	415	0	0	723
00:15	41	28	0	0	69	12:15	345	404	0	0	749
00:30	31	20	0	0	51	12:30	369	435	0	0	804
00:45	43	130	16	87	217	12:45	363	1385	405	1659	3044
01:00	19	14	0	0	33	13:00	414	350	0	0	764
01:15	18	21	0	0	39	13:15	412	352	0	0	764
01:30	17	16	0	0	33	13:30	353	353	0	0	706
01:45	26	80	11	62	142	13:45	364	1543	353	1408	2951
02:00	14	10	0	0	24	14:00	390	350	0	0	740
02:15	15	11	0	0	26	14:15	343	373	0	0	716
02:30	14	16	0	0	30	14:30	382	376	0	0	758
02:45	20	63	19	56	119	14:45	403	1518	427	1526	3044
03:00	5	21	0	0	26	15:00	500	354	0	0	854
03:15	10	16	0	0	26	15:15	367	441	0	0	808
03:30	14	24	0	0	38	15:30	372	353	0	0	725
03:45	12	41	25	86	127	15:45	439	1678	392	1540	3218
04:00	11	30	0	0	41	16:00	435	398	0	0	833
04:15	8	53	0	0	61	16:15	467	379	0	0	846
04:30	30	62	0	0	92	16:30	469	334	0	0	803
04:45	19	68	87	232	300	16:45	417	1788	369	1480	3268
05:00	25	84	0	0	109	17:00	491	341	0	0	832
05:15	36	108	0	0	144	17:15	515	403	0	0	918
05:30	62	137	0	0	199	17:30	449	367	0	0	816
05:45	68	191	172	501	692	17:45	438	1893	367	1478	3371
06:00	91	199	0	0	290	18:00	434	355	0	0	789
06:15	110	238	0	0	348	18:15	429	317	0	0	746
06:30	153	343	0	0	496	18:30	393	307	0	0	700
06:45	156	510	355	1135	1645	18:45	383	1639	303	1282	2921
07:00	172	399	0	0	571	19:00	371	334	0	0	705
07:15	177	414	0	0	591	19:15	355	240	0	0	595
07:30	207	510	0	0	717	19:30	327	252	0	0	579
07:45	252	808	434	1757	2565	19:45	300	1353	224	1050	2403
08:00	257	527	0	0	784	20:00	282	242	0	0	524
08:15	237	542	0	0	779	20:15	285	198	0	0	483
08:30	264	428	0	0	692	20:30	279	168	0	0	447
08:45	204	962	432	1929	2891	20:45	270	1116	150	758	1874
09:00	211	380	0	0	591	21:00	250	129	0	0	379
09:15	216	348	0	0	564	21:15	185	146	0	0	331
09:30	232	315	0	0	547	21:30	192	147	0	0	339
09:45	263	922	377	1420	2342	21:45	162	789	112	534	1323
10:00	235	342	0	0	577	22:00	146	85	0	0	231
10:15	288	318	0	0	606	22:15	144	79	0	0	223
10:30	266	307	0	0	573	22:30	102	58	0	0	160
10:45	253	1042	306	1273	2315	22:45	101	493	58	280	773
11:00	271	346	0	0	617	23:00	103	49	0	0	152
11:15	309	376	0	0	685	23:15	65	42	0	0	107
11:30	322	367	0	0	689	23:30	76	30	0	0	106
11:45	319	1221	418	1507	2728	23:45	51	295	27	148	443
TOTALS	6038	10045			16083	TOTALS	15490	13143			28633
SPLIT %	37.5%	62.5%			36.0%	SPLIT %	54.1%	45.9%			64.0%

DAILY TOTALS						NB	SB	EB	WB	Total	
						21,528	23,188	0	0	44,716	
AM Peak Hour	11:45	07:30			11:45	PM Peak Hour	17:00	12:00		17:00	
AM Pk Volume	1341	2013			3013	PM Pk Volume	1893	1659		3371	
Pk Hr Factor	0.909	0.929			0.937	Pk Hr Factor	0.919	0.953		0.918	
7 - 9 Volume	1770	3686	0	0	5456	4 - 6 Volume	3681	2958	0	0	6639
7 - 9 Peak Hour	07:45	07:30			07:30	4 - 6 Peak Hour	17:00	16:00		17:00	
7 - 9 Pk Volume	1010	2013	0	0	2966	4 - 6 Pk Volume	1893	1480	0	0	3371
Pk Hr Factor	0.956	0.929	0.000	0.000	0.946	Pk Hr Factor	0.919	0.930	0.000	0.000	0.918

VOLUME

El Toro Rd S/O Rockfield Blvd

Day: Wednesday
Date: 4/18/2018City: Lake Forest
Project #: CA18_1076_066

DAILY TOTALS						NB	SB	EB	WB	Total		
						27,702	26,326	0	0	54,028		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	70	44			114	12:00	499	408			907	
00:15	59	34			93	12:15	510	467			977	
00:30	47	29			76	12:30	538	453			991	
00:45	51	227	28	135	79	12:45	534	2081	448	1776	982	3857
01:00	33	27			60	13:00	520	466			986	
01:15	20	25			45	13:15	493	473			966	
01:30	25	26			51	13:30	476	474			950	
01:45	23	101	16	94	39	13:45	525	2014	437	1850	962	3864
02:00	13	13			26	14:00	461	427			888	
02:15	12	13			25	14:15	491	458			949	
02:30	20	17			37	14:30	453	413			866	
02:45	24	69	17	60	41	14:45	533	1938	394	1692	927	3630
03:00	15	24			39	15:00	472	381			853	
03:15	16	20			36	15:15	478	433			911	
03:30	23	42			65	15:30	508	364			872	
03:45	13	67	37	123	50	15:45	525	1983	381	1559	906	3542
04:00	25	43			68	16:00	491	359			850	
04:15	28	68			96	16:15	502	368			870	
04:30	38	96			134	16:30	518	371			889	
04:45	39	130	107	314	146	16:45	552	2063	402	1500	954	3563
05:00	48	114			162	17:00	584	363			947	
05:15	51	141			192	17:15	552	398			950	
05:30	67	181			248	17:30	521	344			865	
05:45	106	272	207	643	313	17:45	466	2123	392	1497	858	3620
06:00	135	226			361	18:00	509	416			925	
06:15	151	311			462	18:15	457	372			829	
06:30	178	394			572	18:30	443	369			812	
06:45	205	669	408	1339	613	18:45	430	1839	366	1523	796	3362
07:00	201	468			669	19:00	451	328			779	
07:15	247	466			713	19:15	401	340			741	
07:30	280	511			791	19:30	369	329			698	
07:45	329	1057	467	1912	796	19:45	353	1574	262	1259	615	2833
08:00	305	493			798	20:00	359	296			655	
08:15	296	463			759	20:15	330	288			618	
08:30	296	489			785	20:30	331	274			605	
08:45	335	1232	382	1827	717	20:45	288	1308	264	1122	552	2430
09:00	333	353			686	21:00	245	235			480	
09:15	346	414			760	21:15	260	191			451	
09:30	378	377			755	21:30	235	195			430	
09:45	391	1448	368	1512	759	21:45	211	951	185	806	396	1757
10:00	376	347			723	22:00	207	158			365	
10:15	427	383			810	22:15	164	136			300	
10:30	408	389			797	22:30	142	103			245	
10:45	433	1644	393	1512	826	22:45	114	627	95	492	209	1119
11:00	393	358			751	23:00	127	81			208	
11:15	461	363			824	23:15	89	66			155	
11:30	515	400			915	23:30	87	61			148	
11:45	524	1893	400	1521	924	23:45	89	392	50	258	139	650
TOTALS	8809	10992			19801	TOTALS	18893	15334			34227	
SPLIT %	44.5%	55.5%			36.6%	SPLIT %	55.2%	44.8%			63.4%	

DAILY TOTALS						NB	SB	EB	WB	Total	
						27,702	26,326	0	0	54,028	
AM Peak Hour	11:45	07:15			11:45	PM Peak Hour	16:45	12:45		12:15	
AM Pk Volume	2071	1937			3799	PM Pk Volume	2209	1861		3936	
Pk Hr Factor	0.962	0.948			0.958	Pk Hr Factor	0.946	0.982		0.993	
7 - 9 Volume	2289	3739	0	0	6028	4 - 6 Volume	4186	2997	0	0	7183
7 - 9 Peak Hour	08:00	07:15			07:30	4 - 6 Peak Hour	16:45	16:30			16:30
7 - 9 Pk Volume	1232	1937	0	0	3144	4 - 6 Pk Volume	2209	1534	0	0	3740
Pk Hr Factor	0.919	0.948	0.000	0.000	0.985	Pk Hr Factor	0.946	0.954	0.000	0.000	0.980

VOLUME

Los Alisos Blvd N/O Jeronimo Rd

Day: Tuesday
Date: 4/24/2018City: Lake Forest
Project #: CA18_1076_067

DAILY TOTALS						NB	SB	EB	WB	Total	
						14,855	14,119	0	0	28,974	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	27	21			48	12:00	180	170			350
00:15	22	15			37	12:15	208	174			382
00:30	9	10			19	12:30	195	185			380
00:45	8	66	7	53	15	12:45	208	791	201	730	409
01:00	11	6			17	13:00	208	232			440
01:15	15	9			24	13:15	224	215			439
01:30	12	4			16	13:30	217	247			464
01:45	6	44	4	23	10	13:45	224	873	200	894	424
02:00	11	5			16	14:00	242	189			431
02:15	6	8			14	14:15	255	196			451
02:30	5	4			9	14:30	236	175			411
02:45	7	29	5	22	12	14:45	232	965	226	786	458
03:00	6	6			12	15:00	411	230			641
03:15	7	10			17	15:15	315	222			537
03:30	7	15			22	15:30	333	198			531
03:45	15	35	21	52	36	15:45	300	1359	244	894	544
04:00	5	13			18	16:00	322	200			522
04:15	5	25			30	16:15	373	213			586
04:30	9	30			39	16:30	366	221			587
04:45	11	30	50	118	61	16:45	367	1428	209	843	576
05:00	8	56			64	17:00	389	186			575
05:15	14	76			90	17:15	414	216			630
05:30	27	98			125	17:30	418	234			652
05:45	36	85	106	336	142	17:45	382	1603	211	847	593
06:00	46	133			179	18:00	350	223			573
06:15	51	149			200	18:15	346	194			540
06:30	57	242			299	18:30	319	208			527
06:45	91	245	285	809	376	18:45	246	1261	154	779	400
07:00	84	338			422	19:00	252	167			419
07:15	111	347			458	19:15	276	133			409
07:30	143	443			586	19:30	234	122			356
07:45	239	577	514	1642	753	19:45	216	978	120	542	336
08:00	239	401			640	20:00	208	111			319
08:15	230	403			633	20:15	203	99			302
08:30	181	369			550	20:30	155	92			247
08:45	176	826	303	1476	479	20:45	184	750	78	380	262
09:00	141	212			353	21:00	141	114			255
09:15	148	204			352	21:15	143	78			221
09:30	145	214			359	21:30	127	71			198
09:45	157	591	183	813	340	21:45	110	521	57	320	167
10:00	134	208			342	22:00	89	44			133
10:15	136	172			308	22:15	85	61			146
10:30	138	186			324	22:30	61	46			107
10:45	166	574	187	753	353	22:45	51	286	30	181	81
11:00	165	187			352	23:00	54	34			88
11:15	176	192			368	23:15	52	27			79
11:30	200	187			387	23:30	44	22			66
11:45	217	758	164	730	381	23:45	30	180	13	96	43
TOTALS	3860	6827			10687	TOTALS	10995	7292			18287
SPLIT %	36.1%	63.9%			36.9%	SPLIT %	60.1%	39.9%			63.1%

DAILY TOTALS						NB	SB	EB	WB	Total
						14,855	14,119	0	0	28,974
AM Peak Hour	07:45	07:30			07:30	PM Peak Hour	17:00	12:45		17:00
AM Pk Volume	889	1761			2612	PM Pk Volume	1603	895		2450
Pk Hr Factor	0.930	0.857			0.867	Pk Hr Factor	0.959	0.906		0.939
7 - 9 Volume	1403	3118	0	0	4521	4 - 6 Volume	3031	1690	0	4721
7 - 9 Peak Hour	07:45	07:30			07:30	4 - 6 Peak Hour	17:00	17:00		17:00
7 - 9 Pk Volume	889	1761	0	0	2612	4 - 6 Pk Volume	1603	847	0	2450
Pk Hr Factor	0.930	0.857	0.000	0.000	0.867	Pk Hr Factor	0.959	0.905	0.000	0.939

VOLUME

Los Alisos Blvd N/O Muirlands Blvd

Day: Tuesday
Date: 4/24/2018City: Lake Forest
Project #: CA18_1076_068

DAILY TOTALS					NB	SB	EB	WB	Total		
					14,465	15,536	0	0	30,001		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	20	13			33	12:00	238	201			439
00:15	14	11			25	12:15	212	191			403
00:30	16	15			31	12:30	182	206			388
00:45	19	69	13	52	32	12:45	189	821	183	781	372
01:00	7	12			19	13:00	198	216			414
01:15	9	7			16	13:15	213	199			412
01:30	14	10			24	13:30	206	218			424
01:45	12	42	9	38	21	13:45	234	851	231	864	465
02:00	7	6			13	14:00	216	200			416
02:15	6	3			9	14:15	280	248			528
02:30	8	5			13	14:30	227	228			455
02:45	4	25	8	22	12	14:45	270	993	291	967	561
03:00	7	5			12	15:00	392	283			675
03:15	6	6			12	15:15	335	278			613
03:30	7	10			17	15:30	300	247			547
03:45	4	24	13	34	17	15:45	283	1310	275	1083	558
04:00	6	18			24	16:00	321	261			582
04:15	10	19			29	16:15	337	265			602
04:30	9	27			36	16:30	292	250			542
04:45	24	49	54	118	78	16:45	354	1304	266	1042	620
05:00	17	51			68	17:00	389	270			659
05:15	20	68			88	17:15	462	297			759
05:30	21	94			115	17:30	397	271			668
05:45	44	102	134	347	178	17:45	369	1617	269	1107	638
06:00	35	121			156	18:00	354	237			591
06:15	54	137			191	18:15	303	253			556
06:30	89	228			317	18:30	306	223			529
06:45	97	275	301	787	398	18:45	259	1222	204	917	463
07:00	105	280			385	19:00	277	231			508
07:15	129	356			485	19:15	224	190			414
07:30	153	381			534	19:30	234	175			409
07:45	271	658	442	1459	713	19:45	198	933	161	757	359
08:00	297	381			678	20:00	198	157			355
08:15	188	394			582	20:15	141	139			280
08:30	170	353			523	20:30	178	113			291
08:45	150	805	352	1480	502	20:45	140	657	150	559	290
09:00	160	229			389	21:00	153	120			273
09:15	131	234			365	21:15	132	109			241
09:30	132	221			353	21:30	97	62			159
09:45	132	555	220	904	352	21:45	93	475	77	368	170
10:00	144	186			330	22:00	77	54			131
10:15	120	229			349	22:15	71	52			123
10:30	153	198			351	22:30	57	45			102
10:45	127	544	179	792	306	22:45	59	264	39	190	98
11:00	130	194			324	23:00	62	48			110
11:15	197	173			370	23:15	41	29			70
11:30	201	197			398	23:30	32	25			57
11:45	178	706	181	745	359	23:45	29	164	21	123	50
TOTALS	3854	6778			10632	TOTALS	10611	8758			19369
SPLIT %	36.2%	63.8%			35.4%	SPLIT %	54.8%	45.2%			64.6%

DAILY TOTALS					NB	SB	EB	WB	Total		
					14,465	15,536	0	0	30,001		
AM Peak Hour	07:45	07:30			07:30	PM Peak Hour	17:00	17:00			17:00
AM Pk Volume	926	1598			2507	PM Pk Volume	1617	1107			2724
Pk Hr Factor	0.779	0.904			0.879	Pk Hr Factor	0.875	0.932			0.897
7 - 9 Volume	1463	2939	0	0	4402	4 - 6 Volume	2921	2149	0	0	5070
7 - 9 Peak Hour	07:45	07:30			07:30	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	926	1598	0	0	2507	4 - 6 Pk Volume	1617	1107	0	0	2724
Pk Hr Factor	0.779	0.904	0.000	0.000	0.879	Pk Hr Factor	0.875	0.932	0.000	0.000	0.897

VOLUME

Los Alisos Blvd S/O Muirlands Blvd

Day: Tuesday
Date: 4/24/2018City: Lake Forest
Project #: CA18_1076_069

DAILY TOTALS						NB	SB	EB	WB	Total	
						14,209	13,075	0	0	27,284	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	23	14			37	12:00	223	179			402
00:15	16	7			23	12:15	181	168			349
00:30	22	9			31	12:30	191	189			380
00:45	20	81	9	39	29	12:45	203	798	175	711	378
01:00	15	3			18	13:00	189	179			368
01:15	11	7			18	13:15	194	164			358
01:30	13	5			18	13:30	186	190			376
01:45	9	48	7	22	16	13:45	227	796	222	755	449
02:00	11	7			18	14:00	199	166			365
02:15	8	2			10	14:15	294	204			498
02:30	5	3			8	14:30	247	223			470
02:45	3	27	5	17	8	14:45	287	1027	244	837	531
03:00	6	4			10	15:00	350	278			628
03:15	6	8			14	15:15	278	257			535
03:30	10	9			19	15:30	280	231			511
03:45	5	27	10	31	15	15:45	291	1199	248	1014	539
04:00	9	16			25	16:00	320	230			550
04:15	8	16			24	16:15	299	224			523
04:30	16	22			38	16:30	294	177			471
04:45	30	63	40	94	70	16:45	337	1250	219	850	556
05:00	19	49			68	17:00	353	228			581
05:15	23	58			81	17:15	411	243			654
05:30	31	84			115	17:30	357	230			587
05:45	51	124	114	305	165	17:45	322	1443	247	948	569
06:00	33	105			138	18:00	292	196			488
06:15	58	114			172	18:15	274	220			494
06:30	111	176			287	18:30	295	187			482
06:45	104	306	272	667	376	18:45	271	1132	151	754	422
07:00	116	244			360	19:00	247	166			413
07:15	157	255			412	19:15	205	145			350
07:30	203	355			558	19:30	207	135			342
07:45	314	790	301	1155	615	19:45	212	871	134	580	346
08:00	268	292			560	20:00	183	118			301
08:15	219	296			515	20:15	164	118			282
08:30	192	298			490	20:30	158	107			265
08:45	174	853	290	1176	464	20:45	147	652	97	440	244
09:00	159	208			367	21:00	123	92			215
09:15	137	203			340	21:15	124	86			210
09:30	147	177			324	21:30	112	67			179
09:45	144	587	181	769	325	21:45	86	445	64	309	150
10:00	144	164			308	22:00	71	60			131
10:15	122	195			317	22:15	72	44			116
10:30	146	160			306	22:30	54	39			93
10:45	148	560	152	671	300	22:45	59	256	31	174	90
11:00	157	173			330	23:00	61	37			98
11:15	169	159			328	23:15	41	29			70
11:30	168	156			324	23:30	41	23			64
11:45	206	700	165	653	371	23:45	31	174	15	104	46
TOTALS	4166	5599			9765	TOTALS	10043	7476			17519
SPLIT %	42.7%	57.3%			35.8%	SPLIT %	57.3%	42.7%			64.2%

DAILY TOTALS						NB	SB	EB	WB	Total	
						14,209	13,075	0	0	27,284	
AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	16:45	15:00		17:00	
AM Pk Volume	1004	1244			2248	PM Pk Volume	1458	1014		2391	
Pk Hr Factor	0.799	0.876			0.914	Pk Hr Factor	0.887	0.912		0.914	
7 - 9 Volume	1643	2331	0	0	3974	4 - 6 Volume	2693	1798	0	0	4491
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	16:45	17:00			17:00
7 - 9 Pk Volume	1004	1244	0	0	2248	4 - 6 Pk Volume	1458	948	0	0	2391
Pk Hr Factor	0.799	0.876	0.000	0.000	0.914	Pk Hr Factor	0.887	0.960	0.000	0.000	0.914

VOLUME

Los Alisos Blvd S/O Rockfield Blvd

Day: Wednesday
Date: 4/18/2018City: Lake Forest
Project #: CA18_1076_070

DAILY TOTALS						NB	SB	EB	WB	Total	
						12,758	12,289	0	0	25,047	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	18	16			34	12:00	221	175			396
00:15	13	11			24	12:15	182	179			361
00:30	13	8			21	12:30	170	209			379
00:45	9	53	10	45	19	12:45	226	799	211	774	437
01:00	7	5			12	13:00	221	185			406
01:15	9	5			14	13:15	224	194			418
01:30	11	5			16	13:30	235	247			482
01:45	5	32	8	23	13	13:45	211	891	244	870	455
02:00	4	3			7	14:00	196	157			353
02:15	6	4			10	14:15	167	191			358
02:30	3	2			5	14:30	198	223			421
02:45	5	18	7	16	12	14:45	228	789	197	768	425
03:00	4	8			12	15:00	225	185			410
03:15	2	9			11	15:15	241	184			425
03:30	6	7			13	15:30	250	192			442
03:45	11	23	8	32	19	15:45	249	965	202	763	451
04:00	4	8			12	16:00	274	187			461
04:15	6	10			16	16:15	280	239			519
04:30	8	14			22	16:30	288	213			501
04:45	19	37	29	61	48	16:45	298	1140	227	866	525
05:00	16	19			35	17:00	332	208			540
05:15	20	32			52	17:15	372	267			639
05:30	23	50			73	17:30	344	215			559
05:45	35	94	86	187	121	17:45	302	1350	252	942	554
06:00	36	61			97	18:00	263	183			446
06:15	47	94			141	18:15	277	243			520
06:30	64	142			206	18:30	222	188			410
06:45	111	258	234	531	345	18:45	215	977	160	774	375
07:00	111	203			314	19:00	189	175			364
07:15	143	220			363	19:15	179	185			364
07:30	196	276			472	19:30	155	116			271
07:45	302	752	289	988	591	19:45	165	688	151	627	316
08:00	222	255			477	20:00	145	127			272
08:15	208	272			480	20:15	159	123			282
08:30	183	271			454	20:30	143	106			249
08:45	169	782	250	1048	419	20:45	133	580	83	439	216
09:00	116	151			267	21:00	110	90			200
09:15	121	181			302	21:15	104	86			190
09:30	160	183			343	21:30	84	68			152
09:45	129	526	123	638	252	21:45	81	379	71	315	152
10:00	151	132			283	22:00	74	83			157
10:15	135	166			301	22:15	69	43			112
10:30	148	141			289	22:30	49	40			89
10:45	128	562	165	604	293	22:45	41	233	40	206	81
11:00	141	146			287	23:00	49	38			87
11:15	166	156			322	23:15	44	29			73
11:30	176	197			373	23:30	38	20			58
11:45	190	673	170	669	360	23:45	26	157	16	103	42
TOTALS	3810	4842			8652	TOTALS	8948	7447			16395
SPLIT %	44.0%	56.0%			34.5%	SPLIT %	54.6%	45.4%			65.5%

DAILY TOTALS						NB	SB	EB	WB	Total	
						12,758	12,289	0	0	25,047	
AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	17:00	17:00		17:00	
AM Pk Volume	928	1092			2020	PM Pk Volume	1350	942		2292	
Pk Hr Factor	0.768	0.945			0.854	Pk Hr Factor	0.907	0.882		0.897	
7 - 9 Volume	1534	2036	0	0	3570	4 - 6 Volume	2490	1808	0	0	4298
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	17:00	17:00			17:00
7 - 9 Pk Volume	928	1092	0	0	2020	4 - 6 Pk Volume	1350	942	0	0	2292
Pk Hr Factor	0.768	0.945	0.000	0.000	0.854	Pk Hr Factor	0.907	0.882	0.000	0.000	0.897

VOLUME

Commercentre Dr E/O Alton Pkwy

Day: Tuesday
 Date: 4/24/2018

City: Lake Forest
 Project #: CA18_1076_071

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	3,458	4,088	7,546					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00	0	0	2	4	6	12:00	0	0	43	77	120			
00:15	0	0	0	0		12:15	0	0	49	54	103			
00:30	0	0	2	3	5	12:30	0	0	52	63	115			
00:45	0	0	0	4	1	12:45	0	0	50	194	57	251	107	445
01:00	0	0	0	1	1	13:00	0	0	41	56	97			
01:15	0	0	1	5	6	13:15	0	0	37	45	82			
01:30	0	0	0	1	1	13:30	0	0	48	55	103			
01:45	0	0	0	1	0	13:45	0	0	46	172	34	190	80	362
02:00	0	0	1	1	2	14:00	0	0	42	66	108			
02:15	0	0	1	1	2	14:15	0	0	43	41	84			
02:30	0	0	0	2	2	14:30	0	0	40	81	121			
02:45	0	0	0	2	0	14:45	0	0	46	171	74	262	120	433
03:00	0	0	2	1	3	15:00	0	0	42	96	138			
03:15	0	0	0	0		15:15	0	0	39	88	127			
03:30	0	0	3	2	5	15:30	0	0	53	156	209			
03:45	0	0	4	9	2	15:45	0	0	32	166	103	443	135	609
04:00	0	0	5	2	7	16:00	0	0	27	143	170			
04:15	0	0	7	2	9	16:15	0	0	30	129	159			
04:30	0	0	19	4	23	16:30	0	0	38	149	187			
04:45	0	0	35	66	8	16:45	0	0	38	133	118	539	156	672
05:00	0	0	16	7	23	17:00	0	0	47	228	275			
05:15	0	0	13	6	19	17:15	0	0	63	183	246			
05:30	0	0	22	8	30	17:30	0	0	47	168	215			
05:45	0	0	59	110	18	17:45	0	0	53	210	121	700	174	910
06:00	0	0	46	14	60	18:00	0	0	28	119	147			
06:15	0	0	63	21	84	18:15	0	0	25	84	109			
06:30	0	0	66	26	92	18:30	0	0	22	89	111			
06:45	0	0	88	263	35	18:45	0	0	19	94	50	342	69	436
07:00	0	0	80	38	118	19:00	0	0	26	58	84			
07:15	0	0	110	54	164	19:15	0	0	19	50	69			
07:30	0	0	101	55	156	19:30	0	0	14	19	33			
07:45	0	0	138	429	50	19:45	0	0	18	77	31	158	49	235
08:00	0	0	117	54	171	20:00	0	0	17	31	48			
08:15	0	0	141	44	185	20:15	0	0	13	19	32			
08:30	0	0	181	47	228	20:30	0	0	10	19	29			
08:45	0	0	131	570	39	20:45	0	0	13	53	17	86	30	139
09:00	0	0	123	43	166	21:00	0	0	5	26	31			
09:15	0	0	101	34	135	21:15	0	0	4	17	21			
09:30	0	0	91	34	125	21:30	0	0	3	10	13			
09:45	0	0	71	386	41	21:45	0	0	6	18	10	63	16	81
10:00	0	0	52	34	86	22:00	0	0	15	6	21			
10:15	0	0	39	28	67	22:15	0	0	4	4	8			
10:30	0	0	34	33	67	22:30	0	0	3	14	17			
10:45	0	0	35	160	36	22:45	0	0	1	23	8	32	9	55
11:00	0	0	42	28	70	23:00	0	0	2	5	7			
11:15	0	0	34	22	56	23:15	0	0	2	3	5			
11:30	0	0	26	47	73	23:30	0	0	1	5	6			
11:45	0	0	38	140	70	23:45	0	0	2	7	3	16	5	23
TOTALS			2140	1006	3146	TOTALS			1318	3082	4400			
SPLIT %			68.0%	32.0%	41.7%	SPLIT %			30.0%	70.0%	58.3%			

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	3,458	4,088	7,546		
AM Peak Hour			07:45	11:45	07:45	PM Peak Hour			17:00	17:00	17:00
AM Pk Volume			577	264	772	PM Pk Volume			210	700	910
Pk Hr Factor			0.797	0.857	0.846	Pk Hr Factor			0.833	0.768	0.827
7 - 9 Volume	0	0	999	381	1380	4 - 6 Volume	0	0	343	1239	1582
7 - 9 Peak Hour			07:45	07:15	07:45	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	577	213	772	4 - 6 Pk Volume	0	0	210	700	910
Pk Hr Factor	0.000	0.000	0.797	0.968	0.846	Pk Hr Factor	0.000	0.000	0.833	0.768	0.827

VOLUME

Dimension Dr N/O Commercentre Dr

Day: Tuesday
 Date: 4/24/2018

City: Lake Forest
 Project #: CA18_1076_081

DAILY TOTALS					NB	SB	EB	WB	Total		
					2,992	2,971	0	0	5,963		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	3	0	0	3	12:00	93	73	0	0	166
00:15	2	1	0	0	3	12:15	77	78	0	0	155
00:30	1	2	0	0	3	12:30	82	77	0	0	159
00:45	1	4	2	8	3	12:45	59	311	61	289	120
01:00	2	1	0	0	3	13:00	53	73	0	0	126
01:15	0	1	0	0	1	13:15	48	64	0	0	112
01:30	0	3	0	0	3	13:30	42	56	0	0	98
01:45	0	2	0	5	7	13:45	51	194	49	242	100
02:00	1	2	0	0	3	14:00	45	51	0	0	96
02:15	1	0	0	0	1	14:15	40	32	0	0	72
02:30	0	2	0	0	2	14:30	31	50	0	0	81
02:45	0	2	0	4	6	14:45	39	155	50	183	89
03:00	0	0	0	0	0	15:00	44	44	0	0	88
03:15	1	1	0	0	2	15:15	53	67	0	0	120
03:30	5	1	0	0	6	15:30	61	44	0	0	105
03:45	1	7	0	2	1	15:45	38	196	61	216	99
04:00	2	1	0	0	3	16:00	59	46	0	0	105
04:15	1	0	0	0	1	16:15	49	59	0	0	108
04:30	6	4	0	0	10	16:30	65	62	0	0	127
04:45	4	13	4	9	8	16:45	56	229	76	243	132
05:00	8	8	0	0	16	17:00	97	121	0	0	218
05:15	10	7	0	0	17	17:15	69	66	0	0	135
05:30	6	2	0	0	8	17:30	77	65	0	0	142
05:45	14	38	13	30	27	17:45	45	288	65	317	110
06:00	17	14	0	0	31	18:00	47	50	0	0	97
06:15	10	17	0	0	27	18:15	44	43	0	0	87
06:30	24	21	0	0	45	18:30	55	44	0	0	99
06:45	40	91	31	83	71	18:45	33	179	42	179	75
07:00	44	31	0	0	75	19:00	31	41	0	0	72
07:15	40	26	0	0	66	19:15	27	24	0	0	51
07:30	39	32	0	0	71	19:30	28	37	0	0	65
07:45	54	177	62	151	116	19:45	14	100	29	131	43
08:00	69	40	0	0	109	20:00	33	29	0	0	62
08:15	71	71	0	0	142	20:15	23	24	0	0	47
08:30	86	55	0	0	141	20:30	13	22	0	0	35
08:45	67	293	54	220	121	20:45	13	82	20	95	33
09:00	45	53	0	0	98	21:00	20	19	0	0	39
09:15	38	30	0	0	68	21:15	15	19	0	0	34
09:30	47	30	0	0	77	21:30	17	16	0	0	33
09:45	45	175	41	154	86	21:45	7	59	7	61	14
10:00	31	28	0	0	59	22:00	7	17	0	0	24
10:15	34	25	0	0	59	22:15	6	12	0	0	18
10:30	31	20	0	0	51	22:30	7	8	0	0	15
10:45	24	120	19	92	43	22:45	5	25	9	46	14
11:00	50	43	0	0	93	23:00	4	9	0	0	13
11:15	44	53	0	0	97	23:15	4	3	0	0	7
11:30	76	43	0	0	119	23:30	2	7	0	0	9
11:45	69	239	48	187	117	23:45	3	13	5	24	8
TOTALS	1161	945			2106	TOTALS	1831	2026			3857
SPLIT %	55.1%	44.9%			35.3%	SPLIT %	47.5%	52.5%			64.7%

DAILY TOTALS					NB	SB	EB	WB	Total
					2,992	2,971	0	0	5,963
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	12:00	16:45	16:45
AM Pk Volume	321	276			597	PM Pk Volume	311	328	627
Pk Hr Factor	0.863	0.885			0.899	Pk Hr Factor	0.836	0.678	0.719
7 - 9 Volume	470	371	0	0	841	4 - 6 Volume	517	560	1077
7 - 9 Peak Hour	08:00	07:45			08:00	4 - 6 Peak Hour	16:45	16:45	16:45
7 - 9 Pk Volume	293	228	0	0	513	4 - 6 Pk Volume	299	328	627
Pk Hr Factor	0.852	0.803	0.000	0.000	0.903	Pk Hr Factor	0.771	0.678	0.719

DAILY TOTALS		NB		SB		EB		WB		To	
		5,663		6,358		0		0		12,	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TO
00:00	5	9	0	0	14	12:00	106	167	0	0	273
00:15	1	2	0	0	3	12:15	114	123	0	0	237
00:30	1	4	0	0	5	12:30	126	128	0	0	254
00:45	3	10	3	18	6	12:45	156	502	101	519	257
01:00	5	6	0	0	11	13:00	158	104	0	0	262
01:15	2	3	0	0	5	13:15	98	73	0	0	171
01:30	0	1	0	0	1	13:30	92	97	0	0	189
01:45	0	7	1	11	1	13:45	99	447	76	350	175
02:00	2	2	0	0	4	14:00	86	85	0	0	171
02:15	2	3	0	0	5	14:15	64	84	0	0	148
02:30	0	4	0	0	4	14:30	68	101	0	0	169
02:45	1	5	4	13	5	14:45	69	287	100	370	169
03:00	0	5	0	0	5	15:00	65	124	0	0	189
03:15	3	2	0	0	5	15:15	72	125	0	0	197
03:30	2	3	0	0	5	15:30	86	129	0	0	215
03:45	4	9	0	10	4	15:45	64	287	115	493	179
04:00	1	4	0	0	5	16:00	91	181	0	0	272
04:15	2	2	0	0	4	16:15	51	156	0	0	207
04:30	10	15	0	0	25	16:30	58	223	0	0	281
04:45	21	34	12	33	33	16:45	80	280	195	755	275
05:00	16	13	0	0	29	17:00	93	297	0	0	390
05:15	25	17	0	0	42	17:15	84	226	0	0	310
05:30	23	18	0	0	41	17:30	89	232	0	0	321
05:45	75	139	25	73	100	17:45	78	344	184	939	262
06:00	49	28	0	0	77	18:00	82	169	0	0	251
06:15	48	35	0	0	83	18:15	61	135	0	0	196
06:30	67	38	0	0	105	18:30	74	113	0	0	187
06:45	90	254	46	147	136	18:45	57	274	105	522	162
07:00	81	37	0	0	118	19:00	45	72	0	0	117
07:15	147	31	0	0	178	19:15	40	76	0	0	116
07:30	148	61	0	0	209	19:30	41	72	0	0	113
07:45	204	580	63	192	267	19:45	29	155	68	288	97
08:00	185	69	0	0	254	20:00	46	50	0	0	96
08:15	224	70	0	0	294	20:15	29	54	0	0	83
08:30	182	64	0	0	246	20:30	34	52	0	0	86
08:45	169	760	70	273	239	20:45	23	132	40	196	63
09:00	136	71	0	0	207	21:00	38	37	0	0	75
09:15	131	56	0	0	187	21:15	17	10	0	0	27
09:30	96	46	0	0	142	21:30	12	42	0	0	54
09:45	105	468	69	242	174	21:45	22	89	38	127	60
10:00	85	75	0	0	160	22:00	7	20	0	0	27
10:15	71	62	0	0	133	22:15	9	14	0	0	23
10:30	62	50	0	0	112	22:30	6	15	0	0	21
10:45	59	277	53	240	112	22:45	4	26	15	64	19
11:00	64	97	0	0	161	23:00	4	13	0	0	17
11:15	65	86	0	0	151	23:15	3	8	0	0	11
11:30	68	121	0	0	189	23:30	2	5	0	0	7
11:45	89	286	148	452	237	23:45	2	11	5	31	7
TOTALS	2829	1704			4533	TOTALS	2834	4654			
SPLIT %	62.4%	37.6%			37.7%	SPLIT %	37.8%	62.2%			

DAILY TOTALS		NB		SB		EB		WB		To
		5,663		6,358		0		0		12,

AM Peak Hour	07:45	11:45			07:45	PM Peak Hour	12:15	16:45		
AM Pk Volume	795	566			1061	PM Pk Volume	554	950		
Pk Hr Factor	0.887	0.847			0.902	Pk Hr Factor	0.877	0.800		
7 - 9 Volume	1340	465	0	0	1805	4 - 6 Volume	624	1694	0	0
7 - 9 Peak Hour	07:45	08:00			07:45	4 - 6 Peak Hour	16:45	16:45		
7 - 9 Pk Volume	795	273	0	0	1061	4 - 6 Pk Volume	346	950	0	0
Pk Hr Factor	0.887	0.975	0.000	0.000	0.902	Pk Hr Factor	0.930	0.800	0.000	0.000

VOLUME

Commercentre Dr E/O Bake Pkwy

Day: Tuesday
 Date: 4/24/2018

City: Lake Forest
 Project #: CA18_1076_083

DAILY TOTALS						NB	SB	EB	WB	Total	
						0	0	6,031	5,054	11,085	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0	2	5	7	12:00	0	0	79	84	163
00:15	0	0	2	2	4	12:15	0	0	83	66	149
00:30	0	0	4	6	10	12:30	0	0	90	96	186
00:45	0	0	0	8	3	12:45	0	0	91	343	167
01:00	0	0	1	11	12	13:00	0	0	95	78	173
01:15	0	0	4	3	7	13:15	0	0	89	63	152
01:30	0	0	1	2	3	13:30	0	0	105	97	202
01:45	0	0	1	7	3	13:45	0	0	99	388	157
02:00	0	0	1	1	2	14:00	0	0	59	92	151
02:15	0	0	3	0	3	14:15	0	0	58	68	126
02:30	0	0	1	1	2	14:30	0	0	64	110	174
02:45	0	0	6	11	7	14:45	0	0	68	249	153
03:00	0	0	8	2	10	15:00	0	0	88	136	224
03:15	0	0	2	3	5	15:15	0	0	66	111	177
03:30	0	0	12	3	15	15:30	0	0	68	150	218
03:45	0	0	11	33	13	15:45	0	0	55	277	177
04:00	0	0	14	4	18	16:00	0	0	58	200	258
04:15	0	0	11	6	17	16:15	0	0	55	161	216
04:30	0	0	26	4	30	16:30	0	0	54	219	273
04:45	0	0	55	106	72	16:45	0	0	75	242	224
05:00	0	0	39	12	51	17:00	0	0	77	253	330
05:15	0	0	49	13	62	17:15	0	0	81	190	271
05:30	0	0	74	17	91	17:30	0	0	64	179	243
05:45	0	0	126	288	143	17:45	0	0	68	290	210
06:00	0	0	122	17	139	18:00	0	0	58	161	219
06:15	0	0	113	18	131	18:15	0	0	62	102	164
06:30	0	0	111	24	135	18:30	0	0	43	102	145
06:45	0	0	178	524	203	18:45	0	0	31	194	82
07:00	0	0	159	29	188	19:00	0	0	31	58	89
07:15	0	0	212	42	254	19:15	0	0	24	44	68
07:30	0	0	180	57	237	19:30	0	0	26	38	64
07:45	0	0	242	793	282	19:45	0	0	24	105	57
08:00	0	0	199	31	230	20:00	0	0	15	48	63
08:15	0	0	205	49	254	20:15	0	0	15	13	28
08:30	0	0	215	52	267	20:30	0	0	14	25	39
08:45	0	0	195	814	249	20:45	0	0	14	58	26
09:00	0	0	185	50	235	21:00	0	0	10	30	40
09:15	0	0	129	51	180	21:15	0	0	12	14	26
09:30	0	0	133	48	181	21:30	0	0	20	13	33
09:45	0	0	143	590	183	21:45	0	0	15	57	25
10:00	0	0	105	42	147	22:00	0	0	10	15	25
10:15	0	0	76	35	111	22:15	0	0	15	14	29
10:30	0	0	71	44	115	22:30	0	0	12	18	30
10:45	0	0	77	329	133	22:45	0	0	7	44	17
11:00	0	0	67	63	130	23:00	0	0	5	11	16
11:15	0	0	64	53	117	23:15	0	0	6	4	10
11:30	0	0	49	67	116	23:30	0	0	4	3	7
11:45	0	0	82	262	192	23:45	0	0	4	19	10
TOTALS			3765	1234	4999	TOTALS			2266	3820	6086
SPLIT %			75.3%	24.7%	45.1%	SPLIT %			37.2%	62.8%	54.9%

DAILY TOTALS						NB	SB	EB	WB	Total
						0	0	6,031	5,054	11,085

AM Peak Hour		07:45	11:45	07:45	PM Peak Hour		13:00	16:30	16:30
AM Pk Volume		861	356	1033	PM Pk Volume		388	811	1098
Pk Hr Factor		0.889	0.809	0.916	Pk Hr Factor		0.924	0.801	0.832
7 - 9 Volume	0	0	1607	354	4 - 6 Volume	0	0	532	1493
7 - 9 Peak Hour		07:45	08:00	07:45	4 - 6 Peak Hour		16:45	16:30	16:30
7 - 9 Pk Volume	0	0	861	186	4 - 6 Pk Volume	0	0	297	811
Pk Hr Factor	0.000	0.000	0.889	0.861	Pk Hr Factor	0.000	0.000	0.917	0.801

VOLUME

Commercentre Dr S/O Dimension Dr

Day: Tuesday
 Date: 4/24/2018

City: Lake Forest
 Project #: CA18_1076_085

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,191	3,705	0	0	7,896	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	5	1	0	0	6	12:00	104	67	0	0	171
00:15	2	2	0	0	4	12:15	58	77	0	0	135
00:30	5	2	0	0	7	12:30	61	70	0	0	131
00:45	0	12	3	8	3	12:45	58	281	66	280	124
01:00	2	4	0	0	6	13:00	58	92	0	0	150
01:15	3	0	0	0	3	13:15	52	65	0	0	117
01:30	0	1	0	0	1	13:30	49	53	0	0	102
01:45	2	7	0	5	2	13:45	58	217	46	256	104
02:00	1	0	0	0	1	14:00	47	63	0	0	110
02:15	1	0	0	0	1	14:15	57	40	0	0	97
02:30	1	1	0	0	2	14:30	61	63	0	0	124
02:45	2	5	0	1	2	14:45	62	227	45	211	107
03:00	4	1	0	0	5	15:00	84	54	0	0	138
03:15	1	0	0	0	1	15:15	76	58	0	0	134
03:30	5	3	0	0	8	15:30	79	65	0	0	144
03:45	4	14	2	6	6	15:45	59	298	59	236	118
04:00	3	3	0	0	6	16:00	94	87	0	0	181
04:15	4	0	0	0	4	16:15	80	60	0	0	140
04:30	8	8	0	0	16	16:30	101	98	0	0	199
04:45	11	26	15	26	26	16:45	103	378	75	320	178
05:00	15	6	0	0	21	17:00	193	99	0	0	292
05:15	30	11	0	0	41	17:15	118	103	0	0	221
05:30	19	26	0	0	45	17:30	101	92	0	0	193
05:45	37	101	41	84	78	17:45	80	492	88	382	168
06:00	35	30	0	0	65	18:00	79	86	0	0	165
06:15	52	35	0	0	87	18:15	58	71	0	0	129
06:30	42	46	0	0	88	18:30	44	74	0	0	118
06:45	58	187	57	168	115	18:45	40	221	34	265	74
07:00	52	56	0	0	108	19:00	31	43	0	0	74
07:15	63	95	0	0	158	19:15	28	26	0	0	54
07:30	70	96	0	0	166	19:30	31	29	0	0	60
07:45	77	262	102	349	179	19:45	21	111	18	116	39
08:00	93	87	0	0	180	20:00	29	32	0	0	61
08:15	72	94	0	0	166	20:15	16	10	0	0	26
08:30	80	60	0	0	140	20:30	17	11	0	0	28
08:45	124	369	67	308	191	20:45	10	72	7	60	17
09:00	96	65	0	0	161	21:00	9	25	0	0	34
09:15	79	38	0	0	117	21:15	12	8	0	0	20
09:30	66	53	0	0	119	21:30	13	4	0	0	17
09:45	86	327	50	206	136	21:45	9	43	3	40	12
10:00	57	40	0	0	97	22:00	11	7	0	0	18
10:15	55	38	0	0	93	22:15	9	6	0	0	15
10:30	52	31	0	0	83	22:30	14	2	0	0	16
10:45	52	216	38	147	90	22:45	5	39	1	16	6
11:00	53	38	0	0	91	23:00	6	6	0	0	12
11:15	64	43	0	0	107	23:15	6	4	0	0	10
11:30	62	44	0	0	106	23:30	5	2	0	0	7
11:45	85	264	71	196	156	23:45	5	22	7	19	12
TOTALS	1790	1504			3294	TOTALS	2401	2201			4602
SPLIT %	54.3%	45.7%			41.7%	SPLIT %	52.2%	47.8%			58.3%

DAILY TOTALS						NB	SB	EB	WB	Total	
						4,191	3,705	0	0	7,896	
AM Peak Hour	08:30	07:15			07:30	PM Peak Hour	16:30	17:00		16:30	
AM Pk Volume	379	380			691	PM Pk Volume	515	382		890	
Pk Hr Factor	0.764	0.931			0.960	Pk Hr Factor	0.667	0.927		0.762	
7 - 9 Volume	631	657	0	0	1288	4 - 6 Volume	870	702	0	0	1572
7 - 9 Peak Hour	08:00	07:15			07:30	4 - 6 Peak Hour	16:30	17:00			16:30
7 - 9 Pk Volume	369	380	0	0	691	4 - 6 Pk Volume	515	382	0	0	890
Pk Hr Factor	0.744	0.931	0.000	0.000	0.960	Pk Hr Factor	0.667	0.927	0.000	0.000	0.762

Alton Pkwy & Portola Pkwy

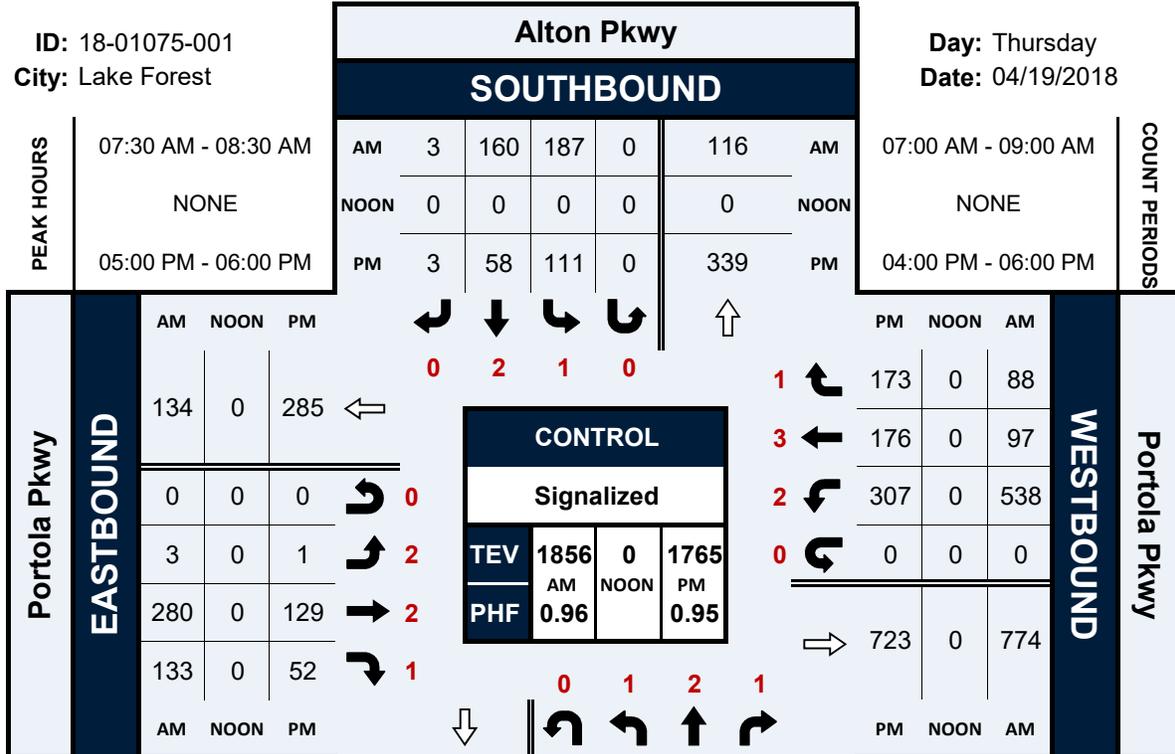
Peak Hour Turning Movement Count

ID: 18-01075-001

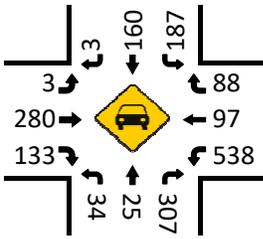
City: Lake Forest

Day: Thursday

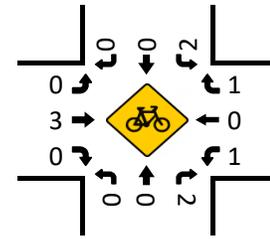
Date: 04/19/2018



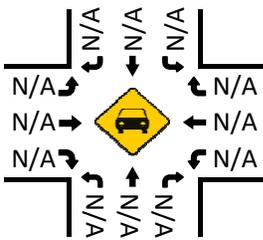
Total Vehicles (AM)



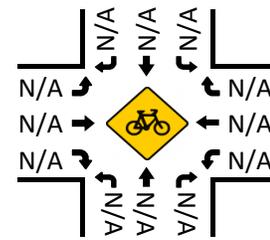
Bikes (AM)



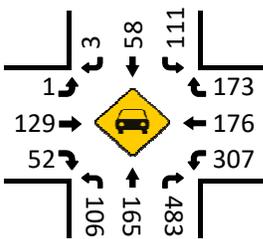
Total Vehicles (Noon)



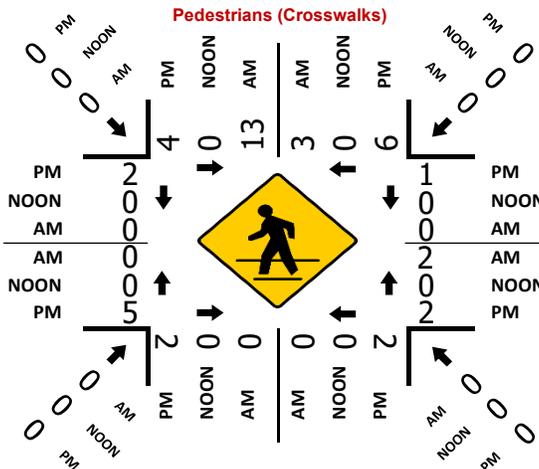
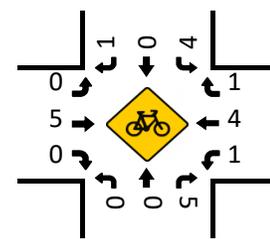
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)

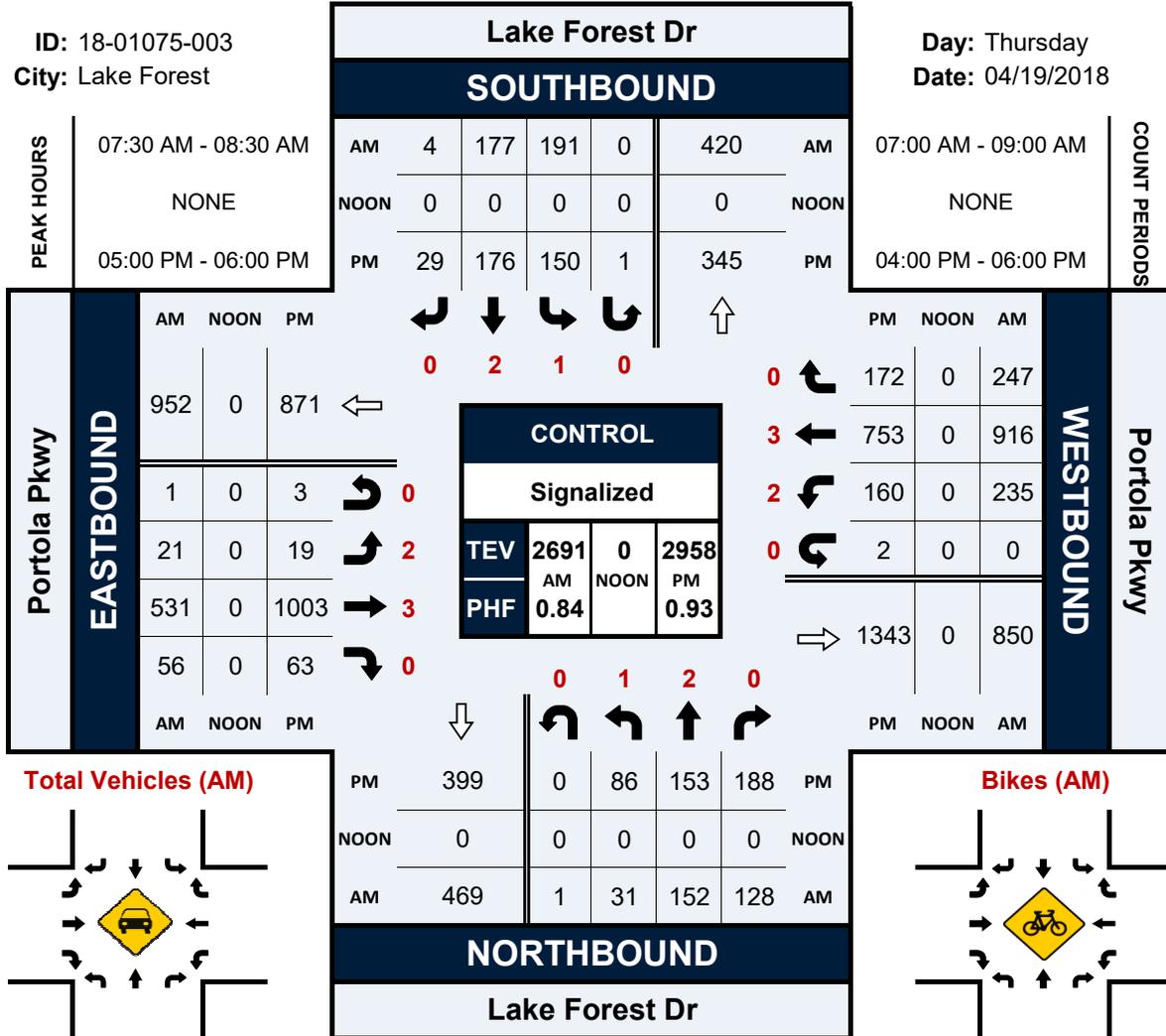


Lake Forest Dr & Portola Pkwy

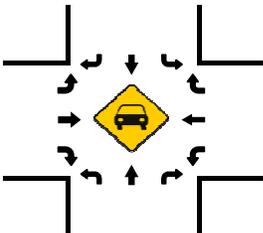
Peak Hour Turning Movement Count

ID: 18-01075-003
City: Lake Forest

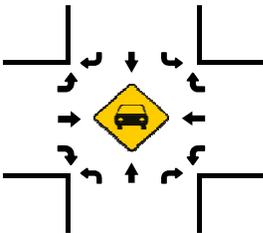
Day: Thursday
Date: 04/19/2018



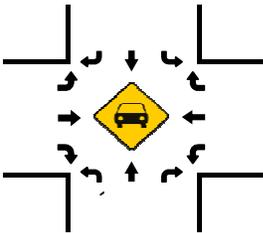
Total Vehicles (AM)



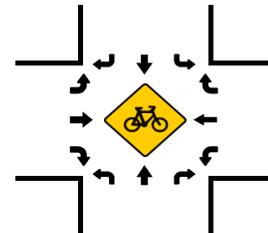
Total Vehicles (Noon)



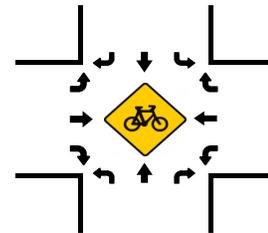
Total Vehicles (PM)



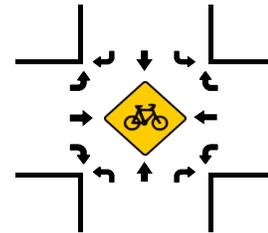
Bikes (AM)



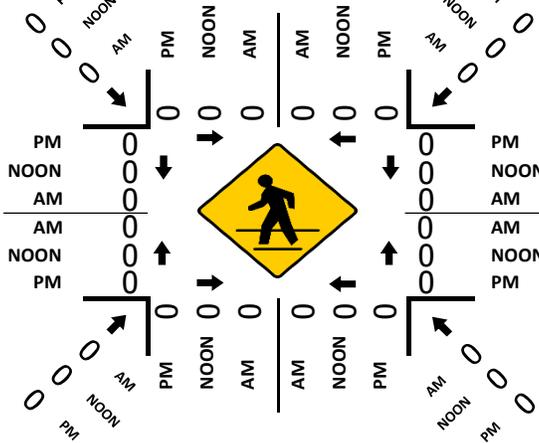
Bikes (NOON)



Bikes (PM)



Pedestrians (Crosswalks)

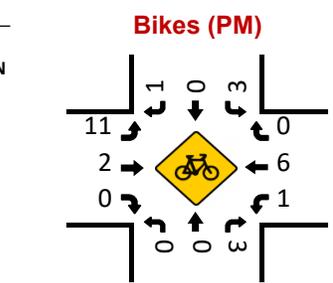
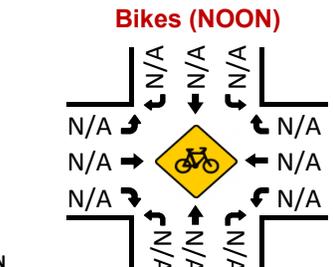
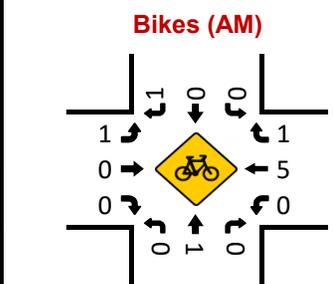
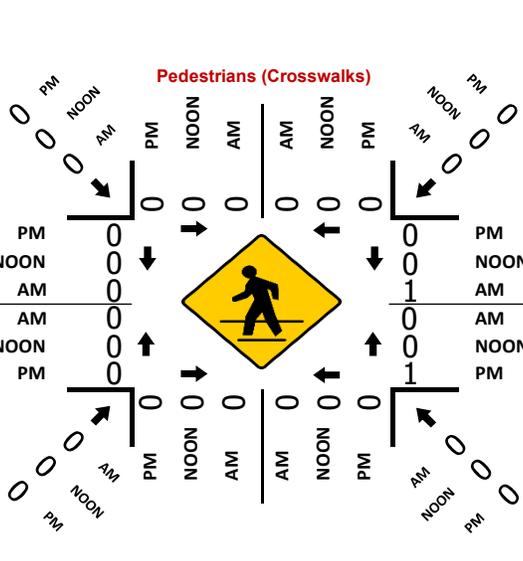
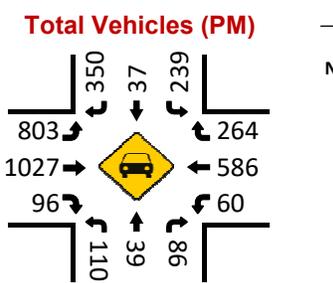
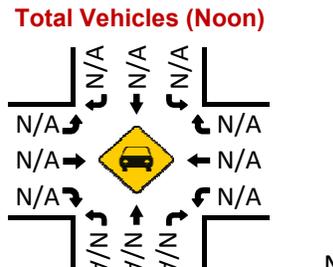
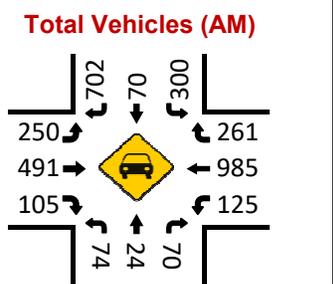
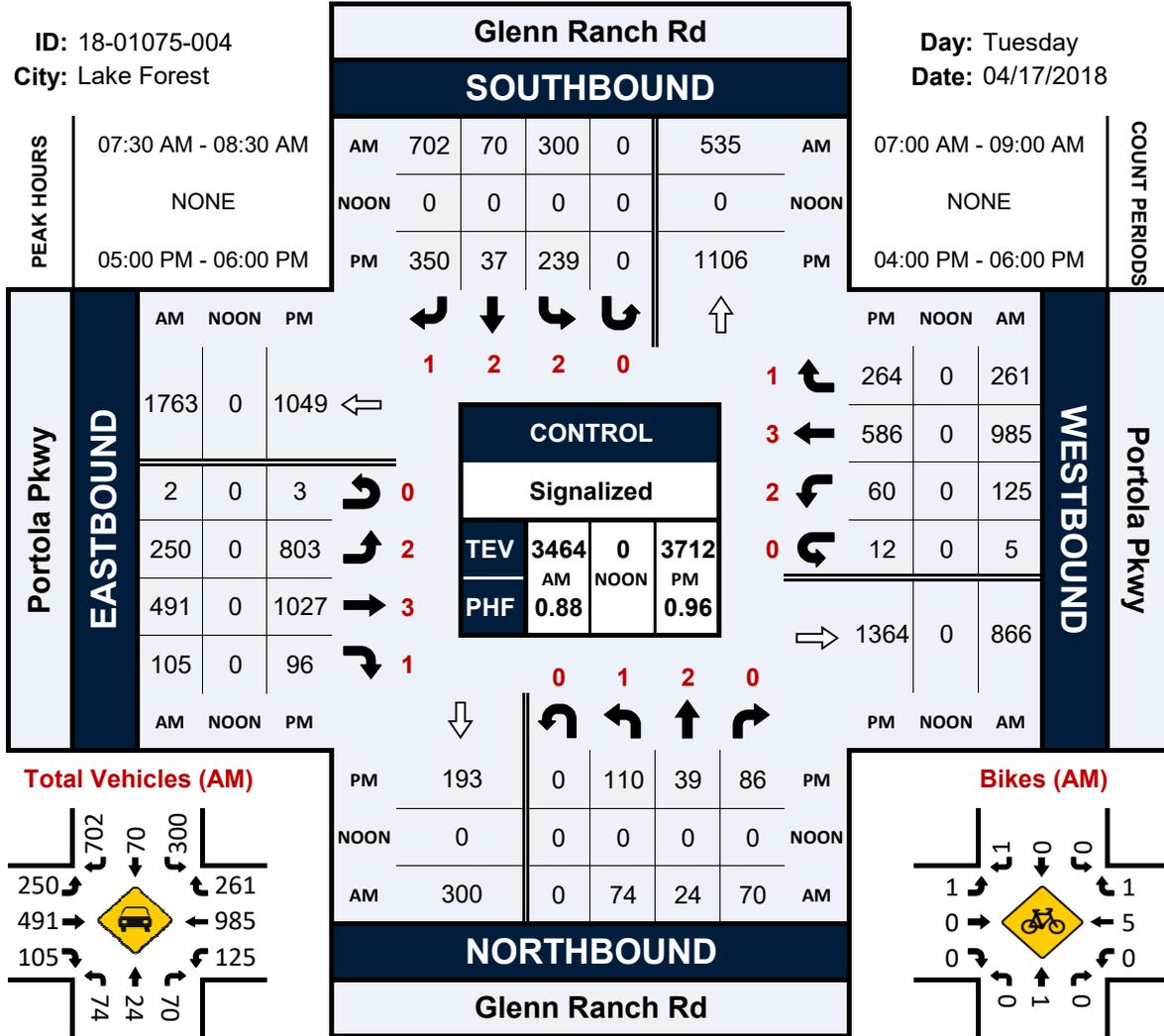


Glenn Ranch Rd & Portola Pkwy

Peak Hour Turning Movement Count

ID: 18-01075-004
City: Lake Forest

Day: Tuesday
Date: 04/17/2018

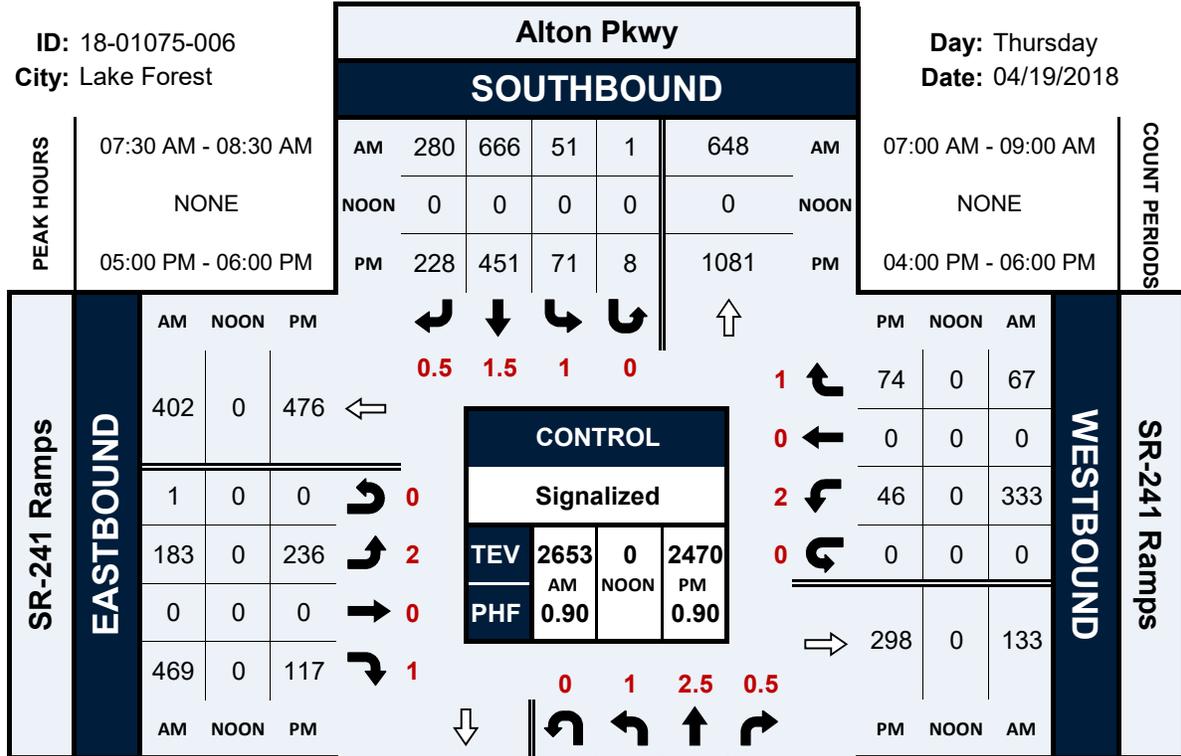


Alton Pkwy & SR-241 Ramps

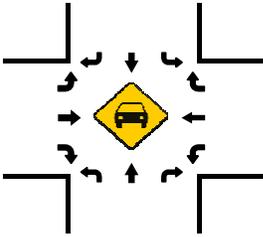
Peak Hour Turning Movement Count

ID: 18-01075-006
City: Lake Forest

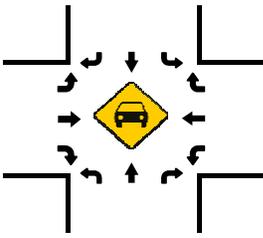
Day: Thursday
Date: 04/19/2018



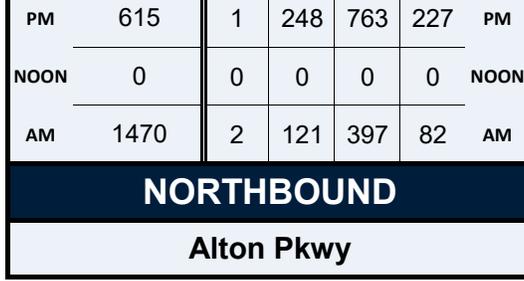
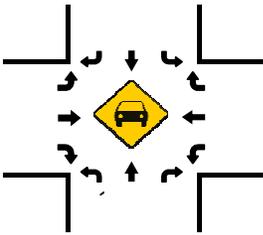
Total Vehicles (AM)



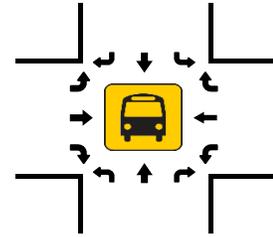
Total Vehicles (NOON)



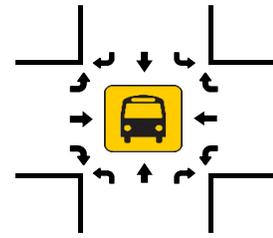
Total Vehicles (PM)



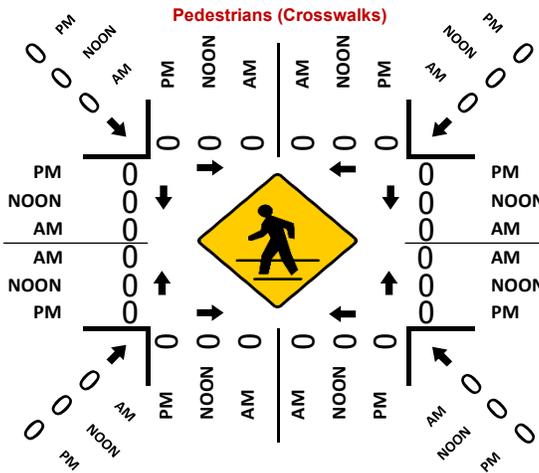
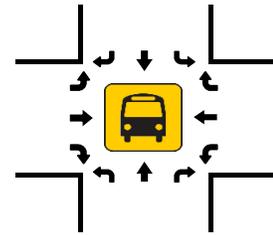
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)

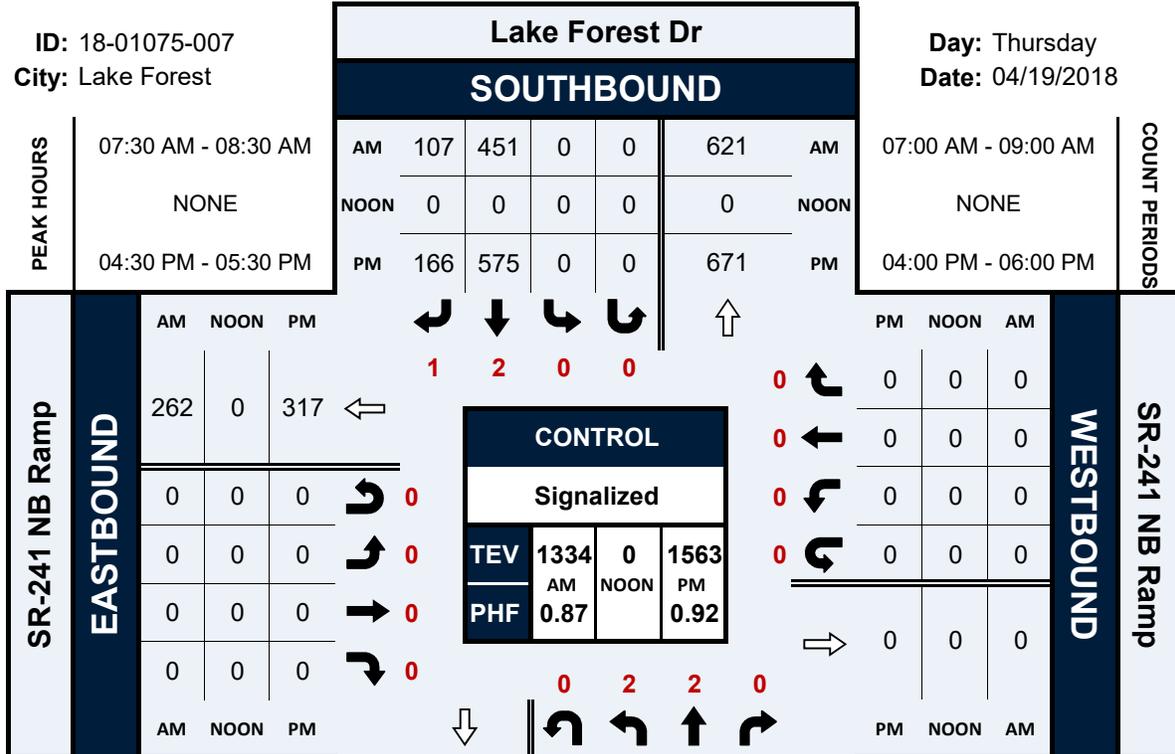


Lake Forest Dr & SR-241 NB Ramp

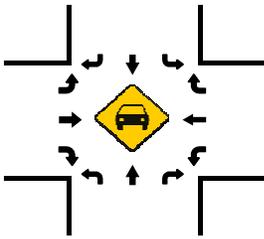
Peak Hour Turning Movement Count

ID: 18-01075-007
City: Lake Forest

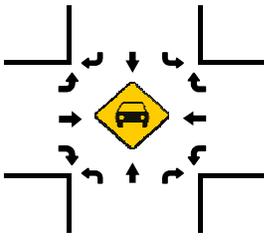
Day: Thursday
Date: 04/19/2018



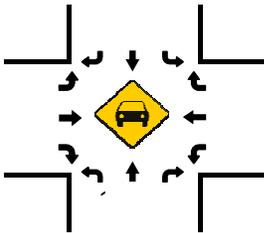
Total Vehicles (AM)



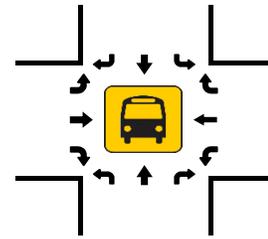
Total Vehicles (NOON)



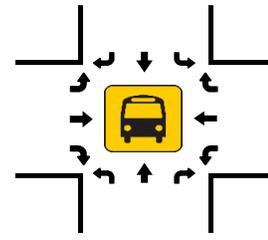
Total Vehicles (PM)



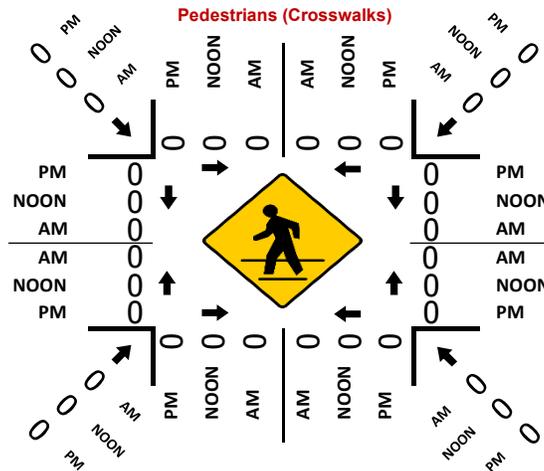
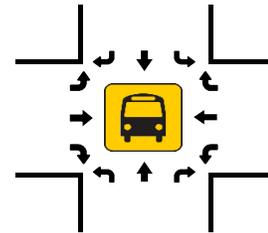
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)

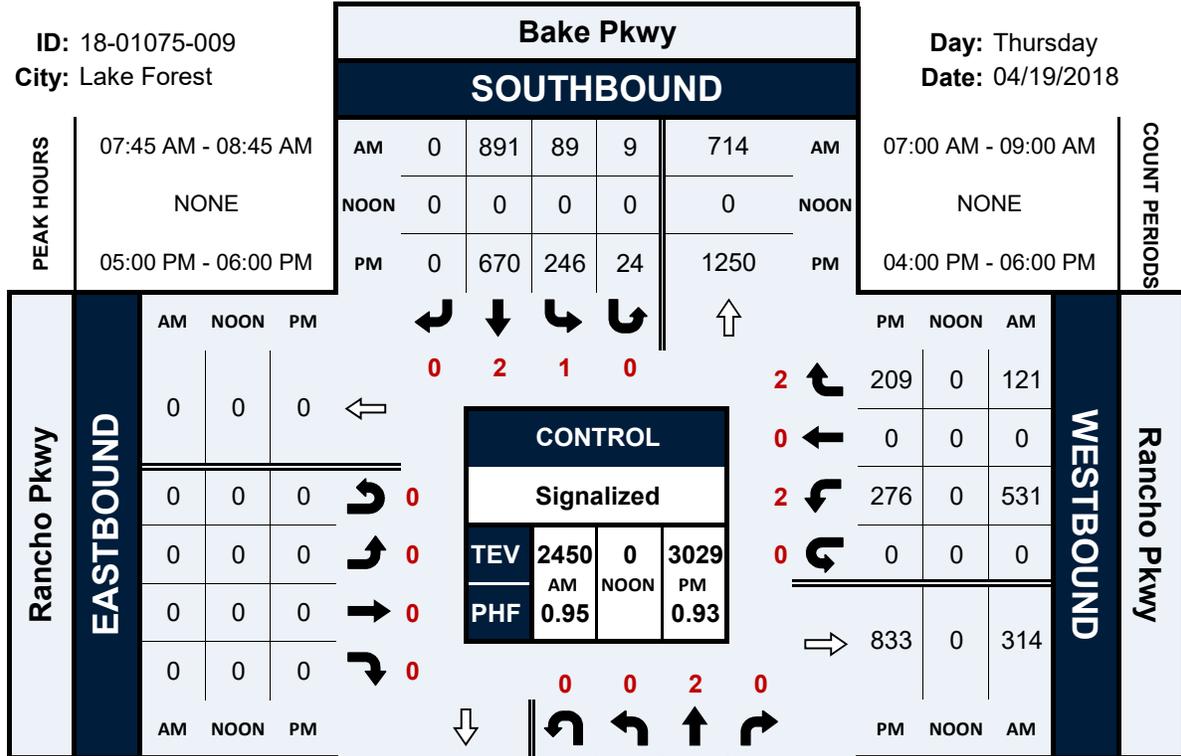


Bake Pkwy & Rancho Pkwy

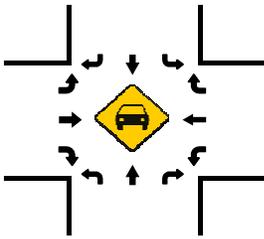
Peak Hour Turning Movement Count

ID: 18-01075-009
City: Lake Forest

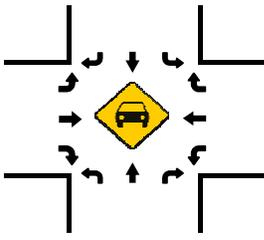
Day: Thursday
Date: 04/19/2018



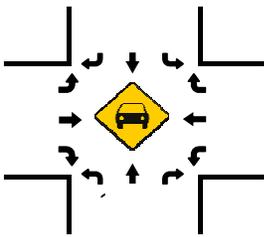
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



PEAK PERIODS	AM	NOON	PM
07:45 AM - 08:45 AM	0	0	0
NONE	0	0	0
05:00 PM - 06:00 PM	0	0	0

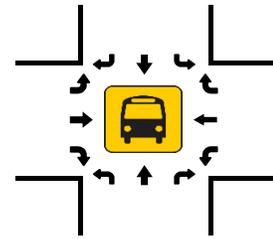
NORTHBOUND

Bake Pkwy

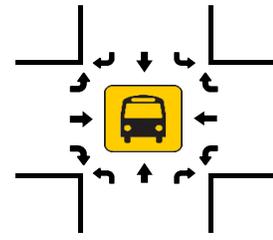
Pedestrians (Crosswalks)

Direction	AM	NOON	PM
Northbound	0	0	0
Southbound	0	0	0
Eastbound	0	0	0
Westbound	0	0	0

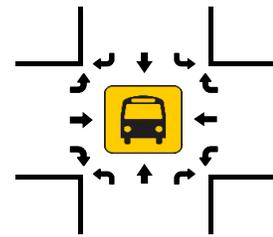
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)

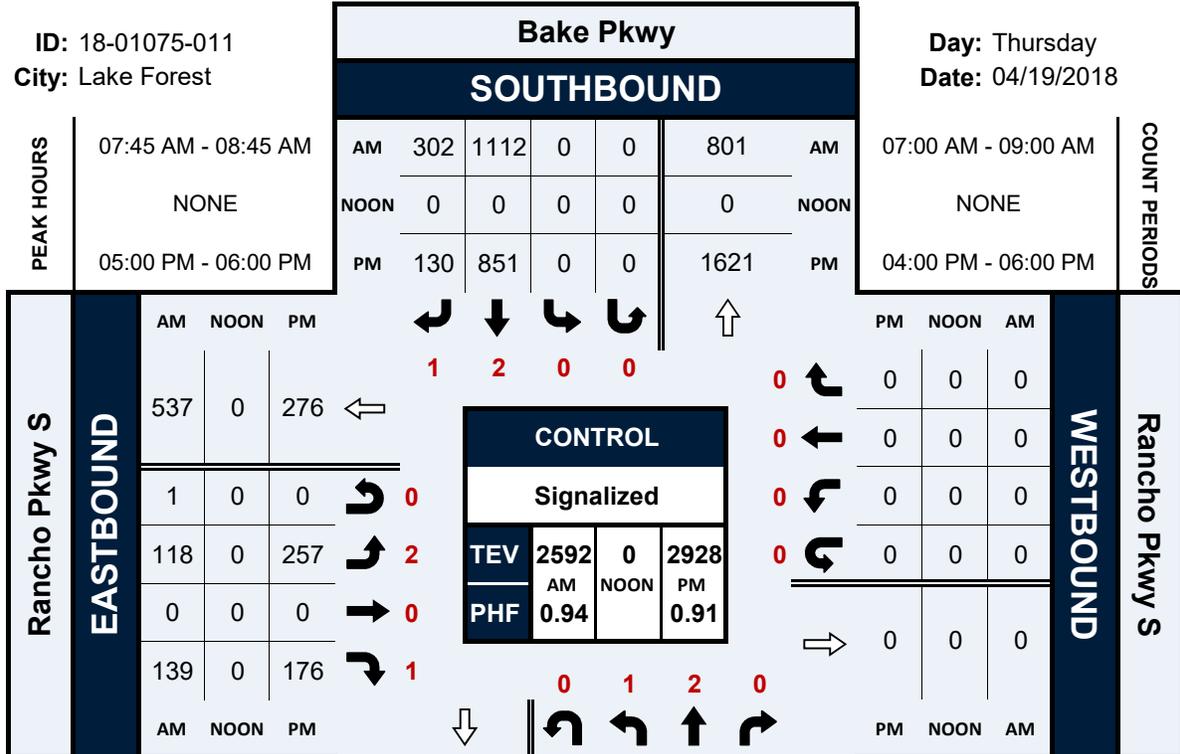


Bake Pkwy & Rancho Pkwy S

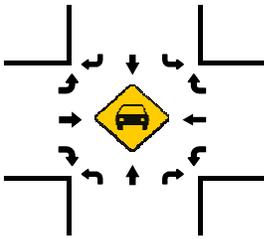
Peak Hour Turning Movement Count

ID: 18-01075-011
City: Lake Forest

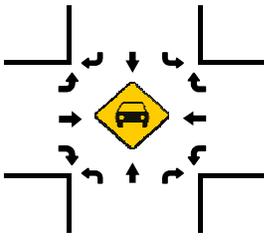
Day: Thursday
Date: 04/19/2018



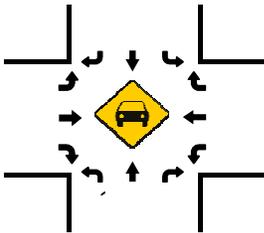
Total Vehicles (AM)



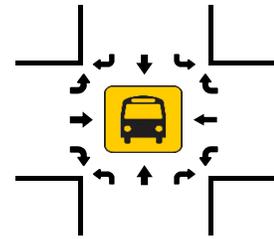
Total Vehicles (NOON)



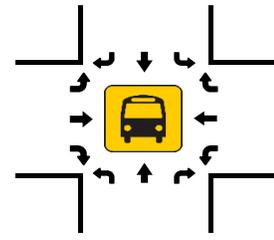
Total Vehicles (PM)



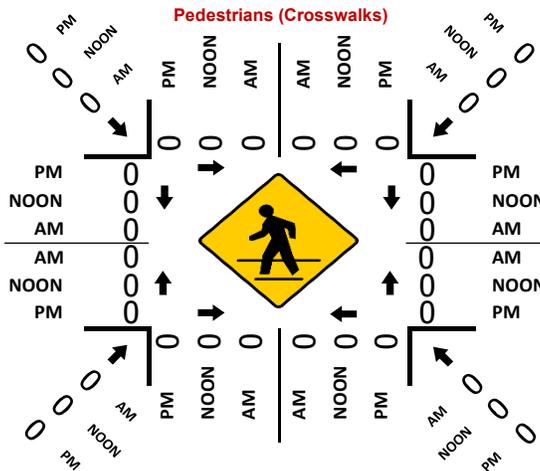
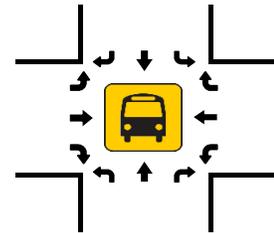
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)

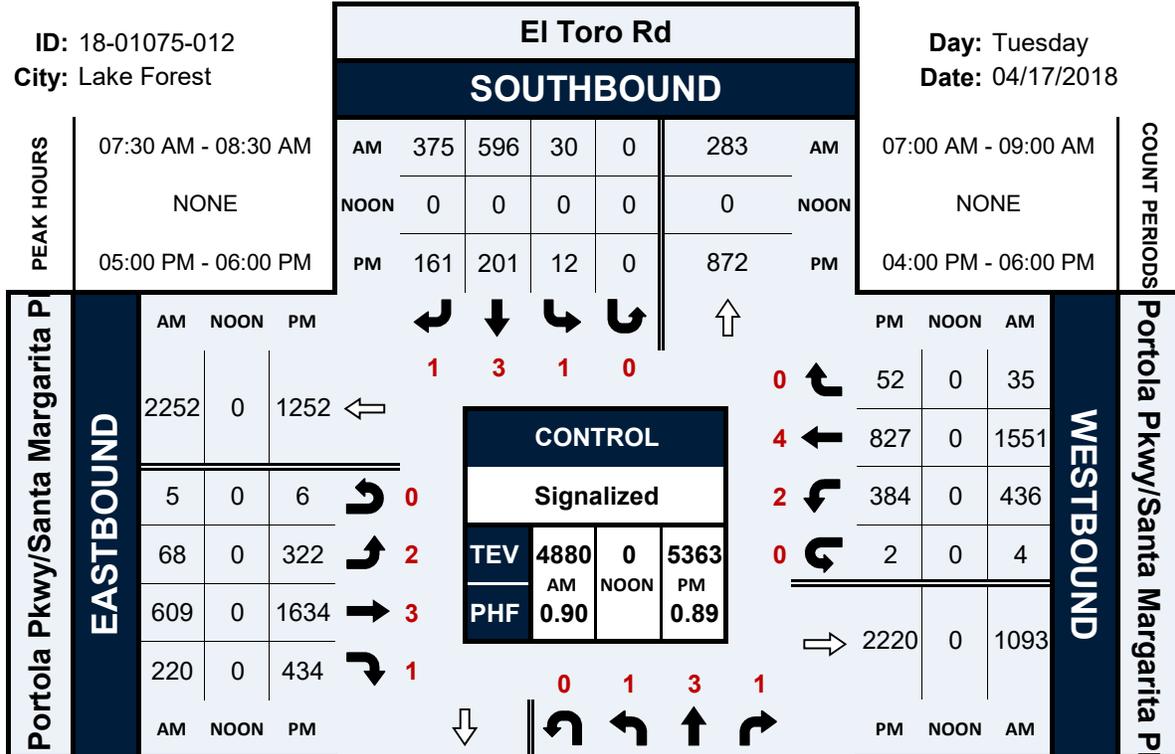


El Toro Rd & Portola Pkwy/Santa Margarita Pky

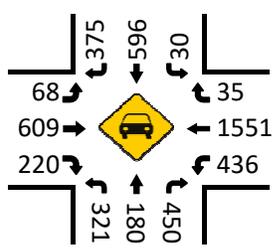
Peak Hour Turning Movement Count

ID: 18-01075-012
City: Lake Forest

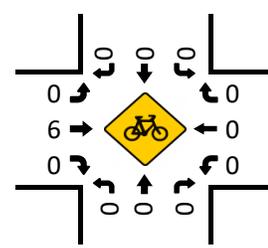
Day: Tuesday
Date: 04/17/2018



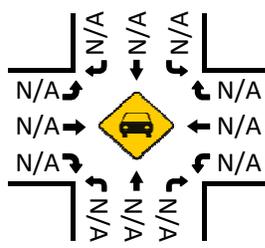
Total Vehicles (AM)



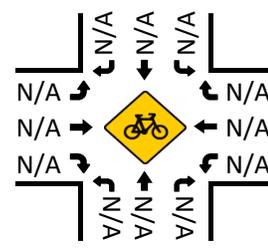
Bikes (AM)



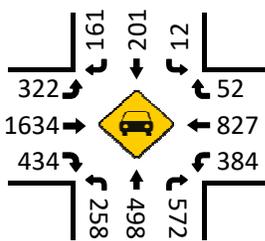
Total Vehicles (Noon)



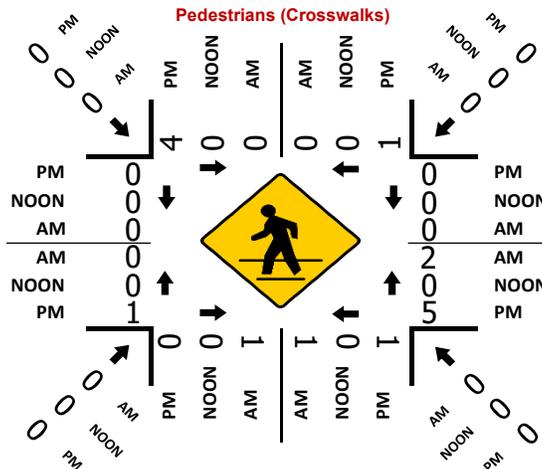
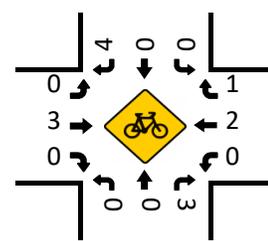
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)

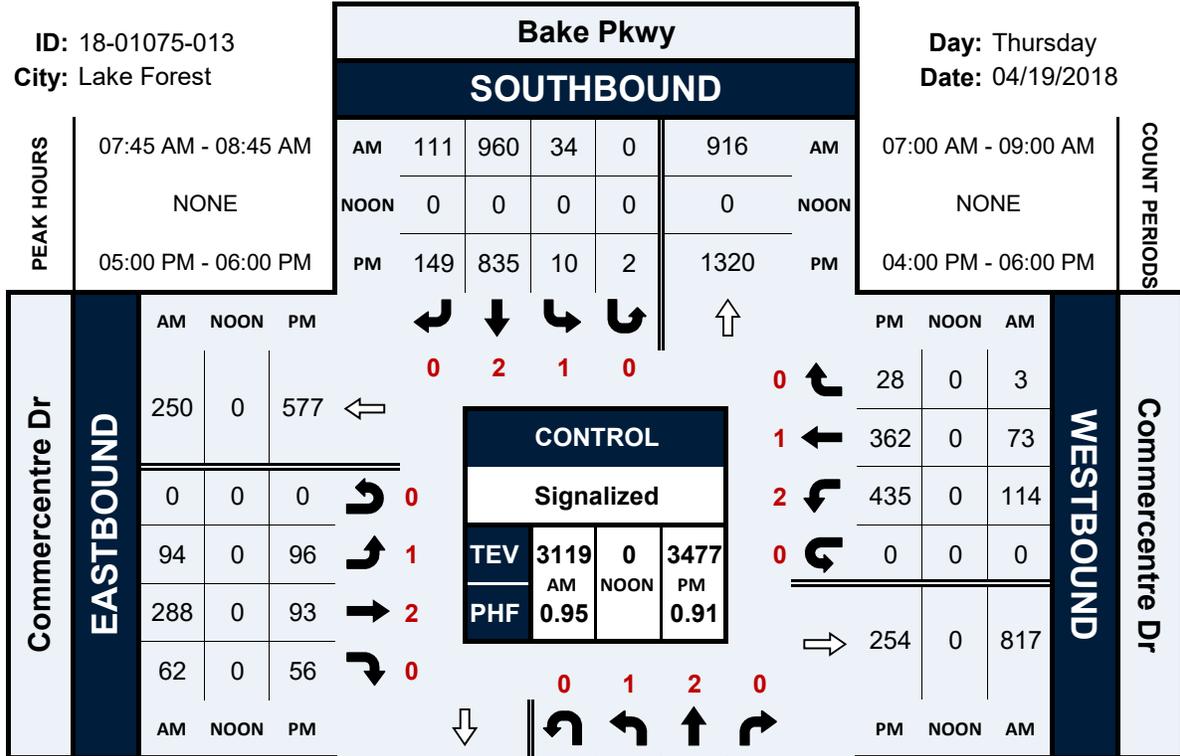


Bake Pkwy & Commercentre Dr

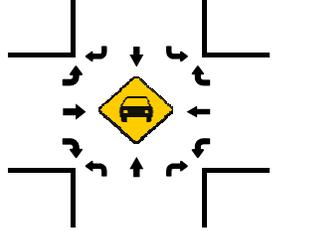
Peak Hour Turning Movement Count

ID: 18-01075-013
City: Lake Forest

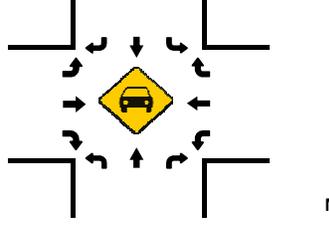
Day: Thursday
Date: 04/19/2018



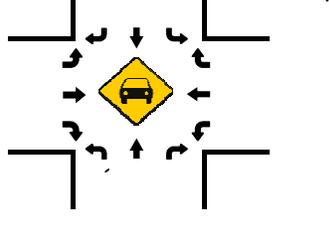
Total Vehicles (AM)



Total Vehicles (NOON)

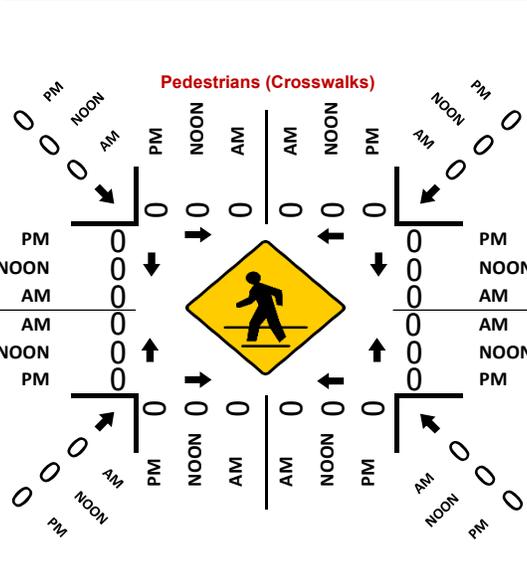


Total Vehicles (PM)

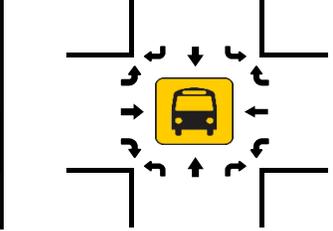


Direction	Phase	Left	Thru	Right	Total
Bake Pkwy SOUTHBOUND	AM	111	960	34	1105
	NOON	0	0	0	0
	PM	149	835	10	994
Bake Pkwy NORTHBOUND	AM	1136	0	66	1202
	NOON	0	0	0	0
	PM	1326	0	66	1392

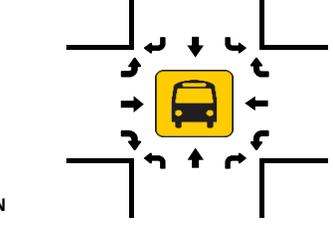
NORTHBOUND Bake Pkwy



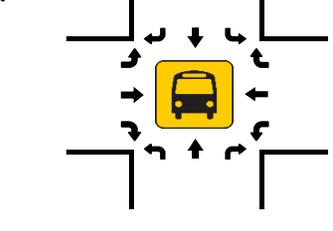
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)

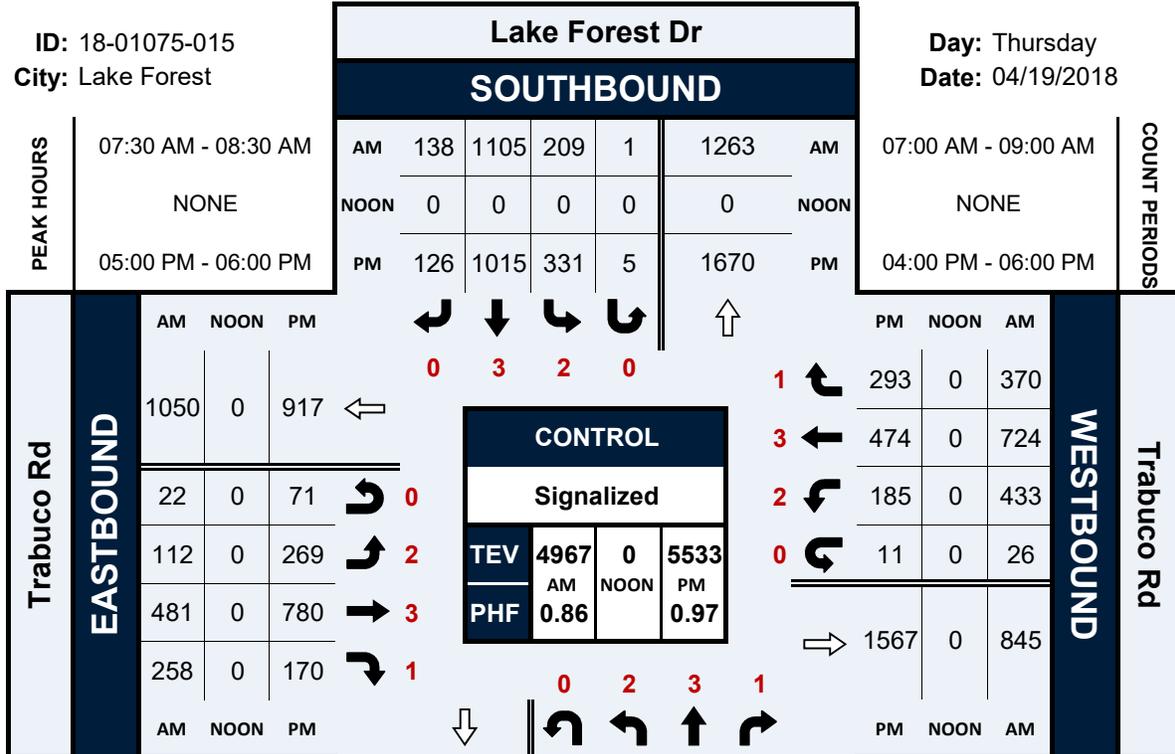


Lake Forest Dr & Trabuco Rd

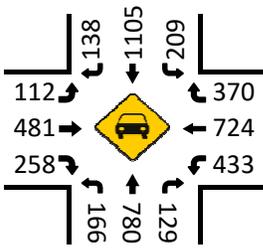
Peak Hour Turning Movement Count

ID: 18-01075-015
City: Lake Forest

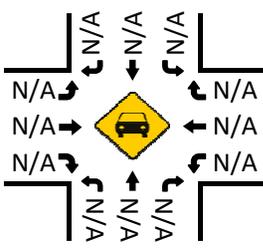
Day: Thursday
Date: 04/19/2018



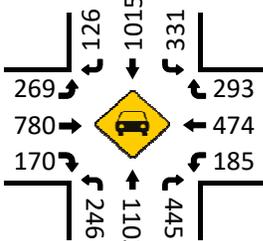
Total Vehicles (AM)



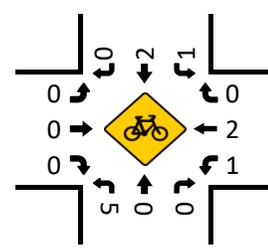
Total Vehicles (Noon)



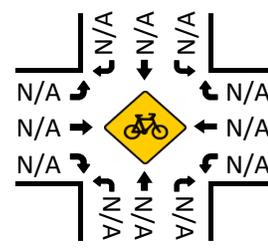
Total Vehicles (PM)



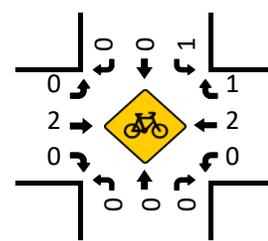
Bikes (AM)



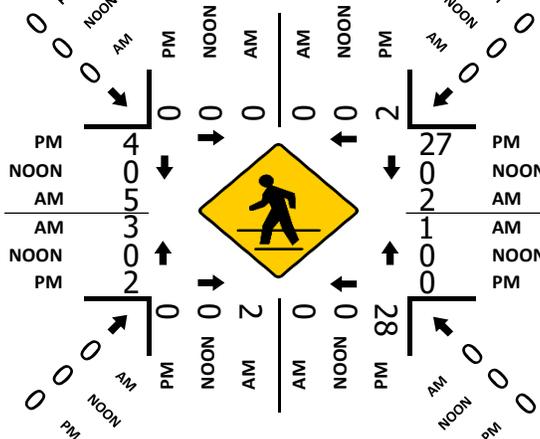
Bikes (NOON)



Bikes (PM)



Pedestrians (Crosswalks)



Ridge Route Dr & Trabuco Rd

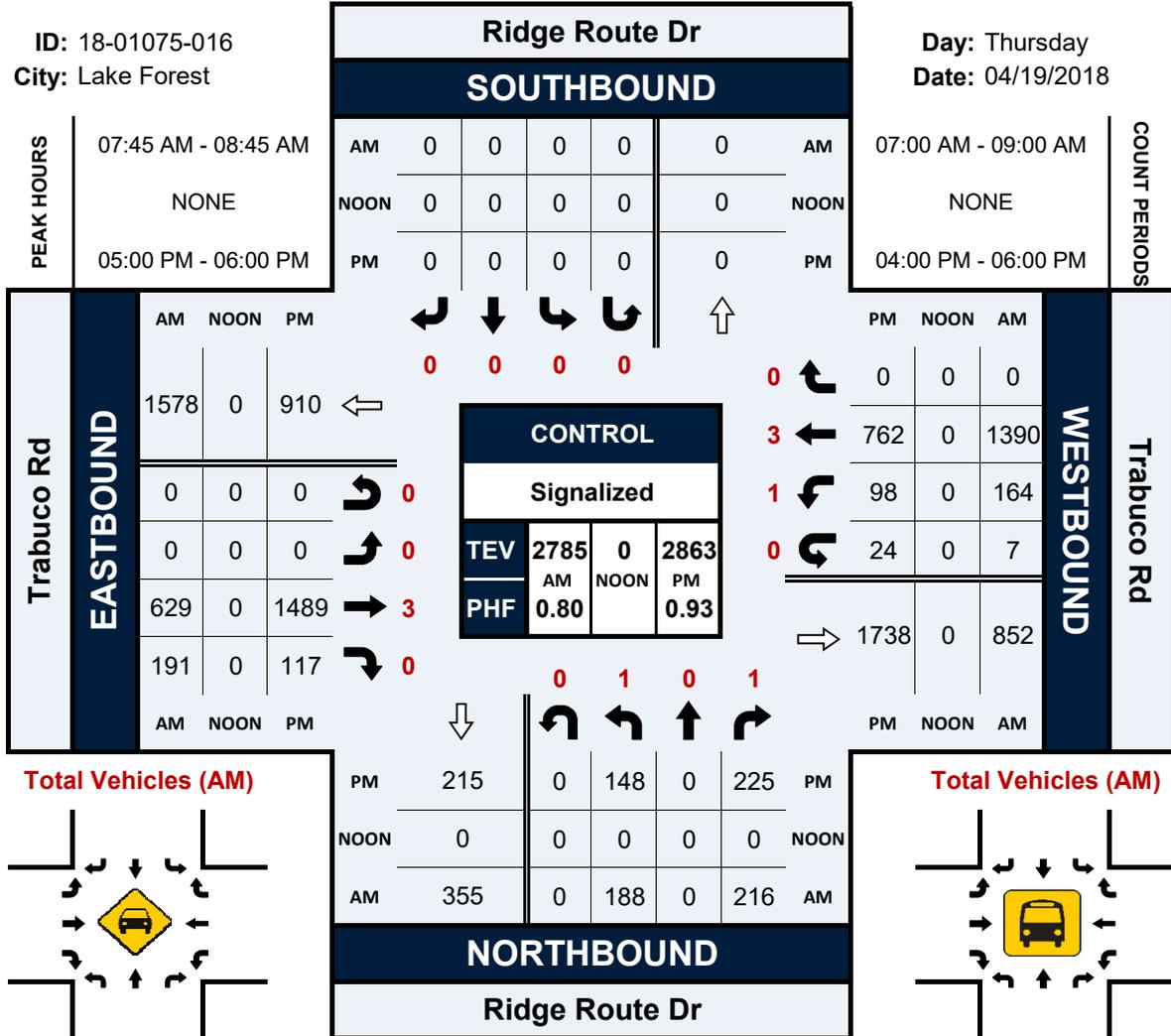
Peak Hour Turning Movement Count

ID: 18-01075-016

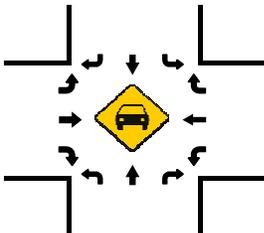
City: Lake Forest

Day: Thursday

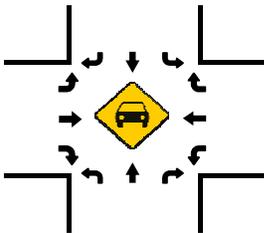
Date: 04/19/2018



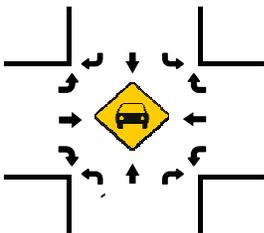
Total Vehicles (AM)



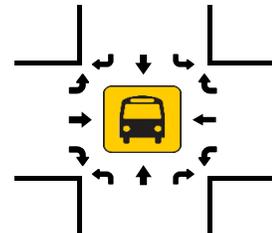
Total Vehicles (NOON)



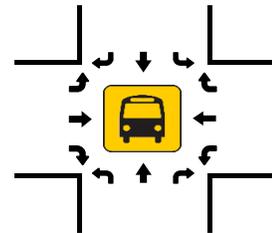
Total Vehicles (PM)



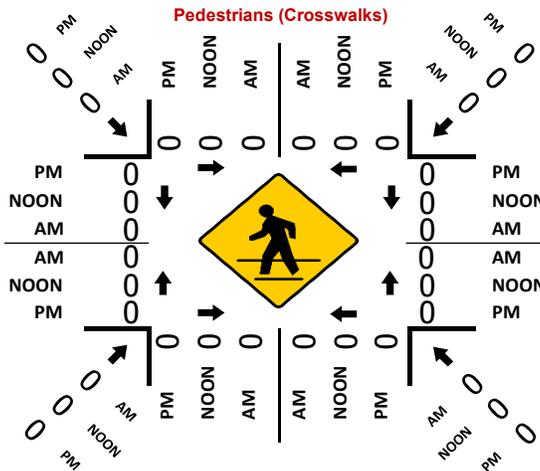
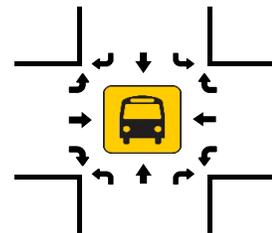
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)

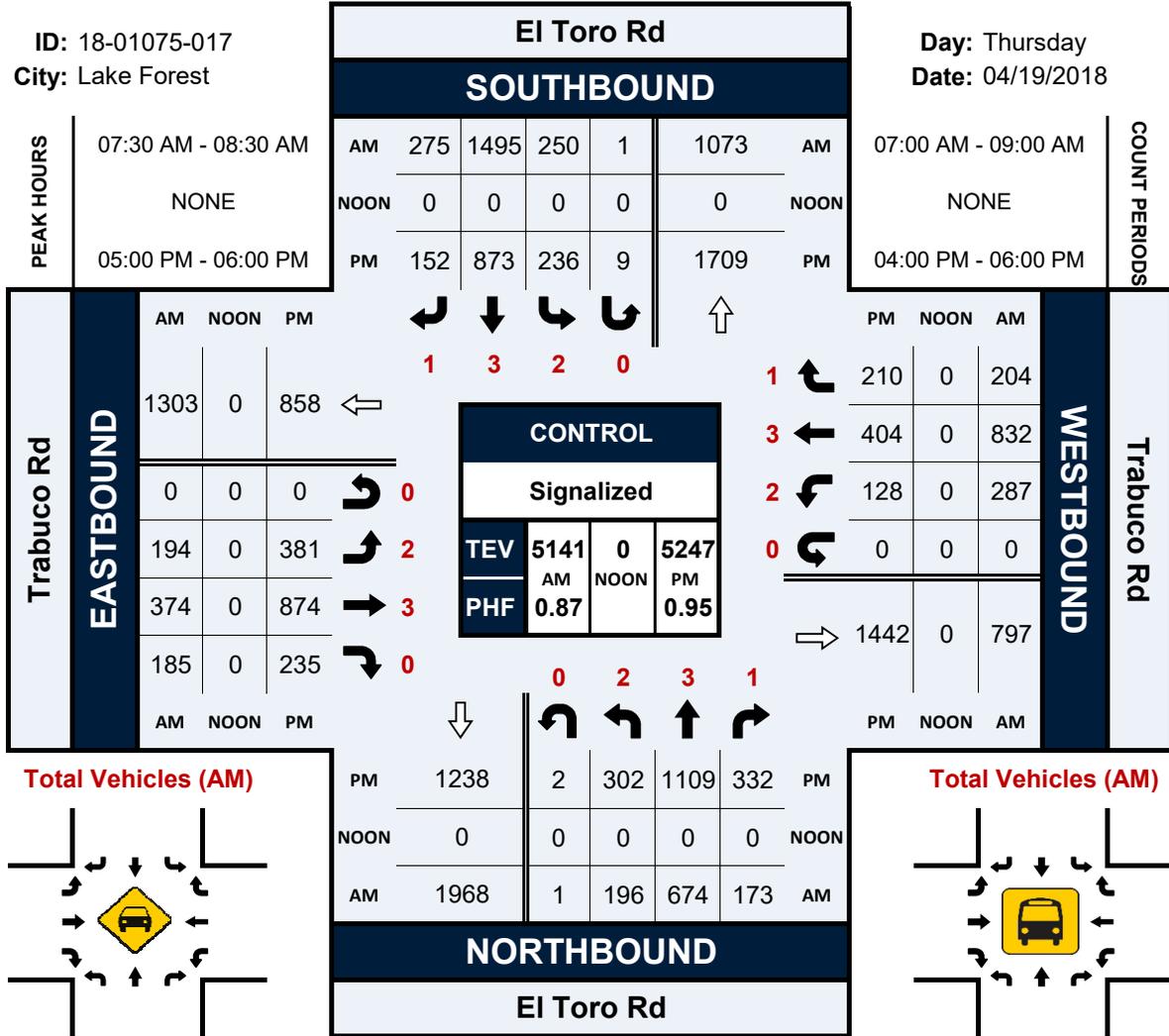


El Toro Rd & Trabuco Rd

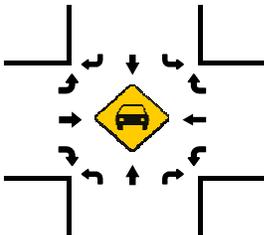
Peak Hour Turning Movement Count

ID: 18-01075-017
City: Lake Forest

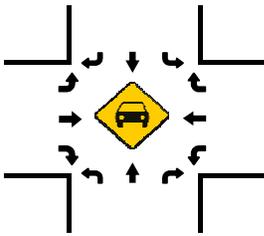
Day: Thursday
Date: 04/19/2018



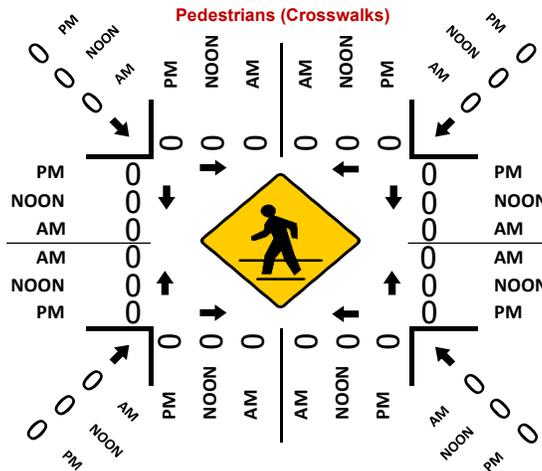
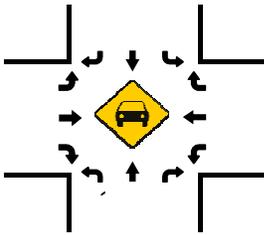
Total Vehicles (AM)



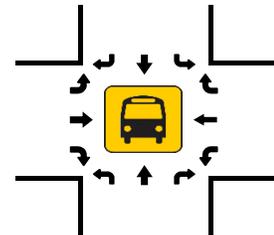
Total Vehicles (NOON)



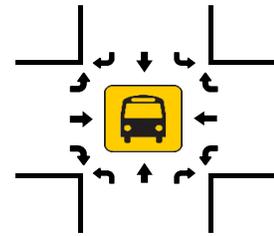
Total Vehicles (PM)



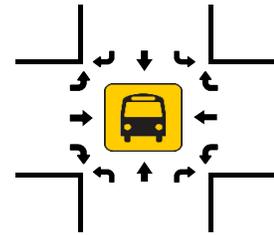
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)

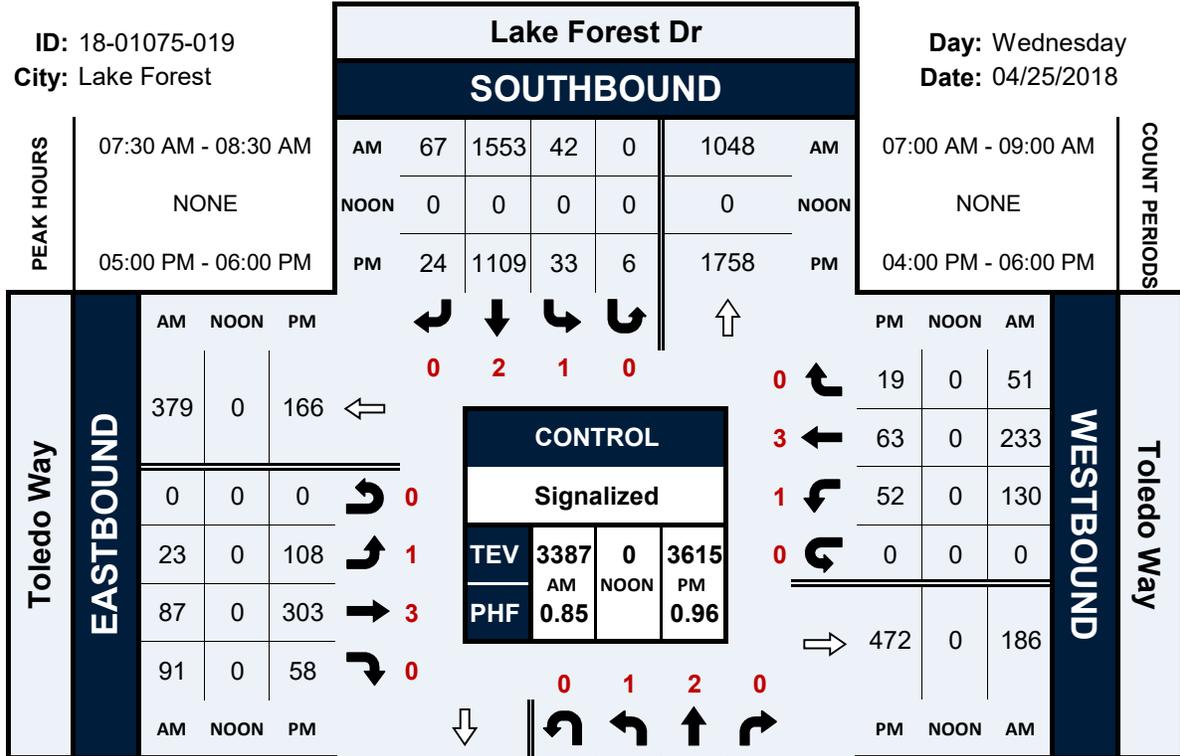


Lake Forest Dr & Toledo Way

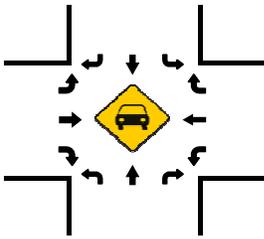
Peak Hour Turning Movement Count

ID: 18-01075-019
City: Lake Forest

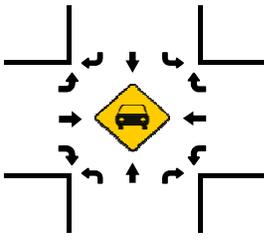
Day: Wednesday
Date: 04/25/2018



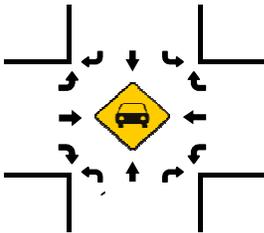
Total Vehicles (AM)



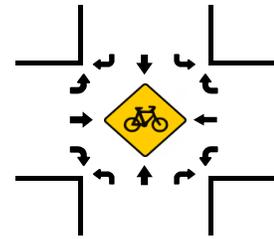
Total Vehicles (Noon)



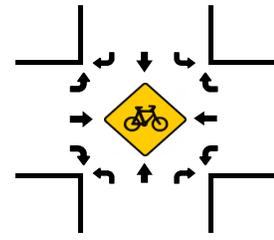
Total Vehicles (PM)



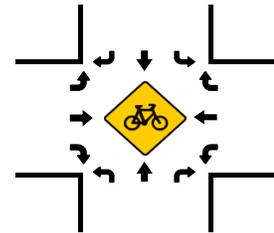
Bikes (AM)



Bikes (NOON)



Bikes (PM)

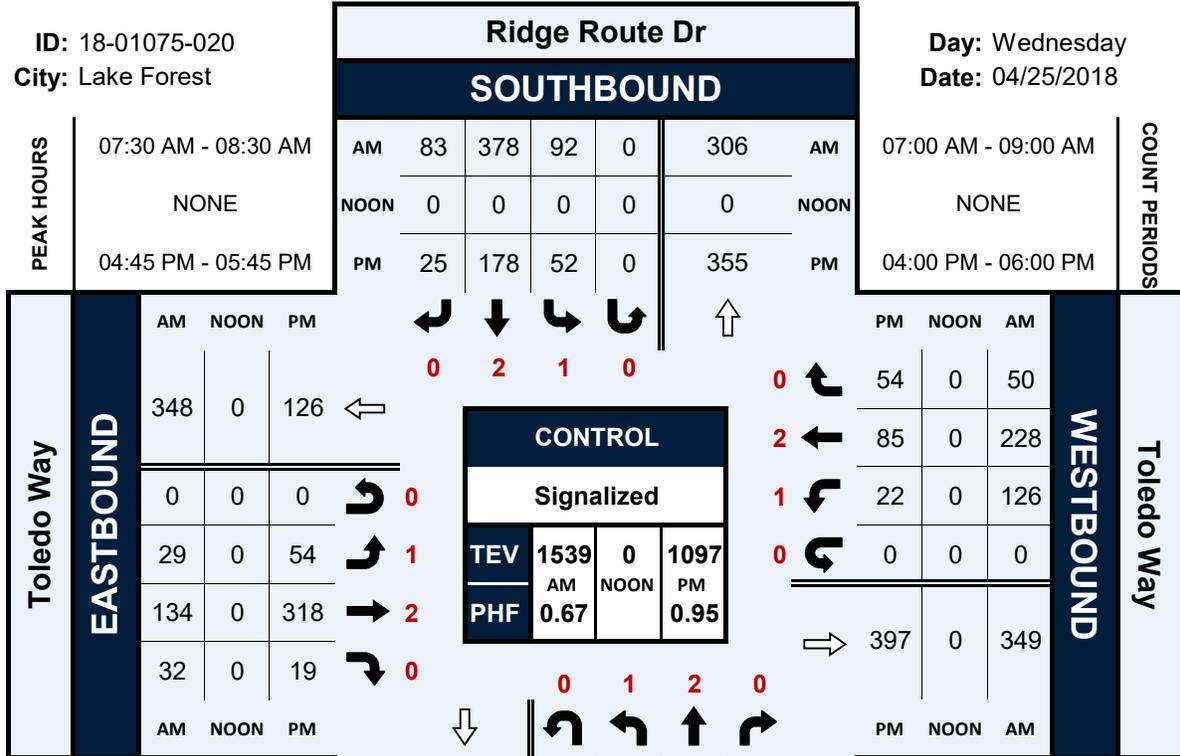


Ridge Route Dr & Toledo Way

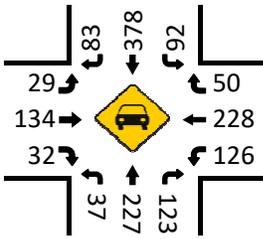
Peak Hour Turning Movement Count

ID: 18-01075-020
City: Lake Forest

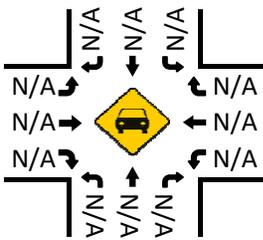
Day: Wednesday
Date: 04/25/2018



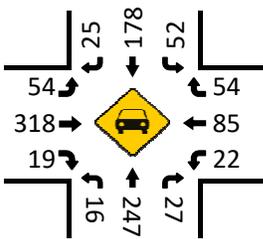
Total Vehicles (AM)



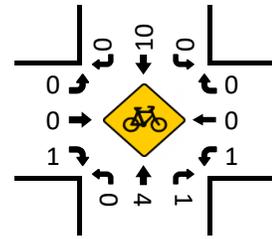
Total Vehicles (Noon)



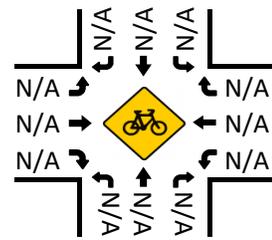
Total Vehicles (PM)



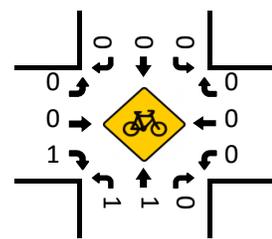
Bikes (AM)



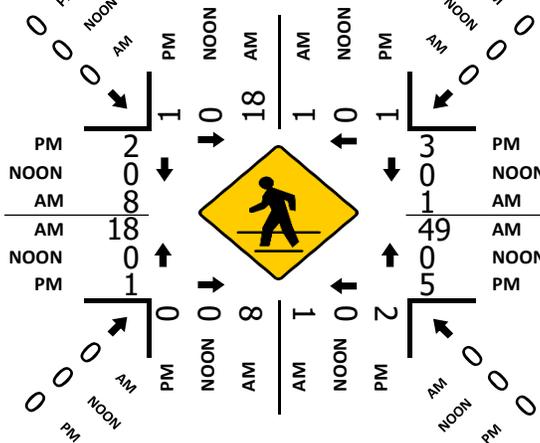
Bikes (NOON)



Bikes (PM)



Pedestrians (Crosswalks)

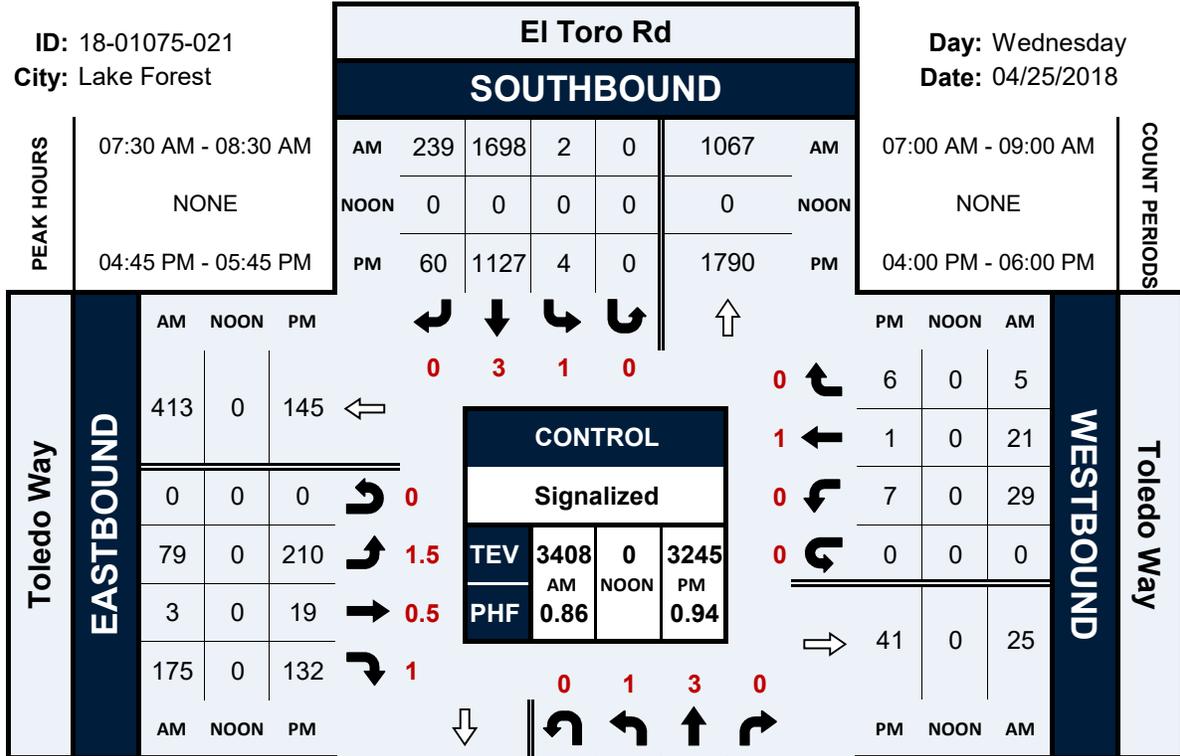


El Toro Rd & Toledo Way

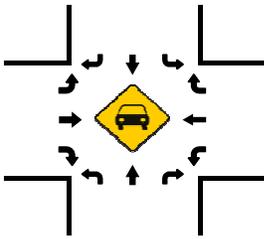
Peak Hour Turning Movement Count

ID: 18-01075-021
City: Lake Forest

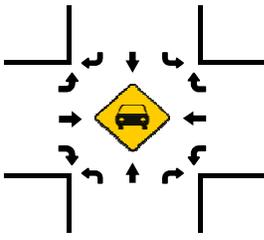
Day: Wednesday
Date: 04/25/2018



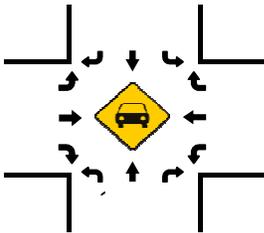
Total Vehicles (AM)



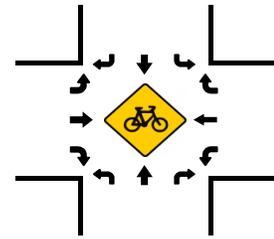
Total Vehicles (Noon)



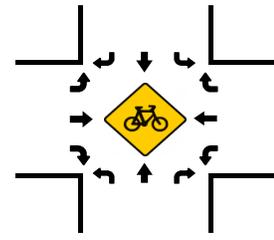
Total Vehicles (PM)



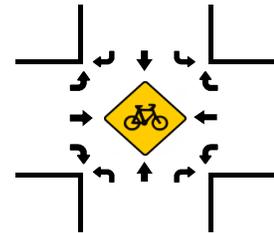
Bikes (AM)



Bikes (NOON)



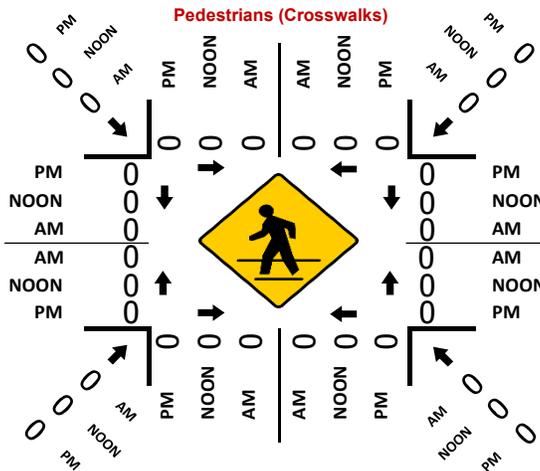
Bikes (PM)



NORTHBOUND

El Toro Rd

Pedestrians (Crosswalks)



Bake Pkwy & Jeronimo Rd

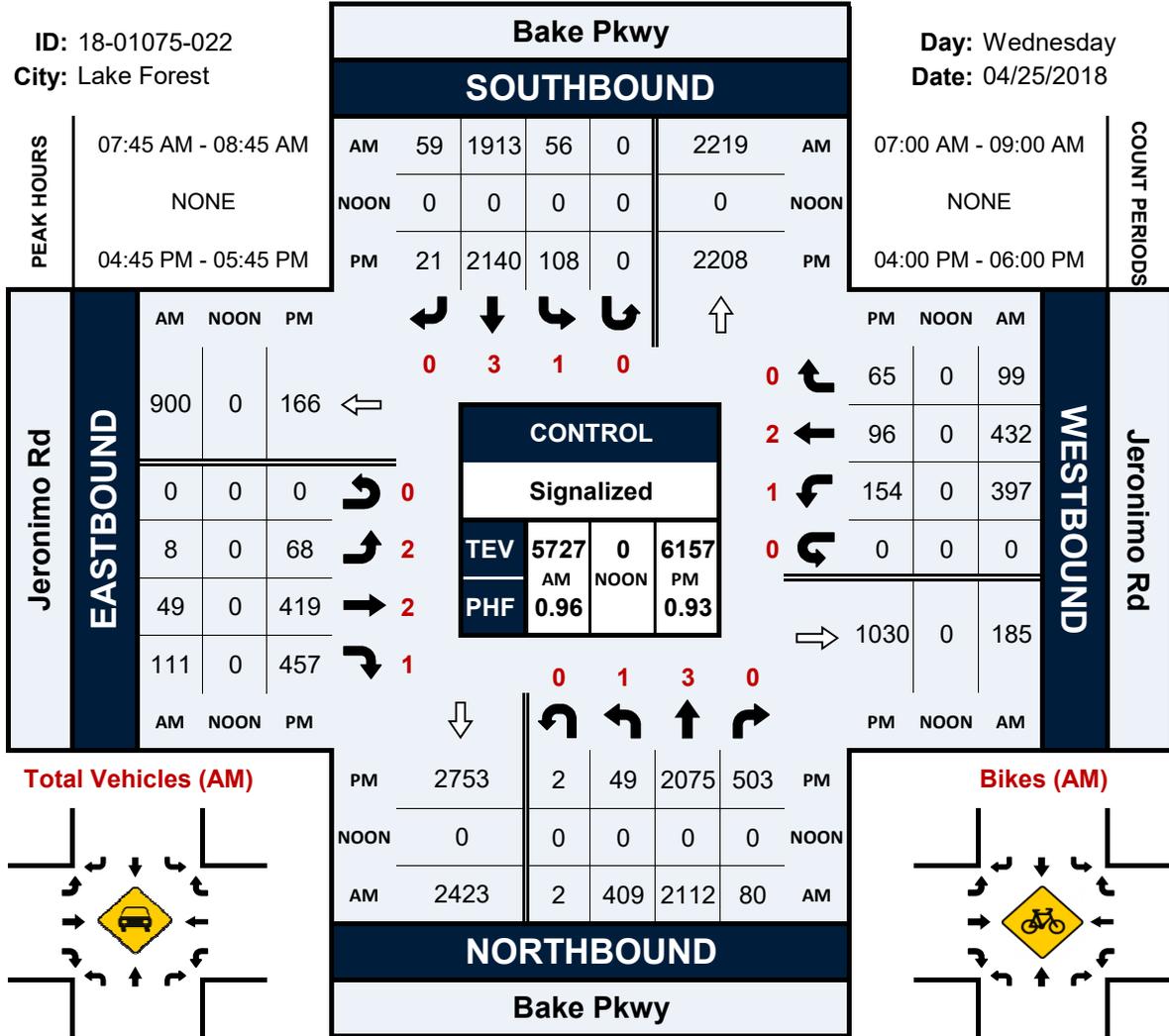
Peak Hour Turning Movement Count

ID: 18-01075-022

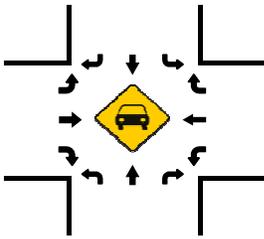
City: Lake Forest

Day: Wednesday

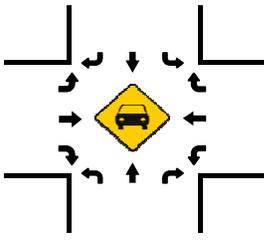
Date: 04/25/2018



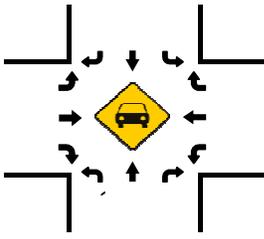
Total Vehicles (AM)



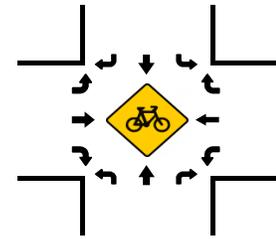
Total Vehicles (Noon)



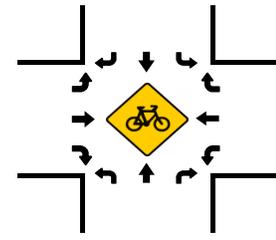
Total Vehicles (PM)



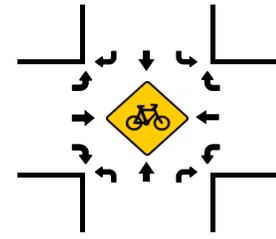
Bikes (AM)



Bikes (NOON)



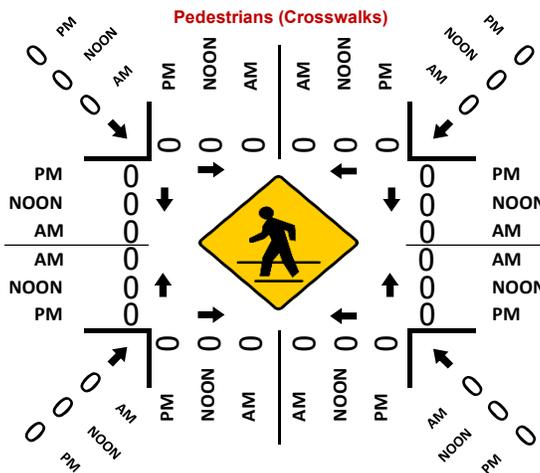
Bikes (PM)



NORTHBOUND

Bake Pkwy

Pedestrians (Crosswalks)

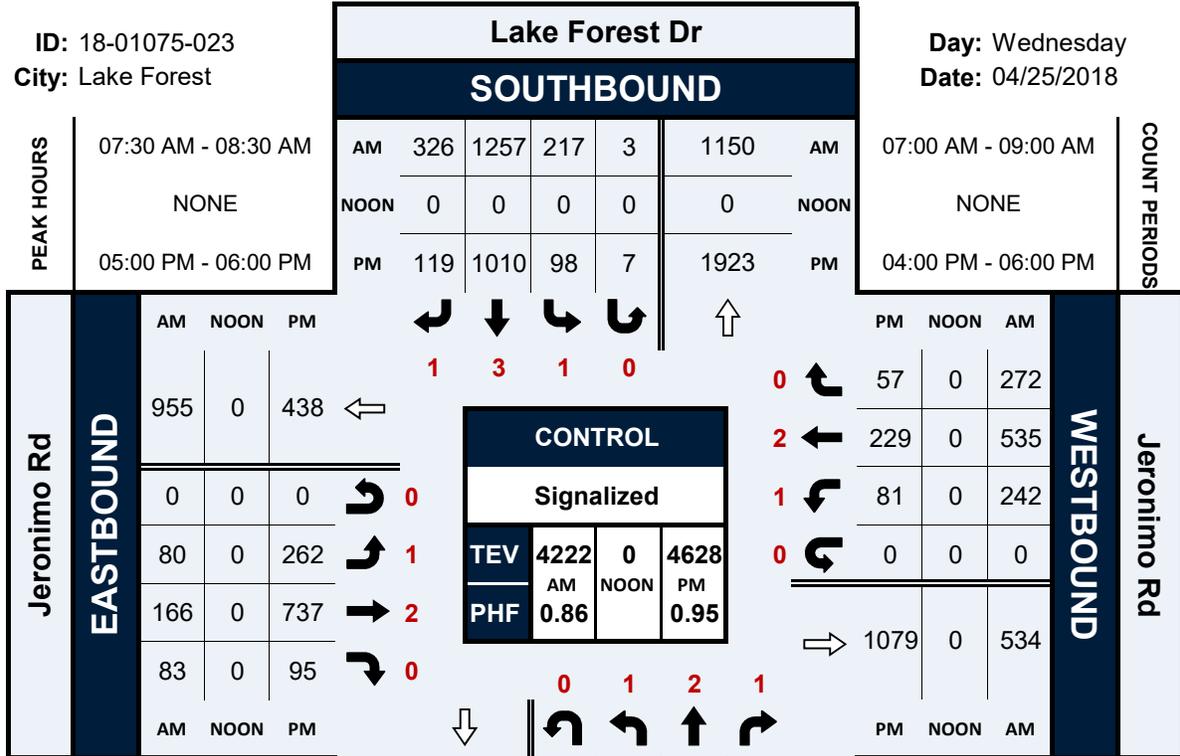


Lake Forest Dr & Jeronimo Rd

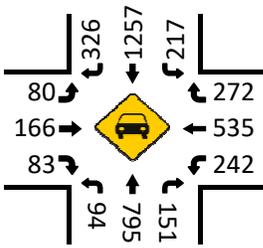
Peak Hour Turning Movement Count

ID: 18-01075-023
City: Lake Forest

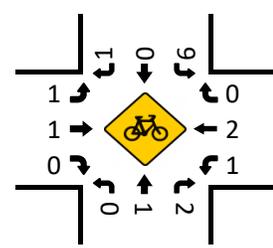
Day: Wednesday
Date: 04/25/2018



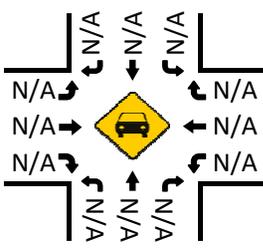
Total Vehicles (AM)



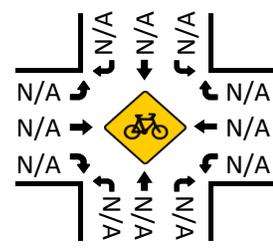
Bikes (AM)



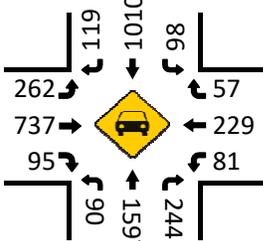
Total Vehicles (Noon)



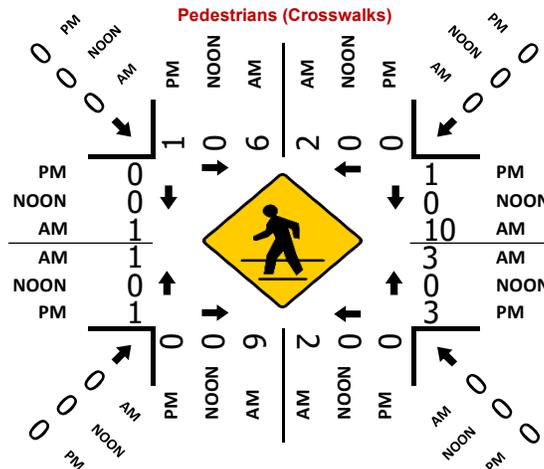
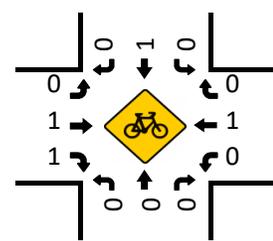
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)

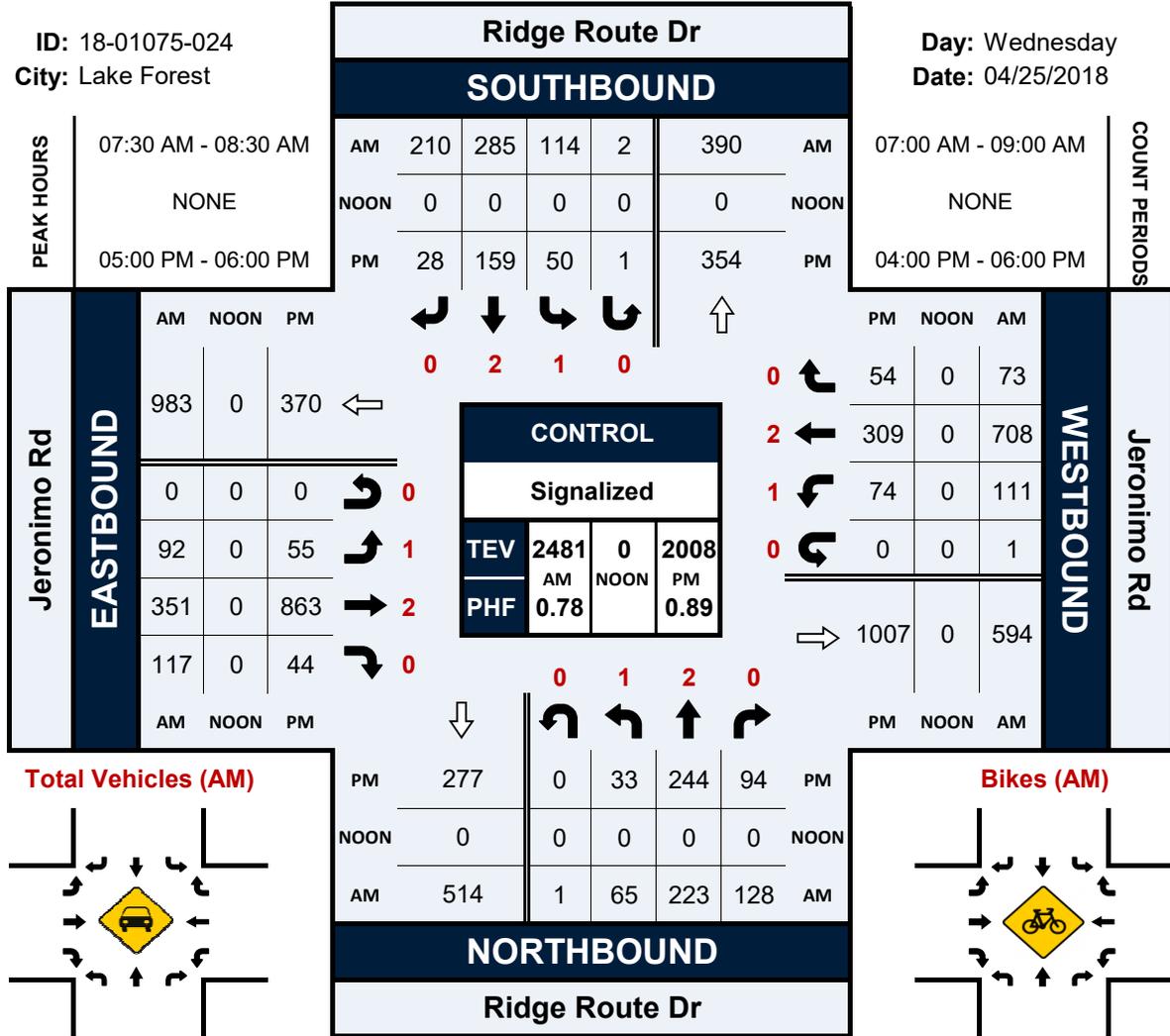


Ridge Route Dr & Jeronimo Rd

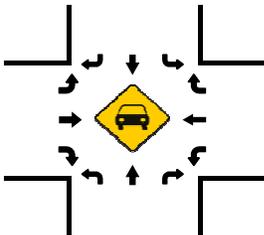
Peak Hour Turning Movement Count

ID: 18-01075-024
City: Lake Forest

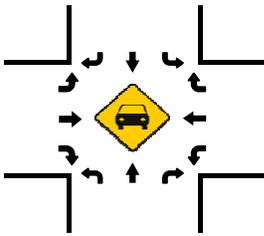
Day: Wednesday
Date: 04/25/2018



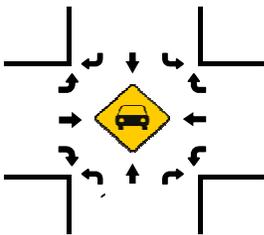
Total Vehicles (AM)



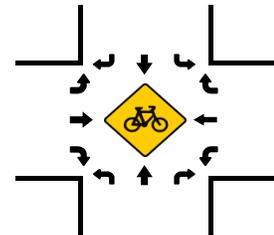
Total Vehicles (Noon)



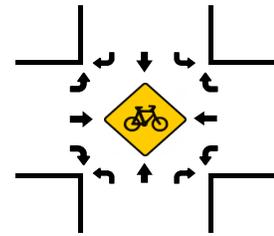
Total Vehicles (PM)



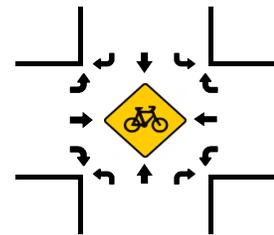
Bikes (AM)



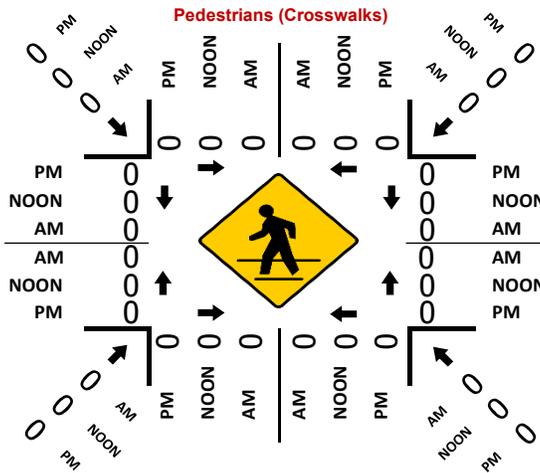
Bikes (NOON)



Bikes (PM)



Pedestrians (Crosswalks)

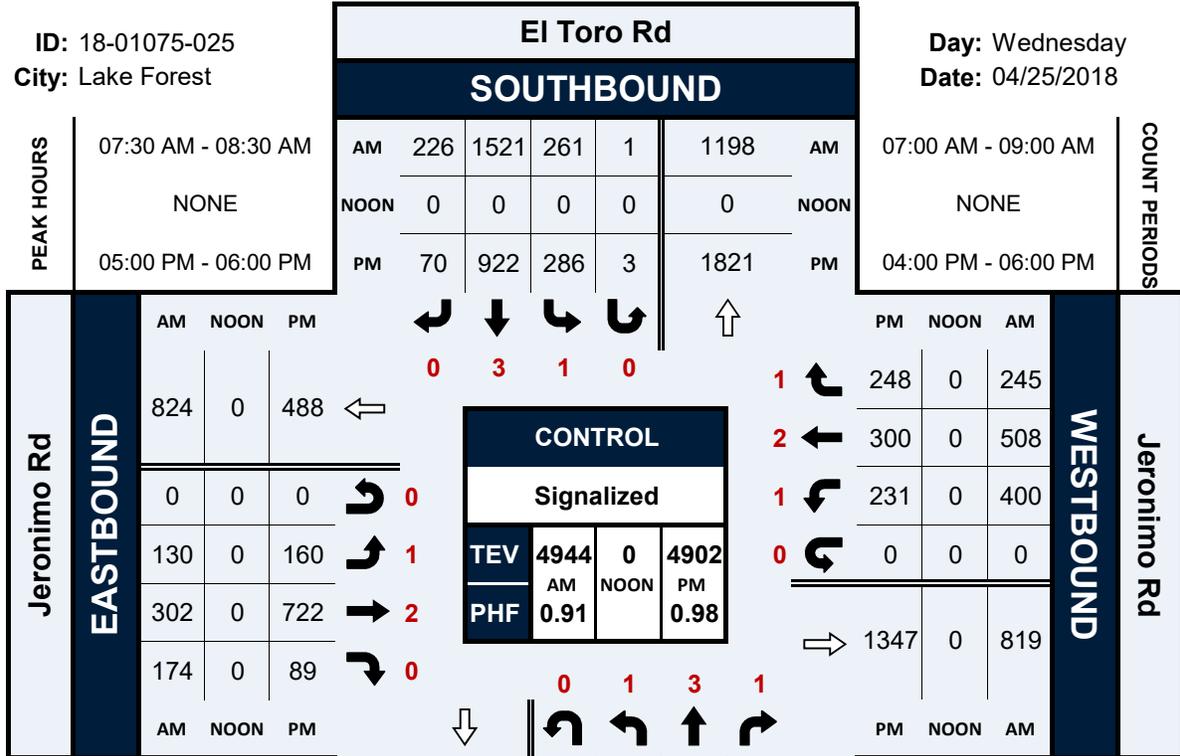


El Toro Rd & Jeronimo Rd

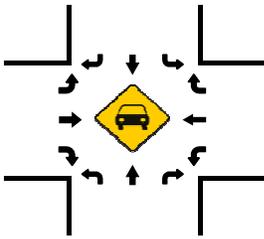
Peak Hour Turning Movement Count

ID: 18-01075-025
City: Lake Forest

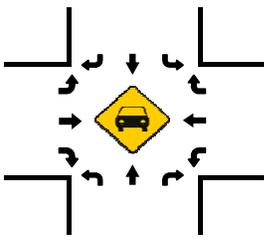
Day: Wednesday
Date: 04/25/2018



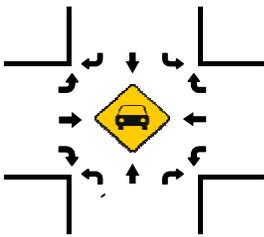
Total Vehicles (AM)



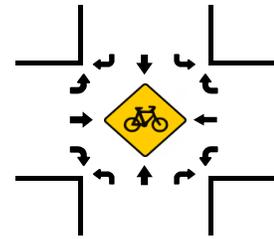
Total Vehicles (Noon)



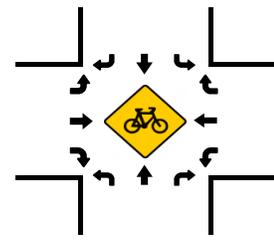
Total Vehicles (PM)



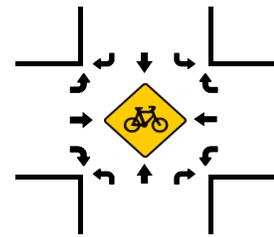
Bikes (AM)



Bikes (NOON)



Bikes (PM)

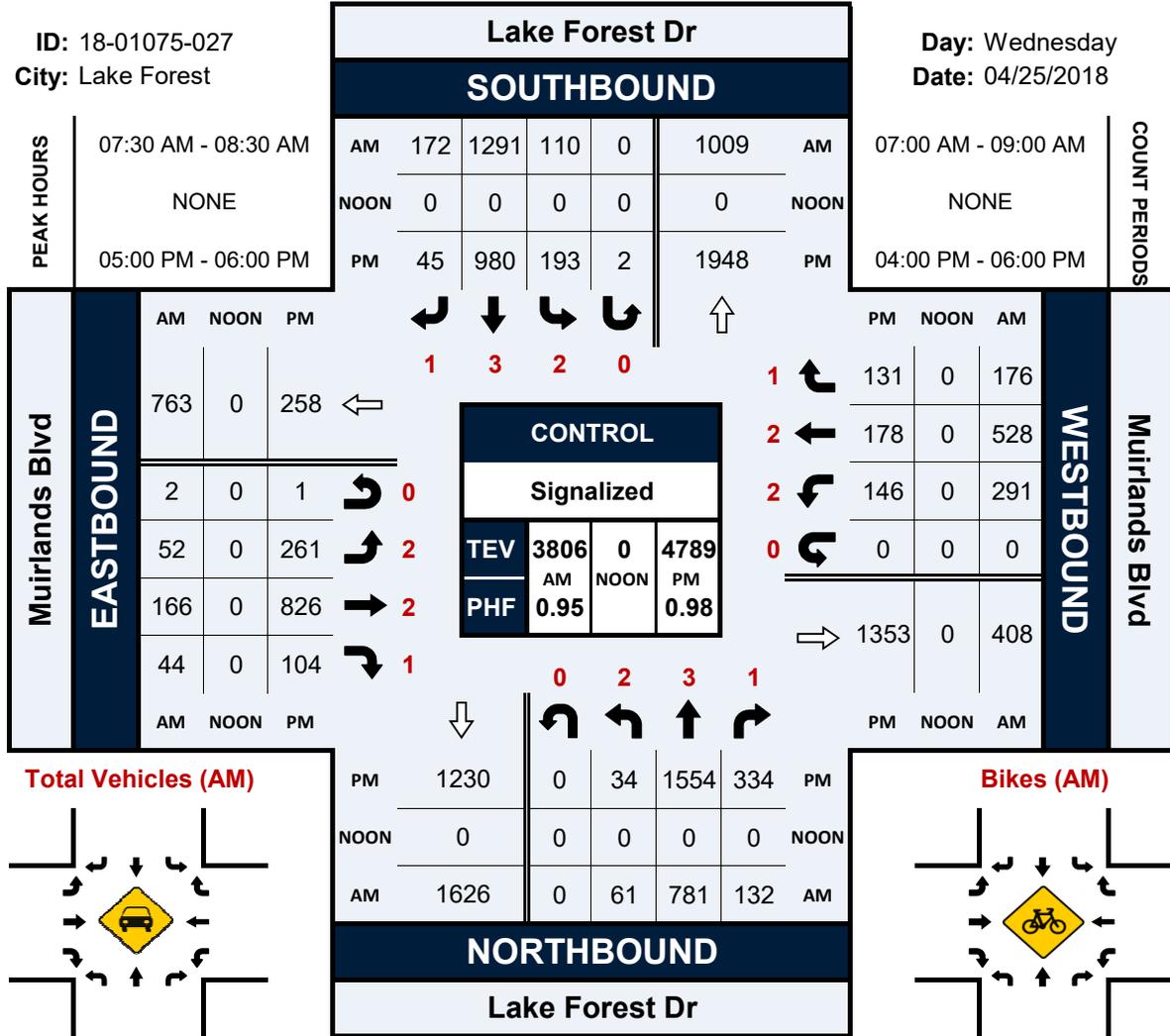


Lake Forest Dr & Muirlands Blvd

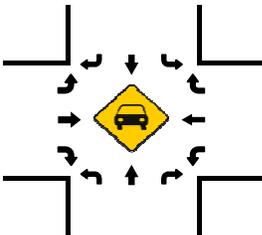
Peak Hour Turning Movement Count

ID: 18-01075-027
City: Lake Forest

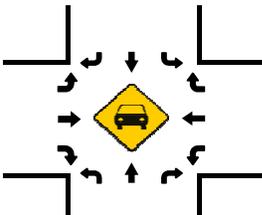
Day: Wednesday
Date: 04/25/2018



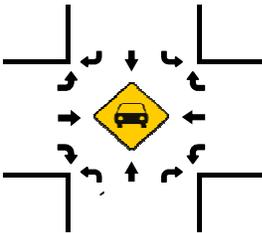
Total Vehicles (AM)



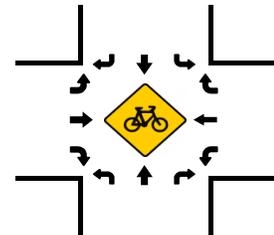
Total Vehicles (Noon)



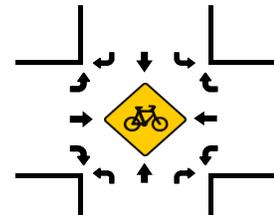
Total Vehicles (PM)



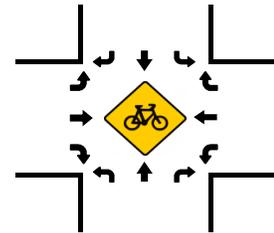
Bikes (AM)



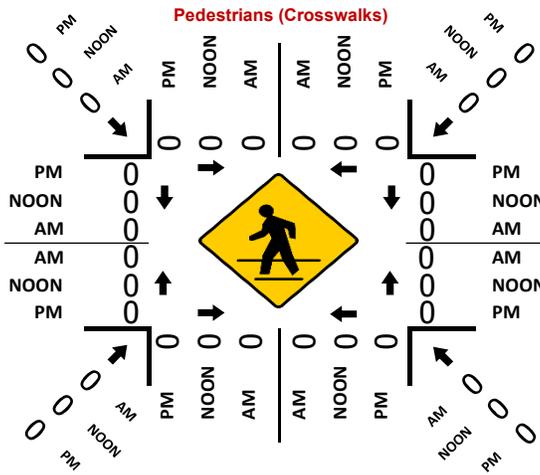
Bikes (Noon)



Bikes (PM)



Pedestrians (Crosswalks)

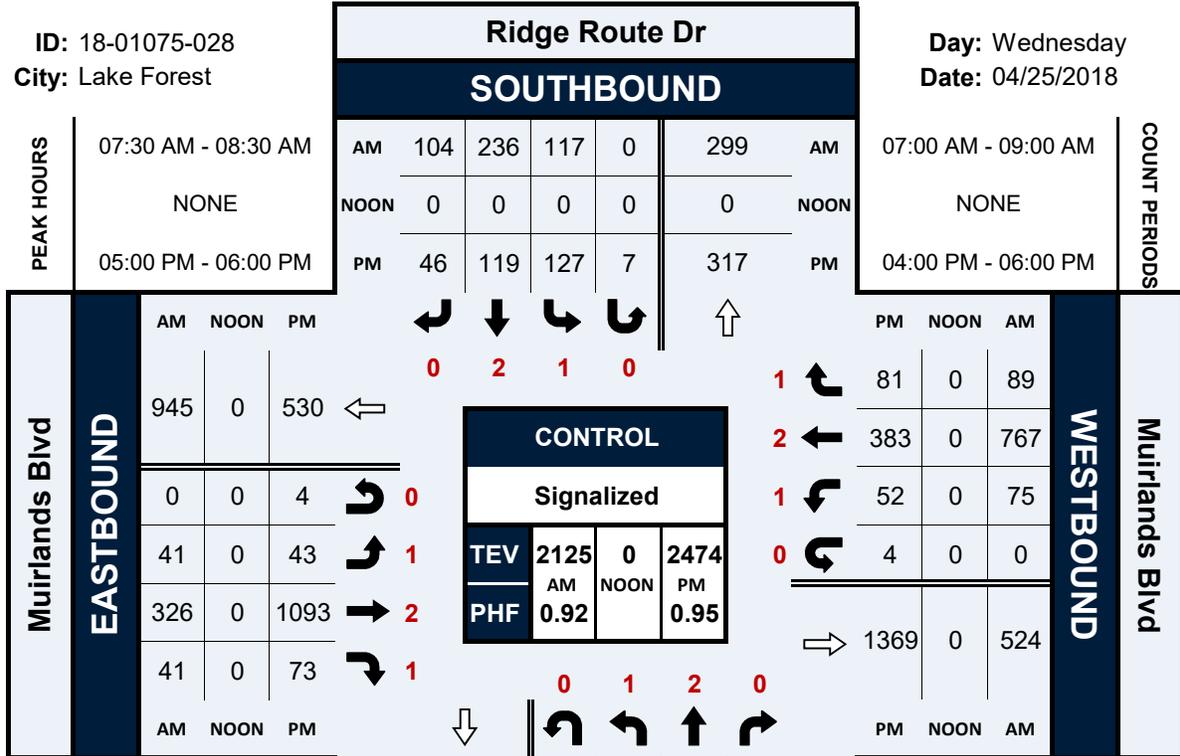


Ridge Route Dr & Muirlands Blvd

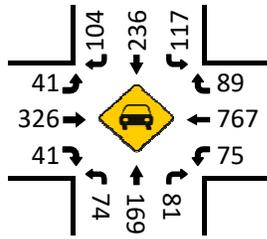
Peak Hour Turning Movement Count

ID: 18-01075-028
City: Lake Forest

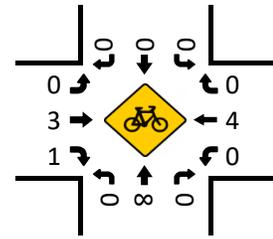
Day: Wednesday
Date: 04/25/2018



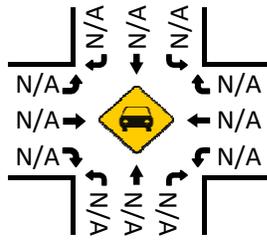
Total Vehicles (AM)



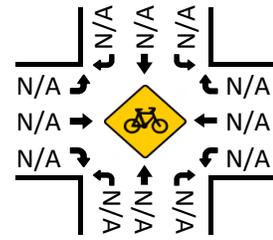
Bikes (AM)



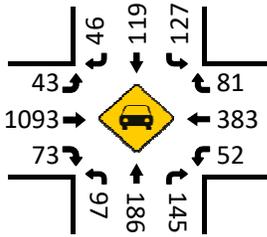
Total Vehicles (Noon)



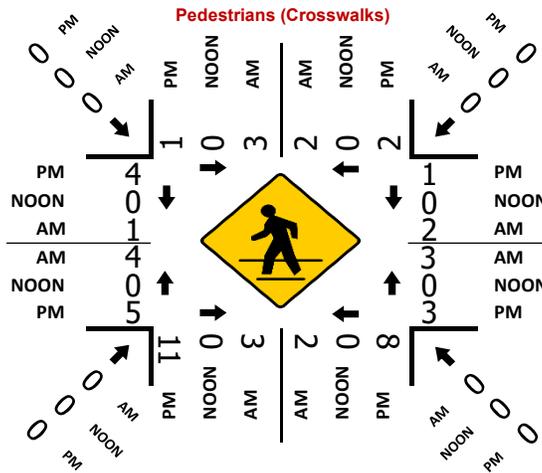
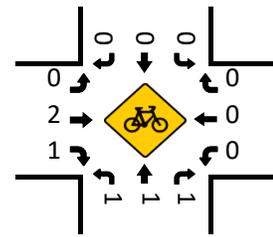
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)

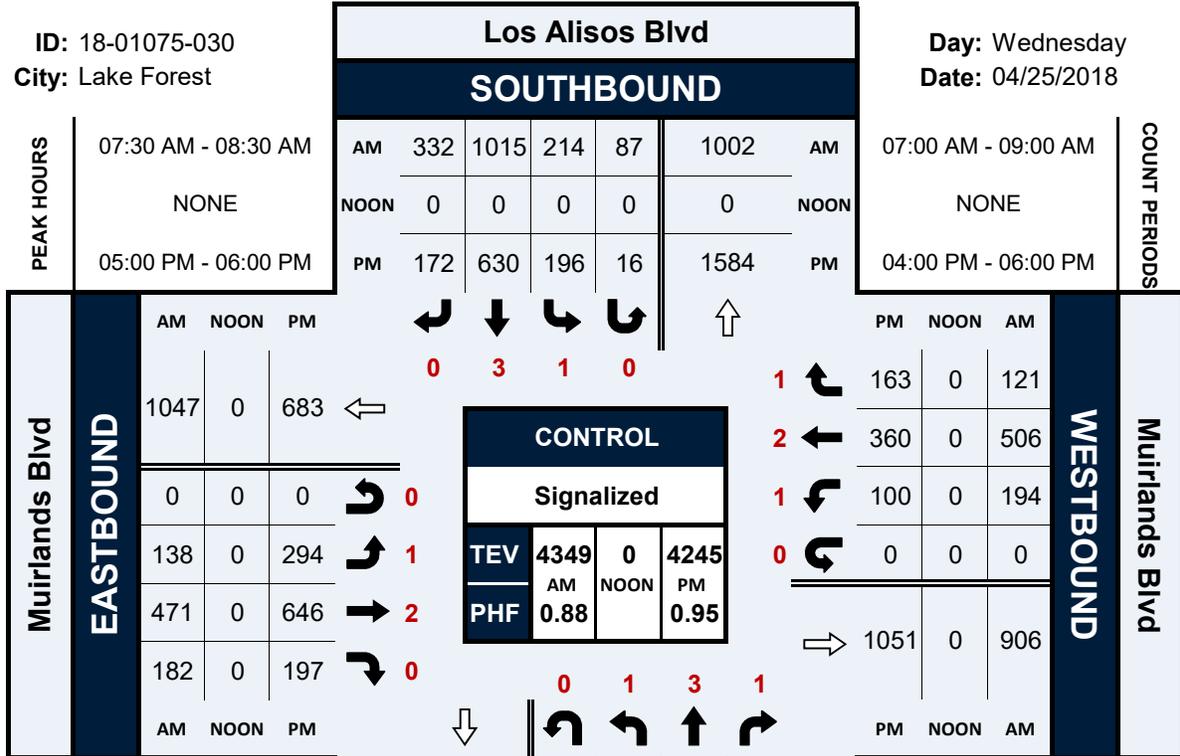


Los Alisos Blvd & Muirlands Blvd

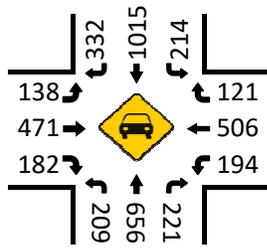
Peak Hour Turning Movement Count

ID: 18-01075-030
City: Lake Forest

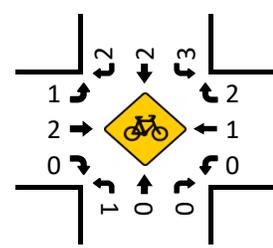
Day: Wednesday
Date: 04/25/2018



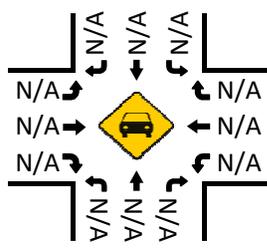
Total Vehicles (AM)



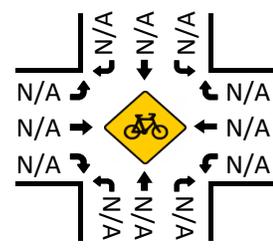
Bikes (AM)



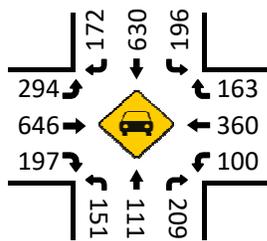
Total Vehicles (Noon)



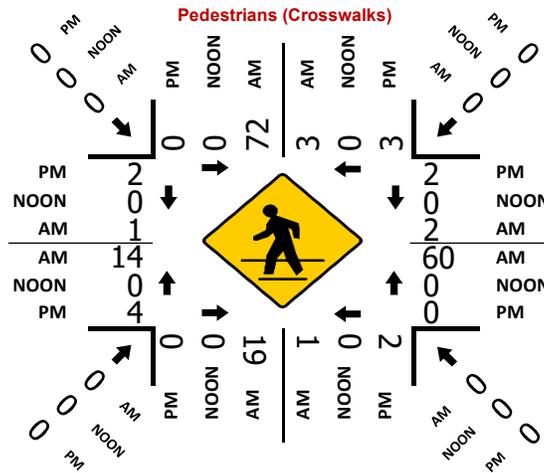
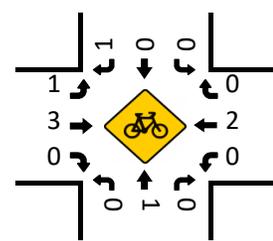
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)

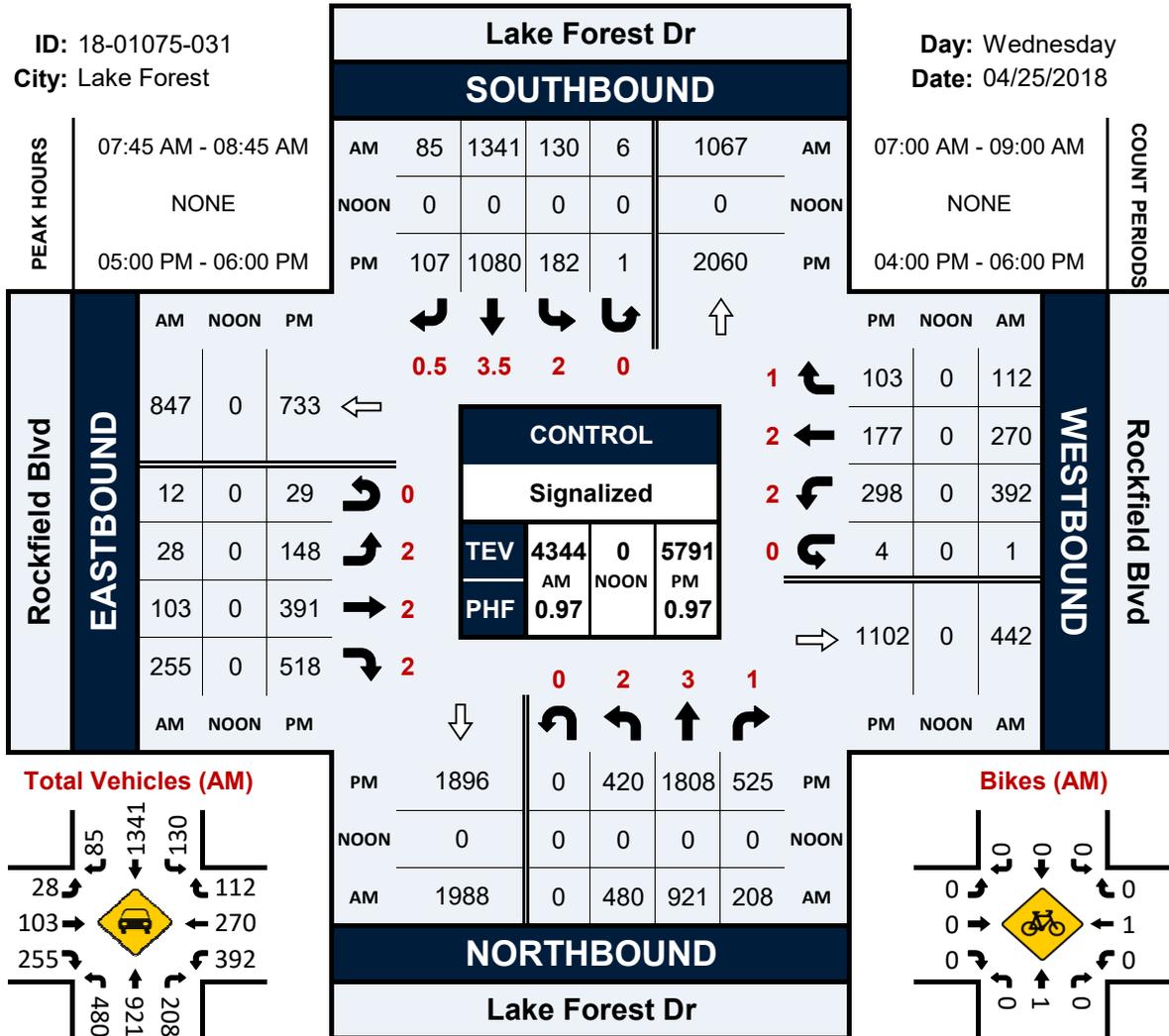


Lake Forest Dr & Rockfield Blvd

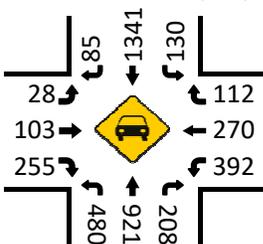
Peak Hour Turning Movement Count

ID: 18-01075-031
 City: Lake Forest

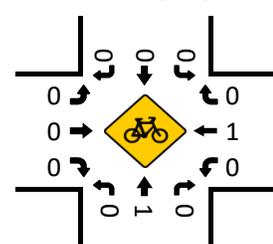
Day: Wednesday
 Date: 04/25/2018



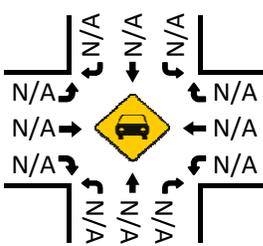
Total Vehicles (AM)



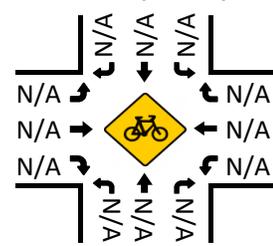
Bikes (AM)



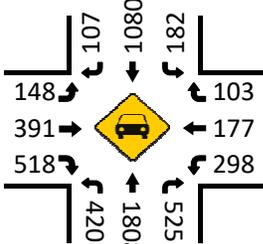
Total Vehicles (Noon)



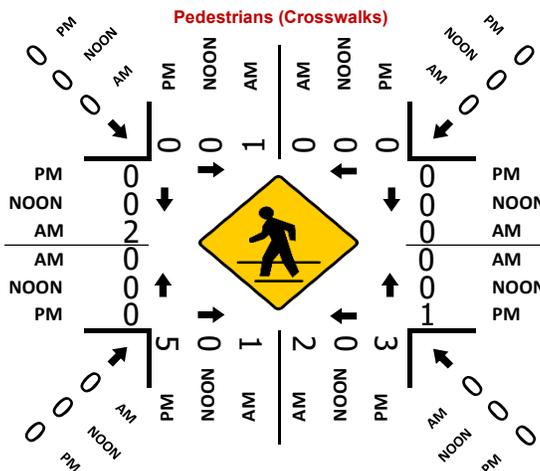
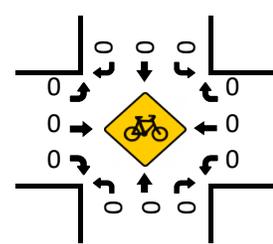
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



El Toro Rd & Rockfield Blvd

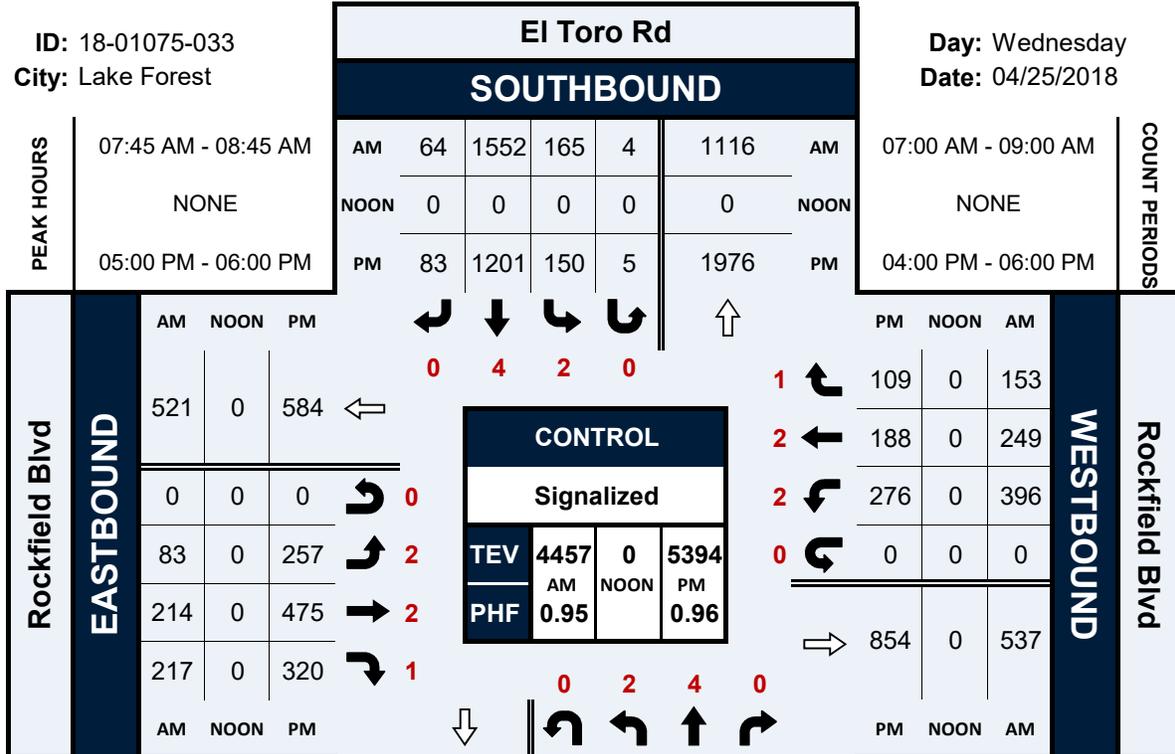
Peak Hour Turning Movement Count

ID: 18-01075-033

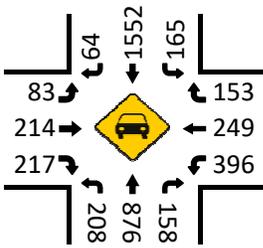
City: Lake Forest

Day: Wednesday

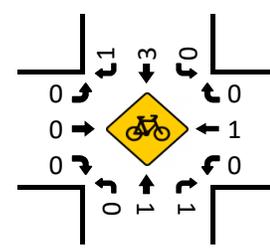
Date: 04/25/2018



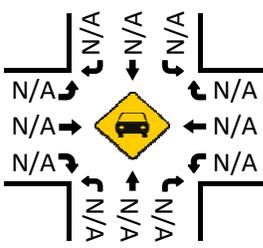
Total Vehicles (AM)



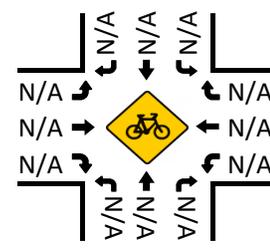
Bikes (AM)



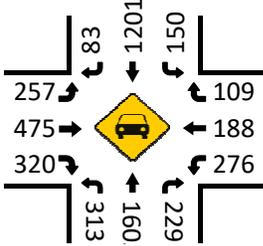
Total Vehicles (Noon)



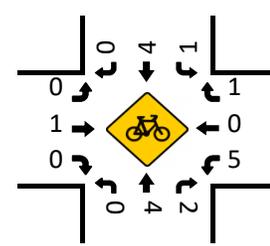
Bikes (NOON)



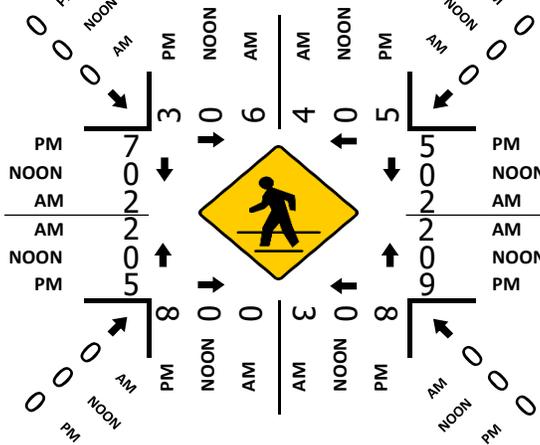
Total Vehicles (PM)



Bikes (PM)



Pedestrians (Crosswalks)

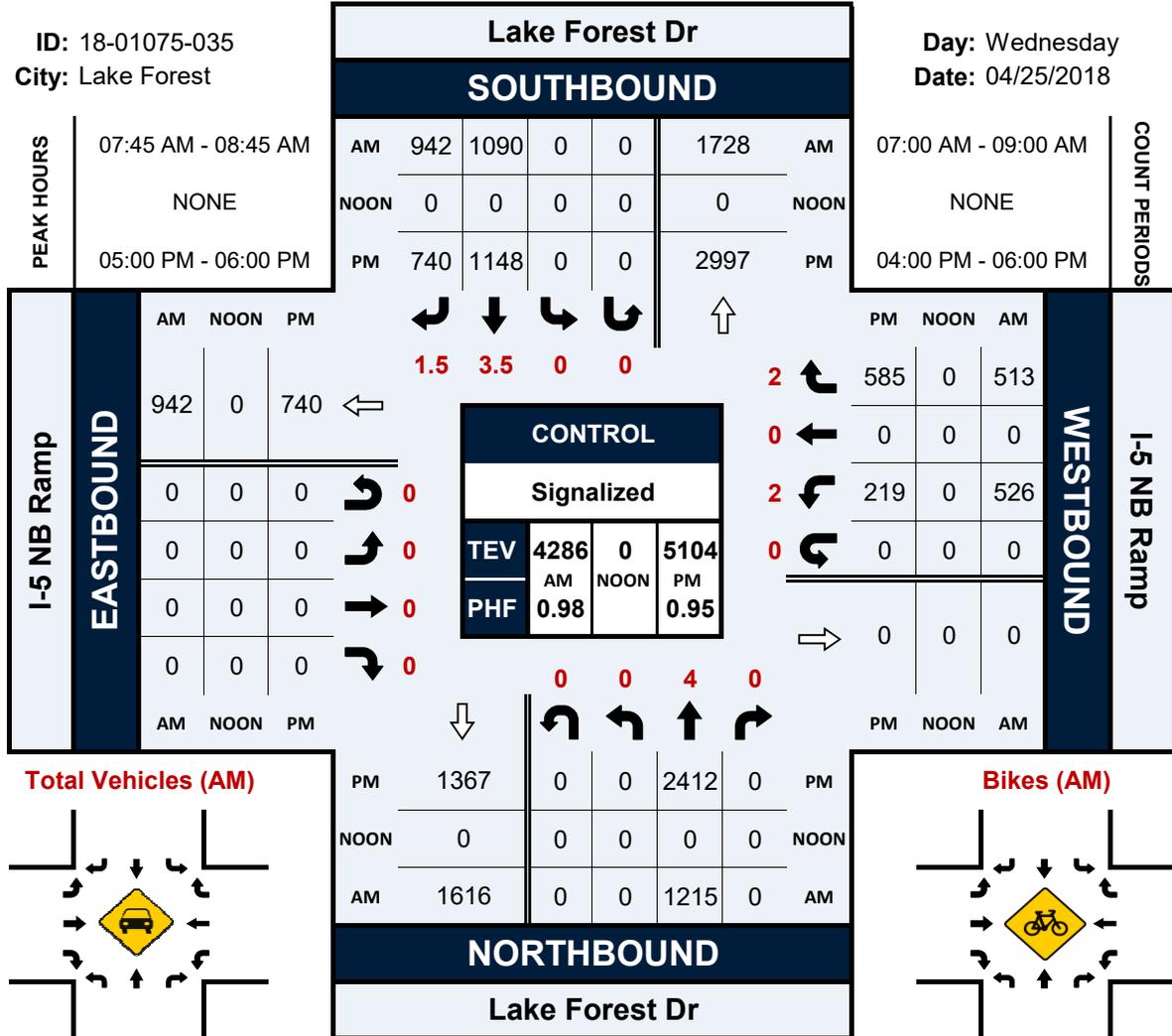


Lake Forest Dr & I-5 NB Ramp

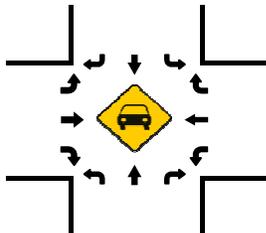
Peak Hour Turning Movement Count

ID: 18-01075-035
City: Lake Forest

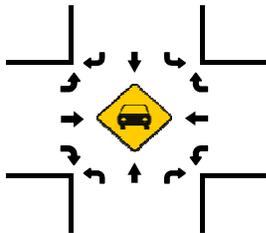
Day: Wednesday
Date: 04/25/2018



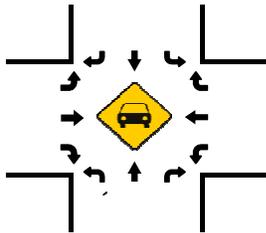
Total Vehicles (AM)



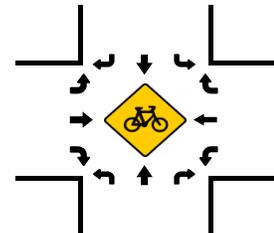
Total Vehicles (Noon)



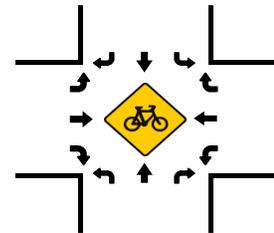
Total Vehicles (PM)



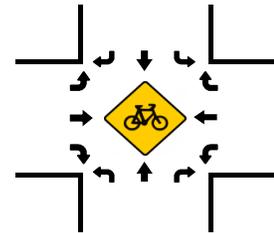
Bikes (AM)



Bikes (Noon)



Bikes (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Lake Forest Dr & I-5 SB Ramp/Avenida De La Carlota
City: Lake Forest
Control: Signalized

Project ID: 18-01075-036
Date: 4/25/2018

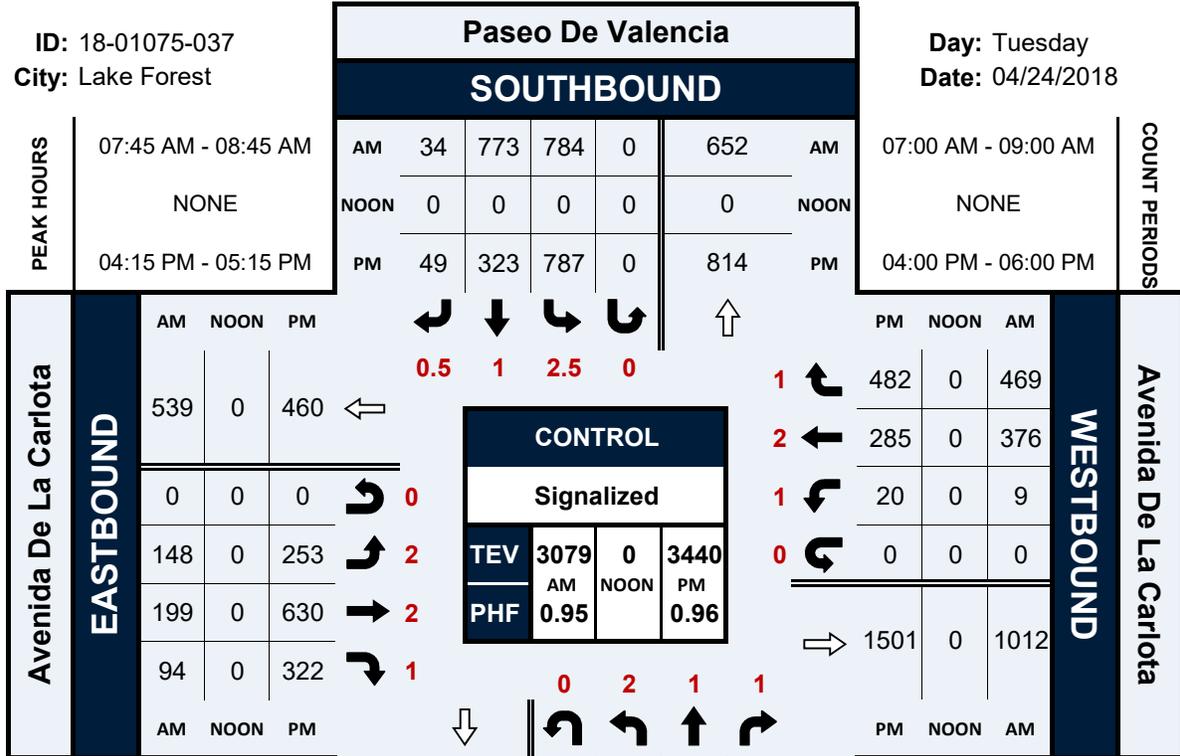
		Total																												
NS/EW Streets:	Lake Forest Dr	Lake Forest Dr					I-5 SB Ramp/Avenida De La Carlota					I-5 SB Ramp/Avenida De La Carlota																		
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					SOUTHBOUND2									TOTAL
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2				
7:00 AM	0	90	0	40	0	2	25	1.5	0	0	2.5	1.5	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0	750		
7:15 AM	0	116	13	0	33	31	147	99	0	0	183	54	131	0	0	16	0	31	0	0	0	0	0	0	0	0	854			
7:30 AM	0	144	10	0	47	35	191	103	0	0	183	71	173	0	0	26	0	35	0	0	0	0	0	0	0	0	1018			
7:45 AM	0	152	11	0	51	42	231	93	1	0	192	74	198	0	0	26	0	32	0	0	0	0	0	0	0	0	1103			
8:00 AM	0	156	13	0	61	71	263	86	1	0	173	81	178	0	0	29	0	39	0	0	0	0	0	0	0	0	1151			
8:15 AM	0	170	12	0	62	60	239	93	0	0	142	79	168	0	0	25	0	27	0	0	0	0	0	0	0	0	1077			
8:30 AM	0	149	21	0	54	80	252	100	0	0	160	85	156	0	0	27	0	49	0	0	0	0	0	0	0	0	1133			
8:45 AM	0	161	16	0	55	73	203	97	0	0	188	77	153	0	0	23	0	50	0	0	0	0	0	0	0	0	1096			
TOTAL VOLUMES :	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL			
APPROACH %'s :	0.00%	69.31%	6.15%	0.00%	24.54%	14.77%	59.16%	26.00%	0.07%	0.00%	42.49%	18.07%	39.44%	0.00%	0.00%	40.72%	0.00%	59.28%	0.00%	0.00%	0	0	0	0	0	0	8182			
PEAK HR :	07:45 AM - 08:45 AM																									TOTAL				
PEAK HR VOL :	0	627	57	0	228	253	985	372	2	0	667	319	700	0	0	107	0	147	0	0	0	0	0	0	0	0	4464			
PEAK HR FACTOR :	0.000	0.922	0.679	0.000	0.919	0.791	0.936	0.930	0.500	0.000	0.868	0.938	0.884	0.000	0.000	0.922	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.970			
	0.934					0.933					0.908					0.836														
PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					SOUTHBOUND2									TOTAL
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2				
4:00 PM	0	247	30	0	109	47	158	142	0	0	320	83	91	0	0	38	0	54	0	0	0	0	0	0	0	0	1319			
4:15 PM	0	244	21	0	100	49	181	114	0	0	354	113	127	0	0	36	0	71	0	0	0	0	0	0	0	0	1410			
4:30 PM	0	271	29	0	110	42	134	97	0	0	337	100	123	0	0	46	0	64	0	0	0	0	0	0	0	0	1353			
4:45 PM	0	219	25	0	116	50	138	105	2	0	430	147	120	0	0	29	0	78	0	0	0	0	0	0	0	1459				
5:00 PM	0	391	23	0	179	44	125	127	1	0	376	129	89	0	0	40	0	90	0	0	0	0	0	0	0	0	1614			
5:15 PM	0	266	27	0	161	45	172	155	0	0	418	168	129	0	0	30	0	63	0	0	0	0	0	0	0	0	1634			
5:30 PM	0	266	25	0	151	50	178	133	0	0	415	158	127	0	0	19	0	65	0	0	0	0	0	0	0	0	1587			
5:45 PM	0	225	28	0	116	42	170	124	0	0	340	126	113	0	0	29	0	55	0	0	0	0	0	0	0	0	1368			
TOTAL VOLUMES :	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL			
APPROACH %'s :	0.00%	63.01%	6.16%	0.00%	30.84%	14.06%	47.85%	37.98%	0.11%	0.00%	60.61%	20.76%	18.63%	0.00%	0.00%	33.09%	0.00%	66.91%	0.00%	0.00%	0	0	0	0	0	0	11744			
PEAK HR :	04:45 PM - 05:45 PM																									TOTAL				
PEAK HR VOL :	0	1142	100	0	607	189	613	520	3	0	1639	602	465	0	0	118	0	296	0	0	0	0	0	0	0	0	6294			
PEAK HR FACTOR :	0.000	0.730	0.926	0.000	0.848	0.945	0.861	0.839	0.375	0.000	0.953	0.896	0.901	0.000	0.000	0.738	0.000	0.822	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.963			
	0.780					0.890					0.946					0.796														

Paseo De Valencia & Avenida De La Carlota

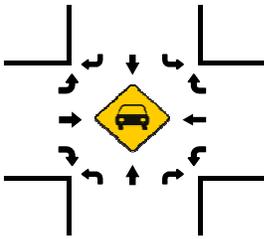
Peak Hour Turning Movement Count

ID: 18-01075-037
City: Lake Forest

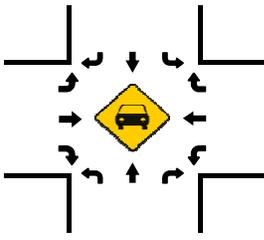
Day: Tuesday
Date: 04/24/2018



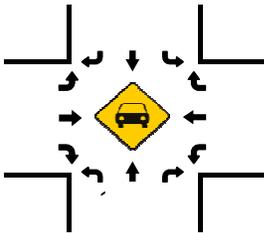
Total Vehicles (AM)



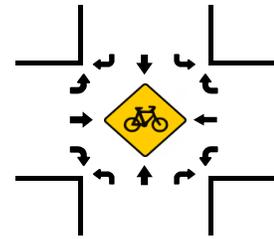
Total Vehicles (Noon)



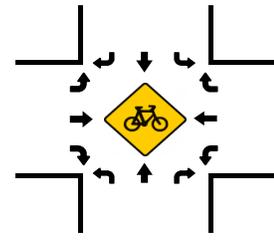
Total Vehicles (PM)



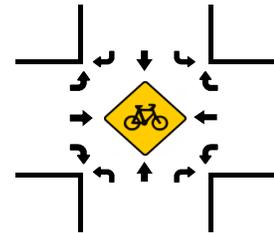
Bikes (AM)



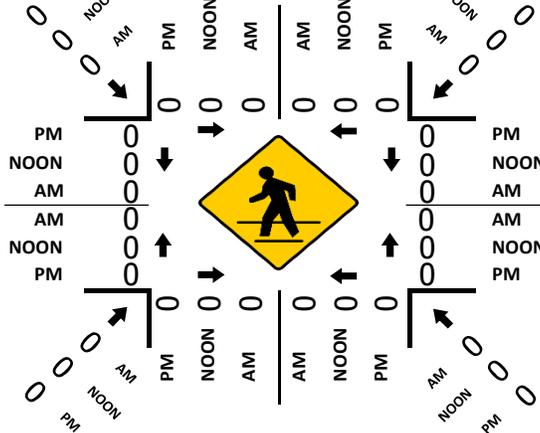
Bikes (NOON)



Bikes (PM)



Pedestrians (Crosswalks)

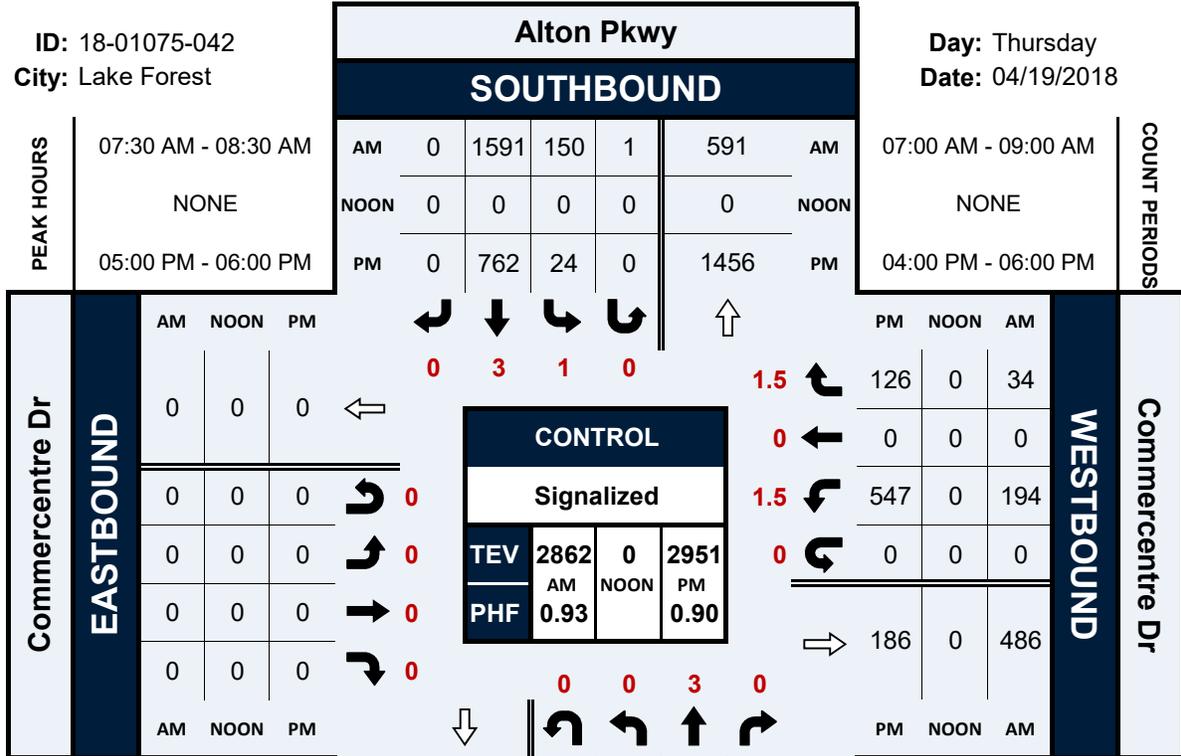


Alton Pkwy & Commercentre Dr

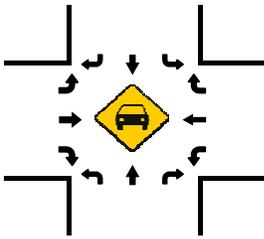
Peak Hour Turning Movement Count

ID: 18-01075-042
City: Lake Forest

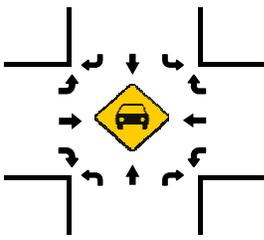
Day: Thursday
Date: 04/19/2018



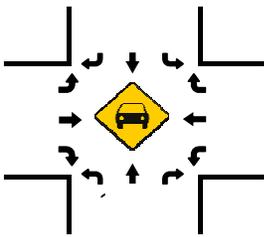
Total Vehicles (AM)



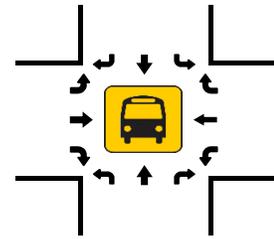
Total Vehicles (NOON)



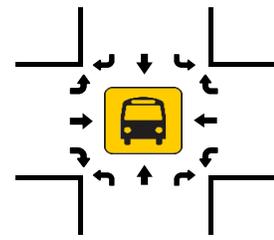
Total Vehicles (PM)



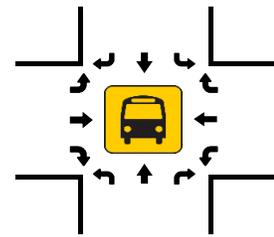
Total Vehicles (AM)



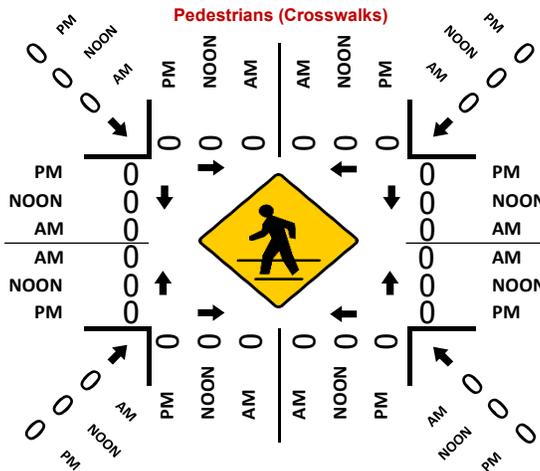
Total Vehicles (NOON)



Total Vehicles (PM)



Pedestrians (Crosswalks)



Bake Pkwy & Dimension Dr

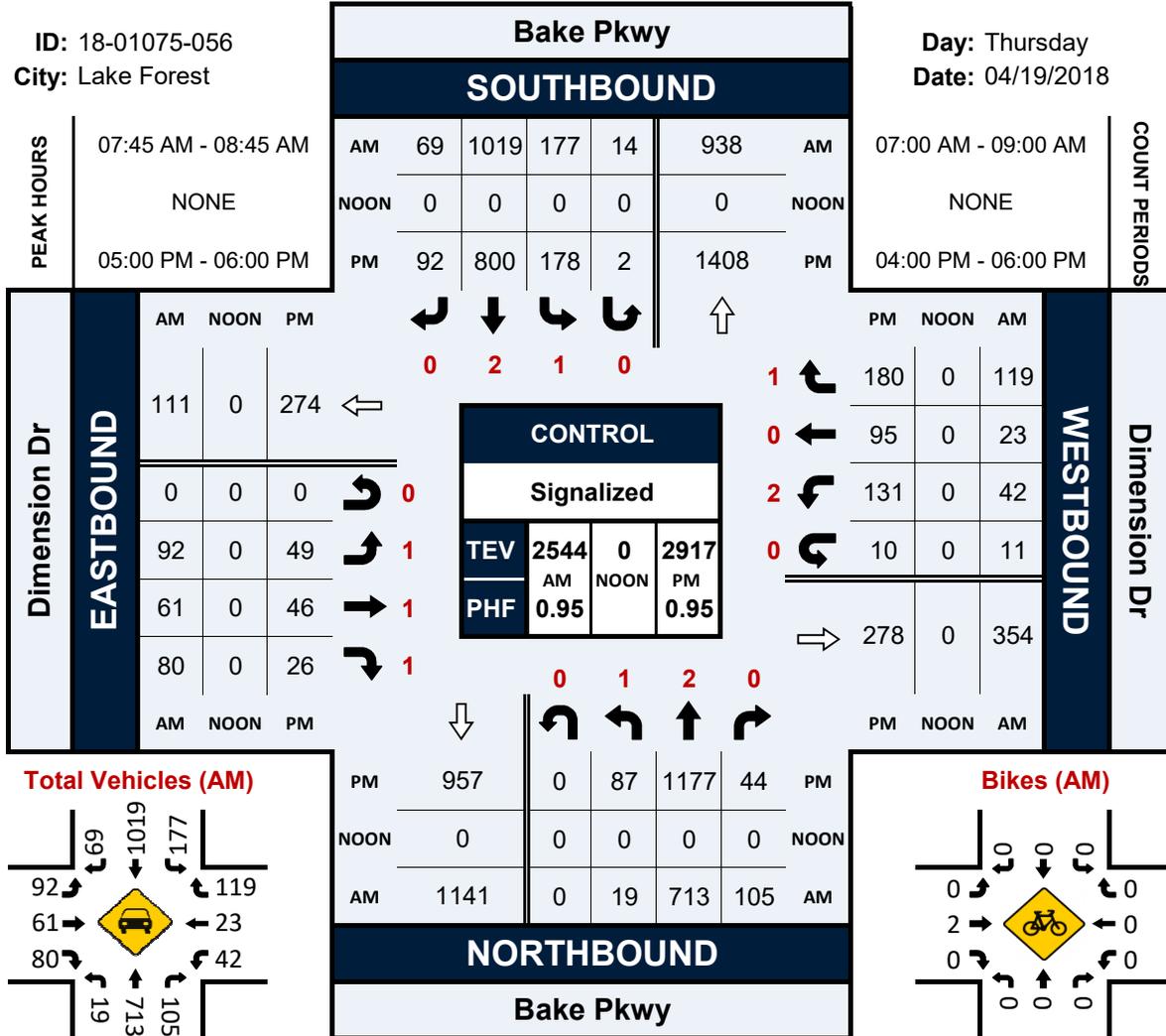
Peak Hour Turning Movement Count

ID: 18-01075-056

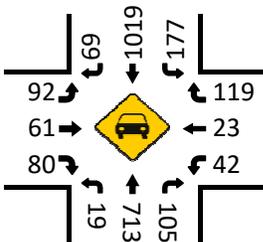
City: Lake Forest

Day: Thursday

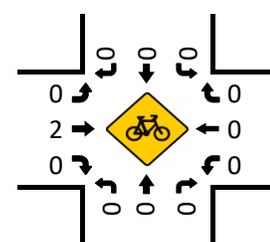
Date: 04/19/2018



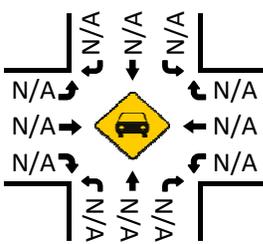
Total Vehicles (AM)



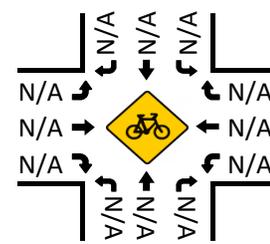
Bikes (AM)



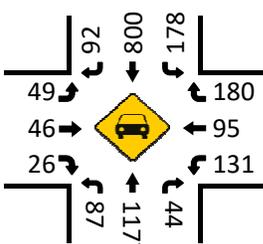
Total Vehicles (Noon)



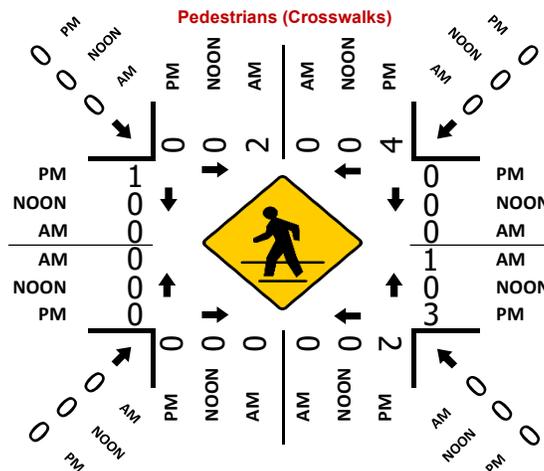
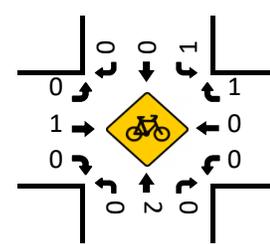
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)

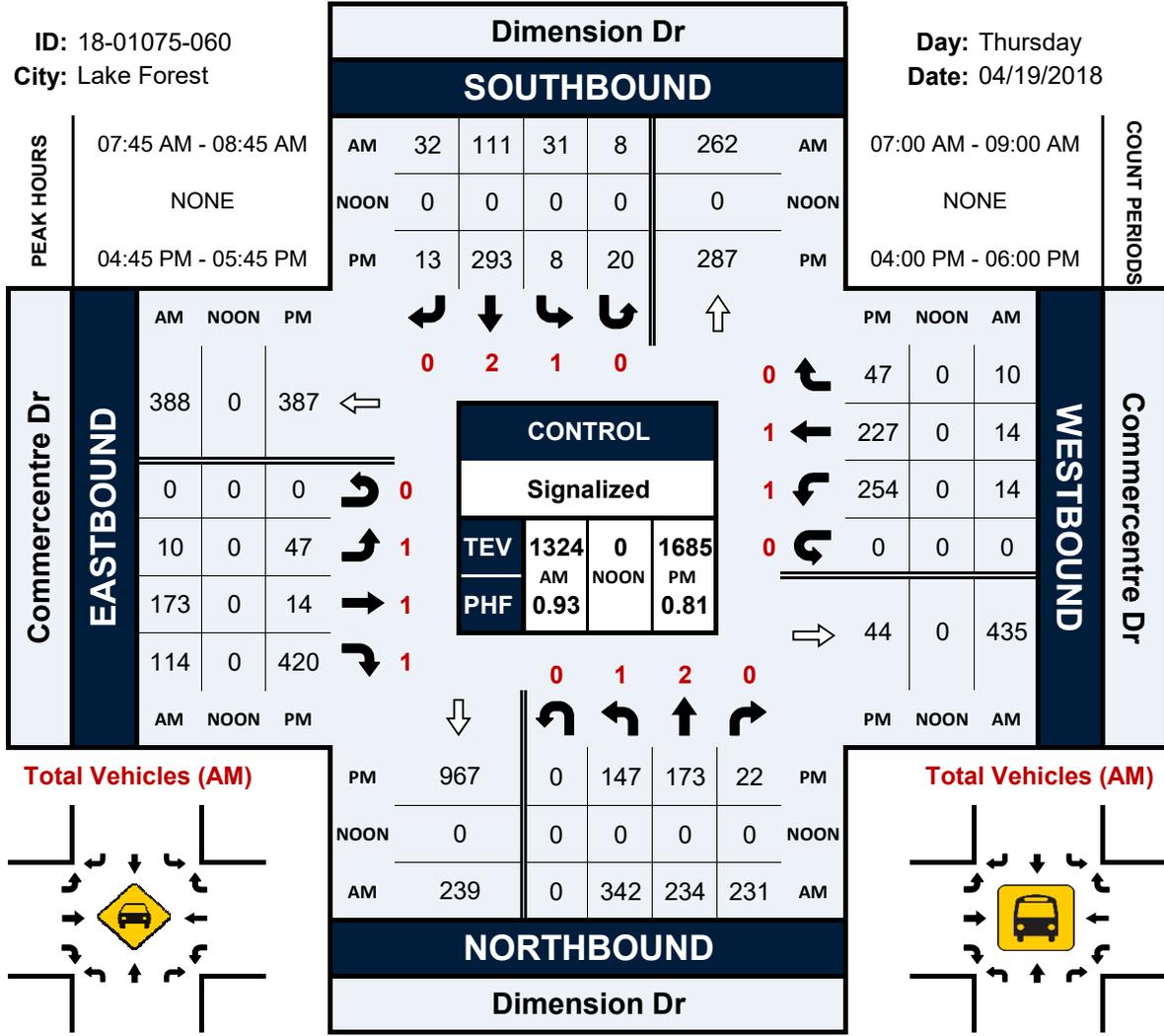


Dimension Dr & Commercentre Dr

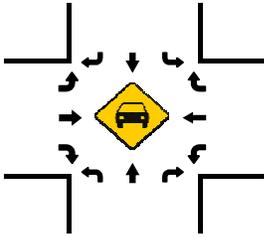
Peak Hour Turning Movement Count

ID: 18-01075-060
City: Lake Forest

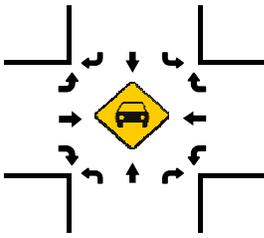
Day: Thursday
Date: 04/19/2018



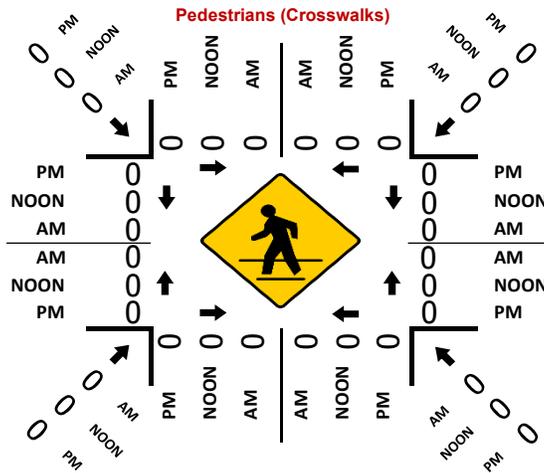
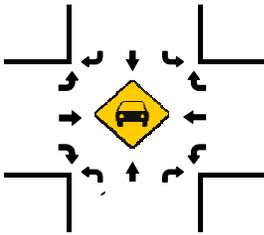
Total Vehicles (AM)



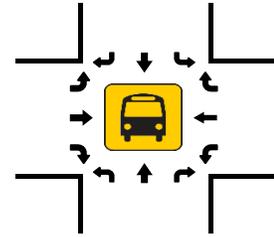
Total Vehicles (NOON)



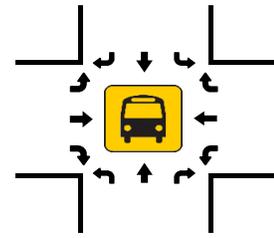
Total Vehicles (PM)



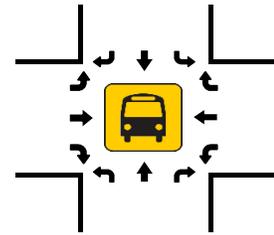
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)

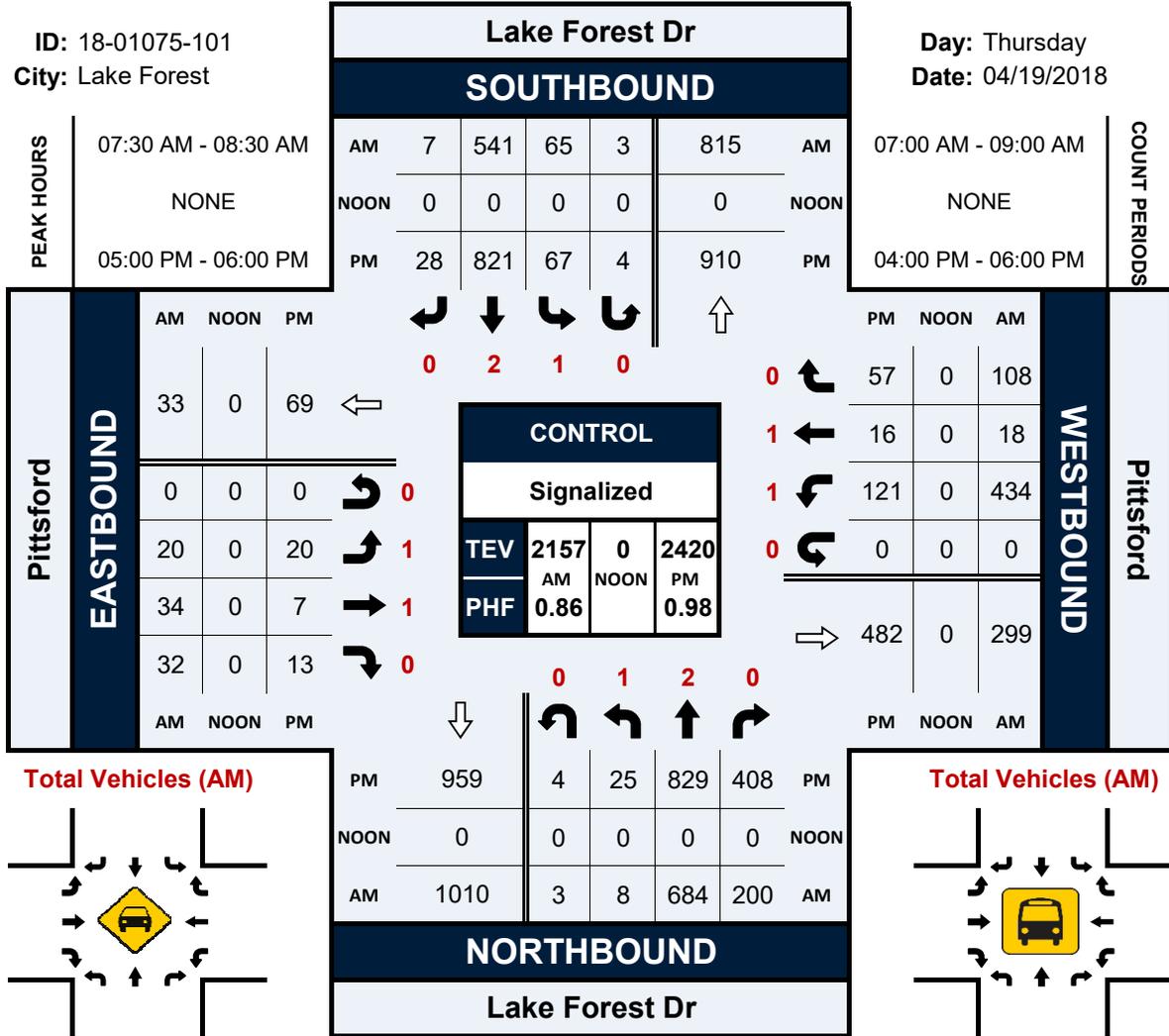


Lake Forest Dr & Pittsford

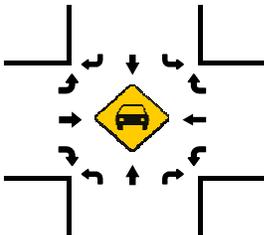
Peak Hour Turning Movement Count

ID: 18-01075-101
City: Lake Forest

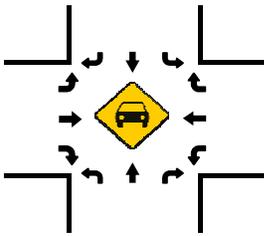
Day: Thursday
Date: 04/19/2018



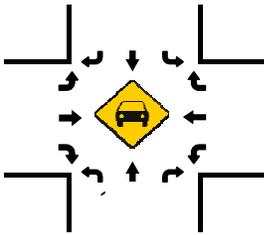
Total Vehicles (AM)



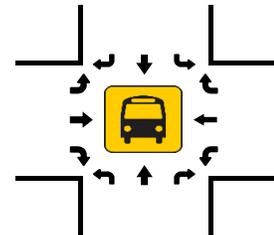
Total Vehicles (NOON)



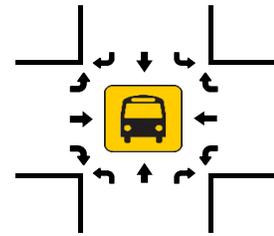
Total Vehicles (PM)



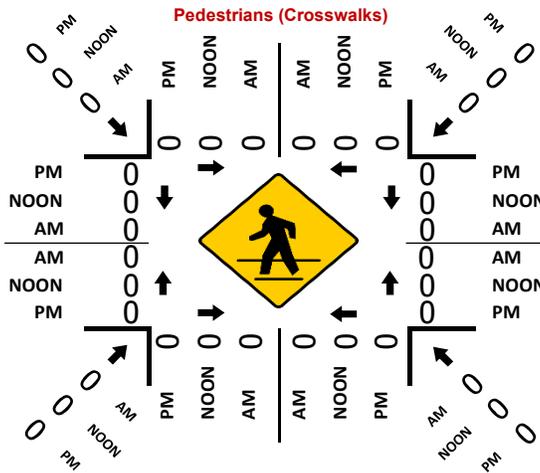
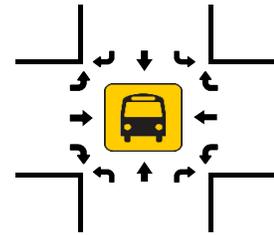
Total Vehicles (AM)



Total Vehicles (NOON)



Total Vehicles (PM)



Appendix 2: Existing (2018) Intersection Level of Service Worksheets

Vistro File: H:\...\Existing_AM.vistro

Scenario: Base Scenario

Report File: H:\...\Ex_AM_LOS.pdf

8/9/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1		Signalized	ICU 1	NWB Left	0.413	-	A
2		Signalized	ICU 1	NWB Thru	0.451	-	A
3		Signalized	ICU 1	NWB Thru	0.442	-	A
4		Signalized	ICU 1	NB Thru	0.361	-	A
5		Signalized	ICU 1	NEB Thru	0.381	-	A
6		Signalized	ICU 1	SWB Thru	0.410	-	A
7		Signalized	ICU 1	NB Thru	0.233	-	A
8		Signalized	ICU 1	NB Thru	0.276	-	A
9		Signalized	ICU 1	SWB Thru	0.468	-	A
10		Signalized	ICU 1	NWB Thru	0.451	-	A
11		Signalized	ICU 1	SWB Thru	0.551	-	A
12		Signalized	ICU 1	NB Right	0.610	-	B
13		Signalized	ICU 1	WB Thru	0.474	-	A
14		Signalized	ICU 1	NEB Right	0.649	-	B
15		Signalized	ICU 1	SWB Thru	0.576	-	A
16		Signalized	ICU 1	NWB Thru	0.433	-	A
17		Signalized	ICU 1	SWB Thru	0.621	-	B
18		Signalized	ICU 1	NEB Thru	0.727	-	C
19		Signalized	ICU 1	SWB Thru	0.530	-	A
20		Signalized	ICU 1	SWB Thru	0.331	-	A
21		Signalized	ICU 1	SWB Thru	0.529	-	A
22		Signalized	ICU 1	NEB Thru	0.917	-	E
23		Signalized	ICU 1	WB Thru	0.637	-	B
24		Signalized	ICU 1	NWB Thru	0.465	-	A
25		Signalized	ICU 1	SWB Thru	0.664	-	B
26		Signalized	ICU 1	SWB Thru	0.646	-	B
27		Signalized	ICU 1	SWB Thru	0.492	-	A
28		Signalized	ICU 1	NWB Thru	0.418	-	A
29		Signalized	ICU 1	SWB Thru	0.605	-	B
30		Signalized	ICU 1	SWB Thru	0.680	-	B
31		Signalized	ICU 1	SWB Right	0.547	-	A
32		Signalized	ICU 1	NWB Thru	0.352	-	A
33		Signalized	ICU 1	SWB Thru	0.563	-	A
34		Signalized	ICU 1	SWB Thru	0.687	-	B
35		Signalized	ICU 1	SWB Thru	0.416	-	A

36		Signalized	ICU 1	WB Thru	0.464	-	A
37		Signalized	ICU 1	SWB Thru	0.479	-	A
38		Signalized	ICU 1	NEB Thru	0.632	-	B
39		Signalized	ICU 1	SWB Thru	0.374	-	A
40		Signalized	ICU 1	NB Thru	0.458	-	A
41		Signalized	ICU 1	SWB Thru	0.458	-	A
42		Signalized	ICU 1	SWB Thru	0.424	-	A
51		Signalized	ICU 1	SWB Thru	0.471	-	A
56		Signalized	ICU 1	SWB Thru	0.444	-	A
57		Signalized	ICU 1	NEB Thru	0.339	-	A
60		Signalized	ICU 1	NWB Thru	0.392	-	A
101		Signalized	ICU 1	WB Left	0.585	-	A
102		Signalized	ICU 1	SWB Thru	0.421	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.413

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	175.00	100.00	100.00	150.00	100.00	55.00	315.00	100.00	245.00	170.00	100.00	585.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	35	26	307	187	160	3	538	97	88	3	280	133
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.86	3.85	1.95	2.14	1.88	0.00	2.04	2.06	2.27	0.00	2.14	2.26
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	26	77	187	160	1	538	97	22	3	280	33
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	7	19	47	40	0	135	24	6	1	70	8
Total Analysis Volume [veh/h]	35	26	77	187	160	1	538	97	22	3	280	33
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Permis	Protect	Permis	Unsign	Protect	Permis	Unsign
Signal Group	7	4	0	3	8	8	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.00	0.11	0.05	0.00	0.16	0.02	0.00	0.00	0.08	0.00
Intersection LOS	A											
Intersection V/C	0.413											

Intersection Level Of Service Report
Intersection 2:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.451

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	↔↔↔			↔↔↔			↔↔↔			↔↔↔		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	190.00	100.00	180.00	285.00	100.00	285.00	230.00	100.00	100.00	230.00	100.00	220.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	47	190	109	129	382	282	368	532	64	290	355	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.13	2.11	1.83	2.33	2.09	2.13	1.90	2.07	1.56	2.07	1.97	2.20
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	190	27	129	382	70	368	532	64	290	355	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	48	7	32	96	18	92	133	16	73	89	6
Total Analysis Volume [veh/h]	47	190	27	129	382	70	368	532	64	290	355	23
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.06	0.02	0.08	0.11	0.04	0.11	0.18	0.18	0.09	0.07	0.01
Intersection LOS	A											
Intersection V/C	0.451											

Intersection Level Of Service Report
Intersection 3:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.442

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	195.00	100.00	295.00	110.00	100.00	425.00	300.00	100.00	100.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	32	152	128	191	177	4	235	916	247	22	531	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.13	1.97	2.34	2.09	2.26	0.00	2.13	1.97	2.02	0.00	2.07	1.79
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	152	32	191	177	1	235	916	247	22	531	14
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	38	8	48	44	0	59	229	62	6	133	4
Total Analysis Volume [veh/h]	32	152	32	191	177	1	235	916	247	22	531	14
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.04	0.02	0.11	0.05	0.00	0.07	0.23	0.23	0.01	0.10	0.01
Intersection LOS	A											
Intersection V/C	0.442											

Intersection Level Of Service Report
Intersection 4:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.361

Intersection Setup

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Approach	Northbound			Westbound			Northeastbound			Southeastbound		
Lane Configuration	111111			11111			111			111111		
Turning Movement	Left	Thru	Right	Left2	Left	Thru	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	0	0	0	2	0	1
Pocket Length [ft]	200.00	100.00	100.00	215.00	100.00	345.00	100.00	100.00	100.00	515.00	100.00	185.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Base Volume Input [veh/h]	130	985	261	300	70	702	74	24	70	252	491	105
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.31	2.03	1.92	2.00	1.43	1.99	1.35	0.00	1.43	1.98	2.04	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	985	65	300	70	702	74	24	70	252	491	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	246	16	75	18	176	19	6	18	63	123	7
Total Analysis Volume [veh/h]	130	985	65	300	70	702	74	24	70	252	491	26
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Protect	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	3	8	1	1	6	0	5	2	2	7	4	4
Auxiliary Signal Groups			1,8									
Lead / Lag	Lead	-	-	Lead	Lag	-	Lead	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.19	0.00	0.09	0.02	0.00	0.04	0.03	0.03	0.07	0.10	0.02
Intersection LOS	A											
Intersection V/C	0.361											

Intersection Level Of Service Report
Intersection 5:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.381

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	/			/ /			/			/		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	0	0	2	0	0	1
Pocket Length [ft]	535.00	100.00	300.00	620.00	100.00	70.00	100.00	100.00	555.00	100.00	100.00	730.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	123	564	197	372	961	66	151	0	319	102	0	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.63	1.95	2.03	1.88	1.98	1.52	1.99	0.00	1.88	1.96	0.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	123	564	49	372	961	16	151	0	80	102	0	37
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	141	12	93	240	4	38	0	20	26	0	9
Total Analysis Volume [veh/h]	123	564	49	372	961	16	151	0	80	102	0	37
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	212
Lost time [s]	11.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.11	0.00	0.11	0.19	0.00	0.04	0.00	0.00	0.06	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.381											

Intersection Level Of Service Report
Intersection 6:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.410

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	2	1	0	1
Pocket Length [ft]	170.00	100.00	100.00	370.00	100.00	100.00	100.00	100.00	435.00	550.00	100.00	550.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	123	397	82	52	666	280	333	0	67	184	0	469
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.63	2.02	2.44	1.92	1.95	2.14	2.10	0.00	1.49	2.17	0.00	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	123	397	20	52	666	70	333	0	17	184	0	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	99	5	13	167	18	83	0	4	46	0	29
Total Analysis Volume [veh/h]	123	397	20	52	666	70	333	0	17	184	0	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.08	0.00	0.03	0.13	0.00	0.10	0.00	0.00	0.05	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.410											

Intersection Level Of Service Report
Intersection 7:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.233

Intersection Setup

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Approach	Northbound		Eastbound		Southwestbound	
Lane Configuration	T T T				T T	
Turning Movement	Left	Thru	Left	Right	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	1
Pocket Length [ft]	355.00	100.00	100.00	100.00	100.00	395.00
Speed [mph]	30.00		0.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Base Volume Input [veh/h]	155	621	0	0	451	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.94	1.93	0.00	0.00	2.00	1.87
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	621	0	0	451	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	155	0	0	113	7
Total Analysis Volume [veh/h]	155	621	0	0	451	27
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	0	0	6	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.18	0.00	0.00	0.13	0.02
Intersection LOS	A					
Intersection V/C	0.233					

Intersection Level Of Service Report

Intersection 8:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.276

Intersection Setup

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration	↑↑		↑↑		11f	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	1	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	655.00	365.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Base Volume Input [veh/h]	0	600	448	0	168	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.01	0.00	1.79	1.76
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	600	448	0	168	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	150	112	0	42	11
Total Analysis Volume [veh/h]	0	600	448	0	168	42
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	0	2	6	0	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.18	0.13	0.00	0.05	0.02
Intersection LOS	A					
Intersection V/C	0.276					

Intersection Level Of Service Report
Intersection 9:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Approach	Northeastbound		Southwestbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	1	0	1	1
Pocket Length [ft]	100.00	230.00	390.00	100.00	185.00	145.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Base Volume Input [veh/h]	584	226	98	891	531	121
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.05	2.21	2.04	2.02	2.07	1.65
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	584	57	98	891	531	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	146	14	25	223	133	8
Total Analysis Volume [veh/h]	584	57	98	891	531	30
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.03	0.06	0.26	0.16	0.01
Intersection LOS	A					
Intersection V/C	0.468					

Intersection Level Of Service Report
Intersection 10:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.451

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	1	2	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	340.00	100.00	200.00	250.00	100.00	110.00	245.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Base Volume Input [veh/h]	120	487	44	124	526	156	251	563	40	18	190	49
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.67	2.05	2.27	1.61	2.09	1.92	1.99	1.95	2.50	0.00	2.11	2.04
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	487	11	124	526	39	251	563	10	18	190	49
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	122	3	31	132	10	63	141	3	5	48	12
Total Analysis Volume [veh/h]	120	487	11	124	526	39	251	563	10	18	190	49
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.14	0.01	0.07	0.15	0.02	0.07	0.17	0.01	0.01	0.07	0.07
Intersection LOS	A											
Intersection V/C	0.451											

Intersection Level Of Service Report
Intersection 11:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy. S.	
Approach	Northeastbound		Southwestbound		Southeastbound	
Lane Configuration	↵↵↵		↵↵↵		↵↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	1	0
Pocket Length [ft]	190.00	100.00	100.00	80.00	190.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy. S.	
Base Volume Input [veh/h]	237	683	1112	302	119	139
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.11	2.05	1.98	1.99	1.68	2.16
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	237	683	1112	78	119	32
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	59	171	278	20	30	8
Total Analysis Volume [veh/h]	237	683	1112	78	119	32
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal Group	5	2	6	6	4	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.20	0.33	0.05	0.04	0.02
Intersection LOS	A					
Intersection V/C	0.551					

Intersection Level Of Service Report
Intersection 12:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.610

Intersection Setup

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Approach	Northbound			Southbound			Northeastbound			Southwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	1	0	1	1	0	2
Pocket Length [ft]	400.00	100.00	100.00	200.00	100.00	100.00	395.00	100.00	260.00	150.00	100.00	170.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Base Volume Input [veh/h]	440	1551	35	73	609	220	321	180	450	30	596	376
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.05	2.00	2.86	1.37	1.97	1.82	1.87	2.22	2.00	3.33	2.01	2.13
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	440	1551	35	73	609	53	321	180	112	30	596	95
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	388	9	18	152	13	80	45	28	8	149	24
Total Analysis Volume [veh/h]	440	1551	35	73	609	53	321	180	112	30	596	95
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.23	0.23	0.02	0.12	0.03	0.19	0.04	0.07	0.02	0.12	0.06
Intersection LOS	B											
Intersection V/C	0.610											

Intersection Level Of Service Report
Intersection 13:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.474

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	1 1 1			1 1 1			1 1 1			1 1 1		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Thru	Right	Right2	Left2	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	1	0	0
Pocket Length [ft]	285.00	100.00	180.00	285.00	100.00	220.00	345.00	100.00	100.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Base Volume Input [veh/h]	34	960	111	66	819	495	114	73	3	94	288	62
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.94	1.98	1.80	1.52	1.95	2.02	1.75	1.37	0.00	2.13	2.08	1.61
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	960	28	66	819	114	114	73	3	94	288	62
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	240	7	17	205	29	29	18	1	24	72	16
Total Analysis Volume [veh/h]	34	960	28	66	819	114	114	73	3	94	288	62
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Protect	Permis	Protect	Permis	Permis
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.28	0.02	0.04	0.24	0.07	0.03	0.04	0.04	0.06	0.08	0.10
Intersection LOS	A											
Intersection V/C	0.474											

Intersection Level Of Service Report
Intersection 14:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.649

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	305.00	100.00	100.00	305.00	100.00	150.00	305.00	100.00	225.00	275.00	100.00	275.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Base Volume Input [veh/h]	218	1632	120	63	930	86	668	543	155	138	206	213
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.83	2.02	1.67	1.59	2.04	2.33	1.95	2.03	1.94	2.17	1.94	1.88
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	218	1632	120	63	930	21	668	543	39	138	206	53
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	408	30	16	233	5	167	136	10	35	52	13
Total Analysis Volume [veh/h]	218	1632	120	63	930	21	668	543	39	138	206	53
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.34	0.34	0.02	0.18	0.01	0.20	0.11	0.02	0.04	0.04	0.03
Intersection LOS	B											
Intersection V/C	0.649											

Intersection Level Of Service Report
Intersection 15:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.576

Intersection Setup

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Approach	Northbound			Northeastbound			Southwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	0	2	0	1
Pocket Length [ft]	210.00	100.00	280.00	275.00	100.00	405.00	160.00	100.00	100.00	175.00	100.00	225.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Base Volume Input [veh/h]	459	724	370	179	780	129	210	1105	138	134	481	258
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.96	1.93	1.89	2.23	2.05	2.33	1.90	1.99	2.17	2.24	2.08	1.94
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	459	724	92	179	780	32	210	1105	138	134	481	64
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	181	23	45	195	8	53	276	35	34	120	16
Total Analysis Volume [veh/h]	459	724	92	179	780	32	210	1105	138	134	481	64
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	5	2	2	1	6	6	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.14	0.05	0.05	0.15	0.02	0.06	0.24	0.24	0.04	0.09	0.04
Intersection LOS	A											
Intersection V/C	0.576											

Intersection Level Of Service Report
Intersection 16:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Approach	Southbound		Northeastbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	1	0
Pocket Length [ft]	100.00	200.00	100.00	100.00	190.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Base Volume Input [veh/h]	629	191	188	216	171	1390
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.07	2.09	2.13	1.85	1.75	2.01
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	629	48	188	54	171	1390
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	157	12	47	14	43	348
Total Analysis Volume [veh/h]	629	48	188	54	171	1390
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Protected	Permissive
Signal Group	4	4	2	2	3	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.03	0.11	0.03	0.10	0.27
Intersection LOS	A					
Intersection V/C	0.433					

Intersection Level Of Service Report
Intersection 17:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.621

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	360.00	100.00	305.00	165.00	100.00	175.00	225.00	100.00	230.00	205.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Base Volume Input [veh/h]	197	674	173	251	1495	276	287	832	204	194	374	185
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.03	1.93	1.73	1.99	2.01	2.17	2.09	2.04	1.96	2.06	1.87	2.16
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	197	674	43	251	1495	70	287	832	51	194	374	185
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	169	11	63	374	18	72	208	13	49	94	46
Total Analysis Volume [veh/h]	197	674	43	251	1495	70	287	832	51	194	374	185
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3			6,7						
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.13	0.00	0.07	0.29	0.00	0.08	0.16	0.03	0.06	0.11	0.11
Intersection LOS	B											
Intersection V/C	0.621											

Intersection Level Of Service Report
Intersection 18:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.727

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	180.00	100.00	205.00	205.00	100.00	225.00	285.00	100.00	100.00	205.00	100.00	110.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	298	1935	51	65	1685	141	273	185	85	32	36	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.01	2.02	1.96	1.54	2.02	2.13	1.83	2.16	2.35	3.13	2.78	2.63
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	298	1935	13	65	1685	35	273	185	85	32	36	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	75	484	3	16	421	9	68	46	21	8	9	2
Total Analysis Volume [veh/h]	298	1935	13	65	1685	35	273	185	85	32	36	9
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.38	0.01	0.04	0.33	0.02	0.16	0.08	0.08	0.01	0.01	0.01
Intersection LOS	C											
Intersection V/C	0.727											

Intersection Level Of Service Report
Intersection 19:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.530

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Approach	Eastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	185.00	180.00	100.00	200.00	155.00	100.00	100.00	135.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	79	974	57	42	1553	67	130	233	51	23	87	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.53	1.95	1.75	2.38	2.00	1.49	2.31	2.15	1.96	0.00	2.30	2.20
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	974	14	42	1553	17	130	233	51	23	87	91
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	244	4	11	388	4	33	58	13	6	22	23
Total Analysis Volume [veh/h]	79	974	14	42	1553	17	130	233	51	23	87	91
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.19	0.01	0.02	0.30	0.01	0.08	0.08	0.08	0.01	0.05	0.05
Intersection LOS	A											
Intersection V/C	0.530											

Intersection Level Of Service Report
Intersection 20:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.331

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	175.00	100.00	100.00	200.00	100.00	100.00	110.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	37	227	123	92	378	83	126	228	50	29	134	32
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.70	2.20	1.63	2.17	2.12	2.41	2.38	2.19	2.00	3.45	2.24	3.13
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	227	123	92	378	83	126	228	50	29	134	32
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	57	31	23	95	21	32	57	13	7	34	8
Total Analysis Volume [veh/h]	37	227	123	92	378	83	126	228	50	29	134	32
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	157
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.10	0.10	0.05	0.14	0.14	0.07	0.08	0.08	0.02	0.05	0.05
Intersection LOS	A											
Intersection V/C	0.331											

Intersection Level Of Service Report
Intersection 21:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.529

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	250.00	100.00	250.00	210.00	100.00	1000.0	100.00	100.00	25.00	170.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	154	983	20	2	1698	239	29	21	5	79	3	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.95	2.03	0.00	0.00	2.00	2.09	3.45	0.00	0.00	2.53	0.00	2.27
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	154	983	5	2	1698	60	29	21	1	79	3	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	246	1	1	425	15	7	5	0	20	1	11
Total Analysis Volume [veh/h]	154	983	5	2	1698	60	29	21	1	79	3	45
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.19	0.00	0.00	0.33	0.04	0.02	0.03	0.00	0.02	0.02	0.03
Intersection LOS	A											
Intersection V/C	0.529											

Intersection Level Of Service Report
Intersection 22:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: E
 Volume to Capacity (v/c): 0.917

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	350.00	100.00	190.00	285.00	100.00	200.00	255.00	100.00	100.00	150.00	100.00	80.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	411	2112	80	56	1913	59	397	432	99	8	49	111
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.95	1.99	2.50	1.79	1.99	1.69	2.02	2.08	2.02	0.00	2.04	1.80
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	411	2112	20	56	1913	15	397	432	99	8	49	28
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	103	528	5	14	478	4	99	108	25	2	12	7
Total Analysis Volume [veh/h]	411	2112	20	56	1913	15	397	432	99	8	49	28
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.24	0.41	0.01	0.03	0.38	0.01	0.23	0.16	0.16	0.00	0.01	0.02
Intersection LOS	E											
Intersection V/C	0.917											

Intersection Level Of Service Report
Intersection 23:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.637

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	1 1 1			1 1 1			1 1			1 1		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	195.00	100.00	300.00	255.00	100.00	275.00	240.00	100.00	100.00	190.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	220	1257	326	95	795	151	242	535	272	80	166	83
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	1.99	2.15	2.11	2.01	1.99	2.07	2.06	1.84	2.50	1.81	2.41
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	1257	81	95	795	40	242	535	272	80	166	83
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	314	20	24	199	10	61	134	68	20	42	21
Total Analysis Volume [veh/h]	220	1257	81	95	795	40	242	535	272	80	166	83
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.25	0.05	0.06	0.16	0.02	0.14	0.24	0.24	0.05	0.07	0.07
Intersection LOS	B											
Intersection V/C	0.637											

Intersection Level Of Service Report
Intersection 24:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.465

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	200.00	100.00	115.00	175.00	100.00	95.00	95.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	66	223	128	116	285	210	112	708	73	92	351	117
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.52	1.79	2.34	1.72	2.11	1.90	1.79	1.98	1.37	2.17	1.99	1.71
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	223	40	116	285	52	112	708	73	92	351	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	56	10	29	71	13	28	177	18	23	88	29
Total Analysis Volume [veh/h]	66	223	40	116	285	52	112	708	73	92	351	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	105
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.07	0.02	0.07	0.08	0.03	0.07	0.23	0.23	0.05	0.14	0.14
Intersection LOS	A											
Intersection V/C	0.465											

Intersection Level Of Service Report
Intersection 25:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.664

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	1	0	0
Pocket Length [ft]	195.00	100.00	125.00	360.00	100.00	575.00	155.00	100.00	145.00	180.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	98	822	256	262	1521	226	400	508	245	130	302	174
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.04	1.95	1.95	1.91	1.97	2.21	2.00	1.97	2.04	2.31	1.99	1.72
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	98	822	64	262	1521	56	400	508	61	130	302	174
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	206	16	66	380	14	100	127	15	33	76	44
Total Analysis Volume [veh/h]	98	822	64	262	1521	56	400	508	61	130	302	174
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3									
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.16	0.00	0.15	0.30	0.03	0.12	0.15	0.04	0.08	0.14	0.14
Intersection LOS	B											
Intersection V/C	0.664											

Intersection Level Of Service Report
Intersection 26:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.646

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	285.00	100.00	100.00	295.00	100.00	110.00	180.00	100.00	175.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	192	624	205	319	1258	320	245	623	110	162	560	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.08	1.92	1.95	1.88	1.99	1.88	2.04	1.93	1.82	1.85	1.96	2.11
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	192	624	51	319	1258	80	245	623	27	162	560	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	156	13	80	315	20	61	156	7	41	140	12
Total Analysis Volume [veh/h]	192	624	51	319	1258	80	245	623	27	162	560	47
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.12	0.03	0.19	0.25	0.05	0.07	0.18	0.02	0.05	0.16	0.03
Intersection LOS	B											
Intersection V/C	0.646											

Intersection Level Of Service Report
Intersection 27:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.492

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	295.00	100.00	285.00	235.00	100.00	290.00	245.00	100.00	210.00	185.00	100.00	255.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	61	781	132	110	1291	172	291	528	176	54	166	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.64	2.05	2.27	1.82	2.01	1.74	2.06	2.08	2.27	1.85	1.81	2.27
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	781	33	110	1291	43	291	528	44	54	166	11
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	195	8	28	323	11	73	132	11	14	42	3
Total Analysis Volume [veh/h]	61	781	33	110	1291	43	291	528	44	54	166	11
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Overla
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.15	0.02	0.03	0.25	0.03	0.09	0.16	0.03	0.02	0.05	0.00
Intersection LOS	A											
Intersection V/C	0.492											

Intersection Level Of Service Report

Intersection 28:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.418

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	185.00	100.00	190.00	175.00	100.00	200.00	180.00	100.00	95.00	300.00	100.00	125.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	79	169	81	117	236	104	76	767	89	41	326	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.53	1.78	2.47	1.71	2.12	1.92	2.63	1.96	2.25	2.44	2.15	2.44
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	169	20	117	236	26	76	767	22	41	326	10
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	42	5	29	59	7	19	192	6	10	82	3
Total Analysis Volume [veh/h]	79	169	20	117	236	26	76	767	22	41	326	10
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.05	0.01	0.07	0.07	0.02	0.04	0.23	0.01	0.02	0.10	0.01
Intersection LOS	A											
Intersection V/C	0.418											

Intersection Level Of Service Report
Intersection 29:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.605

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	245.00	100.00	100.00	150.00	100.00	345.00	215.00	100.00	120.00	170.00	100.00	295.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	115	790	146	226	1478	326	348	608	215	177	298	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.74	2.03	2.05	2.21	2.03	2.15	2.01	1.97	1.86	2.26	2.01	2.20
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	115	790	36	226	1478	82	348	608	54	177	298	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	198	9	57	370	21	87	152	14	44	75	11
Total Analysis Volume [veh/h]	115	790	36	226	1478	82	348	608	54	177	298	45
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.15	0.02	0.07	0.29	0.05	0.10	0.18	0.03	0.05	0.09	0.03
Intersection LOS	B											
Intersection V/C	0.605											

Intersection Level Of Service Report
Intersection 30:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.680

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Pocket Length [ft]	210.00	100.00	410.00	190.00	100.00	125.00	250.00	100.00	145.00	305.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	212	656	221	301	1015	332	194	506	121	138	471	182
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.89	1.98	1.81	1.99	1.97	2.11	2.06	1.98	1.65	2.17	1.91	2.20
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	212	656	55	301	1015	83	194	506	121	138	471	182
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	164	14	75	254	21	49	127	30	35	118	46
Total Analysis Volume [veh/h]	212	656	55	301	1015	83	194	506	121	138	471	182
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.13	0.03	0.18	0.20	0.05	0.11	0.15	0.07	0.08	0.19	0.19
Intersection LOS	B											
Intersection V/C	0.680											

Intersection Level Of Service Report
Intersection 31:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.547

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	2	0	1	2	0	1	2	0	2
Pocket Length [ft]	225.00	100.00	290.00	165.00	100.00	180.00	260.00	100.00	155.00	145.00	100.00	250.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	480	921	208	136	1341	85	393	270	112	40	103	255
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.08	1.95	1.92	2.21	2.01	2.35	2.04	1.85	1.79	2.50	1.94	1.96
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	480	921	52	136	1341	85	393	270	28	40	103	64
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	120	230	13	34	335	21	98	68	7	10	26	16
Total Analysis Volume [veh/h]	480	921	52	136	1341	85	393	270	28	40	103	64
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Overla
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.18	0.03	0.04	0.21	0.21	0.12	0.08	0.02	0.01	0.03	0.00
Intersection LOS	A											
Intersection V/C	0.547											

Intersection Level Of Service Report
Intersection 32:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.352

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	255.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	45	46	40	91	19	181	18	402	64	74	280	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.22	2.17	2.50	2.20	0.00	2.21	0.00	1.99	1.56	1.35	2.14	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	46	40	91	19	181	18	402	64	74	280	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	12	10	23	5	45	5	101	16	19	70	5
Total Analysis Volume [veh/h]	45	46	40	91	19	181	18	402	64	74	280	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	149
Lost time [s]	7.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	5	5	6	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.04	0.04	0.05	0.09	0.09	0.01	0.14	0.14	0.04	0.09	0.09
Intersection LOS	A											
Intersection V/C	0.352											

Intersection Level Of Service Report
Intersection 33:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.563

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	2	0	1	2	0	1
Pocket Length [ft]	250.00	100.00	235.00	200.00	100.00	100.00	195.00	100.00	200.00	245.00	100.00	155.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	326	876	158	169	1552	64	396	249	153	83	214	217
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.15	2.05	1.90	1.78	2.00	1.56	2.02	2.01	1.96	2.41	1.87	1.84
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	326	876	39	169	1552	64	396	249	38	83	214	54
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	219	10	42	388	16	99	62	10	21	54	14
Total Analysis Volume [veh/h]	326	876	39	169	1552	64	396	249	38	83	214	54
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Unsign
Signal Group	5	2	2	1	6	6	3	8	8	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.13	0.02	0.05	0.24	0.24	0.12	0.07	0.02	0.02	0.06	0.00
Intersection LOS	A											
Intersection V/C	0.563											

Intersection Level Of Service Report
Intersection 34:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.687

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	Y Y Y			Y Y Y			T T			T T Y		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	1	1	0	0
Pocket Length [ft]	200.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	50.00	250.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	195	739	3	11	911	490	12	43	42	253	12	196
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.05	2.03	0.00	0.00	1.98	2.04	0.00	2.33	2.38	1.98	0.00	2.04
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	195	739	3	11	911	490	12	43	42	253	12	49
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	185	1	3	228	123	3	11	11	63	3	12
Total Analysis Volume [veh/h]	195	739	3	11	911	490	12	43	42	253	12	49
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	131
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.22	0.22	0.01	0.41	0.41	0.01	0.03	0.03	0.07	0.08	0.03
Intersection LOS	B											
Intersection V/C	0.687											

Intersection Level Of Service Report
Intersection 35:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.416

Intersection Setup

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Approach	Northbound			Eastbound			Southwestbound			Southeastbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	640.00	100.00	640.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Base Volume Input [veh/h]	526	0	513	0	1215	0	0	1090	942	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.09	0.00	1.95	0.00	1.98	0.00	0.00	2.02	2.02	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	526	0	128	0	1215	0	0	1090	235	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	132	0	32	0	304	0	0	273	59	0	0	0
Total Analysis Volume [veh/h]	526	0	128	0	1215	0	0	1090	235	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Split	Split	Split	Permis								
Signal Group	8	0	8	0	2	0	0	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.00	0.04	0.00	0.18	0.00	0.00	0.21	0.14	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.416											

Intersection Level Of Service Report
Intersection 36:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.464

Intersection Setup

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐⇐⇐			↑			⇐⇐⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	1	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	100.00	465.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	107	0	147	667	319	700	0	855	57	255	985	372
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.87	0.00	2.04	1.95	1.88	2.00	0.00	1.99	1.75	1.96	2.03	1.88
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	0	147	667	319	175	0	855	57	255	985	93
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	0	37	167	80	44	0	214	14	64	246	23
Total Analysis Volume [veh/h]	107	0	147	667	319	175	0	855	57	255	985	93
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Permis	Permis	Overla	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	8	0	1	4	4	4	0	2	2	1	6	0
Auxiliary Signal Groups			1									
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.00	0.13	0.15	0.10	0.00	0.13	0.13	0.08	0.19	0.05
Intersection LOS	A											
Intersection V/C	0.464											

Intersection Level Of Service Report

Intersection 37:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.479

Intersection Setup

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⬅️➡️			⬅️➡️			⬅️➡️			⬅️➡️		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	2	1	0	1	2	0	1
Pocket Length [ft]	145.00	100.00	100.00	100.00	100.00	265.00	35.00	100.00	120.00	135.00	100.00	45.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	129	35	29	784	773	34	9	376	469	148	199	94
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.33	2.86	3.45	2.04	1.94	2.94	0.00	2.13	1.92	2.03	2.01	2.13
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	129	35	7	784	773	34	9	376	117	148	199	94
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	9	2	196	193	9	2	94	29	37	50	24
Total Analysis Volume [veh/h]	129	35	7	784	773	34	9	376	117	148	199	94
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permis	Permis	Overla	Split	Split	Split	Protect	Permis	Protect	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	8	1	6	6
Auxiliary Signal Groups			4,5									
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.02	0.00	0.23	0.24	0.24	0.01	0.11	0.07	0.04	0.06	0.06
Intersection LOS	A											
Intersection V/C	0.479											

Intersection Level Of Service Report
Intersection 38:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.632

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	↵ ↑ ↘			↵ ↑ ↑ ↑ ↑			↵ ↑ ↘			↵ ↘		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	1	1	0	1
Pocket Length [ft]	110.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	410.00	165.00	100.00	165.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Base Volume Input [veh/h]	123	1803	1592	0	2270	92	460	52	350	38	2	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.63	2.00	2.01	0.00	1.98	2.17	1.96	1.92	2.00	2.63	0.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	123	1803	398	0	2270	92	460	52	350	38	2	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	451	100	0	568	23	115	13	88	10	1	38
Total Analysis Volume [veh/h]	123	1803	398	0	2270	92	460	52	350	38	2	150
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Permis	Permis	Overla
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.35	0.23	0.00	0.28	0.28	0.14	0.00	0.21	0.02	0.00	0.02
Intersection LOS	B											
Intersection V/C	0.632											

Intersection Level Of Service Report
Intersection 39:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T			T			T T			T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	2	0	1	1	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	305.00	100.00	135.00	215.00	100.00	100.00	215.00	100.00	90.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	0	1058	21	118	944	742	34	109	371	668	251	105
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.98	0.00	1.69	2.01	2.02	2.94	1.83	1.89	1.95	1.99	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1058	21	118	944	185	34	109	93	668	251	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	265	5	30	236	46	9	27	23	167	63	7
Total Analysis Volume [veh/h]	0	1058	21	118	944	185	34	109	93	668	251	26
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Overla	Split	Split	Split
Signal Group	0	2	2	1	6	6	8	8	1	4	4	4
Auxiliary Signal Groups									1,8			
Lead / Lag	-	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.16	0.16	0.03	0.19	0.11	0.02	0.08	0.00	0.13	0.07	0.02
Intersection LOS	A											
Intersection V/C	0.374											

Intersection Level Of Service Report
Intersection 40:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.458

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	0	0	1	1	0	0
Pocket Length [ft]	295.00	100.00	195.00	135.00	100.00	100.00	100.00	100.00	95.00	165.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Base Volume Input [veh/h]	795	1260	13	42	667	162	7	26	29	62	55	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.01	1.98	0.00	2.38	1.95	1.85	0.00	3.85	3.45	1.61	1.82	1.86
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	795	1260	3	42	667	40	7	26	7	62	55	67
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	199	315	1	11	167	10	2	7	2	16	14	17
Total Analysis Volume [veh/h]	795	1260	3	42	667	40	7	26	7	62	55	67
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	182
Lost time [s]	9.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Protect	Permis	Permis	Permis	Split	Split	Split
Signal Group	5	2	2	1	6	4	8	8	1	4	4	0
Auxiliary Signal Groups									1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.25	0.00	0.01	0.13	0.02	0.00	0.01	0.00	0.02	0.03	0.04
Intersection LOS	A											
Intersection V/C	0.458											

Intersection Level Of Service Report
Intersection 41:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.458

Intersection Setup

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Approach	Southbound			Northeastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	1	0	1
Pocket Length [ft]	200.00	100.00	205.00	225.00	100.00	230.00	260.00	100.00	155.00	245.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Base Volume Input [veh/h]	34	26	210	83	481	114	134	1207	55	149	29	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.94	3.85	1.90	2.41	2.08	1.75	2.24	1.99	1.82	2.01	3.45	3.85
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	26	52	83	481	28	134	1207	14	149	29	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	7	13	21	120	7	34	302	4	37	7	2
Total Analysis Volume [veh/h]	34	26	52	83	481	28	134	1207	14	149	29	6
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	7	4	4	5	2	2	1	6	6	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.03	0.05	0.09	0.02	0.04	0.24	0.01	0.09	0.01	0.00
Intersection LOS	A											
Intersection V/C	0.458											

Intersection Level Of Service Report
Intersection 42:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Approach	Eastbound		Southwestbound		Northwestbound	
Lane Configuration	YY		YY		YY	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	2	0
Pocket Length [ft]	100.00	100.00	305.00	100.00	260.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Base Volume Input [veh/h]	556	336	151	1591	194	34
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.98	2.08	1.99	2.01	2.06	2.94
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	556	336	151	1591	194	8
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	139	84	38	398	49	2
Total Analysis Volume [veh/h]	556	336	151	1591	194	8
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	8	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.17	0.09	0.31	0.06	0.00
Intersection LOS	A					
Intersection V/C	0.424					

**Intersection Level Of Service Report
Intersection 51:**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.471

Intersection Setup

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Approach	Eastbound		Northeastbound		Southwestbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	255.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Base Volume Input [veh/h]	54	180	223	366	655	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.85	2.22	1.79	1.91	1.98	2.15
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	45	223	366	655	233
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	11	56	92	164	58
Total Analysis Volume [veh/h]	54	45	223	366	655	233
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	5	5	2	6	6
Auxiliary Signal Groups		5				
Lead / Lag	Lag	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.13	0.22	0.26	0.26
Intersection LOS	A					
Intersection V/C	0.471					

Intersection Level Of Service Report
Intersection 56:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.444

Intersection Setup

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Approach	Northbound			Southbound			Eastbound			Southwestbound		
Lane Configuration	👉👉👉			👈👈👈			👉👉👉			👈👈👈		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	2	1	0	1	1	0	1
Pocket Length [ft]	170.00	100.00	170.00	100.00	100.00	165.00	290.00	100.00	225.00	295.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Base Volume Input [veh/h]	53	23	119	92	61	80	19	713	105	191	1019	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.89	0.00	1.68	2.17	1.64	2.50	0.00	1.96	1.90	2.09	1.96	1.45
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	53	23	30	92	61	20	19	713	26	191	1019	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	6	8	23	15	5	5	178	7	48	255	4
Total Analysis Volume [veh/h]	53	23	30	92	61	20	19	713	26	191	1019	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.01	0.02	0.05	0.04	0.01	0.01	0.21	0.02	0.11	0.30	0.01
Intersection LOS	A											
Intersection V/C	0.444											

Intersection Level Of Service Report
Intersection 57:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.339

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	140.00	100.00	175.00	105.00	100.00	200.00	100.00	100.00	35.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Base Volume Input [veh/h]	184	682	4	18	443	417	5	2	2	159	3	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.17	2.05	0.00	0.00	2.03	1.92	0.00	0.00	0.00	1.89	0.00	1.64
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	682	1	18	443	104	5	2	2	159	3	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	171	0	5	111	26	1	1	1	40	1	4
Total Analysis Volume [veh/h]	184	682	1	18	443	104	5	2	2	159	3	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.20	0.00	0.01	0.13	0.06	0.00	0.00	0.00	0.05	0.05	0.01
Intersection LOS	A											
Intersection V/C	0.339											

Intersection Level Of Service Report
Intersection 60:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.392

Intersection Setup

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Approach	Southbound			Eastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left2	Left	Right	Left2	Left	Thru	Left	Thru	Right	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	210.00	100.00	100.00	140.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Base Volume Input [veh/h]	39	111	32	10	173	114	14	14	10	342	234	231
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.56	1.80	3.13	0.00	1.73	1.75	0.00	0.00	0.00	2.05	2.14	2.16
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	111	32	10	173	114	14	14	10	342	234	231
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	28	8	3	43	29	4	4	3	86	59	58
Total Analysis Volume [veh/h]	39	111	32	10	173	114	14	14	10	342	234	231
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	129
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis								
Signal Group	1	6	6	4	4	4	8	8	8	5	2	2
Auxiliary Signal Groups												
Lead / Lag	Lead	Lag	-	Lag	Lag	-	Lag	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.03	0.04	0.01	0.10	0.07	0.01	0.01	0.01	0.20	0.14	0.14
Intersection LOS	A											
Intersection V/C	0.392											

Intersection Level Of Service Report
Intersection 101:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.585

Intersection Setup

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Approach	Eastbound			Westbound			Northeastbound			Southwestbound		
Lane Configuration	TT			TT			TTT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Pocket Length [ft]	65.00	100.00	100.00	60.00	100.00	100.00	150.00	100.00	190.00	155.00	100.00	195.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	20	34	32	434	18	108	11	684	200	68	541	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.94	3.13	2.07	0.00	1.85	0.00	2.05	2.00	1.47	2.03	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	34	32	434	18	108	11	684	27	68	541	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	9	8	109	5	27	3	171	7	17	135	1
Total Analysis Volume [veh/h]	20	34	32	434	18	108	11	684	27	68	541	2
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	101
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.04	0.04	0.26	0.07	0.07	0.01	0.20	0.02	0.04	0.16	0.00
Intersection LOS	A											
Intersection V/C	0.585											

Intersection Level Of Service Report
Intersection 102:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.421

Intersection Setup

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Approach	Northeastbound		Southwestbound		Southeastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	1	0
Pocket Length [ft]	240.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Base Volume Input [veh/h]	74	844	1350	101	78	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.35	2.01	2.00	1.98	2.56	2.11
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	844	1350	101	78	24
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	211	338	25	20	6
Total Analysis Volume [veh/h]	74	844	1350	101	78	24
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	5	2	6	6	7	5
Auxiliary Signal Groups						5
Lead / Lag	Lead	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.25	0.28	0.28	0.05	0.00
Intersection LOS	A					
Intersection V/C	0.421					

Vistro File: H:\...\Existing_AM.vistro

Scenario: Base Scenario

Report File: H:\...\Ex_AM_LOS.pdf

8/9/2019

Turning Movement Volume: Summary

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
1		35	26	307	187	160	3	538	97	88	3	280	133	1857

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
2		47	190	109	129	382	282	368	532	64	290	355	91	2839

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
3		32	152	128	191	177	4	235	916	247	22	531	56	2691

ID	Intersection Name	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume
		Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right	
4		130	985	261	300	70	702	74	24	70	252	491	105	3464

ID	Intersection Name	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		123	564	197	372	961	66	151	319	102	150	3005

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		123	397	82	52	666	280	333	67	184	469	2653

ID	Intersection Name	Northbound		Southwestbound		Total Volume
		Left	Thru	Thru	Right	
7		155	621	451	107	1334

ID	Intersection Name	Northbound			Southbound		Southeastbound		Total Volume
		Thru	Right	Left	Thru	Left	Right		
8		600			448		168	170	1386

ID	Intersection Name	Northeastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
9		584	226	98	891	531	121	2451

ID	Intersection Name	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		120	487	44	124	526	156	251	563	40	18	190	49	2568

ID	Intersection Name	Northeastbound		Southwestbound		Southeastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
11		237	683	1112	302	119	139	2592

ID	Intersection Name	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		440	1551	35	73	609	220	321	180	450	30	596	376	4881

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		34	960	111	66	819	495	114	73	3	94	288	62	3119

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
14		218	1632	120	63	930	86	668	543	155	138	206	213	4972

ID	Intersection Name	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		459	724	370	179	780	129	210	1105	138	134	481	258	4967

ID	Intersection Name	Southbound		Northeastbound		Northwestbound		Total Volume
		Thru	Right	Left	Right	Left	Thru	
16		629	191	188	216	171	1390	2785

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
17		197	674	173	251	1495	276	287	832	204	194	374	185	5142

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
18		298	1935	51	65	1685	141	273	185	85	32	36	38	4824

ID	Intersection Name	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		79	974	57	42	1553	67	130	233	51	23	87	91	3387

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
20		37	227	123	92	378	83	126	228	50	29	134	32	1539

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
21		154	983	20	2	1698	239	29	21	5	79	3	176	3409

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
22		411	2112	80	56	1913	59	397	432	99	8	49	111	5727

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		220	1257	326	95	795	151	242	535	272	80	166	83	4222

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
24		66	223	128	116	285	210	112	708	73	92	351	117	2481

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
25		98	822	256	262	1521	226	400	508	245	130	302	174	4944

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
26		192	624	205	319	1258	320	245	623	110	162	560	190	4808

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
27		61	781	132	110	1291	172	291	528	176	54	166	44	3806

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
28		79	169	81	117	236	104	76	767	89	41	326	41	2126

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
29		115	790	146	226	1478	326	348	608	215	177	298	182	4909

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
30		212	656	221	301	1015	332	194	506	121	138	471	182	4349

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
31		480	921	208	136	1341	85	393	270	112	40	103	255	4344

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
32		45	46	40	91	19	181	18	402	64	74	280	19	1279

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
33		326	876	158	169	1552	64	396	249	153	83	214	217	4457

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		195	739	3	11	911	490	12	43	42	253	12	196	2907

ID	Intersection Name	Northbound		Eastbound		Southwestbound		Total Volume
		Left	Right	Thru	Thru	Right		
35		526	513	1215	1090	942	4286	

ID	Intersection Name	Northbound		Southbound			Eastbound		Westbound			Total Volume
		Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		107	147	667	319	700	855	57	255	985	372	4464

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
37		129	35	29	784	773	34	9	376	469	148	199	94	3079

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
38		123	1803	1592	0	2270	92	460	52	350	38	2	150	6932

ID	Intersection Name	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
		Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		1058	21	118	944	742	34	109	371	668	251	105	4421

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		795	1260	13	42	667	162	7	26	29	62	55	269	3387

ID	Intersection Name	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		34	26	210	83	481	114	134	1207	55	149	29	26	2548

ID	Intersection Name	Eastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
42		556	336	151	1591	194	34	2862

ID	Intersection Name	Eastbound		Northeastbound		Southwestbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
51		54	180	223	366	655	233	1711

ID	Intersection Name	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		53	23	119	92	61	80	19	713	105	191	1019	69	2544

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
57		184	682	4	18	443	417	5	2	2	159	3	61	1980

ID	Intersection Name	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
		2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		39	111	32	10	173	114	14	14	10	342	234	231	1324

ID	Intersection Name	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		20	34	32	434	18	108	11	684	200	68	541	7	2157

ID	Intersection Name	Northeastbound		Southwestbound		Southeastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
102		74	844	1350	101	78	95	2542

Vistro File: H:\...\Existing_AM.vistro
Report File: H:\...\Ex_AM_LOS.pdf

Scenario: Base Scenario
8/9/2019

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1		Final Base	35	26	307	187	160	3	538	97	88	3	280	133	1857
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	35	26	307	187	160	3	538	97	88	3	280	133	1857

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2		Final Base	47	190	109	129	382	282	368	532	64	290	355	91	2839
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	47	190	109	129	382	282	368	532	64	290	355	91	2839

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3		Final Base	32	152	128	191	177	4	235	916	247	22	531	56	2691
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	32	152	128	191	177	4	235	916	247	22	531	56	2691

ID	Intersection Name	Volume Type	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume
			Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right	
4		Final Base	130	985	261	300	70	702	74	24	70	252	491	105	3464
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	130	985	261	300	70	702	74	24	70	252	491	105	3464

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		Final Base	123	564	197	372	961	66	151	319	102	150	3005
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	123	564	197	372	961	66	151	319	102	150	3005

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		Final Base	123	397	82	52	666	280	333	67	184	469	2653
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	123	397	82	52	666	280	333	67	184	469	2653

ID	Intersection Name	Volume Type	Northbound		Southwestbound		Total Volume
			Left	Thru	Thru	Right	
7		Final Base	155	621	451	107	1334
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	155	621	451	107	1334

ID	Intersection Name	Volume Type	Northbound		Southbound		Southeastbound		Total Volume
			Thru		Thru		Left	Right	
8		Final Base	600		448		168	170	1386
		Growth Factor	1.00		1.00		1.00	1.00	-
		In Process	0		0		0	0	0
		Net New Trips	0		0		0	0	0
		Other	0		0		0	0	0
		Future Total	600		448		168	170	1386

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
9		Final Base	584	226	98	891	531	121	2451
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	584	226	98	891	531	121	2451

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		Final Base	120	487	44	124	526	156	251	563	40	18	190	49	2568
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	120	487	44	124	526	156	251	563	40	18	190	49	2568

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Southeastbound		Total Volume
			Left	Thru	Thru	Right	Left	Right	
11		Final Base	237	683	1112	302	119	139	2592
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	237	683	1112	302	119	139	2592

ID	Intersection Name	Volume Type	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		Final Base	440	1551	35	73	609	220	321	180	450	30	596	376	4881
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	440	1551	35	73	609	220	321	180	450	30	596	376	4881

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		Final Base	34	960	111	66	819	495	114	73	3	94	288	62	3119
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	34	960	111	66	819	495	114	73	3	94	288	62	3119

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14		Final Base	218	1632	120	63	930	86	668	543	155	138	206	213	4972
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	218	1632	120	63	930	86	668	543	155	138	206	213	4972

ID	Intersection Name	Volume Type	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		Final Base	459	724	370	179	780	129	210	1105	138	134	481	258	4967
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	459	724	370	179	780	129	210	1105	138	134	481	258	4967

ID	Intersection Name	Volume Type	Southbound		Northeastbound		Northwestbound		Total Volume
			Thru	Right	Left	Right	Left	Thru	
16		Final Base	629	191	188	216	171	1390	2785
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	629	191	188	216	171	1390	2785

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17		Final Base	197	674	173	251	1495	276	287	832	204	194	374	185	5142
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	197	674	173	251	1495	276	287	832	204	194	374	185	5142

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18		Final Base	298	1935	51	65	1685	141	273	185	85	32	36	38	4824
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	298	1935	51	65	1685	141	273	185	85	32	36	38	4824

ID	Intersection Name	Volume Type	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		Final Base	79	974	57	42	1553	67	130	233	51	23	87	91	3387
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	79	974	57	42	1553	67	130	233	51	23	87	91	3387

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20		Final Base	37	227	123	92	378	83	126	228	50	29	134	32	1539
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	37	227	123	92	378	83	126	228	50	29	134	32	1539

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21		Final Base	154	983	20	2	1698	239	29	21	5	79	3	176	3409
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	154	983	20	2	1698	239	29	21	5	79	3	176	3409

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22		Final Base	411	2112	80	56	1913	59	397	432	99	8	49	111	5727
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	411	2112	80	56	1913	59	397	432	99	8	49	111	5727

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		Final Base	220	1257	326	95	795	151	242	535	272	80	166	83	4222
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	220	1257	326	95	795	151	242	535	272	80	166	83	4222

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
24		Final Base	66	223	128	116	285	210	112	708	73	92	351	117	2481
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	66	223	128	116	285	210	112	708	73	92	351	117	2481

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
25		Final Base	98	822	256	262	1521	226	400	508	245	130	302	174	4944
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	98	822	256	262	1521	226	400	508	245	130	302	174	4944

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
26		Final Base	192	624	205	319	1258	320	245	623	110	162	560	190	4808
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	192	624	205	319	1258	320	245	623	110	162	560	190	4808

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27		Final Base	61	781	132	110	1291	172	291	528	176	54	166	44	3806
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	61	781	132	110	1291	172	291	528	176	54	166	44	3806

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28		Final Base	79	169	81	117	236	104	76	767	89	41	326	41	2126
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	79	169	81	117	236	104	76	767	89	41	326	41	2126

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
29		Final Base	115	790	146	226	1478	326	348	608	215	177	298	182	4909
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	115	790	146	226	1478	326	348	608	215	177	298	182	4909

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
30		Final Base	212	656	221	301	1015	332	194	506	121	138	471	182	4349
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	212	656	221	301	1015	332	194	506	121	138	471	182	4349

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31		Final Base	480	921	208	136	1341	85	393	270	112	40	103	255	4344
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	480	921	208	136	1341	85	393	270	112	40	103	255	4344

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
32		Final Base	45	46	40	91	19	181	18	402	64	74	280	19	1279
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	45	46	40	91	19	181	18	402	64	74	280	19	1279

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
33		Final Base	326	876	158	169	1552	64	396	249	153	83	214	217	4457
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	326	876	158	169	1552	64	396	249	153	83	214	217	4457

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		Final Base	195	739	3	11	911	490	12	43	42	253	12	196	2907
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	195	739	3	11	911	490	12	43	42	253	12	196	2907

ID	Intersection Name	Volume Type	Northbound		Eastbound	Southwestbound		Total Volume
			Left	Right	Thru	Thru	Right	
35		Final Base	526	513	1215	1090	942	4286
		Growth Factor	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0
		Other	0	0	0	0	0	0
		Future Total	526	513	1215	1090	942	4286

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound		Westbound			Total Volume
			Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		Final Base	107	147	667	319	700	855	57	255	985	372	4464
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	107	147	667	319	700	855	57	255	985	372	4464

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
37		Final Base	129	35	29	784	773	34	9	376	469	148	199	94	3079
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	129	35	29	784	773	34	9	376	469	148	199	94	3079

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
38		Final Base	123	1803	1592	0	2270	92	460	52	350	38	2	150	6932
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	123	1803	1592	0	2270	92	460	52	350	38	2	150	6932

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
			Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		Final Base	1058	21	118	944	742	34	109	371	668	251	105	4421
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	1058	21	118	944	742	34	109	371	668	251	105	4421

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		Final Base	795	1260	13	42	667	162	7	26	29	62	55	269	3387
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	795	1260	13	42	667	162	7	26	29	62	55	269	3387

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		Final Base	34	26	210	83	481	114	134	1207	55	149	29	26	2548
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	34	26	210	83	481	114	134	1207	55	149	29	26	2548

ID	Intersection Name	Volume Type	Eastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
42		Final Base	556	336	151	1591	194	34	2862
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	556	336	151	1591	194	34	2862

ID	Intersection Name	Volume Type	Eastbound		Northeastbound		Southwestbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
51		Final Base	54	180	223	366	655	233	1711
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	54	180	223	366	655	233	1711

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		Final Base	53	23	119	92	61	80	19	713	105	191	1019	69	2544
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	53	23	119	92	61	80	19	713	105	191	1019	69	2544

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
57		Final Base	184	682	4	18	443	417	5	2	2	159	3	61	1980
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	184	682	4	18	443	417	5	2	2	159	3	61	1980

ID	Intersection Name	Volume Type	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
			2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		Final Base	39	111	32	10	173	114	14	14	10	342	234	231	1324
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	39	111	32	10	173	114	14	14	10	342	234	231	1324

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		Final Base	20	34	32	434	18	108	11	684	200	68	541	7	2157
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	20	34	32	434	18	108	11	684	200	68	541	7	2157

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Southeastbound		Total Volume
			Left	Thru	Thru	Right	Left	Right	
102		Final Base	74	844	1350	101	78	95	2542
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	74	844	1350	101	78	95	2542

HCM 6th Signalized Intersection Summary
5: Portola Pkwy. & SR-241 Ramps

Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 			 	  		 	  	
Traffic Volume (veh/h)	102	0	150	151	0	319	372	961	66	123	564	197
Future Volume (veh/h)	102	0	150	151	0	319	372	961	66	123	564	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	0	0	176	0	0	433	1117	0	143	656	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	206	0		280	0		578	2350		387	2067	
Arrive On Green	0.12	0.00	0.00	0.08	0.00	0.00	0.17	0.46	0.00	0.11	0.40	0.00
Sat Flow, veh/h	1781	119		3456	176		3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	119	39.3		176	41.2		433	1117	0	143	656	0
Grp Sat Flow(s),veh/h/ln	1781	D		1728	D		1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	5.5			4.3			10.3	13.1	0.0	3.3	7.6	0.0
Cycle Q Clear(g_c), s	5.5			4.3			10.3	13.1	0.0	3.3	7.6	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	206			280			578	2350		387	2067	
V/C Ratio(X)	0.58			0.63			0.75	0.48		0.37	0.32	
Avail Cap(c_a), veh/h	721			1399			4397	5316		2398	2362	
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.2			38.5			34.3	16.1	0.0	35.6	17.6	0.0
Incr Delay (d2), s/veh	3.1			2.8			2.4	0.3	0.0	0.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5			1.9			4.4	4.9	0.0	1.4	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3			41.2			36.6	16.4	0.0	36.2	17.7	0.0
LnGrp LOS	D			D			D	B		D	B	
Approach Vol, veh/h								1550	A		799	A
Approach Delay, s/veh								22.0			21.0	
Approach LOS								C			C	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	18.2	49.8	15.5		23.0	45.0	18.5					
Change Period (Y+Rc), s	8.5	10.0	8.5		8.5	10.0	8.5					
Max Green Setting (Gmax), s	60.0	90.0	35.0		110.0	40.0	35.0					
Max Q Clear Time (g_c+I1), s	5.3	15.1	6.3		12.3	9.6	7.5					
Green Ext Time (p_c), s	0.5	20.3	0.8		2.1	8.1	0.4					

Intersection Summary

HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Alton Pkwy. & SR-241 Ramps

Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 				  		 	  	
Traffic Volume (veh/h)	184	0	469	333	0	67	123	397	82	52	666	280
Future Volume (veh/h)	184	0	469	333	0	67	123	397	82	52	666	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	0	0	370	0	0	137	441	0	58	740	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	448	0		448	0		165	2954		94	2750	
Arrive On Green	0.13	0.00	0.00	0.13	0.00	0.00	0.19	1.00	0.00	0.05	0.54	0.00
Sat Flow, veh/h	3456	204		3456	370		1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	204	44.8		370	49.6		137	441	0	58	740	0
Grp Sat Flow(s),veh/h/ln	1728	D		1728	D		1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	6.0			11.5			8.1	0.0	0.0	3.5	8.6	0.0
Cycle Q Clear(g_c), s	6.0			11.5			8.1	0.0	0.0	3.5	8.6	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	448			448			165	2954		94	2750	
V/C Ratio(X)	0.46			0.83			0.83	0.15		0.62	0.27	
Avail Cap(c_a), veh/h	754			754			421	2954		308	2750	
HCM Platoon Ratio	1.00			1.00			2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			0.99	0.99	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.3			46.7			44.0	0.0	0.0	51.0	13.7	0.0
Incr Delay (d2), s/veh	0.5			3.0			7.6	0.1	0.0	2.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6			5.1			3.6	0.0	0.0	1.6	3.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.8			49.6			51.6	0.1	0.0	53.4	13.9	0.0
LnGrp LOS	D			D			D	A		D	B	
Approach Vol, veh/h								578	A		798	A
Approach Delay, s/veh								12.3			16.8	
Approach LOS								B			B	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	18.7	68.5	22.7		14.3	72.9	22.7					
Change Period (Y+Rc), s	8.5	9.3	8.5		8.5	9.3	8.5					
Max Green Setting (Gmax), s	26.0	33.7	24.0		19.0	40.7	24.0					
Max Q Clear Time (g_c+I1), s	10.1	10.6	13.5		5.5	2.0	8.0					
Green Ext Time (p_c), s	0.2	7.3	0.8		0.0	4.7	0.4					
Intersection Summary												
HCM 6th Ctrl Delay			24.6									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary
7: Lake Forest Dr. & SR-241 NB Ramp

Existing AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↶↶	↶↶	↶↶	↶
Traffic Volume (veh/h)	0	0	155	621	451	107
Future Volume (veh/h)	0	0	155	621	451	107
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			178	714	518	123
Peak Hour Factor			0.87	0.87	0.87	0.87
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			277	3216	2653	1183
Arrive On Green			0.16	1.00	0.75	0.75
Sat Flow, veh/h			3456	3647	3647	1585
Grp Volume(v), veh/h			178	714	518	123
Grp Sat Flow(s),veh/h/ln			1728	1777	1777	1585
Q Serve(g_s), s			2.9	0.0	2.6	1.3
Cycle Q Clear(g_c), s			2.9	0.0	2.6	1.3
Prop In Lane			1.00			1.00
Lane Grp Cap(c), veh/h			277	3216	2653	1183
V/C Ratio(X)			0.64	0.22	0.20	0.10
Avail Cap(c_a), veh/h			864	3216	2653	1183
HCM Platoon Ratio			2.00	2.00	1.00	1.00
Upstream Filter(I)			0.96	0.96	0.92	0.92
Uniform Delay (d), s/veh			24.4	0.0	2.3	2.1
Incr Delay (d2), s/veh			0.9	0.2	0.2	0.2
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			1.1	0.1	0.5	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			25.3	0.2	2.4	2.3
LnGrp LOS			C	A	A	A
Approach Vol, veh/h				892	641	
Approach Delay, s/veh				5.2	2.4	
Approach LOS				A	A	
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		60.0			9.5	50.5
Change Period (Y+Rc), s		5.7			* 4.7	5.7
Max Green Setting (Gmax), s		54.3			* 15	34.6
Max Q Clear Time (g_c+I1), s		2.0			4.9	4.6
Green Ext Time (p_c), s		2.0			0.2	6.7
Intersection Summary						
HCM 6th Ctrl Delay			4.0			
HCM 6th LOS			A			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Summary
8: Lake Forest Dr. & SR-241 SB Ramp

Existing AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶↶	↶		↶↶	↶↶	
Traffic Volume (veh/h)	168	170	0	600	448	0
Future Volume (veh/h)	168	170	0	600	448	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	0
Adj Flow Rate, veh/h	198	200	0	706	527	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	0	2	2	0
Cap, veh/h	566	259	0	2368	2368	0
Arrive On Green	0.16	0.16	0.00	0.67	1.00	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	198	200	0	706	527	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	3.0	7.2	0.0	5.0	0.0	0.0
Cycle Q Clear(g_c), s	3.0	7.2	0.0	5.0	0.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	566	259	0	2368	2368	0
V/C Ratio(X)	0.35	0.77	0.00	0.30	0.22	0.00
Avail Cap(c_a), veh/h	1152	528	0	2368	2368	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.94	0.99	0.00
Uniform Delay (d), s/veh	22.3	24.0	0.0	4.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.8	0.0	0.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.7	0.0	1.3	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.4	25.9	0.0	4.5	0.2	0.0
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	398			706	527	
Approach Delay, s/veh	24.1			4.5	0.2	
Approach LOS	C			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		45.7		14.3		45.7
Change Period (Y+Rc), s		5.7		4.5		5.7
Max Green Setting (Gmax), s		29.8		20.0		29.8
Max Q Clear Time (g_c+I1), s		7.0		9.2		2.0
Green Ext Time (p_c), s		7.5		0.6		5.8
Intersection Summary						
HCM 6th Ctrl Delay			7.9			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 35: Lake Forest Dr. & I-5 NB Ramps

Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔↔		↔↔		↑↑↑			↑↑↑	↔
Traffic Volume (veh/h)	0	0	0	526	0	513	0	1215	0	0	1090	942
Future Volume (veh/h)	0	0	0	526	0	513	0	1215	0	0	1090	942
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	0	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				537	0	523	0	1240	0	0	1112	0
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	0	2	0	0	2	2
Cap, veh/h				881	0	712	0	3411	0	0	1983	
Arrive On Green				0.26	0.00	0.26	0.00	0.53	0.00	0.00	0.53	0.00
Sat Flow, veh/h				3456	0	2790	0	6958	0	0	3741	3170
Grp Volume(v), veh/h				537	0	523	0	1240	0	0	1112	0
Grp Sat Flow(s),veh/h/ln				1728	0	1395	0	1609	0	0	1870	1585
Q Serve(g_s), s				7.3	0.0	9.2	0.0	6.0	0.0	0.0	10.6	0.0
Cycle Q Clear(g_c), s				7.3	0.0	9.2	0.0	6.0	0.0	0.0	10.6	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				881	0	712	0	3411	0	0	1983	
V/C Ratio(X)				0.61	0.00	0.73	0.00	0.36	0.00	0.00	0.56	
Avail Cap(c_a), veh/h				1291	0	1042	0	11418	0	0	6639	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				17.6	0.0	18.3	0.0	7.3	0.0	0.0	8.4	0.0
Incr Delay (d2), s/veh				0.5	0.0	1.1	0.0	0.1	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.7	0.0	2.7	0.0	1.6	0.0	0.0	3.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				18.1	0.0	19.4	0.0	7.4	0.0	0.0	8.7	0.0
LnGrp LOS				B	A	B	A	A	A	A	A	
Approach Vol, veh/h					1060			1240			1112	A
Approach Delay, s/veh					18.7			7.4			8.7	
Approach LOS					B			A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		34.3				34.3		19.3				
Change Period (Y+Rc), s		5.9				5.9		5.6				
Max Green Setting (Gmax), s		95.0				95.0		20.0				
Max Q Clear Time (g_c+I1), s		8.0				12.6		11.2				
Green Ext Time (p_c), s		18.1				15.7		2.5				

Intersection Summary

HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 36: Lake Forest Dr. & I-5 SB Ramps/Avenida De La Carlota

Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔↔	↔	↔		↔↔		↑↑↑		↔↔	↔↔↔	↔
Traffic Volume (veh/h)	667	319	700	107	0	147	0	855	57	255	985	372
Future Volume (veh/h)	667	319	700	107	0	147	0	855	57	255	985	372
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	598	455	722	110	0	152	0	881	59	263	1066	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	2
Cap, veh/h	1728	1814	769	0	0	0	0	1321	88	350	2023	
Arrive On Green	0.48	0.48	0.48	0.00	0.00	0.00	0.00	0.21	0.21	0.10	0.36	0.00
Sat Flow, veh/h	3563	3741	1585		0		0	6471	412	3563	5611	1585
Grp Volume(v), veh/h	598	455	722		0.0		0	683	257	263	1066	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585				0	1609	1796	1781	1870	1585
Q Serve(g_s), s	8.8	6.0	36.5				0.0	11.0	11.1	6.1	12.7	0.0
Cycle Q Clear(g_c), s	8.8	6.0	36.5				0.0	11.0	11.1	6.1	12.7	0.0
Prop In Lane	1.00		1.00				0.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	1728	1814	769				0	1026	382	350	2023	
V/C Ratio(X)	0.35	0.25	0.94				0.00	0.67	0.67	0.75	0.53	
Avail Cap(c_a), veh/h	2101	2206	935				0	1423	530	840	3256	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.5	12.8	20.7				0.0	30.6	30.7	37.2	21.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	14.0				0.0	0.7	2.1	1.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	2.4	15.2				0.0	4.2	4.9	2.7	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.6	12.8	34.6				0.0	31.4	32.7	38.4	21.6	0.0
LnGrp LOS	B	B	C				A	C	C	D	C	
Approach Vol, veh/h		1775						940			1329	A
Approach Delay, s/veh		21.9						31.7			24.9	
Approach LOS		C						C			C	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	12.5	24.3		47.9		36.9						
Change Period (Y+Rc), s	* 4.2	6.3		6.8		6.3						
Max Green Setting (Gmax), s	* 20	25.0		50.0		49.2						
Max Q Clear Time (g_c+I1), s	8.1	13.1		38.5		14.7						
Green Ext Time (p_c), s	0.3	4.9		2.6		9.4						

Intersection Summary

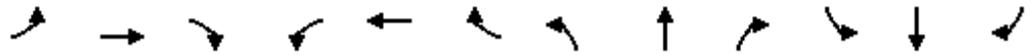
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 37: Paseo De La Valencia/I-5 SB Ramps & Avenida De La Carlota

Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↖	↑↑	↗	↔↔	↑	↗	↔↔	↔↔	
Traffic Volume (veh/h)	148	199	94	9	376	469	129	35	29	784	773	34
Future Volume (veh/h)	148	199	94	9	376	469	129	35	29	784	773	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	156	209	99	9	396	494	136	37	31	825	814	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	1783	884	15	1601	1136	193	104	102	948	946	42
Arrive On Green	0.06	0.50	0.50	0.01	0.45	0.45	0.06	0.06	0.06	0.27	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	3563	3555	157
Grp Volume(v), veh/h	156	209	99	9	396	494	136	37	31	825	428	422
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1842
Q Serve(g_s), s	6.2	4.4	4.1	0.7	9.6	18.0	5.4	2.7	2.6	31.0	30.5	30.5
Cycle Q Clear(g_c), s	6.2	4.4	4.1	0.7	9.6	18.0	5.4	2.7	2.6	31.0	30.5	30.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	207	1783	884	15	1601	1136	193	104	102	948	498	490
V/C Ratio(X)	0.75	0.12	0.11	0.60	0.25	0.43	0.71	0.35	0.30	0.87	0.86	0.86
Avail Cap(c_a), veh/h	442	1783	884	156	1601	1136	750	406	358	1104	580	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.71	0.71	0.71	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.8	18.5	14.6	69.2	23.8	8.2	65.0	63.7	62.5	49.1	48.9	48.9
Incr Delay (d2), s/veh	2.1	0.1	0.3	9.7	0.3	0.9	1.8	0.8	0.6	6.2	10.0	10.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	1.9	1.8	0.4	4.2	13.5	2.4	1.3	1.1	14.6	15.6	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.9	18.6	14.9	78.8	24.1	9.0	66.7	64.4	63.1	55.2	58.9	59.0
LnGrp LOS	E	B	B	E	C	A	E	E	E	E	E	E
Approach Vol, veh/h		464			899			204			1675	
Approach Delay, s/veh		34.0			16.4			65.8			57.1	
Approach LOS		C			B			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.9	69.1		13.8	5.7	76.3		44.3				
Change Period (Y+Rc), s	4.5	6.0		6.0	4.5	6.0		7.0				
Max Green Setting (Gmax), s	17.9	24.8		30.4	12.3	30.4		43.4				
Max Q Clear Time (g_c+I1), s	8.2	20.0		7.4	2.7	6.4		33.0				
Green Ext Time (p_c), s	0.2	1.4		0.4	0.0	1.0		4.3				

Intersection Summary

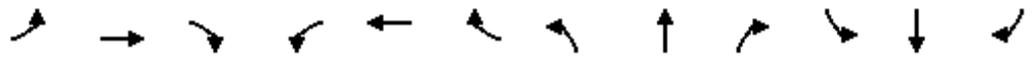
HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 38: El Toro Rd. & Bridger Rd./I-5 NB Ramps

Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	2	150	460	52	350	123	1803	1592	0	2270	92
Future Volume (veh/h)	38	2	150	460	52	350	123	1803	1592	0	2270	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	2	158	621	0	264	129	1898	1676	0	2389	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	67	192	666	0	296	152	2454	2079	1	4049	164
Arrive On Green	0.04	0.04	0.04	0.19	0.00	0.19	0.09	0.66	0.66	0.00	1.00	1.00
Sat Flow, veh/h	1781	1870	1585	3563	0	1585	1781	3741	3170	1781	7568	307
Grp Volume(v), veh/h	40	2	158	621	0	264	129	1898	1676	0	1913	573
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	1781	1870	1585	1781	1515	1815
Q Serve(g_s), s	3.1	0.1	5.0	24.0	0.0	22.7	10.0	49.6	54.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.1	0.1	5.0	24.0	0.0	22.7	10.0	49.6	54.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	64	67	192	666	0	296	152	2454	2079	1	3242	971
V/C Ratio(X)	0.63	0.03	0.82	0.93	0.00	0.89	0.85	0.77	0.81	0.00	0.59	0.59
Avail Cap(c_a), veh/h	64	67	192	1018	0	453	229	2454	2079	64	3242	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.83	0.83	0.83	0.00	0.81	0.81
Uniform Delay (d), s/veh	66.6	65.2	60.1	56.0	0.0	55.5	63.1	16.8	17.6	0.0	0.0	0.0
Incr Delay (d2), s/veh	14.0	0.1	23.0	8.3	0.0	9.7	9.6	2.0	2.9	0.0	0.6	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.1	6.7	11.6	0.0	9.9	4.9	20.9	19.5	0.0	0.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.6	65.2	83.1	64.3	0.0	65.2	72.7	18.9	20.5	0.0	0.6	2.1
LnGrp LOS	F	E	F	E	A	E	E	B	C	A	A	A
Approach Vol, veh/h		200			885			3703			2486	
Approach Delay, s/veh		82.4			64.6			21.5			1.0	
Approach LOS		F			E			C			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	97.8		10.0	16.9	80.9		32.2				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	5.0	68.0		5.0	18.0	55.0		40.0				
Max Q Clear Time (g_c+I1), s	0.0	56.0		7.0	12.0	2.0		26.0				
Green Ext Time (p_c), s	0.0	4.1		0.0	0.0	5.1		0.1				

Intersection Summary

HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lake Forest GPU (Ex. PM)

Vistro File: H:\...\Existing_PM.vistro

Scenario: Base Scenario

Report File: H:\...\Ex_PM_LOS.pdf

8/9/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1		Signalized	ICU 1	NWB Left	0.297	-	A
2		Signalized	ICU 1	NWB Thru	0.505	-	A
3		Signalized	ICU 1	SEB Thru	0.428	-	A
4		Signalized	ICU 1	SEB Left	0.467	-	A
5		Signalized	ICU 1	SB Thru	0.391	-	A
6		Signalized	ICU 1	NEB Thru	0.372	-	A
7		Signalized	ICU 1	NB Thru	0.264	-	A
8		Signalized	ICU 1	NB Thru	0.300	-	A
9		Signalized	ICU 1	NEB Thru	0.593	-	A
10		Signalized	ICU 1	SEB Right	0.589	-	A
11		Signalized	ICU 1	NEB Thru	0.531	-	A
12		Signalized	ICU 1	SB Thru	0.678	-	B
13		Signalized	ICU 1	NEB Thru	0.469	-	A
14		Signalized	ICU 1	NEB Thru	0.679	-	B
15		Signalized	ICU 1	SWB Thru	0.576	-	A
16		Signalized	ICU 1	SB Thru	0.501	-	A
17		Signalized	ICU 1	SEB Thru	0.598	-	A
18		Signalized	ICU 1	SWB Thru	0.569	-	A
19		Signalized	ICU 1	EB Thru	0.529	-	A
20		Signalized	ICU 1	SEB Right	0.274	-	A
21		Signalized	ICU 1	NEB Thru	0.436	-	A
22		Signalized	ICU 1	SWB Thru	0.738	-	C
23		Signalized	ICU 1	NEB Thru	0.717	-	C
24		Signalized	ICU 1	SEB Thru	0.462	-	A
25		Signalized	ICU 1	NEB Thru	0.806	-	D
26		Signalized	ICU 1	NEB Thru	0.662	-	B
27		Signalized	ICU 1	NEB Thru	0.698	-	B
28		Signalized	ICU 1	SEB Thru	0.538	-	A
29		Signalized	ICU 1	NEB Thru	0.703	-	C
30		Signalized	ICU 1	SEB Thru	0.703	-	C
31		Signalized	ICU 1	NEB Thru	0.662	-	B
32		Signalized	ICU 1	SEB Thru	0.451	-	A
33		Signalized	ICU 1	NEB Thru	0.609	-	B
34		Signalized	ICU 1	NB Thru	0.538	-	A
35		Signalized	ICU 1	EB Thru	0.466	-	A

36		Signalized	ICU 1	SB Thru	0.783	-	C
37		Signalized	ICU 1	SWB Thru	0.506	-	A
38		Signalized	ICU 1	NEB Thru	0.661	-	B
39		Signalized	ICU 1	NEB Thru	0.560	-	A
40		Signalized	ICU 1	SWB Thru	0.584	-	A
41		Signalized	ICU 1	NEB Thru	0.400	-	A
42		Signalized	ICU 1	EB Right	0.522	-	A
51		Signalized	ICU 1	NEB Thru	0.576	-	A
56		Signalized	ICU 1	EB Thru	0.591	-	A
57		Signalized	ICU 1	NEB Thru	0.477	-	A
60		Signalized	ICU 1	EB Thru	0.533	-	A
101		Signalized	ICU 1	NEB Thru	0.419	-	A
102		Signalized	ICU 1	NEB Thru	0.447	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.297

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	175.00	100.00	100.00	150.00	100.00	55.00	315.00	100.00	245.00	170.00	100.00	585.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	107	165	483	111	58	3	307	176	173	1	129	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.87	1.82	2.07	1.80	1.72	0.00	1.95	2.27	1.73	0.00	2.33	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	165	121	111	58	1	307	176	43	1	129	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	41	30	28	15	0	77	44	11	0	32	3
Total Analysis Volume [veh/h]	107	165	121	111	58	1	307	176	43	1	129	13
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Permis	Protect	Permis	Unsign	Protect	Permis	Unsign
Signal Group	7	4	0	3	8	8	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.05	0.00	0.07	0.02	0.00	0.09	0.03	0.00	0.00	0.04	0.00
Intersection LOS	A											
Intersection V/C	0.297											

Intersection Level Of Service Report
Intersection 2:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.505

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	190.00	100.00	180.00	285.00	100.00	285.00	230.00	100.00	100.00	230.00	100.00	220.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	187	277	319	186	223	194	247	552	44	288	614	71
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	2.17	1.88	2.15	1.79	2.06	2.02	1.99	2.27	2.08	1.95	1.41
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	187	277	80	186	223	48	247	552	44	288	614	18
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	69	20	47	56	12	62	138	11	72	154	5
Total Analysis Volume [veh/h]	187	277	80	186	223	48	247	552	44	288	614	18
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.08	0.05	0.11	0.07	0.03	0.07	0.18	0.18	0.08	0.12	0.01
Intersection LOS	A											
Intersection V/C	0.505											

Intersection Level Of Service Report
Intersection 3:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.428

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	195.00	100.00	295.00	110.00	100.00	425.00	300.00	100.00	100.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	86	153	188	151	176	29	162	753	172	22	1003	63
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.33	1.96	2.13	1.99	2.27	3.45	1.85	1.99	1.74	0.00	1.99	1.59
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	153	47	151	176	7	162	753	172	22	1003	16
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	38	12	38	44	2	41	188	43	6	251	4
Total Analysis Volume [veh/h]	86	153	47	151	176	7	162	753	172	22	1003	16
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.05	0.03	0.09	0.05	0.00	0.05	0.18	0.18	0.01	0.20	0.01
Intersection LOS	A											
Intersection V/C	0.428											

Intersection Level Of Service Report
Intersection 4:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Approach	Northbound			Westbound			Northeastbound			Southeastbound		
Lane Configuration	11111			11111			111			11111		
Turning Movement	Left	Thru	Right	Left2	Left	Thru	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	0	0	0	2	0	1
Pocket Length [ft]	200.00	100.00	100.00	215.00	100.00	345.00	100.00	100.00	100.00	515.00	100.00	185.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Base Volume Input [veh/h]	72	586	264	239	37	350	110	39	86	806	1027	96
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.39	2.05	1.89	2.09	2.70	2.00	1.82	2.56	2.33	1.99	2.04	2.08
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	586	66	239	37	350	110	39	86	806	1027	24
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	147	17	60	9	88	28	10	22	202	257	6
Total Analysis Volume [veh/h]	72	586	66	239	37	350	110	39	86	806	1027	24
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Protect	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	3	8	1	1	6	0	5	2	2	7	4	4
Auxiliary Signal Groups			1,8									
Lead / Lag	Lead	-	-	Lead	Lag	-	Lead	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.11	0.00	0.07	0.01	0.00	0.06	0.04	0.04	0.24	0.20	0.01
Intersection LOS	A											
Intersection V/C	0.467											

Intersection Level Of Service Report

Intersection 5:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.391

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	0	0	2	0	0	1
Pocket Length [ft]	535.00	100.00	300.00	620.00	100.00	70.00	100.00	100.00	555.00	100.00	100.00	730.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	298	1028	114	140	670	187	100	0	146	113	0	324
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.01	2.04	1.75	2.14	1.94	2.14	2.00	0.00	2.05	1.77	0.00	1.85
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	298	1028	28	140	670	47	100	0	36	113	0	81
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	75	257	7	35	168	12	25	0	9	28	0	20
Total Analysis Volume [veh/h]	298	1028	28	140	670	47	100	0	36	113	0	81
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	212
Lost time [s]	11.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.20	0.00	0.04	0.13	0.00	0.03	0.00	0.00	0.07	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.391											

Intersection Level Of Service Report
Intersection 6:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	2	1	0	1
Pocket Length [ft]	170.00	100.00	100.00	370.00	100.00	100.00	100.00	100.00	435.00	550.00	100.00	550.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	249	763	227	79	451	228	46	0	74	236	0	117
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.01	1.97	2.20	2.53	2.00	2.19	2.17	0.00	1.35	2.12	0.00	1.71
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	249	763	57	79	451	57	46	0	18	236	0	29
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	191	14	20	113	14	12	0	5	59	0	7
Total Analysis Volume [veh/h]	249	763	57	79	451	57	46	0	18	236	0	29
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.15	0.00	0.05	0.09	0.00	0.01	0.00	0.00	0.07	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.372											

Intersection Level Of Service Report

Intersection 7:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.264

Intersection Setup

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Approach	Northbound		Eastbound		Southwestbound	
Lane Configuration	T T T				T T	
Turning Movement	Left	Thru	Left	Right	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	1
Pocket Length [ft]	355.00	100.00	100.00	100.00	100.00	395.00
Speed [mph]	30.00		0.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Base Volume Input [veh/h]	151	671	0	0	576	166
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.99	1.94	0.00	0.00	2.08	1.81
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	671	0	0	576	41
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	168	0	0	144	10
Total Analysis Volume [veh/h]	151	671	0	0	576	41
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	0	0	6	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.20	0.00	0.00	0.17	0.02
Intersection LOS	A					
Intersection V/C	0.264					

Intersection Level Of Service Report
Intersection 8:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.300

Intersection Setup

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration	↑↑		↑↑		11f	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	1	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	655.00	365.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Base Volume Input [veh/h]	0	765	576	0	73	168
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.96	2.08	0.00	1.37	1.79
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	765	576	0	73	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	191	144	0	18	11
Total Analysis Volume [veh/h]	0	765	576	0	73	42
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	0	2	6	0	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.23	0.17	0.00	0.02	0.02
Intersection LOS	A					
Intersection V/C	0.300					

Intersection Level Of Service Report
Intersection 9:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.593

Intersection Setup

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Approach	Northeastbound		Southwestbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	1	0	1	1
Pocket Length [ft]	100.00	230.00	390.00	100.00	185.00	145.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Base Volume Input [veh/h]	1017	587	270	670	276	209
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.97	2.04	1.85	1.94	2.17	1.91
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1017	147	270	670	276	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	254	37	68	168	69	13
Total Analysis Volume [veh/h]	1017	147	270	670	276	52
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.30	0.09	0.16	0.20	0.08	0.02
Intersection LOS	A					
Intersection V/C	0.593					

Intersection Level Of Service Report
Intersection 10:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.589

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	1	2	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	340.00	100.00	200.00	250.00	100.00	110.00	245.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Base Volume Input [veh/h]	143	602	49	171	631	319	147	339	74	38	604	137
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.10	1.99	2.04	1.75	2.06	1.88	2.04	2.06	1.35	2.63	1.99	2.19
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	143	602	12	171	631	80	147	339	18	38	604	137
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	36	151	3	43	158	20	37	85	5	10	151	34
Total Analysis Volume [veh/h]	143	602	12	171	631	80	147	339	18	38	604	137
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.18	0.01	0.10	0.19	0.05	0.04	0.10	0.01	0.02	0.22	0.22
Intersection LOS	A											
Intersection V/C	0.589											

Intersection Level Of Service Report
Intersection 11:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy. S.	
Approach	Northeastbound		Southwestbound		Southeastbound	
Lane Configuration	↵↵↵		↵↵↵		↵↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	1	0
Pocket Length [ft]	190.00	100.00	100.00	80.00	190.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		Yes	

Volumes

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy. S.	
Base Volume Input [veh/h]	150	1364	851	130	257	176
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.98	2.00	2.31	1.95	2.27
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	1364	851	32	257	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	341	213	8	64	11
Total Analysis Volume [veh/h]	150	1364	851	32	257	44
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal Group	5	2	6	6	4	4
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.40	0.25	0.02	0.08	0.03
Intersection LOS	A					
Intersection V/C	0.531					

Intersection Level Of Service Report
Intersection 12:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.678

Intersection Setup

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Approach	Northbound			Southbound			Northeastbound			Southwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	1	0	1	1	0	2
Pocket Length [ft]	400.00	100.00	100.00	200.00	100.00	100.00	395.00	100.00	260.00	150.00	100.00	170.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Base Volume Input [veh/h]	386	827	52	328	1634	434	258	498	572	12	201	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.07	2.06	1.92	2.13	2.02	2.07	1.94	2.01	1.92	0.00	1.99	1.86
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	386	827	52	328	1634	108	258	498	143	12	201	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	207	13	82	409	27	65	125	36	3	50	10
Total Analysis Volume [veh/h]	386	827	52	328	1634	108	258	498	143	12	201	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	132
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.13	0.13	0.10	0.32	0.06	0.15	0.10	0.08	0.01	0.04	0.02
Intersection LOS	B											
Intersection V/C	0.678											

Intersection Level Of Service Report
Intersection 13:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	1 1 1			1 1 1			1 1 1			1 1 1		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Thru	Right	Right2	Left2	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	1	0	0
Pocket Length [ft]	285.00	100.00	180.00	285.00	100.00	220.00	345.00	100.00	100.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Base Volume Input [veh/h]	12	835	149	66	1194	151	435	362	28	96	93	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.04	2.01	1.52	2.01	1.99	2.07	1.93	3.57	2.08	2.15	1.79
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	835	37	66	1194	38	435	362	28	96	93	56
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	209	9	17	299	10	109	91	7	24	23	14
Total Analysis Volume [veh/h]	12	835	37	66	1194	38	435	362	28	96	93	56
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Protect	Permis	Protect	Permis	Permis
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.25	0.02	0.04	0.35	0.02	0.13	0.23	0.23	0.06	0.03	0.04
Intersection LOS	A											
Intersection V/C	0.469											

Intersection Level Of Service Report
Intersection 14:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.679

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	305.00	100.00	100.00	305.00	100.00	150.00	305.00	100.00	225.00	275.00	100.00	275.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Base Volume Input [veh/h]	190	1265	585	219	1353	127	309	279	100	107	544	264
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.11	1.98	2.05	1.83	2.00	2.36	1.94	2.15	2.00	1.87	2.02	1.89
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	1265	585	219	1353	32	309	279	25	107	544	66
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	316	146	55	338	8	77	70	6	27	136	17
Total Analysis Volume [veh/h]	190	1265	585	219	1353	32	309	279	25	107	544	66
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.36	0.36	0.06	0.27	0.02	0.09	0.05	0.01	0.03	0.11	0.04
Intersection LOS	B											
Intersection V/C	0.679											

Intersection Level Of Service Report
Intersection 15:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.576

Intersection Setup

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Approach	Northbound			Northeastbound			Southwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	0	2	0	1
Pocket Length [ft]	210.00	100.00	280.00	275.00	100.00	405.00	160.00	100.00	100.00	175.00	100.00	225.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Base Volume Input [veh/h]	196	474	293	255	1103	445	336	1015	126	340	780	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.04	1.90	2.05	1.96	1.99	2.02	2.08	1.97	2.38	2.06	2.05	1.76
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	196	474	73	255	1103	111	336	1015	126	340	780	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	119	18	64	276	28	84	254	32	85	195	11
Total Analysis Volume [veh/h]	196	474	73	255	1103	111	336	1015	126	340	780	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	5	2	2	1	6	6	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.09	0.04	0.08	0.22	0.07	0.10	0.22	0.22	0.10	0.15	0.02
Intersection LOS	A											
Intersection V/C	0.576											

Intersection Level Of Service Report
Intersection 16:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.501

Intersection Setup

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Approach	Southbound		Northeastbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	1	0
Pocket Length [ft]	100.00	200.00	100.00	100.00	190.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Base Volume Input [veh/h]	1489	117	148	226	122	762
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.01	1.71	2.03	2.21	1.64	1.97
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1489	29	148	57	122	762
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	372	7	37	14	31	191
Total Analysis Volume [veh/h]	1489	29	148	57	122	762
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Protected	Permissive
Signal Group	4	4	2	2	3	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.29	0.02	0.09	0.03	0.07	0.15
Intersection LOS	A					
Intersection V/C	0.501					

Intersection Level Of Service Report
Intersection 17:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.598

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	360.00	100.00	305.00	165.00	100.00	175.00	225.00	100.00	230.00	205.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Base Volume Input [veh/h]	304	1109	332	245	873	152	128	404	210	381	874	235
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.97	1.98	2.11	2.04	1.95	1.97	2.34	1.98	1.90	2.10	1.95	2.13
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	304	1109	83	245	873	38	128	404	52	381	874	235
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	76	277	21	61	218	10	32	101	13	95	219	59
Total Analysis Volume [veh/h]	304	1109	83	245	873	38	128	404	52	381	874	235
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3			6,7						
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.22	0.01	0.07	0.17	0.00	0.04	0.08	0.03	0.11	0.22	0.22
Intersection LOS	A											
Intersection V/C	0.598											

Intersection Level Of Service Report
Intersection 18:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.569

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	180.00	100.00	205.00	205.00	100.00	225.00	285.00	100.00	100.00	205.00	100.00	110.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	47	1862	315	71	1874	32	51	52	70	121	265	283
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.13	1.99	1.90	1.41	1.97	3.13	1.96	1.92	1.43	1.65	1.89	2.12
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	1862	79	71	1874	8	51	52	70	121	265	71
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	466	20	18	469	2	13	13	18	30	66	18
Total Analysis Volume [veh/h]	47	1862	79	71	1874	8	51	52	70	121	265	71
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.37	0.05	0.04	0.37	0.00	0.03	0.04	0.04	0.04	0.08	0.04
Intersection LOS	A											
Intersection V/C	0.569											

Intersection Level Of Service Report
Intersection 19:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.529

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Approach	Eastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	185.00	180.00	100.00	200.00	155.00	100.00	100.00	135.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	79	1626	136	39	1109	24	52	63	19	108	303	58
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.53	2.03	2.21	2.56	1.98	0.00	1.92	1.59	0.00	1.85	1.98	1.72
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	1626	34	39	1109	6	52	63	19	108	303	58
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	407	9	10	277	2	13	16	5	27	76	15
Total Analysis Volume [veh/h]	79	1626	34	39	1109	6	52	63	19	108	303	58
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.32	0.02	0.02	0.22	0.00	0.03	0.02	0.02	0.06	0.11	0.11
Intersection LOS	A											
Intersection V/C	0.529											

Intersection Level Of Service Report
Intersection 20:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.274

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	175.00	100.00	100.00	200.00	100.00	100.00	110.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	16	247	27	52	178	26	22	85	54	54	318	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.02	3.70	1.92	2.25	3.85	0.00	2.35	1.85	1.85	1.89	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	247	27	52	178	26	22	85	54	54	318	19
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	62	7	13	45	7	6	21	14	14	80	5
Total Analysis Volume [veh/h]	16	247	27	52	178	26	22	85	54	54	318	19
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	157
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.08	0.08	0.03	0.06	0.06	0.01	0.04	0.04	0.03	0.10	0.10
Intersection LOS	A											
Intersection V/C	0.274											

Intersection Level Of Service Report
Intersection 21:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.436

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	250.00	100.00	250.00	210.00	100.00	1000.0	100.00	100.00	25.00	170.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	87	1574	18	4	1127	60	7	1	6	210	19	132
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.30	1.97	0.00	0.00	2.04	1.67	0.00	0.00	0.00	1.90	0.00	2.27
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	87	1574	4	4	1127	15	7	1	1	210	19	33
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	394	1	1	282	4	2	0	0	53	5	8
Total Analysis Volume [veh/h]	87	1574	4	4	1127	15	7	1	1	210	19	33
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.31	0.00	0.00	0.22	0.01	0.00	0.00	0.00	0.06	0.07	0.02
Intersection LOS	A											
Intersection V/C	0.436											

Intersection Level Of Service Report
Intersection 22:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.738

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	350.00	100.00	190.00	285.00	100.00	200.00	255.00	100.00	100.00	150.00	100.00	80.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	51	2076	503	108	2140	21	154	96	65	68	419	457
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.96	2.02	1.99	1.85	2.01	0.00	1.95	2.08	1.54	1.47	1.91	1.97
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	51	2076	126	108	2140	5	154	96	65	68	419	114
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	519	32	27	535	1	39	24	16	17	105	29
Total Analysis Volume [veh/h]	51	2076	126	108	2140	5	154	96	65	68	419	114
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.41	0.07	0.06	0.42	0.00	0.09	0.05	0.05	0.02	0.12	0.07
Intersection LOS	C											
Intersection V/C	0.738											

Intersection Level Of Service Report

Intersection 23:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.717

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration				/ /			/			/		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	195.00	100.00	300.00	255.00	100.00	275.00	240.00	100.00	100.00	190.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	105	1010	119	92	1597	244	81	229	57	262	737	95
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.90	1.98	1.68	2.17	2.00	2.05	2.47	2.18	1.75	1.91	2.04	2.11
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	105	1010	30	92	1597	61	81	229	57	262	737	95
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	253	8	23	399	15	20	57	14	66	184	24
Total Analysis Volume [veh/h]	105	1010	30	92	1597	61	81	229	57	262	737	95
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.20	0.02	0.05	0.31	0.04	0.05	0.08	0.08	0.15	0.24	0.24
Intersection LOS	C											
Intersection V/C	0.717											

Intersection Level Of Service Report
Intersection 24:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.462

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	200.00	100.00	115.00	175.00	100.00	95.00	95.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	33	244	94	51	159	28	74	309	54	55	863	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.03	2.05	2.13	1.96	1.89	3.57	1.35	1.94	1.85	1.82	1.97	2.27
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	244	23	51	159	7	74	309	54	55	863	44
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	61	6	13	40	2	19	77	14	14	216	11
Total Analysis Volume [veh/h]	33	244	23	51	159	7	74	309	54	55	863	44
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.07	0.01	0.03	0.05	0.00	0.04	0.11	0.11	0.03	0.27	0.27
Intersection LOS	A											
Intersection V/C	0.462											

Intersection Level Of Service Report
Intersection 25:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.806

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	1	0	0
Pocket Length [ft]	195.00	100.00	125.00	360.00	100.00	575.00	155.00	100.00	145.00	180.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	122	1410	339	289	922	70	231	300	248	160	722	89
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.64	1.99	2.06	2.08	1.95	1.43	2.16	2.00	2.02	1.88	1.94	2.25
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	1410	85	289	922	17	231	300	62	160	722	89
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	31	353	21	72	231	4	58	75	16	40	181	22
Total Analysis Volume [veh/h]	122	1410	85	289	922	17	231	300	62	160	722	89
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3									
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.28	0.00	0.17	0.18	0.01	0.07	0.09	0.04	0.09	0.24	0.24
Intersection LOS	D											
Intersection V/C	0.806											

Intersection Level Of Service Report
Intersection 26:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.662

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	285.00	100.00	100.00	295.00	100.00	110.00	180.00	100.00	175.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	170	1155	260	183	574	144	262	476	176	410	669	196
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.76	1.99	1.92	2.19	1.92	2.08	1.91	2.10	2.27	1.95	1.94	2.04
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	170	1155	65	183	574	36	262	476	45	410	669	49
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	289	16	46	144	9	66	119	11	103	167	12
Total Analysis Volume [veh/h]	170	1155	65	183	574	36	262	476	45	410	669	49
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.23	0.04	0.11	0.11	0.02	0.08	0.14	0.03	0.12	0.20	0.03
Intersection LOS	B											
Intersection V/C	0.662											

Intersection Level Of Service Report
Intersection 27:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.698

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	295.00	100.00	285.00	235.00	100.00	290.00	245.00	100.00	210.00	185.00	100.00	255.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	34	1554	334	195	980	45	146	178	131	262	826	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.94	1.99	2.10	2.05	2.04	2.22	2.05	2.25	2.29	1.91	2.06	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	1554	83	195	980	11	146	178	33	262	826	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	389	21	49	245	3	37	45	8	66	207	7
Total Analysis Volume [veh/h]	34	1554	83	195	980	11	146	178	33	262	826	26
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Overla
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.30	0.05	0.06	0.19	0.01	0.04	0.05	0.02	0.08	0.24	0.01
Intersection LOS	B											
Intersection V/C	0.698											

Intersection Level Of Service Report
Intersection 28:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.538

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	185.00	100.00	190.00	175.00	100.00	200.00	180.00	100.00	95.00	300.00	100.00	125.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	111	186	145	134	119	46	56	383	81	47	1093	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.80	2.15	2.07	2.24	1.68	2.17	1.79	2.09	2.47	2.13	2.01	1.37
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	111	186	36	134	119	11	56	383	26	47	1093	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	47	9	34	30	3	14	96	7	12	273	3
Total Analysis Volume [veh/h]	111	186	36	134	119	11	56	383	26	47	1093	12
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.05	0.02	0.08	0.04	0.01	0.03	0.11	0.02	0.03	0.32	0.01
Intersection LOS	A											
Intersection V/C	0.538											

Intersection Level Of Service Report
Intersection 29:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.703

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	245.00	100.00	100.00	150.00	100.00	345.00	215.00	100.00	120.00	170.00	100.00	295.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	210	1523	332	157	956	95	291	248	161	245	744	319
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.90	1.97	2.11	1.91	1.99	2.11	2.06	2.02	1.86	2.04	2.02	1.88
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	1523	91	157	956	24	291	248	40	245	744	80
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	381	23	39	239	6	73	62	10	61	186	20
Total Analysis Volume [veh/h]	210	1523	91	157	956	24	291	248	40	245	744	80
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.30	0.05	0.05	0.19	0.01	0.09	0.07	0.02	0.07	0.22	0.05
Intersection LOS	C											
Intersection V/C	0.703											

Intersection Level Of Service Report
Intersection 30:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.703

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	0
Pocket Length [ft]	210.00	100.00	410.00	190.00	100.00	125.00	250.00	100.00	145.00	305.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	151	1111	209	212	630	172	100	360	163	294	646	197
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.99	1.98	1.91	1.89	2.06	1.74	2.00	1.94	1.84	2.04	2.01	2.03
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	1111	52	212	630	43	100	360	163	294	646	197
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	278	13	53	158	11	25	90	41	74	162	49
Total Analysis Volume [veh/h]	151	1111	52	212	630	43	100	360	163	294	646	197
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.22	0.03	0.12	0.12	0.03	0.06	0.11	0.10	0.17	0.25	0.25
Intersection LOS	C											
Intersection V/C	0.703											

Intersection Level Of Service Report
Intersection 31:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.662

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	2	0	1	2	0	1	2	0	2
Pocket Length [ft]	225.00	100.00	290.00	165.00	100.00	180.00	260.00	100.00	155.00	145.00	100.00	250.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	420	1808	526	183	1080	107	302	177	103	177	391	518
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.90	1.99	2.09	2.19	2.04	1.87	1.99	2.26	1.94	2.26	2.05	1.93
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	420	1808	132	183	1080	107	302	177	26	177	391	129
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	105	452	33	46	270	27	76	44	7	44	98	32
Total Analysis Volume [veh/h]	420	1808	132	183	1080	107	302	177	26	177	391	129
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Overla
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.35	0.08	0.05	0.17	0.17	0.09	0.05	0.02	0.05	0.12	0.00
Intersection LOS	B											
Intersection V/C	0.662											

Intersection Level Of Service Report
Intersection 32:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.451

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	170.00	100.00	100.00	255.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	27	23	18	106	27	86	26	288	110	284	981	52
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.70	0.00	0.00	1.89	3.70	2.33	3.85	2.08	1.82	2.11	2.04	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	23	18	106	27	86	26	288	110	284	981	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	6	5	27	7	22	7	72	28	71	245	13
Total Analysis Volume [veh/h]	27	23	18	106	27	86	26	288	110	284	981	52
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	149
Lost time [s]	7.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	5	5	6	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.02	0.06	0.06	0.06	0.02	0.12	0.12	0.17	0.30	0.30
Intersection LOS	A											
Intersection V/C	0.451											

Intersection Level Of Service Report
Intersection 33:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.609

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	2	0	1	2	0	1
Pocket Length [ft]	250.00	100.00	235.00	200.00	100.00	100.00	195.00	100.00	200.00	245.00	100.00	155.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	496	1605	229	155	1201	83	276	188	109	257	476	320
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.02	1.99	2.18	1.94	2.00	2.41	2.17	2.13	1.83	1.95	2.10	1.88
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	496	1605	57	155	1201	83	276	188	27	257	476	80
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	124	401	14	39	300	21	69	47	7	64	119	20
Total Analysis Volume [veh/h]	496	1605	57	155	1201	83	276	188	27	257	476	80
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Unsign
Signal Group	5	2	2	1	6	6	3	8	8	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.24	0.03	0.05	0.19	0.19	0.08	0.06	0.02	0.08	0.14	0.00
Intersection LOS	B											
Intersection V/C	0.609											

Intersection Level Of Service Report
Intersection 34:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.538

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	Y Y Y			Y Y Y			T T			T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	1	1	0	0
Pocket Length [ft]	200.00	100.00	100.00	160.00	100.00	100.00	100.00	100.00	50.00	250.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	164	1099	2	20	652	226	9	21	16	365	29	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.83	2.00	0.00	0.00	1.99	2.21	0.00	0.00	0.00	1.92	3.45	2.14
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	164	1099	2	20	652	226	9	21	16	365	29	70
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	275	1	5	163	57	2	5	4	91	7	18
Total Analysis Volume [veh/h]	164	1099	2	20	652	226	9	21	16	365	29	70
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.32	0.32	0.01	0.26	0.26	0.01	0.01	0.01	0.11	0.12	0.04
Intersection LOS	A											
Intersection V/C	0.538											

Intersection Level Of Service Report
Intersection 35:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.466

Intersection Setup

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Approach	Northbound			Eastbound			Southwestbound			Southeastbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	640.00	100.00	640.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Base Volume Input [veh/h]	219	0	585	0	2412	0	0	1148	740	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.83	0.00	2.05	0.00	1.99	0.00	0.00	2.00	2.03	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	219	0	146	0	2412	0	0	1148	185	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	0	37	0	603	0	0	287	46	0	0	0
Total Analysis Volume [veh/h]	219	0	146	0	2412	0	0	1148	185	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Split	Split	Split	Permis								
Signal Group	8	0	8	0	2	0	0	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.04	0.00	0.35	0.00	0.00	0.23	0.11	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.466											

Intersection Level Of Service Report
Intersection 36:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.783

Intersection Setup

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌⇌						⇌⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	0	1	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	100.00	465.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	118	0	296	1639	602	465	0	1749	100	192	613	520
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.69	0.00	2.03	2.01	1.99	1.94	0.00	2.00	2.00	2.08	1.96	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	118	0	296	1639	602	116	0	1749	100	192	613	130
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	0	74	410	151	29	0	437	25	48	153	33
Total Analysis Volume [veh/h]	118	0	296	1639	602	116	0	1749	100	192	613	130
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Permis	Permis	Overla	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	8	0	1	4	4	4	0	2	2	1	6	0
Auxiliary Signal Groups			1									
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.00	0.03	0.32	0.33	0.07	0.00	0.27	0.27	0.06	0.12	0.08
Intersection LOS	C											
Intersection V/C	0.783											

Intersection Level Of Service Report
Intersection 37:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.506

Intersection Setup

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	2	1	0	1	2	0	1
Pocket Length [ft]	145.00	100.00	100.00	100.00	100.00	265.00	35.00	100.00	120.00	135.00	100.00	45.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	126	79	84	787	323	49	20	285	482	253	630	322
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.38	2.53	2.38	2.03	1.86	2.04	0.00	2.11	2.07	1.98	2.06	1.86
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	79	21	787	323	49	20	285	120	253	630	322
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	20	5	197	81	12	5	71	30	63	158	81
Total Analysis Volume [veh/h]	126	79	21	787	323	49	20	285	120	253	630	322
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	164
Lost time [s]	8.00

Phasing & Timing

Control Type	Permis	Permis	Overla	Split	Split	Split	Protect	Permis	Protect	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	8	1	6	6
Auxiliary Signal Groups			4,5									
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.00	0.15	0.22	0.22	0.01	0.08	0.07	0.07	0.19	0.19
Intersection LOS	A											
Intersection V/C	0.506											

Intersection Level Of Service Report
Intersection 38:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.661

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	↵ ↑ ↶			↵ ↑ ↑ ↑ ↑			↵ ↑ ↶			↵ ↶		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	1	1	0	1
Pocket Length [ft]	110.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	410.00	165.00	100.00	165.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Base Volume Input [veh/h]	73	1564	881	0	1715	105	517	53	681	94	3	201
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.37	1.98	2.04	0.00	1.98	1.90	1.93	1.89	2.06	2.13	0.00	1.99
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	1564	220	0	1715	105	517	53	681	94	3	201
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	391	55	0	429	26	129	13	170	24	1	50
Total Analysis Volume [veh/h]	73	1564	220	0	1715	105	517	53	681	94	3	201
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Permis	Permis	Overla
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.31	0.13	0.00	0.21	0.21	0.15	0.25	0.25	0.06	0.00	0.08
Intersection LOS	B											
Intersection V/C	0.661											

Intersection Level Of Service Report
Intersection 39:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.560

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T			RT			T			RT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	2	0	1	1	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	305.00	100.00	135.00	215.00	100.00	100.00	215.00	100.00	90.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	0	1740	53	229	931	632	43	99	481	818	521	134
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.01	1.89	2.18	2.04	2.06	2.33	2.02	2.08	1.96	1.92	2.24
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1740	53	229	931	158	43	99	120	818	521	33
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	435	13	57	233	40	11	25	30	205	130	8
Total Analysis Volume [veh/h]	0	1740	53	229	931	158	43	99	120	818	521	33
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Overla	Split	Split	Split
Signal Group	0	2	2	1	6	6	8	8	1	4	4	4
Auxiliary Signal Groups									1,8			
Lead / Lag	-	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.26	0.26	0.07	0.18	0.09	0.03	0.08	0.00	0.16	0.15	0.02
Intersection LOS	A											
Intersection V/C	0.560											

Intersection Level Of Service Report
Intersection 40:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.584

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	0	0	1	1	0	0
Pocket Length [ft]	295.00	100.00	195.00	135.00	100.00	100.00	100.00	100.00	95.00	165.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Base Volume Input [veh/h]	449	778	7	32	1274	101	20	26	33	209	47	1001
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.06	0.00	3.13	1.96	1.98	0.00	3.85	3.03	1.91	2.13	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	449	778	2	32	1274	25	20	26	8	209	47	250
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	112	195	1	8	319	6	5	7	2	52	12	63
Total Analysis Volume [veh/h]	449	778	2	32	1274	25	20	26	8	209	47	250
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	184
Lost time [s]	9.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Protect	Permis	Permis	Permis	Split	Split	Split
Signal Group	5	2	2	1	6	4	8	8	1	4	4	0
Auxiliary Signal Groups									1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.15	0.00	0.01	0.25	0.01	0.01	0.01	0.00	0.06	0.08	0.15
Intersection LOS	A											
Intersection V/C	0.584											

Intersection Level Of Service Report
Intersection 41:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.400

Intersection Setup

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Approach	Southbound			Northeastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	1	0	1
Pocket Length [ft]	200.00	100.00	205.00	225.00	100.00	230.00	260.00	100.00	155.00	245.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Base Volume Input [veh/h]	21	21	143	146	1098	115	22	493	36	174	40	131
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.10	2.05	2.00	1.74	0.00	2.03	2.78	1.72	2.50	2.29
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	21	36	146	1098	29	22	493	9	174	40	33
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	5	9	37	275	7	6	123	2	44	10	8
Total Analysis Volume [veh/h]	21	21	36	146	1098	29	22	493	9	174	40	33
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	7	4	4	5	2	2	1	6	6	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.02	0.09	0.22	0.02	0.01	0.10	0.01	0.10	0.01	0.02
Intersection LOS	A											
Intersection V/C	0.400											

Intersection Level Of Service Report
Intersection 42:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Approach	Eastbound		Southwestbound		Northwestbound	
Lane Configuration	YY		TYY		YYT	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	2	0
Pocket Length [ft]	100.00	100.00	305.00	100.00	260.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Base Volume Input [veh/h]	1330	162	24	762	547	126
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.03	1.85	0.00	1.97	2.01	2.38
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1330	162	24	762	547	31
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	333	41	6	191	137	8
Total Analysis Volume [veh/h]	1330	162	24	762	547	31
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	8	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.29	0.29	0.01	0.15	0.16	0.02
Intersection LOS	A					
Intersection V/C	0.522					

Intersection Level Of Service Report
Intersection 51:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Approach	Eastbound		Northeastbound		Southwestbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	255.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Base Volume Input [veh/h]	273	158	143	626	365	73
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.83	1.90	2.10	2.08	1.92	1.37
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	273	39	143	626	365	73
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	10	36	157	91	18
Total Analysis Volume [veh/h]	273	39	143	626	365	73
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	5	5	2	6	6
Auxiliary Signal Groups		5				
Lead / Lag	Lag	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.00	0.08	0.37	0.13	0.13
Intersection LOS	A					
Intersection V/C	0.576					

Intersection Level Of Service Report
Intersection 56:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.591

Intersection Setup

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Approach	Northbound			Southbound			Eastbound			Southwestbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	2	1	0	1	1	0	1
Pocket Length [ft]	170.00	100.00	170.00	100.00	100.00	165.00	290.00	100.00	225.00	295.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Base Volume Input [veh/h]	141	95	180	49	46	26	87	1177	44	180	800	92
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.13	2.11	2.22	2.04	2.17	3.85	2.30	2.04	2.27	2.22	2.00	2.17
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	141	95	45	49	46	6	87	1177	11	180	800	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	24	11	12	12	2	22	294	3	45	200	6
Total Analysis Volume [veh/h]	141	95	45	49	46	6	87	1177	11	180	800	23
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.06	0.03	0.03	0.03	0.00	0.05	0.35	0.01	0.11	0.24	0.01
Intersection LOS	A											
Intersection V/C	0.591											

Intersection Level Of Service Report
Intersection 57:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.477

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	140.00	100.00	175.00	105.00	100.00	200.00	100.00	100.00	35.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Base Volume Input [veh/h]	101	798	20	45	762	188	26	7	14	428	8	147
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.98	2.01	0.00	2.22	1.97	2.13	3.85	0.00	0.00	2.10	0.00	2.04
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	101	798	5	45	762	47	26	7	14	428	8	37
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	200	1	11	191	12	7	2	4	107	2	9
Total Analysis Volume [veh/h]	101	798	5	45	762	47	26	7	14	428	8	37
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.23	0.00	0.03	0.22	0.03	0.02	0.01	0.01	0.13	0.13	0.02
Intersection LOS	A											
Intersection V/C	0.477											

Intersection Level Of Service Report
Intersection 60:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.533

Intersection Setup

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Approach	Southbound			Eastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left2	Left	Right	Left2	Left	Thru	Left	Thru	Right	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	210.00	100.00	100.00	140.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Base Volume Input [veh/h]	28	293	13	47	14	420	254	227	47	147	173	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.57	2.05	0.00	2.13	0.00	1.90	1.97	2.20	2.13	2.04	1.73	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	293	13	47	14	420	254	227	47	147	173	22
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	73	3	12	4	105	64	57	12	37	43	6
Total Analysis Volume [veh/h]	28	293	13	47	14	420	254	227	47	147	173	22
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	129
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis								
Signal Group	1	6	6	4	4	4	8	8	8	5	2	2
Auxiliary Signal Groups												
Lead / Lag	Lead	Lag	-	Lag	Lag	-	Lag	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.09	0.09	0.03	0.01	0.25	0.15	0.16	0.16	0.09	0.06	0.06
Intersection LOS	A											
Intersection V/C	0.533											

Intersection Level Of Service Report
Intersection 101:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.419

Intersection Setup

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Approach	Eastbound			Westbound			Northeastbound			Southwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Pocket Length [ft]	65.00	100.00	100.00	60.00	100.00	100.00	150.00	100.00	190.00	155.00	100.00	195.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	20	7	13	121	16	57	29	829	408	71	821	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	1.65	0.00	1.75	3.45	2.05	1.96	1.41	1.95	3.57
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	7	13	121	16	57	29	829	102	71	821	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	2	3	30	4	14	7	207	26	18	205	2
Total Analysis Volume [veh/h]	20	7	13	121	16	57	29	829	102	71	821	7
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.07	0.04	0.04	0.02	0.24	0.06	0.04	0.24	0.00
Intersection LOS	A											
Intersection V/C	0.419											

Intersection Level Of Service Report
Intersection 102:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Approach	Northeastbound		Southwestbound		Southeastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	1	0
Pocket Length [ft]	240.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Base Volume Input [veh/h]	67	1266	931	43	48	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.49	1.97	2.04	2.33	2.08	2.86
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	67	1266	931	43	48	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	317	233	11	12	2
Total Analysis Volume [veh/h]	67	1266	931	43	48	9
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	5	2	6	6	7	5
Auxiliary Signal Groups						5
Lead / Lag	Lead	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.37	0.19	0.19	0.03	0.00
Intersection LOS	A					
Intersection V/C	0.447					

Lake Forest GPU (Ex. PM)

Vistro File: H:\...\Existing_PM.vistro

Scenario: Base Scenario

Report File: H:\...\Ex_PM_LOS.pdf

8/9/2019

Turning Movement Volume: Summary

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
1		107	165	483	111	58	3	307	176	173	1	129	52	1765

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
2		187	277	319	186	223	194	247	552	44	288	614	71	3202

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
3		86	153	188	151	176	29	162	753	172	22	1003	63	2958

ID	Intersection Name	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume
		Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right	
4		72	586	264	239	37	350	110	39	86	806	1027	96	3712

ID	Intersection Name	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		298	1028	114	140	670	187	100	146	113	324	3120

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		249	763	227	79	451	228	46	74	236	117	2470

ID	Intersection Name	Northbound		Southwestbound		Total Volume
		Left	Thru	Thru	Right	
7		151	671	576	166	1564

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ID	Intersection Name	Northbound			Southbound		Southeastbound		Total Volume
		Thru	Right	Left	Thru	Left	Right		
8		765			576		73	168	1582

ID	Intersection Name	Northeastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
9		1017	587	270	670	276	209	3029

ID	Intersection Name	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		143	602	49	171	631	319	147	339	74	38	604	137	3254

ID	Intersection Name	Northeastbound		Southwestbound		Southeastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
11		150	1364	851	130	257	176	2928

ID	Intersection Name	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		386	827	52	328	1634	434	258	498	572	12	201	161	5363

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		12	835	149	66	1194	151	435	362	28	96	93	56	3477

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
14		190	1265	585	219	1353	127	309	279	100	107	544	264	5342

ID	Intersection Name	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		196	474	293	255	1103	445	336	1015	126	340	780	170	5533

ID	Intersection Name	Southbound		Northeastbound		Northwestbound		Total Volume
		Thru	Right	Left	Right	Left	Thru	
16		1489	117	148	226	122	762	2864

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
17		304	1109	332	245	873	152	128	404	210	381	874	235	5247

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
18		47	1862	315	71	1874	32	51	52	70	121	265	283	5043

ID	Intersection Name	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		79	1626	136	39	1109	24	52	63	19	108	303	58	3616

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
20		16	247	27	52	178	26	22	85	54	54	318	19	1098

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
21		87	1574	18	4	1127	60	7	1	6	210	19	132	3245

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
22		51	2076	503	108	2140	21	154	96	65	68	419	457	6158

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		105	1010	119	92	1597	244	81	229	57	262	737	95	4628

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
24		33	244	94	51	159	28	74	309	54	55	863	44	2008

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
25		122	1410	339	289	922	70	231	300	248	160	722	89	4902

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
26		170	1155	260	183	574	144	262	476	176	410	669	196	4675

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
27		34	1554	334	195	980	45	146	178	131	262	826	104	4789

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
28		111	186	145	134	119	46	56	383	81	47	1093	73	2474

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
29		210	1523	332	157	956	95	291	248	161	245	744	319	5281

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
30		151	1111	209	212	630	172	100	360	163	294	646	197	4245

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
31		420	1808	526	183	1080	107	302	177	103	177	391	518	5792

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
32		27	23	18	106	27	86	26	288	110	284	981	52	2028

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
33		496	1605	229	155	1201	83	276	188	109	257	476	320	5395

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		164	1099	2	20	652	226	9	21	16	365	29	280	2883

ID	Intersection Name	Northbound		Eastbound	Southwestbound		Total Volume
		Left	Right	Thru	Thru	Right	
35		219	585	2412	1148	740	5104

ID	Intersection Name	Northbound		Southbound			Eastbound		Westbound			Total Volume
		Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		118	296	1639	602	465	1749	100	192	613	520	6294

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
37		126	79	84	787	323	49	20	285	482	253	630	322	3440

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
38		73	1564	881	0	1715	105	517	53	681	94	3	201	5887

ID	Intersection Name	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
		Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		1740	53	229	931	632	43	99	481	818	521	134	5681

Version 7.00-06

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		449	778	7	32	1274	101	20	26	33	209	47	1001	3977

ID	Intersection Name	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		21	21	143	146	1098	115	22	493	36	174	40	131	2440

ID	Intersection Name	Eastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
42		1330	162	24	762	547	126	2951

ID	Intersection Name	Eastbound		Northeastbound		Southwestbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
51		273	158	143	626	365	73	1638

ID	Intersection Name	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		141	95	180	49	46	26	87	1177	44	180	800	92	2917

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
57		101	798	20	45	762	188	26	7	14	428	8	147	2544

ID	Intersection Name	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
		2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		28	293	13	47	14	420	254	227	47	147	173	22	1685

ID	Intersection Name	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		20	7	13	121	16	57	29	829	408	71	821	28	2420

Version 7.00-06

ID	Intersection Name	Northeastbound		Southwestbound		Southeastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
102		67	1266	931	43	48	35	2390

Lake Forest GPU (Ex. PM)

Vistro File: H:\...\Existing_PM.vistro

Scenario: Base Scenario

Report File: H:\...\Ex_PM_LOS.pdf

8/9/2019

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume	
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
1		Final Base	107	165	483	111	58	3	307	176	173	1	129	52	1765	
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	107	165	483	111	58	3	307	176	173	1	129	52	1765	

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume	
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
2		Final Base	187	277	319	186	223	194	247	552	44	288	614	71	3202	
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	187	277	319	186	223	194	247	552	44	288	614	71	3202	

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume	
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
3		Final Base	86	153	188	151	176	29	162	753	172	22	1003	63	2958	
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	86	153	188	151	176	29	162	753	172	22	1003	63	2958	

ID	Intersection Name	Volume Type	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume	
			Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right		
4		Final Base	72	586	264	239	37	350	110	39	86	806	1027	96	3712	
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	72	586	264	239	37	350	110	39	86	806	1027	96	3712	

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		Final Base	298	1028	114	140	670	187	100	146	113	324	3120
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	298	1028	114	140	670	187	100	146	113	324	3120

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		Final Base	249	763	227	79	451	228	46	74	236	117	2470
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	249	763	227	79	451	228	46	74	236	117	2470

ID	Intersection Name	Volume Type	Northbound		Southwestbound		Total Volume
			Left	Thru	Thru	Right	
7		Final Base	151	671	576	166	1564
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	151	671	576	166	1564

ID	Intersection Name	Volume Type	Northbound	Southbound	Southeastbound		Total Volume
			Thru	Thru	Left	Right	
8		Final Base	765	576	73	168	1582
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	765	576	73	168	1582

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
9		Final Base	1017	587	270	670	276	209	3029
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	1017	587	270	670	276	209	3029

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		Final Base	143	602	49	171	631	319	147	339	74	38	604	137	3254
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	143	602	49	171	631	319	147	339	74	38	604	137	3254

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Southeastbound		Total Volume
			Left	Thru	Thru	Right	Left	Right	
11		Final Base	150	1364	851	130	257	176	2928
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	150	1364	851	130	257	176	2928

ID	Intersection Name	Volume Type	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		Final Base	386	827	52	328	1634	434	258	498	572	12	201	161	5363
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	386	827	52	328	1634	434	258	498	572	12	201	161	5363

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		Final Base	12	835	149	66	1194	151	435	362	28	96	93	56	3477
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	12	835	149	66	1194	151	435	362	28	96	93	56	3477

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14		Final Base	190	1265	585	219	1353	127	309	279	100	107	544	264	5342
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	190	1265	585	219	1353	127	309	279	100	107	544	264	5342

ID	Intersection Name	Volume Type	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		Final Base	196	474	293	255	1103	445	336	1015	126	340	780	170	5533
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	196	474	293	255	1103	445	336	1015	126	340	780	170	5533

ID	Intersection Name	Volume Type	Southbound		Northeastbound		Northwestbound		Total Volume
			Thru	Right	Left	Right	Left	Thru	
16		Final Base	1489	117	148	226	122	762	2864
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	1489	117	148	226	122	762	2864

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17		Final Base	304	1109	332	245	873	152	128	404	210	381	874	235	5247
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	304	1109	332	245	873	152	128	404	210	381	874	235	5247

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18		Final Base	47	1862	315	71	1874	32	51	52	70	121	265	283	5043
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	47	1862	315	71	1874	32	51	52	70	121	265	283	5043

ID	Intersection Name	Volume Type	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		Final Base	79	1626	136	39	1109	24	52	63	19	108	303	58	3616
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	79	1626	136	39	1109	24	52	63	19	108	303	58	3616

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20		Final Base	16	247	27	52	178	26	22	85	54	54	318	19	1098
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	16	247	27	52	178	26	22	85	54	54	318	19	1098

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21		Final Base	87	1574	18	4	1127	60	7	1	6	210	19	132	3245
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	87	1574	18	4	1127	60	7	1	6	210	19	132	3245

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22		Final Base	51	2076	503	108	2140	21	154	96	65	68	419	457	6158
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	51	2076	503	108	2140	21	154	96	65	68	419	457	6158

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		Final Base	105	1010	119	92	1597	244	81	229	57	262	737	95	4628
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	105	1010	119	92	1597	244	81	229	57	262	737	95	4628

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
24		Final Base	33	244	94	51	159	28	74	309	54	55	863	44	2008
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	33	244	94	51	159	28	74	309	54	55	863	44	2008

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
25		Final Base	122	1410	339	289	922	70	231	300	248	160	722	89	4902
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	122	1410	339	289	922	70	231	300	248	160	722	89	4902

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
26		Final Base	170	1155	260	183	574	144	262	476	176	410	669	196	4675
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	170	1155	260	183	574	144	262	476	176	410	669	196	4675

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27		Final Base	34	1554	334	195	980	45	146	178	131	262	826	104	4789
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	34	1554	334	195	980	45	146	178	131	262	826	104	4789

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28		Final Base	111	186	145	134	119	46	56	383	81	47	1093	73	2474
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	111	186	145	134	119	46	56	383	81	47	1093	73	2474

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ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
29		Final Base	210	1523	332	157	956	95	291	248	161	245	744	319	5281
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	210	1523	332	157	956	95	291	248	161	245	744	319	5281

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
30		Final Base	151	1111	209	212	630	172	100	360	163	294	646	197	4245
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	151	1111	209	212	630	172	100	360	163	294	646	197	4245

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31		Final Base	420	1808	526	183	1080	107	302	177	103	177	391	518	5792
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	420	1808	526	183	1080	107	302	177	103	177	391	518	5792

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
32		Final Base	27	23	18	106	27	86	26	288	110	284	981	52	2028
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	27	23	18	106	27	86	26	288	110	284	981	52	2028

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
33		Final Base	496	1605	229	155	1201	83	276	188	109	257	476	320	5395
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	496	1605	229	155	1201	83	276	188	109	257	476	320	5395

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		Final Base	164	1099	2	20	652	226	9	21	16	365	29	280	2883
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	164	1099	2	20	652	226	9	21	16	365	29	280	2883

ID	Intersection Name	Volume Type	Northbound		Eastbound	Southwestbound		Total Volume
			Left	Right	Thru	Thru	Right	
35		Final Base	219	585	2412	1148	740	5104
		Growth Factor	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0
		Other	0	0	0	0	0	0
		Future Total	219	585	2412	1148	740	5104

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound		Westbound			Total Volume
			Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		Final Base	118	296	1639	602	465	1749	100	192	613	520	6294
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	118	296	1639	602	465	1749	100	192	613	520	6294

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ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
37		Final Base	126	79	84	787	323	49	20	285	482	253	630	322	3440
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	126	79	84	787	323	49	20	285	482	253	630	322	3440

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
38		Final Base	73	1564	881	0	1715	105	517	53	681	94	3	201	5887
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	73	1564	881	0	1715	105	517	53	681	94	3	201	5887

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
			Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		Final Base	1740	53	229	931	632	43	99	481	818	521	134	5681
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	1740	53	229	931	632	43	99	481	818	521	134	5681

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		Final Base	449	778	7	32	1274	101	20	26	33	209	47	1001	3977
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	449	778	7	32	1274	101	20	26	33	209	47	1001	3977

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		Final Base	21	21	143	146	1098	115	22	493	36	174	40	131	2440
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	21	21	143	146	1098	115	22	493	36	174	40	131	2440

ID	Intersection Name	Volume Type	Eastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
42		Final Base	1330	162	24	762	547	126	2951
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	1330	162	24	762	547	126	2951

ID	Intersection Name	Volume Type	Eastbound		Northeastbound		Southwestbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
51		Final Base	273	158	143	626	365	73	1638
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	273	158	143	626	365	73	1638

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		Final Base	141	95	180	49	46	26	87	1177	44	180	800	92	2917
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	141	95	180	49	46	26	87	1177	44	180	800	92	2917

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
57		Final Base	101	798	20	45	762	188	26	7	14	428	8	147	2544
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	101	798	20	45	762	188	26	7	14	428	8	147	2544

ID	Intersection Name	Volume Type	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
			2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		Final Base	28	293	13	47	14	420	254	227	47	147	173	22	1685
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	28	293	13	47	14	420	254	227	47	147	173	22	1685

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		Final Base	20	7	13	121	16	57	29	829	408	71	821	28	2420
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	20	7	13	121	16	57	29	829	408	71	821	28	2420

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Southeastbound		Total Volume
			Left	Thru	Thru	Right	Left	Right	
102		Final Base	67	1266	931	43	48	35	2390
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	67	1266	931	43	48	35	2390

HCM 6th Signalized Intersection Summary
5: Portola Pkwy. & SR-241 Ramps

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 			 	  		 	  	
Traffic Volume (veh/h)	113	0	324	100	0	146	140	670	187	298	1028	114
Future Volume (veh/h)	113	0	324	100	0	146	140	670	187	298	1028	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	119	0	0	105	0	0	147	705	0	314	1082	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	215	0		292	0		324	2172		434	2334	
Arrive On Green	0.12	0.00	0.00	0.08	0.00	0.00	0.09	0.43	0.00	0.13	0.46	0.00
Sat Flow, veh/h	1781	119		3456	105		3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	119	36.7		105	36.5		147	705	0	314	1082	0
Grp Sat Flow(s),veh/h/ln	1781	D		1728	D		1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	5.2			2.4			3.3	7.6	0.0	7.2	12.0	0.0
Cycle Q Clear(g_c), s	5.2			2.4			3.3	7.6	0.0	7.2	12.0	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	215			292			324	2172		434	2334	
V/C Ratio(X)	0.55			0.36			0.45	0.32		0.72	0.46	
Avail Cap(c_a), veh/h	758			1470			4620	5585		2520	2482	
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.1			35.6			35.3	15.8	0.0	34.6	15.4	0.0
Incr Delay (d2), s/veh	2.7			0.9			1.2	0.1	0.0	2.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4			1.0			1.4	2.8	0.0	3.1	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7			36.5			36.5	15.9	0.0	36.9	15.6	0.0
LnGrp LOS	D			D			D	B		D	B	
Approach Vol, veh/h								852	A		1396	A
Approach Delay, s/veh								19.5			20.4	
Approach LOS								B			C	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	18.8	45.0	15.5		16.2	47.6	18.4					
Change Period (Y+Rc), s	8.5	10.0	8.5		8.5	10.0	8.5					
Max Green Setting (Gmax), s	60.0	90.0	35.0		110.0	40.0	35.0					
Max Q Clear Time (g_c+I1), s	9.2	9.6	4.4		5.3	14.0	7.2					
Green Ext Time (p_c), s	1.2	10.4	0.4		0.7	13.2	0.4					

Intersection Summary

HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Alton Pkwy. & SR-241 Ramps

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 				  			  	
Traffic Volume (veh/h)	236	0	117	46	0	74	249	763	227	79	451	228
Future Volume (veh/h)	236	0	117	46	0	74	249	763	227	79	451	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	262	0	0	51	0	0	277	848	0	88	501	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	336	0		336	0		303	3067		112	2519	
Arrive On Green	0.10	0.00	0.00	0.10	0.00	0.00	0.34	1.00	0.00	0.06	0.49	0.00
Sat Flow, veh/h	3456	262		3456	51		1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	262	51.4		51	45.6		277	848	0	88	501	0
Grp Sat Flow(s),veh/h/ln	1728	D		1728	D		1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	8.1			1.5			16.4	0.0	0.0	5.4	6.1	0.0
Cycle Q Clear(g_c), s	8.1			1.5			16.4	0.0	0.0	5.4	6.1	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	336			336			303	3067		112	2519	
V/C Ratio(X)	0.78			0.15			0.91	0.28		0.78	0.20	
Avail Cap(c_a), veh/h	754			754			405	3067		356	2519	
HCM Platoon Ratio	1.00			1.00			2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			0.93	0.93	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.5			45.5			35.5	0.0	0.0	50.8	15.7	0.0
Incr Delay (d2), s/veh	2.9			0.2			18.6	0.2	0.0	4.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6			0.6			7.3	0.1	0.0	2.5	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4			45.6			54.1	0.2	0.0	55.3	15.8	0.0
LnGrp LOS	D			D			D	A		E	B	
Approach Vol, veh/h								1125	A		589	A
Approach Delay, s/veh								13.5			21.7	
Approach LOS								B			C	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	27.2	63.6	19.2		15.4	75.4	19.2					
Change Period (Y+Rc), s	8.5	9.3	8.5		8.5	9.3	8.5					
Max Green Setting (Gmax), s	25.0	34.7	24.0		22.0	37.7	24.0					
Max Q Clear Time (g_c+I1), s	18.4	8.1	3.5		7.4	2.0	10.1					
Green Ext Time (p_c), s	0.3	5.0	0.1		0.1	10.0	0.6					
Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary
7: Lake Forest Dr. & SR-241 NB Ramp

Existing PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↙↘	↑↑	↑↑	↗
Traffic Volume (veh/h)	0	0	151	671	575	166
Future Volume (veh/h)	0	0	151	671	575	166
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			164	729	625	180
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			269	3216	2661	1187
Arrive On Green			0.16	1.00	0.75	0.75
Sat Flow, veh/h			3456	3647	3647	1585
Grp Volume(v), veh/h			164	729	625	180
Grp Sat Flow(s),veh/h/ln			1728	1777	1777	1585
Q Serve(g_s), s			2.7	0.0	3.2	1.9
Cycle Q Clear(g_c), s			2.7	0.0	3.2	1.9
Prop In Lane			1.00			1.00
Lane Grp Cap(c), veh/h			269	3216	2661	1187
V/C Ratio(X)			0.61	0.23	0.23	0.15
Avail Cap(c_a), veh/h			864	3216	2661	1187
HCM Platoon Ratio			2.00	2.00	1.00	1.00
Upstream Filter(I)			0.97	0.97	0.96	0.96
Uniform Delay (d), s/veh			24.5	0.0	2.3	2.1
Incr Delay (d2), s/veh			0.8	0.2	0.2	0.3
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			1.0	0.1	0.6	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			25.3	0.2	2.5	2.4
LnGrp LOS			C	A	A	A
Approach Vol, veh/h				893	805	
Approach Delay, s/veh				4.8	2.5	
Approach LOS				A	A	
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		60.0			9.4	50.6
Change Period (Y+Rc), s		5.7			* 4.7	5.7
Max Green Setting (Gmax), s		54.3			* 15	34.6
Max Q Clear Time (g_c+I1), s		2.0			4.7	5.2
Green Ext Time (p_c), s		2.1			0.2	8.6
Intersection Summary						
HCM 6th Ctrl Delay			3.7			
HCM 6th LOS			A			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Summary
8: Lake Forest Dr. & SR-241 SB Ramp

Existing PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔	↔		↑↑	↓↓	
Traffic Volume (veh/h)	73	168	0	765	575	0
Future Volume (veh/h)	73	168	0	765	575	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	0
Adj Flow Rate, veh/h	76	175	0	797	599	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	0	2	2	0
Cap, veh/h	495	227	0	2441	2441	0
Arrive On Green	0.14	0.14	0.00	0.69	1.00	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	76	175	0	797	599	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	1.2	6.4	0.0	5.4	0.0	0.0
Cycle Q Clear(g_c), s	1.2	6.4	0.0	5.4	0.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	495	227	0	2441	2441	0
V/C Ratio(X)	0.15	0.77	0.00	0.33	0.25	0.00
Avail Cap(c_a), veh/h	1152	528	0	2441	2441	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	0.82	0.98	0.00
Uniform Delay (d), s/veh	22.5	24.8	0.0	3.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.1	0.0	0.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.4	0.0	1.3	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.6	26.9	0.0	4.1	0.2	0.0
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h				797	599	
Approach Delay, s/veh				4.1	0.2	
Approach LOS				A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		46.9		13.1		46.9
Change Period (Y+Rc), s		5.7		4.5		5.7
Max Green Setting (Gmax), s		29.8		20.0		29.8
Max Q Clear Time (g_c+I1), s		7.4		8.4		2.0
Green Ext Time (p_c), s		8.5		0.3		6.7
Intersection Summary						
HCM 6th Ctrl Delay			6.0			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 35: Lake Forest Dr. & I-5 NB Ramps

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	219	0	585	0	2412	0	0	1148	740
Future Volume (veh/h)	0	0	0	219	0	585	0	2412	0	0	1148	740
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	0	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				231	0	616	0	2539	0	0	1088	0
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	0	2	0	2	0	0	2	2
Cap, veh/h				618	0	499	0	4622	0	0	2687	
Arrive On Green				0.18	0.00	0.18	0.00	0.72	0.00	0.00	0.72	0.00
Sat Flow, veh/h				3456	0	2790	0	6958	0	0	3741	3170
Grp Volume(v), veh/h				231	0	616	0	2539	0	0	1088	0
Grp Sat Flow(s),veh/h/ln				1728	0	1395	0	1609	0	0	1870	1585
Q Serve(g_s), s				6.6	0.0	20.0	0.0	20.5	0.0	0.0	12.9	0.0
Cycle Q Clear(g_c), s				6.6	0.0	20.0	0.0	20.5	0.0	0.0	12.9	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				618	0	499	0	4622	0	0	2687	
V/C Ratio(X)				0.37	0.00	1.23	0.00	0.55	0.00	0.00	0.40	
Avail Cap(c_a), veh/h				618	0	499	0	5466	0	0	3178	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				40.4	0.0	45.9	0.0	7.3	0.0	0.0	6.3	0.0
Incr Delay (d2), s/veh				0.3	0.0	122.0	0.0	0.1	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.8	0.0	15.3	0.0	6.2	0.0	0.0	4.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				40.7	0.0	167.9	0.0	7.5	0.0	0.0	6.4	0.0
LnGrp LOS				D	A	F	A	A	A	A	A	A
Approach Vol, veh/h					847			2539			1088	A
Approach Delay, s/veh					133.2			7.5			6.4	
Approach LOS					F			A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		86.2				86.2		25.6				
Change Period (Y+Rc), s		5.9				5.9		5.6				
Max Green Setting (Gmax), s		95.0				95.0		20.0				
Max Q Clear Time (g_c+I1), s		22.5				14.9		22.0				
Green Ext Time (p_c), s		57.8				15.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 36: Lake Forest Dr. & I-5 SB Ramps/Avenida De La Carlota

Existing PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1639	602	465	118	0	296	0	1749	100	192	613	520
Future Volume (veh/h)	1639	602	465	118	0	296	0	1749	100	192	613	520
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1738	584	484	123	0	308	0	1822	104	200	639	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	2
Cap, veh/h	2069	724	614	0	0	0	0	1969	112	290	1676	
Arrive On Green	0.39	0.39	0.39	0.00	0.00	0.00	0.00	0.31	0.31	0.08	0.45	0.00
Sat Flow, veh/h	5344	1870	1585		0		0	6535	358	3563	3741	3170
Grp Volume(v), veh/h	1738	584	484		0.0		0	1402	524	200	639	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585				0	1609	1806	1781	1870	1585
Q Serve(g_s), s	23.5	22.1	21.4				0.0	22.3	22.3	4.3	9.0	0.0
Cycle Q Clear(g_c), s	23.5	22.1	21.4				0.0	22.3	22.3	4.3	9.0	0.0
Prop In Lane	1.00		1.00				0.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	2069	724	614				0	1514	567	290	1676	
V/C Ratio(X)	0.84	0.81	0.79				0.00	0.93	0.93	0.69	0.38	
Avail Cap(c_a), veh/h	3362	1177	997				0	1518	568	897	2316	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.1	21.7	21.5				0.0	26.4	26.4	35.5	14.6	0.0
Incr Delay (d2), s/veh	0.5	0.8	0.9				0.0	10.0	21.3	1.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	9.2	7.6				0.0	9.5	12.4	1.9	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	22.5	22.3				0.0	36.4	47.6	36.6	14.7	0.0
LnGrp LOS	C	C	C				A	D	D	D	B	
Approach Vol, veh/h		2806						1926			839	A
Approach Delay, s/veh		22.5						39.4			20.0	
Approach LOS		C						D			B	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.7	31.2		37.6		41.9						
Change Period (Y+Rc), s	* 4.2	6.3		6.8		6.3						
Max Green Setting (Gmax), s	* 20	25.0		50.0		49.2						
Max Q Clear Time (g_c+I1), s	6.3	24.3		25.5		11.0						
Green Ext Time (p_c), s	0.2	0.6		5.3		5.0						

Intersection Summary

HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 37: Paseo De La Valencia/I-5 SB Ramps & Avenida De La Carlota

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	630	322	20	285	482	126	79	84	787	323	49
Future Volume (veh/h)	253	630	322	20	285	482	126	79	84	787	323	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	264	656	335	21	297	502	131	82	88	712	488	51
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	1902	958	28	1634	1083	239	130	134	796	744	77
Arrive On Green	0.09	0.54	0.54	0.02	0.46	0.46	0.07	0.07	0.07	0.22	0.22	0.22
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	3563	3331	347
Grp Volume(v), veh/h	264	656	335	21	297	502	131	82	88	712	273	266
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1808
Q Serve(g_s), s	11.3	15.8	15.9	1.8	7.4	22.0	5.5	6.4	8.1	29.1	19.9	20.1
Cycle Q Clear(g_c), s	11.3	15.8	15.9	1.8	7.4	22.0	5.5	6.4	8.1	29.1	19.9	20.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	314	1902	958	28	1634	1083	239	130	134	796	418	404
V/C Ratio(X)	0.84	0.34	0.35	0.76	0.18	0.46	0.55	0.63	0.65	0.89	0.65	0.66
Avail Cap(c_a), veh/h	518	1902	958	143	1634	1083	346	187	183	903	474	458
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.1	19.9	14.9	73.6	23.9	11.0	67.5	67.9	66.5	56.5	53.0	53.0
Incr Delay (d2), s/veh	2.8	0.5	1.0	11.3	0.2	1.1	0.7	1.9	2.0	9.8	1.8	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	6.8	7.3	0.9	3.2	14.7	2.5	3.1	3.4	14.2	9.6	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	20.4	15.9	84.8	24.1	12.1	68.3	69.8	68.5	66.3	54.8	55.0
LnGrp LOS	E	C	B	F	C	B	E	E	E	E	D	D
Approach Vol, veh/h		1255			820			301			1251	
Approach Delay, s/veh		29.6			18.3			68.8			61.4	
Approach LOS		C			B			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.1	75.0		16.4	6.8	86.3		40.5				
Change Period (Y+Rc), s	4.5	6.0		6.0	4.5	6.0		7.0				
Max Green Setting (Gmax), s	22.5	51.0		15.0	12.0	61.5		38.0				
Max Q Clear Time (g_c+I1), s	13.3	24.0		10.1	3.8	17.9		31.1				
Green Ext Time (p_c), s	0.3	2.3		0.3	0.0	3.9		2.4				

Intersection Summary

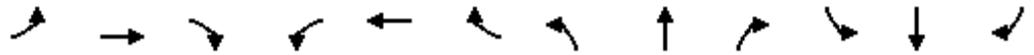
HCM 6th Ctrl Delay	41.3
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 38: El Toro Rd. & Bridger Rd./I-5 NB Ramps

Existing PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	3	201	517	53	681	73	1564	881	0	1715	105
Future Volume (veh/h)	94	3	201	517	53	681	73	1564	881	0	1715	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	3	207	800	0	458	75	2029	630	0	1768	108
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	224	274	1066	0	474	94	2622	741	1	2822	172
Arrive On Green	0.12	0.12	0.12	0.30	0.00	0.30	0.05	0.47	0.47	0.00	0.51	0.51
Sat Flow, veh/h	1781	1870	1585	3563	0	1585	1781	5611	1585	1781	7398	451
Grp Volume(v), veh/h	97	3	207	800	0	458	75	2029	630	0	1448	428
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	1781	1870	1585	1781	1515	1789
Q Serve(g_s), s	7.6	0.2	18.0	30.4	0.0	42.7	6.2	45.3	52.7	0.0	25.9	26.0
Cycle Q Clear(g_c), s	7.6	0.2	18.0	30.4	0.0	42.7	6.2	45.3	52.7	0.0	25.9	26.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	214	224	274	1066	0	474	94	2622	741	1	2311	682
V/C Ratio(X)	0.45	0.01	0.76	0.75	0.00	0.97	0.80	0.77	0.85	0.00	0.63	0.63
Avail Cap(c_a), veh/h	214	224	274	1259	0	560	214	2622	741	214	2311	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.53	0.53	0.53	0.00	0.86	0.86
Uniform Delay (d), s/veh	61.4	58.2	59.1	47.5	0.0	51.8	70.3	33.3	35.3	0.0	29.2	29.3
Incr Delay (d2), s/veh	0.6	0.0	10.3	1.6	0.0	26.2	3.1	1.2	6.7	0.0	1.1	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.1	8.3	13.8	0.0	20.4	2.9	20.7	21.5	0.0	9.0	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	58.2	69.4	49.1	0.0	78.0	73.4	34.6	42.0	0.0	30.4	33.0
LnGrp LOS	E	E	E	D	A	E	E	C	D	A	C	C
Approach Vol, veh/h		307			1258			2734			1876	
Approach Delay, s/veh		66.9			59.6			37.3			31.0	
Approach LOS		E			E			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	76.1		23.0	12.9	63.2		50.9				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	18.0	39.0		18.0	18.0	39.0		53.0				
Max Q Clear Time (g_c+I1), s	0.0	54.7		20.0	8.2	28.0		44.7				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	2.9		0.2				

Intersection Summary

HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Appendix 3: Assumed Future Roadway Improvements

20 YEAR IMPROVEMENTS (Current LFTAM)

Roadway	Segment	Description
El Toro Road	Live Oak Canyon Road to Glenn Ranch Road	Existing roadway is two lanes (one lane in each direction) and on the MPAH it is improved to six lanes (three lanes in each direction)
El Toro Road	Glenn Ranch Road to Marguerite Parkway	Existing roadway is five lanes (two southbound and three northbound) and on the MPAH it is improved to six lanes (three lanes in each direction)
El Toro Road	Montcliff Drive to Raintree Lane	Existing roadway is 5 lanes (3 southbound, 2 northbound) and the MPAH it is improved to 6 lanes (three lanes in each direction).
Portola Parkway	Market to Lake Forest Drive segment	Existing roadway is 5 lanes (3 eastbound, 2 westbound) and on the MPAH it is improved to six lanes (3 lanes in each direction)

LFTM 5-YEAR UPDATE

TRAFFIC FORECASTS AND LEVEL OF SERVICE

June 2019

Table 3-3 Summary of Deficient Intersections and Proposed Improvements

Intersection (NS & EW)	ICU Without Improvements		ICU With Improvements		Improvements	Funding Source(s)
	AM	PM	AM	PM		
Deficient Locations under Baseline (Committed) Network						
10. Lake Forest & Rancho	Improvements Completed		0.77	0.90	Restripe westbound approach to add 2 nd westbound left-turn lane (Completed) and convert dedicated westbound right-turn lane to a defacto right-turn lane. Add a 2 nd eastbound through lane (Completed).	LFTM Program
12. El Toro & Portola/Santa Margarita	0.87	1.09	0.67	0.87	Add a 2 nd northbound left-turn lane. Add a 2 nd southbound right-turn lane.	LFTM Program
14. Bake & Irvine/Trabuco	1.12	0.87	0.85	0.80	Add a 2 nd northbound left-turn lane. Convert the 3 rd eastbound through lane to a shared through/right-turn lane. Convert the westbound right-turn lane to a 4 th through lane.	NITM Program
					Provide a defacto westbound right-turn lane.	LFTM Program
22. Bake & Jeronimo	1.02	0.87	0.90	0.87	Add a 2 nd northbound left-turn lane.	NITM Program <i>& LFTM</i>
23. Lake Forest & Jeronimo ⁵	0.75	0.85	0.75	0.83	Provide a defacto eastbound right-turn lane.	NITM and LFTM Programs
31. Lake Forest & Rockfield ⁵	0.78	0.83	0.81	0.79	Convert the 2 nd westbound through lane to a shared left-turn/through lane. Convert traffic signal phasing for eastbound and westbound approaches to split phase operation.	NITM and LFTM Programs
34. Los Alisos & Rockfield ⁵	0.87	0.83	0.70	0.77	Add a southbound right-turn lane.	NITM and LFTM Programs
36. Lake Forest & I-5/Carlota	0.66	0.94	0.55	0.78	Convert the shared eastbound left- turn/through lane to a 3 rd left-turn lane. Add a 2 nd westbound left-turn lane. Add right-turn overlap phasing for westbound right-turn lane.	NITM Program
					Add a 2 nd eastbound through lane.	LFTM Program

(Continued)



LFTM 5-YEAR UPDATE

TRAFFIC FORECASTS AND LEVEL OF SERVICE

June 2019

Table 3-3 Summary of Deficient Intersections and Proposed Improvements (Continued)

Intersection (NS & EW)	ICU Without Improvements		ICU With Improvements		Improvements	Funding Source(s)
	AM	PM	AM	PM		
Deficient Locations under MPAH Network						
2. Bake & Portola ^{1,3}	Improvements Completed		0.66 / 0.62	0.94 / 0.95	Add a 3 rd westbound through lane or add a 2 nd eastbound left-turn lane (Completed).	LFTM Program
32. Ridge Route & Rockfield ^{1,3}	0.85	1.25	0.80	1.12	Add a defacto northbound right-turn lane.	NITM and LFTM Programs
105. Alton & Irvine ^{2,3,4}	0.90	1.01	0.76	0.93	Reconfigure the eastbound approach to add a 3 rd eastbound left-turn lane, remove dedicated eastbound right-turn lane, and provide a defacto eastbound right-turn lane.	LFTM Program
117. Alton & Toledo ^{2,3}	Improvements Completed		0.67	0.87	Add right-turn overlap signal phasing for westbound right-turn lanes.	LFTM Program
125. Bake & Rockfield ^{2,3,4}	0.69	0.92	0.68	0.89	Reconfigure the westbound approach to add a 3 rd westbound left-turn lane, remove dedicated westbound free-flow right-turn lane and provide a defacto westbound right-turn lane.	LFTM Program
<p>Notes:</p> <p>¹ Although this location is not forecast to operate deficiently under the committed network scenario, it has been identified as not meeting the performance criteria in the traffic impact analysis for the OSA Alternative 7/Hybrid Alternative project and therefore is impacted by the OSA project and the improvements are included in the LFTM Program (all ICUs presented for this location are taken from the May 2008 Alternative 7/Hybrid Alternative traffic impact analysis).</p> <p>² This is a city of Irvine location identified in the Vacant Land Opportunities traffic impact analysis as being impacted by the OSA Alternative 7/Hybrid Alternative project, and the improvements included in the LFTM Program at this location are included to address the impact of the OSA project. To show that the improvements mitigate project impacts, the ICUs for Current General Plan conditions are also presented in parentheses (all ICUs presented for this location are taken from the May 2008 Alternative 7/Hybrid Alternative traffic impact analysis).</p> <p>³ These locations are impacted under conditions assuming the completion of the roadway system according to the County of Orange MPAH. The improvements for these locations would be implemented as presented here should the Portola gap connection and Ridge Route Drive/I-5 Freeway Overcrossing be constructed.</p> <p>⁴ In comparison to the City's original General Plan improvements, this improvement represents a restriping of the approach.</p> <p>⁵ This location was forecasted to have an ICU/LOS deficiency in earlier LFTM updates. Due to recent intersection improvements and/or refinements to the LFTM land use, this location is not forecast to have a deficient ICU/LOS under the baseline scenario analyzed in this report. Based on discussions with City staff, the intersection remains part of the LFTM program due to either being on the LOS D/LOS E cusp or intersection sensitivity, and therefore improvements are maintained as part of the LFTM program.</p> <p>Abbreviations:</p> <p>ICU – Intersection Capacity Utilization, LFTM – Lake Forest Transportation Mitigation Program, NITM – North Irvine Transportation Mitigation Program</p> <p>See Table 1-7 for a listing of committed improvements not a part of the LFTM Program.</p>						



CITY OF LAKE FOREST



Proposed Capital Improvement Projects Budget

2019-2021

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CAPITAL IMPROVEMENT PROJECTS BUDGET FISCAL YEARS 2019-21

Elected Officials

Mark Tetteimer, Mayor
Neeki Moatazedi, Mayor Pro Tem
Leah Basile, Council Member
Dwight Robinson, Council Member
Scott Voigts, Council Member

Planning Commission

Thomas Ludden, Chair
David Carter, Vice Chair
Mark Armando, Commissioner
Francisco Barajas, Commissioner
Jolene Fuentes, Commissioner

Community Services Commission

Jim Rosenberg, Chair
Loretta Herrin, Vice Chair
Margie Matsil, Commissioner
Lisa Porter, Commissioner
Victor Scherr, Commissioner

Traffic and Parking Commission

Jim Richert, Chair
Jordan Villwock, Vice Chair
Benjamin Yu, Commissioner
Mike James, Commissioner
Robert Pequeno, Commissioner

City Staff

Debra Rose, City Manager
Keith D. Neves, Assistant City Manager

Gayle Ackerman, Director of Community Development
Mike Contreras, Division Chief - Fire Services
Brett Channing, Director of Management Services
Maria D. Huizar, City Clerk
Matthew Richardson, City Attorney
Kevin R. Shirah, Director of Finance/City Treasurer
Lieutenant Chad Taylor, Chief of Police Services
Scott Wasserman, Director of Community Services
Tom Wheeler, Director of Public Works/City Engineer

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CAPITAL IMPROVEMENT PROJECTS BUDGET

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Mayor
Mark Tettemer

Mayor Pro Tem
Neeki Moatazedi

Council Members
Leah Basile
Dwight Robinson
Scott Voigts

City Manager
Debra DeBruhl Rose

May 14, 2019

Honorable Mayor and Members of the City Council:

Submitted for your review is the Capital Improvement Projects Budget ("CIP Budget") for Fiscal Years FY 2019-20 and 2020-21. The CIP Budget complements the City's Annual Operating Budget and the Five-Year Strategic Business Plan. The annual Operating and CIP Budgets include funding for capital projects. Future operating costs related to each project, if any, are documented in the Five Year Strategic Business Plan.

The CIP Budget includes projects that reflect the City's commitment to providing highly desired facilities, while maintaining and improving existing infrastructure and assets. The CIP Budget continues with the fifteen traffic and street related projects. These projects are designed to improve safety, traffic flow, median and parkway landscaping, and maintain the roadway network. Other projects include school crosswalk safety enhancements, signal synchronization projects with neighboring cities, traffic modeling to support the General Plan update, street asphalt resurfacing, and sidewalk rehabilitation. Also included in the CIP are numerous playground repairs and enhancements, including the addition of shade structures to existing park playgrounds.

The CIP Budget summarizes funding for each project beginning on page 4. The largest funding source for the CIP Budget is the Neighborhood Park Improvement Reserve Fund. Monies contained in the Lake Forest Transportation Mitigation Fund (LFTM) and Foothill Circulation Phasing Plan Fund were provided by developers as part of the public benefit component of the Opportunity Study Area development agreements. Other sources of funding include the CIP Fund, Infrastructure Reserve, Gas Tax, Road Maintenance and Rehab Account, Air Quality Improvement District, and Orange County Transportation Authority (OCTA) Measure M2 Fund. Grant revenues also will provide additional funding.

The CIP Budget represents a new investment of approximately \$25.3 million over the next two years. Due to strategic and conservative funding of capital improvements projects, the City of Lake Forest continues to maintain and improve its infrastructure, adding to the high quality of life enjoyed by our residents and businesses.

Sincerely,


Debra Rose
City Manager



Two-Year Capital Project Plan - Expenditures

Project Class and Number	Public Works Project #	Category	Description	Fiscal Year of Funding	
				FY 2019-20	FY 2020-21
S1		Streets	Annual Street Sidewalk Rehabilitation Program	\$ 75,000	\$ 75,000
S2		Streets	CDBG - ADA Ramps Phase 13	-	125,000
S3		Streets	Annual Pavement Management Program - Street Resurfacing and Slurry Seal	4,644,000	4,644,000
T1		Traffic	Bake / Trabuco / Irvine Intersection Improvements	1,138,000	-
T2		Traffic	Second Eastbound Left Turn Lane and 2nd Westbound Right Turn Lane on El Toro at Portola/Santa Margarita	659,000	1,623,200
T3		Traffic	Widening of Southbound Jeronimo at Lake Forest Drive	-	35,500
T4		Traffic	Dedicated Right Turn Lane on EB Ridge Route Drive at Rockfield Blvd	2,300	-
T5		Traffic	Lake Forest & Rockfield Restriping / Split Phase Signaling	11,000	56,200
T6		Traffic	Second Eastbound Left Turn Lane on Bake Parkway at Jeronimo	-	235,000
T7		Traffic	Southbound Rancho Parkway Widening at Lake Forest Drive for Dedicated Right Turn Lane	-	60,000
T8		Traffic	Second Left Turn Lanes in All Directions at the Intersection of Los Alisos and Muirlands	450,000	1,450,000
T9		Traffic	Widening/Realignment of Jeronimo at El Toro Road	100,000	700,000
T10		Traffic	El Toro Raised Medians from Jeronimo to Trabuco	-	100,000
T11		Traffic	Protective Permissive Left Turn Phasing Program	200,000	100,000
T12		Traffic	Los Alisos Traffic Signal Synchronization Program	18,000	-
P1		Parks & Recreation	CDBG - El Toro Park Improvements	132,500	-
P2		Parks & Recreation	Sports Court Resurfacing Project	-	32,500
P3		Parks & Recreation	Playground Resurfacing Project	225,000	-
P4		Parks & Recreation	Park Sidewalk Rehabilitation Project	50,000	50,000
P5		Parks & Recreation	Park Amenities Replacements	40,000	40,000
P6		Parks & Recreation	Neighborhood Park Renovations	3,150,000	3,500,000
P7		Parks & Recreation	Park Light Pole Replacements	325,000	-
P8		Parks & Recreation	Arbor Mini Park (Garden Park)	20,000	10,000
P9		Parks & Recreation	The Arbor Parkway Repairs	95,000	-
P10		Parks & Recreation	Urban Forestry Management	205,000	-
P11		Parks & Recreation	Heroes Park Irrigation Improvements	110,000	-
P12		Parks & Recreation	Heroes Park & Etnies Park Musco LED Light Replacements	-	30,000
P13		Parks & Recreation	Park Name Sign Medallion Replacements	25,000	-
P14		Parks & Recreation	Park Restroom Timers Installation	25,000	-
P15		Parks & Recreation	Sports Complex Paver Replacement Project	-	50,000
P16		Parks & Recreation	Recreation Center Sliding Doors Installation	40,000	-
P17		Parks & Recreation	Sports Park Complex Painting	36,000	-
P18		Parks & Recreation	Calsense Controllers	45,000	-
P19		Parks & Recreation	Park Parking Lot Resurfacing	-	120,000
P20		Parks & Recreation	Heroes Park Security Improvements	70,000	-
P21		Parks & Recreation	El Toro Park Security Improvements	-	70,000
E1		Environmental	Catch Basin Best Management Practices Environmental Tier 1 Improvements	133,500	133,500
E2		Environmental	Packer Place Storm Drain Improvements	7,500	67,500
TOTAL				\$ 12,031,800	\$ 13,307,400

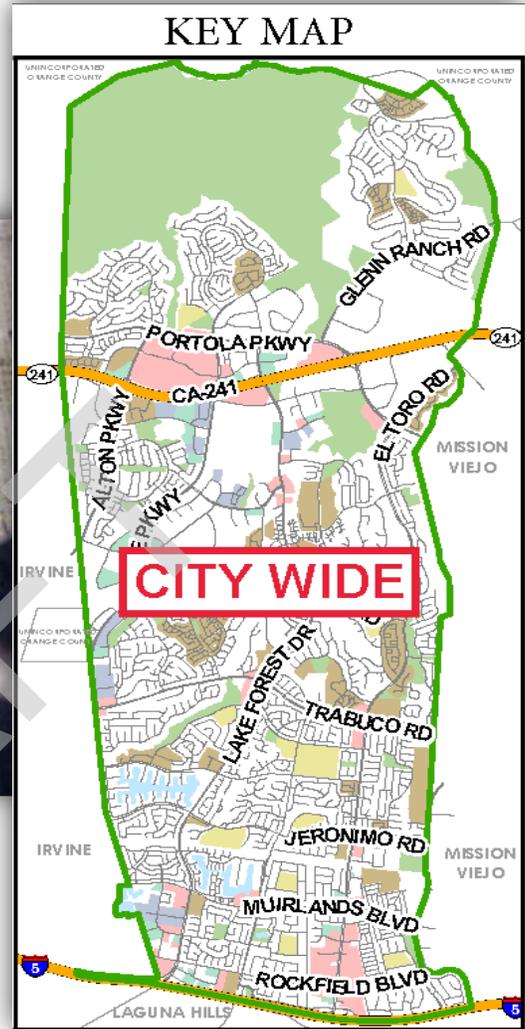
Two-Year Capital Project Plan - Funding Sources

	Fiscal Year of Funding	
	FY 2019-20	FY 2020-21
Funding Needs:		
Capital Project Expenditures	\$ 12,031,800	\$ 13,307,400
Funding Sources:		
General Fund Capital Improvement Project Fund	\$ 1,344,375	\$ 435,875
Infrastructure Reserve Fund	1,799,156	1,763,135
Neighborhood Park Improvement Reserve Fund	3,150,000	3,500,000
Gas Tax Fund (HUTA)	282,500	242,500
Gas Tax Fund Road Maintenance and Rehab Account	1,404,000	1,404,000
Measure M2 Local Fair Share	1,440,844	1,476,865
Air Quality Improvement District Fund	18,000	-
Community Development Block Grant Fund	132,500	125,000
Lake Forest Traffic Mitigation Fund	1,810,300	2,009,900
Foothill Circulation Phasing Plan Capital Projects Fund	550,000	2,250,000
M2 CTFP Competitive Grant Funds	100,125	100,125
TOTAL	<u>\$ 12,031,800</u>	<u>\$ 13,307,400</u>

DRAFT

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Annual Street Sidewalk Rehabilitation Program
Maintenance
Streets



PROJECT DESCRIPTION:

This project would remove and replace damaged sidewalk panels and other displacements within the pedestrian path of travel citywide along both residential and arterial streets.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

Regular sidewalk repair provides a high-quality pedestrian circulation system. Smooth, unbroken surfaces are safer for pedestrians.

PROJECT NUMBER/NAME: PW# / Annual Street Sidewalk Rehabilitation Program
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Streets

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide preventive maintenance, which would help control or reduce sidewalk, risk management, and operating costs.

NO PRIOR YEAR FUNDING

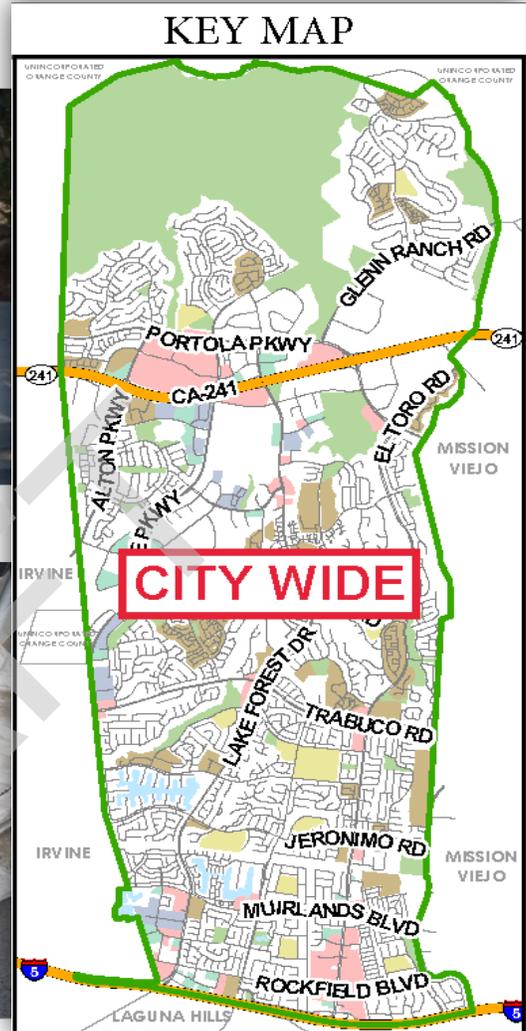
CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 375,000
Total Estimate	\$ 75,000	\$ 375,000				

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Gas Tax HUTA (210)	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 75,000	\$ 375,000
						\$ -
						\$ -
Total Revenue	\$ 75,000	\$ 375,000				

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / CDBG - ADA Ramps Phase 13
Engineering
Streets



PROJECT DESCRIPTION:

This project would reconstruct existing sidewalk access ramps to comply with current standards and requirements of the Americans with Disabilities Act ("ADA"). This project also implements the City's ADA self-assessment and transition plan. To date, this program has completed 482 of 800 ramps at various locations within the City. The schedule for the design and construction of Phase 13 would depend on the annual allocation of Community Development Block Grant (CDBG) funds.

PROJECT NUMBER/NAME: PW# / CDBG - ADA Ramps Phase 13
RESPONSIBLE DEPARTMENT: Engineering
CATEGORY: Streets

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe
Strategic Plan Priority Area: Attractive
Strategic Plan Strategy: Proactively enhance the visual character of the City and plan for maintenance of all City assets.

Implementation of ADA self-assessment and transition plan provides an investment and maintenance of infrastructure proactively enhancing the visual character of the City, supporting quality neighborhoods and maintenance of City assets.

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide preventive maintenance, which would help control or reduce sidewalk, risk management, and operating costs.

NO PRIOR YEAR FUNDING

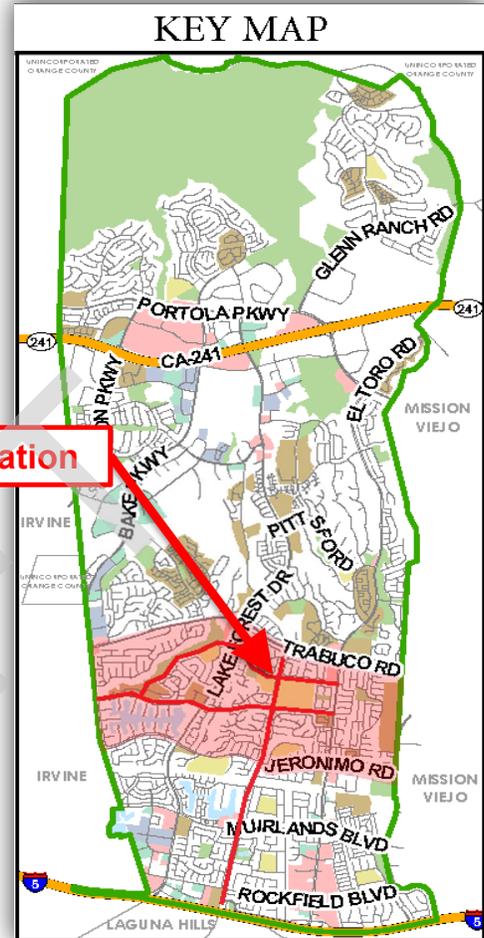
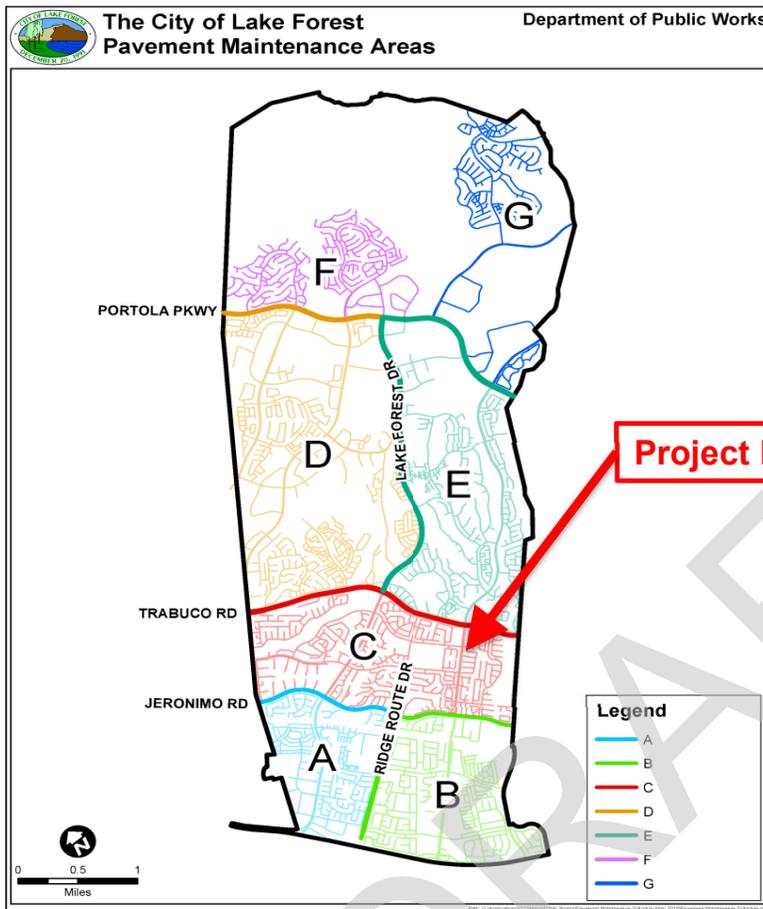
CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design		\$ 25,000		\$ 25,000		\$ 50,000
Construction		\$ 100,000		\$ 100,000		\$ 200,000
Total Estimate	\$ -	\$ 125,000	\$ -	\$ 125,000	\$ -	\$ 250,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CDBG (260)	\$ -	\$ 125,000	\$ -	\$ 125,000	\$ -	\$ 250,000
						\$ -
						\$ -
Total Revenue	\$ -	\$ 125,000	\$ -	\$ 125,000	\$ -	\$ 250,000

Note: CDBG funding in Fiscal Year 2021-22 and 2023-24 to be programmed toward park improvements. CDBG funding in Fiscal Year 2022-23 to be programmed towards ADA Ramps.

PROJECT NUMBER/NAME: PW# / Annual Pavement Management Program - Street Resurfacing and Slurry Seal
RESPONSIBLE DEPARTMENT: Engineering
CATEGORY: Streets



Project Location

PROJECT DESCRIPTION:

This project provides asphalt overlays on arterial roadways and slurry seals on collector and residential streets as determined by the Pavement Management Program ("PMP"). The system is designed to avoid expensive deferred maintenance. Conformance with the PMP makes the City eligible for Measure M2 Local Fair Share funding. In FY 2019-20 residential streets in Zone C would be slurried, and Ridge Route from Trabuco to west of Rockfield would be resurfaced. In FY 2020-21 residential streets in Zone G would be slurried. The resurfacing project for FY 2020-21 would be determined upon completion of the Pavement Management Plan report due in late spring 2019.

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe

Strategic Plan Priority Area: Attractive

Strategic Plan Strategy: Proactively enhance the visual character of the City and plan for maintenance of all City assets.

Maintaining a "Good" Pavement Condition Index (80 PCI), helps to sustain the quality of the pavement in the city and extend the useful life.

PROJECT NUMBER/NAME: PW# / Annual Pavement Management Program - Street Resurfacing and Slurry Seal
RESPONSIBLE DEPARTMENT: Engineering
CATEGORY: Streets

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide preventive maintenance and/or rehabilitation, which would reduce annual maintenance costs over the life of the pavement by an estimated average of 30% (Source: American Public Works Association). Recurring resurfacing also reduces risk management costs.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

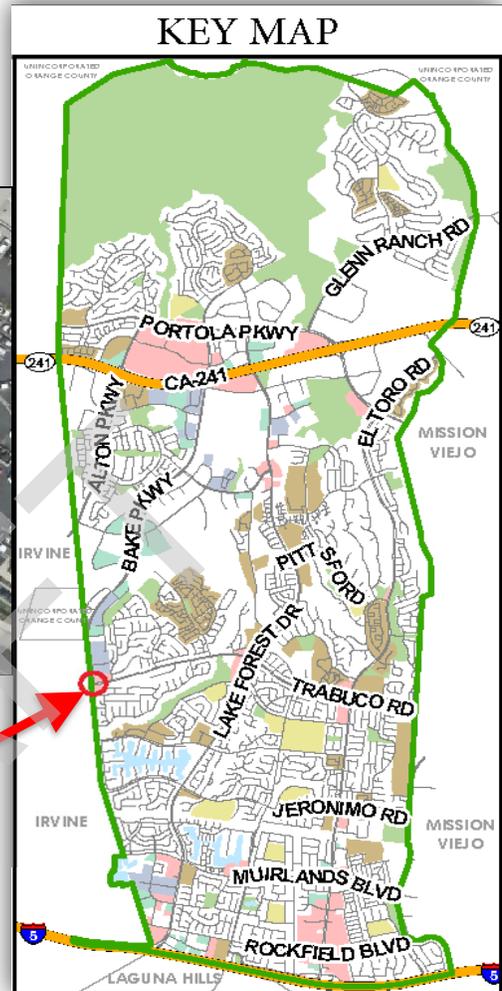
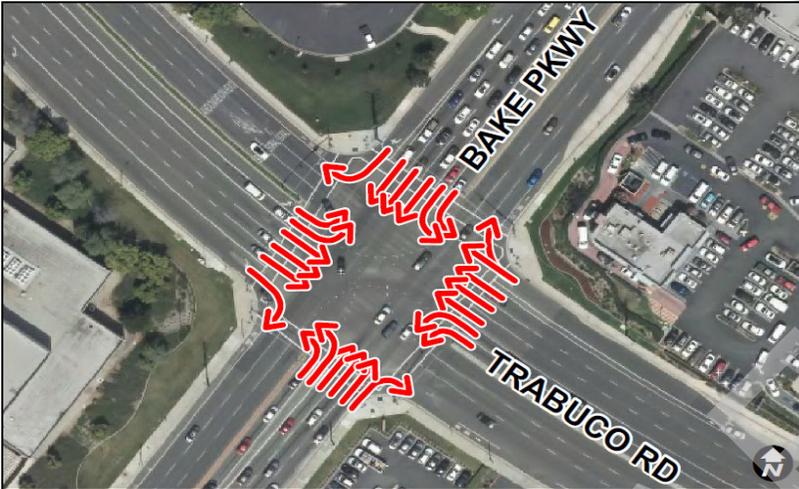
PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design	\$ 464,400	\$ 464,400	\$ 451,100	\$ 295,100	\$ 300,800	\$ 1,975,800
Construction	\$ 4,179,600	\$ 4,179,600	\$ 4,059,719	\$ 2,655,993	\$ 2,707,238	\$ 17,782,150
Total Estimate	\$ 4,644,000	\$ 4,644,000	\$ 4,510,819	\$ 2,951,093	\$ 3,008,038	\$ 19,757,950

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
M2 LFS (220)	\$ 1,440,844	\$ 1,476,865	\$ 1,512,310	\$ 1,547,093	\$ 1,604,038	\$ 7,581,150
Gas Tax RMRA (211)	\$ 1,404,000	\$ 1,404,000	\$ 1,404,000	\$ 1,404,000	\$ 1,404,000	\$ 7,020,000
Gas Tax HUTA (210)	\$ -	\$ -				\$ -
Infras Reserve (150)	\$ 1,799,156	\$ 1,763,135	\$ 1,594,509			\$ 5,156,800
Total Revenue	\$ 4,644,000	\$ 4,644,000	\$ 4,510,819	\$ 2,951,093	\$ 3,008,038	\$ 19,757,950

The Infrastrucutre Reserve of \$7,000,000 approved in Fiscal Year 2018-19 would be depleted at the end of FY 2021-22.

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Bake / Trabuco / Irvine Intersection Improvements
 Traffic Engineering
 Traffic Improvements



Project Location

PROJECT DESCRIPTION:

The project would convert the northbound dedicated right turn lane on Trabuco into a 4th through/right lane; restripe the southbound #3 through lane on Irvine Boulevard into a through/right lane; add a second eastbound left turn lane on Bake Parkway; restore the second left turn lane on westbound Bake; and provide a dedicated right turn lane on eastbound Bake. This project is item 4 of the Lake Forest Transportation Mitigation (LFTM) program.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Well planned

Strategic Plan Strategy:

Prioritize initiatives to reduce traffic congestion, improve air quality, and manage on-street parking

This project would promote improved traffic flow and safety at this intersection.

PROJECT NUMBER/NAME: PW# / Bake / Trabuco / Irvine Intersection Improvements
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

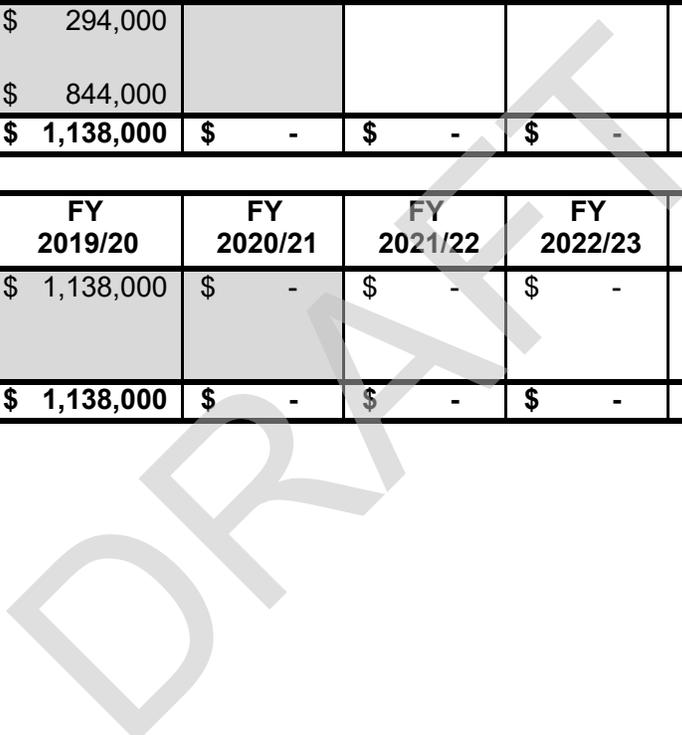
This project would provide a reduction in traffic congestion, improvement in operations, enhancement of traffic signal infrastructure, which may help reduce retrofit, improvement, and signal maintenance operating costs.

PRIOR YEAR FUNDING FY17-18 - \$40,000 Design, FY18-19 \$80,000 Design \$275,000 R/W

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land	\$ 294,000					\$ 294,000
Planning/Design						\$ -
Construction	\$ 844,000					\$ 844,000
Total Estimate	\$ 1,138,000	\$ -	\$ -	\$ -	\$ -	\$ 1,138,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
LFTM (511)	\$ 1,138,000	\$ -	\$ -	\$ -	\$ -	\$ 1,138,000
						\$ -
						\$ -
Total Revenue	\$ 1,138,000	\$ -	\$ -	\$ -	\$ -	\$ 1,138,000

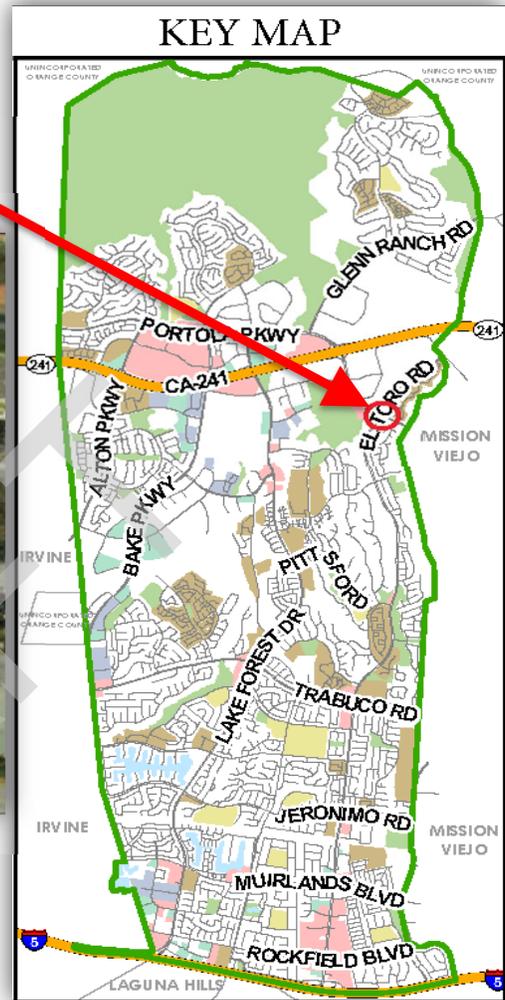


PROJECT NUMBER/NAME: PW# / Second Eastbound Left Turn Lane and 2nd Westbound Right Turn Lane on El Toro at Portola/Santa Margarita

RESPONSIBLE DEPARTMENT: Traffic Engineering

CATEGORY: Traffic Improvements

Project Location



PROJECT DESCRIPTION:

This project would add a second eastbound left turn lane on El Toro and a second dedicated westbound right turn lane on El Toro to mitigate the future traffic impacts that are identified in LFTM. The City conducted additional traffic analysis in the AM and PM peak periods to determine if other improvements could be implemented in lieu of the second right turn lane. None of the alternative improvements adequately mitigated the future traffic impacts identified in LFTM and therefore the second right turn lane must be provided to meet the required LOS at this intersection. The project is fully funded by LFTM. This project is item 3 of the Lake Forest Transportation Mitigation (LFTM) program.

PROJECT NUMBER/NAME: PW# / Second Eastbound Left Turn Lane and 2nd Westbound Right Turn Lane on El Toro at Portola/Santa Margarita
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe
Strategic Plan Priority Area: Well planned
Strategic Plan Strategy: Prioritize initiatives to reduce traffic congestion, improve air quality, and manage on-street parking

This project would promote improved traffic flow and safety at this intersection.

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide a reduction in traffic congestion, improvement in operations, enhancement of traffic signal infrastructure, which may help reduce retrofit, improvement, and signal maintenance operating costs.

NO PRIOR YEAR FUNDING

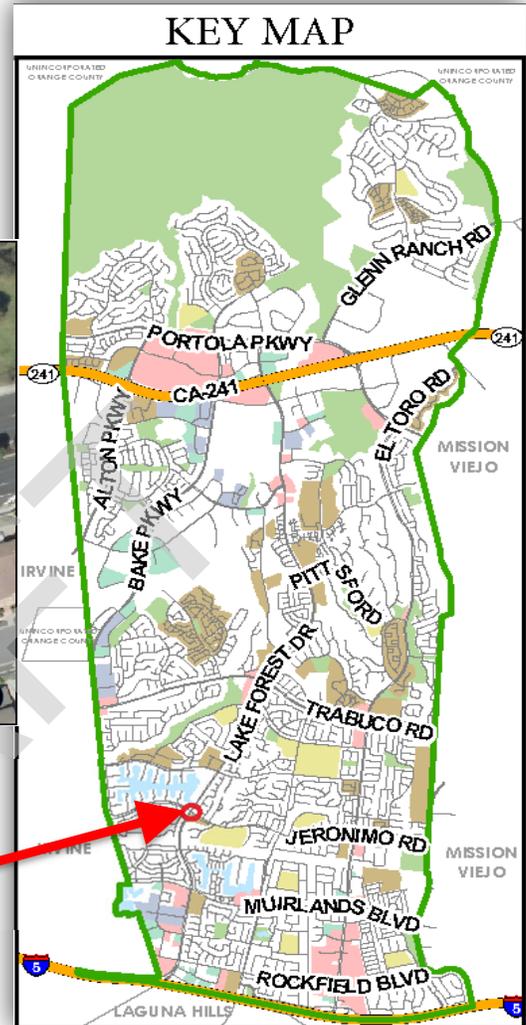
CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land	\$ 659,000					\$ 659,000
Planning/Design						\$ -
Construction		\$ 1,623,200				\$ 1,623,200
Total Estimate	\$ 659,000	\$ 1,623,200	\$ -	\$ -	\$ -	\$ 2,282,200

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
LFTM (511)	\$ 659,000	\$ 1,623,200	\$ -			\$ 2,282,200
						\$ -
						\$ -
Total Revenue	\$ 659,000	\$ 1,623,200	\$ -	\$ -	\$ -	\$ 2,282,200

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Widening of Southbound Jeronimo at Lake Forest Drive
Traffic Engineering
Traffic Improvements



Project Location

PROJECT DESCRIPTION:

This project would widen southbound Jeronimo at Lake Forest by approximately three feet to create an eight-foot wide bike lane/de facto southbound right turn lane. This project is item 6 on the Lake Forest Transportation Mitigation (LFTM) program.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Well planned

Strategic Plan Strategy:

Prioritize initiatives to reduce traffic congestion, improve air quality, and manage on-street parking

This project would promote improved traffic flow and safety at this intersection.

PROJECT NUMBER/NAME: PW# / Widening of Southbound Jeronimo at Lake Forest Drive
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide a reduction in traffic congestion, improvement in operations, enhancement of traffic signal infrastructure, which may help reduce retrofit, improvement, and signal maintenance operating costs.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land		\$ 7,500				\$ 7,500
Planning/Design		\$ 28,000				\$ 28,000
Construction			\$ 116,100			\$ 116,100
Total Estimate	\$ -	\$ 35,500	\$ 116,100	\$ -	\$ -	\$ 151,600

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
LFTM (511)	\$ -	\$ 35,500	\$ 116,100	\$ -	\$ -	\$ 151,600
						\$ -
						\$ -
Total Revenue	\$ -	\$ 35,500	\$ 116,100	\$ -	\$ -	\$ 151,600

PROJECT NUMBER/NAME:

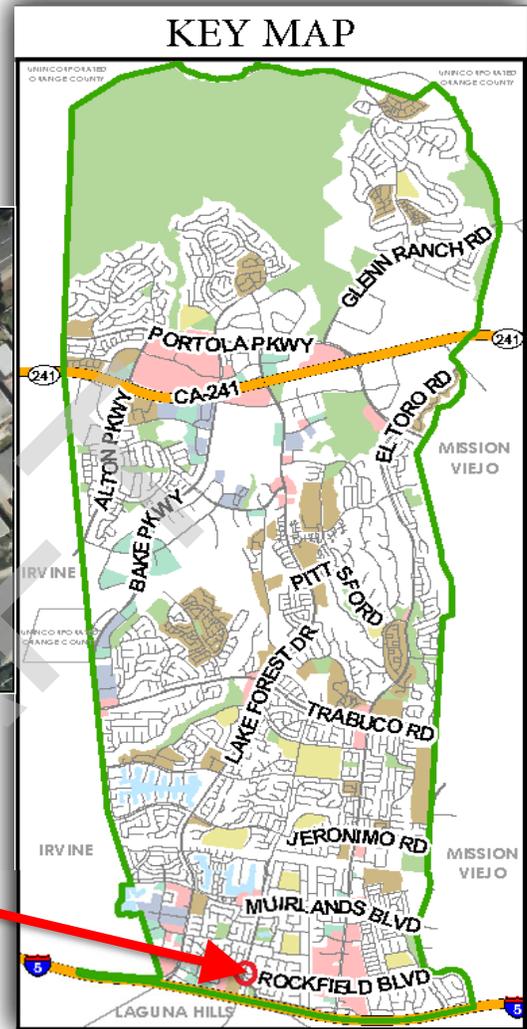
PW# / Dedicated Right Turn Lane on EB Ridge Route Drive at Rockfield Blvd

RESPONSIBLE DEPARTMENT:

Traffic Engineering

CATEGORY:

Traffic Improvements



Project Location

PROJECT DESCRIPTION:

This project would remove on-street parking in a parking-impacted location on the south side of Ridge Route Drive, west of Rockfield Boulevard to increase the eastbound curb lane width from 12 feet to 20 feet to provide a de facto right turn only lane. This project is item 8 on the Lake Forest Transportation Mitigation (LFTM) program.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Well planned

Strategic Plan Strategy:

Prioritize initiatives to reduce traffic congestion, improve air quality, and manage on-street parking

This project would promote improved traffic flow and safety at this intersection.

PROJECT NUMBER/NAME: PW# / Dedicated Right Turn Lane on EB Ridge Route Drive at Rockfield Blvd
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide a reduction in traffic congestion, improvement in operations, enhancement of traffic signal infrastructure, which may help reduce retrofit, improvement, and signal maintenance operating costs.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 2,300					\$ 2,300
Total Estimate	\$ 2,300	\$ -	\$ -	\$ -	\$ -	\$ 2,300

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
LFTM (511)	\$ 2,300					\$ 2,300
						\$ -
						\$ -
Total Revenue	\$ 2,300	\$ -	\$ -	\$ -	\$ -	\$ 2,300

PROJECT NUMBER/NAME:

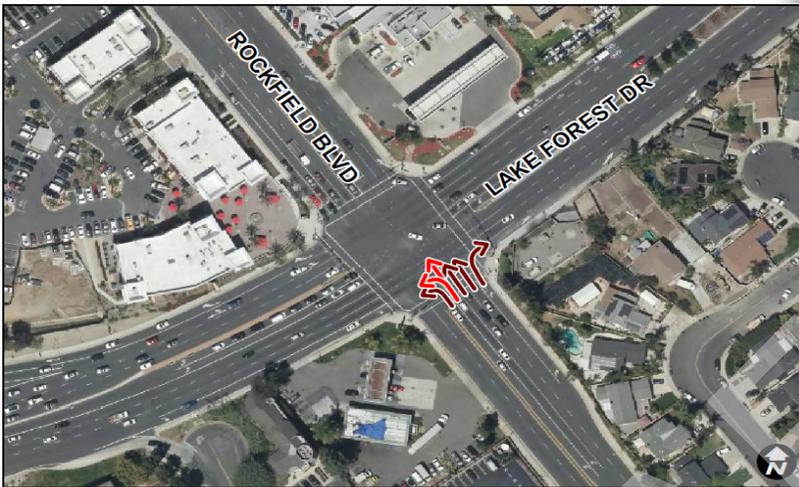
PW# / Lake Forest & Rockfield Restriping / Split Phase Signaling

RESPONSIBLE DEPARTMENT:

Traffic Engineering

CATEGORY:

Traffic Improvements



Project Location

PROJECT DESCRIPTION:

This project would re-stripe the northbound Rockfield Boulevard approach for two northbound left-turn lanes, one northbound left-thru shared lane, and one northbound through lanes. Re-striping requires a modification of the traffic signal for split phased operation on the southbound and northbound Rockfield Boulevard approaches. This project is item 7 on the Lake Forest Transportation Mitigation (LFTM) program.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Well planned

Strategic Plan Strategy:

Prioritize initiatives to reduce traffic congestion, improve air

This project would promote improved traffic flow and safety at this intersection.

PROJECT NUMBER/NAME: PW# / Lake Forest & Rockfield Restriping / Split Phase Signaling
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide a reduction in traffic congestion, improvement in operations, enhancement of traffic signal infrastructure, which may help reduce retrofit, improvement, and signal maintenance operating costs.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design	\$ 11,000					\$ 11,000
Construction		\$ 56,200				\$ 56,200
Total Estimate	\$ 11,000	\$ 56,200	\$ -	\$ -	\$ -	\$ 67,200

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
LFTM (511)	\$ 11,000	\$ 56,200				\$ 67,200
						\$ -
						\$ -
Total Revenue	\$ 11,000	\$ 56,200	\$ -	\$ -	\$ -	\$ 67,200

PROJECT NUMBER/NAME:

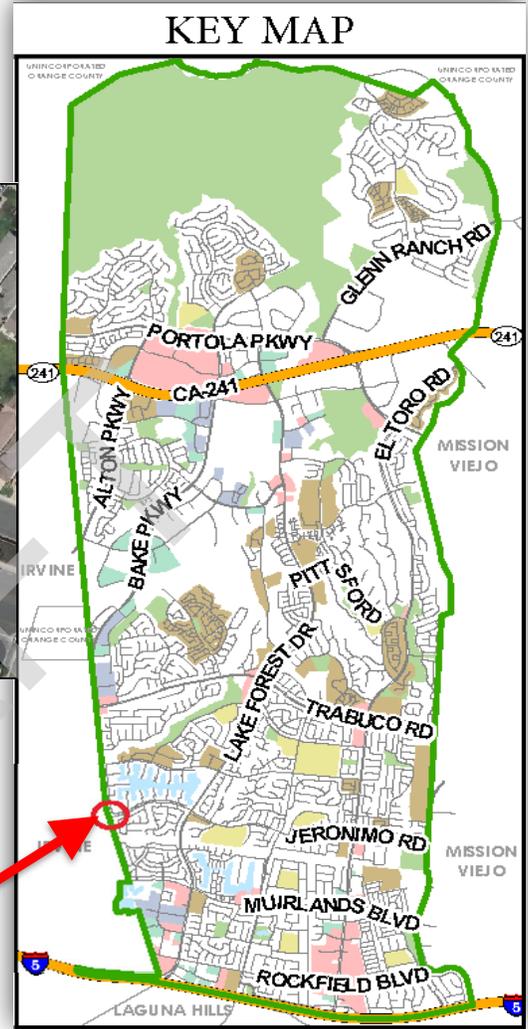
PW# / Second Eastbound Left Turn Lane on Bake Parkway at Jeronimo

RESPONSIBLE DEPARTMENT:

Traffic Engineering

CATEGORY:

Traffic Improvements



Project Location

PROJECT DESCRIPTION:

This intersection has several improvements planned as part of LFTM, NITM and the County mitigation for the MPAH amendment on Santiago Canyon Road. The currently identified project for LFTM is the 2nd EB left turn lane on Bake. For NITM there is duplicate funding for this left turn lane and funding for a 4th westbound through lane thru the intersection. The City is working with both agencies to determine if additional/alternative improvements, including a 2nd northbound left turn lane on Jeronimo, can be implemented. The 2018 updated LFTM estimate is \$1,063,500 + 25% = \$1,329,375. NITM currently has about \$2 million budgeted for this project.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Well planned

Strategic Plan Strategy:

Prioritize initiatives to reduce traffic congestion, improve air

This project would promote improved traffic flow and safety at this intersection.

PROJECT NUMBER/NAME: PW# / Second Eastbound Left Turn Lane on Bake Parkway at Jeronimo
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide a reduction in traffic congestion, improvement in operations, enhancement of traffic signal infrastructure, which may help reduce retrofit, improvement, and signal maintenance operating costs.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land			\$ 104,000			\$ 104,000
Planning/Design		\$ 235,000				\$ 235,000
Construction			\$ 724,500			\$ 724,500
Total Estimate	\$ -	\$ 235,000	\$ 828,500	\$ -	\$ -	\$ 1,063,500

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
LFTM (511)	\$ -	\$ 235,000	\$ 828,500			\$ 1,063,500
						\$ -
						\$ -
Total Revenue	\$ -	\$ 235,000	\$ 828,500	\$ -	\$ -	\$ 1,063,500

PROJECT NUMBER/NAME:

PW# / Southbound Rancho Parkway Widening at Lake Forest Drive for Dedicated Right Turn Lane

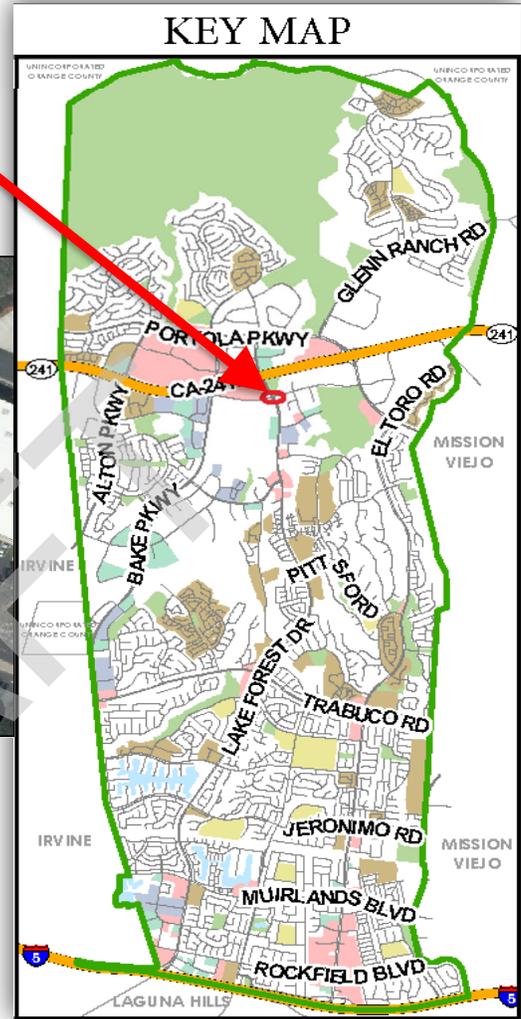
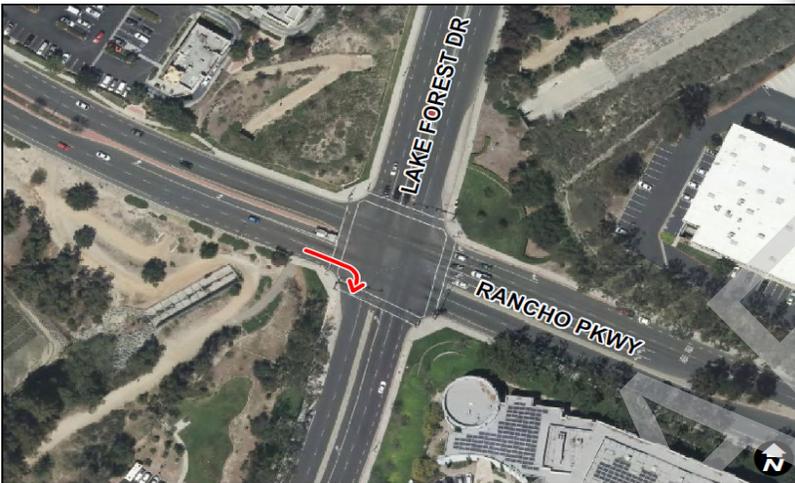
RESPONSIBLE DEPARTMENT:

Traffic Engineering

CATEGORY:

Traffic Improvements

Project Location



PROJECT DESCRIPTION:

This project would widen southbound Rancho Parkway to create an eight foot wide bike lane/de facto right turn.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Well planned

Strategic Plan Strategy:

Prioritize initiatives to reduce traffic congestion, improve air quality, and manage on-street parking

This project would promote improved traffic flow and safety at this intersection.

PROJECT NUMBER/NAME: PW# / Southbound Rancho Parkway Widening at Lake Forest Drive for Dedicated Right Turn Lane
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide a reduction in traffic congestion, improvement in operations, enhancement of traffic signal infrastructure, which may help reduce retrofit, improvement, and signal maintenance operating costs.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land			\$ 24,000			\$ 24,000
Planning/Design		\$ 60,000				\$ 60,000
Construction				\$ 224,000		\$ 224,000
Total Estimate	\$ -	\$ 60,000	\$ 24,000	\$ 224,000	\$ -	\$ 308,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
LFTM (511)	\$ -	\$ 60,000	\$ 24,000	\$ 224,000	\$ -	\$ 308,000
						\$ -
						\$ -
Total Revenue	\$ -	\$ 60,000	\$ 24,000	\$ 224,000	\$ -	\$ 308,000

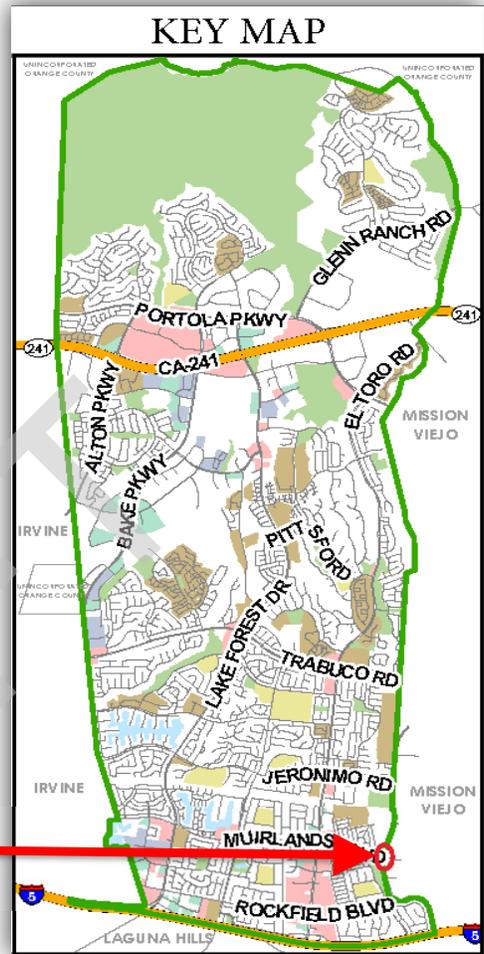
PROJECT NUMBER/NAME: PW# /Second Left Turn Lanes in All Directions at the Intersection of Los Alisos and Muirlands

RESPONSIBLE DEPARTMENT: Traffic Engineering

CATEGORY: Traffic Improvements



Project Location



PROJECT DESCRIPTION:

This Foothill Circulation Phasing Program (FCPP) project would consist of widening, median modifications and restriping to provide a second left turn lane for each of the four approach legs. It requires approximately 7,200 square feet of additional right-of-way and widening of the bridge over Aliso Creek. This project requires coordination with the City of Mission Viejo.

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe

Strategic Plan Priority Area: Well planned

Strategic Plan Strategy: Prioritize initiatives to reduce traffic congestion, improve air quality, and manage on-street parking

This project would promote improved traffic flow and safety at this intersection.

PROJECT NUMBER/NAME: PW# /Second Left Turn Lanes in All Directions at the Intersection of Los Alisos and Muirlands
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide a reduction in traffic congestion, improvement in operations, enhancement of traffic signal infrastructure, which may help reduce retrofit, improvement, and signal maintenance operating costs.

NO PRIOR YEAR FUNDING

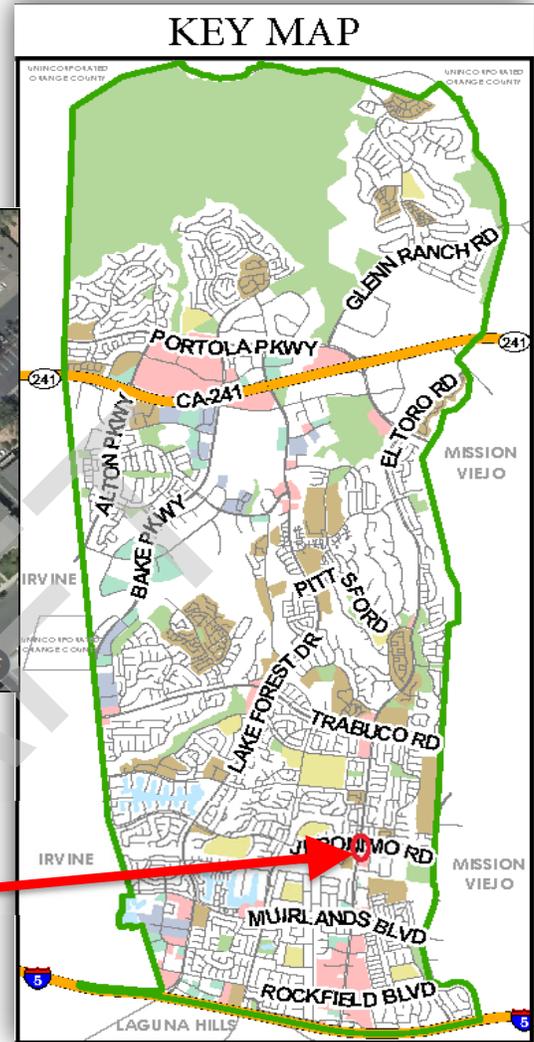
CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land		\$ 1,450,000				\$ 1,450,000
Planning/Design	\$ 450,000					\$ 450,000
Construction			\$ 1,525,000			\$ 1,525,000
Total Estimate	\$ 450,000	\$ 1,450,000	\$ 1,525,000	\$ -	\$ -	\$ 3,425,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
FCCP (512)	\$ 450,000	\$ 1,450,000	\$ 1,525,000			\$ 3,425,000
						\$ -
						\$ -
Total Revenue	\$ 450,000	\$ 1,450,000	\$ 1,525,000	\$ -	\$ -	\$ 3,425,000

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Widening/Realignment of Jeronimo at El Toro Road
 Traffic Engineering
 Traffic Improvements



Project Location

PROJECT DESCRIPTION:

This Foothill Circulation Phasing Program (FCPP) project would consist of widening Jeronimo north and south of El Toro to correct an existing misalignment of the through lanes. A Right of Way acquisition of approximately 4,750 SF and construction of a retaining wall along the northwest corner of Jeronimo would be required to accommodate the widening. Eastbound and westbound El Toro Road would be restriped for an additional left turn lane in each direction.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Well planned

Strategic Plan Strategy:

Prioritize initiatives to reduce traffic congestion, improve air quality, and manage on-street parking

This project would promote improved traffic flow and safety at this intersection.

PROJECT NUMBER/NAME: PW# / Widening/Realignment of Jeronimo at El Toro Road
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide a reduction in traffic congestion, improvement in operations, enhancement of traffic signal infrastructure, which may help reduce retrofit, improvement, and signal maintenance operating costs.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land		\$ 250,000				\$ 250,000
Planning/Design	\$ 100,000					\$ 100,000
Construction		\$ 450,000				\$ 450,000
Total Estimate	\$ 100,000	\$ 700,000	\$ -	\$ -	\$ -	\$ 800,000

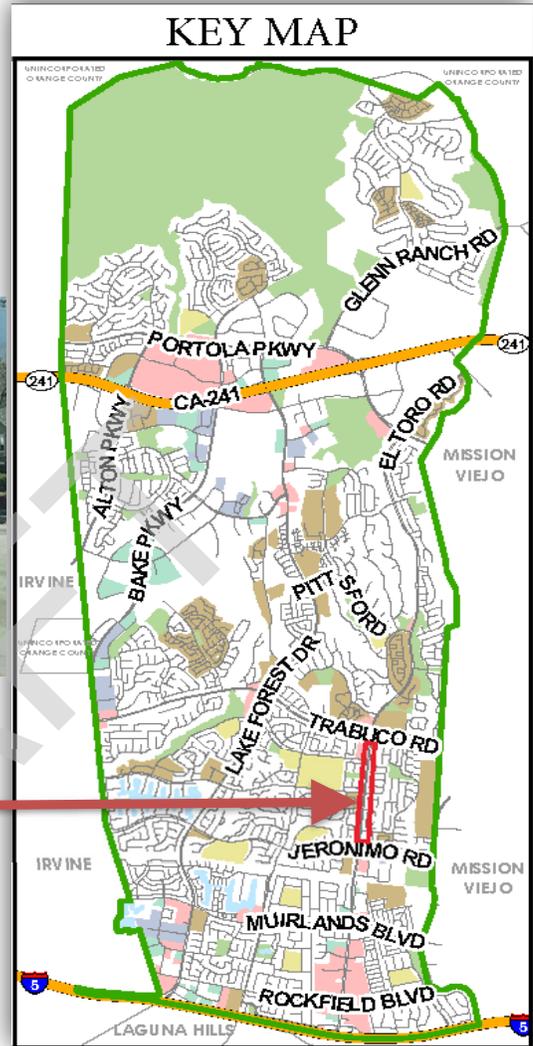
Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
FCPP (512)	\$ 100,000	\$ 700,000				\$ 800,000
						\$ -
						\$ -
Total Revenue	\$ 100,000	\$ 700,000	\$ -	\$ -	\$ -	\$ 800,000

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / El Toro Raised Medians from Jeronimo to Trabuco
Traffic Engineering
Traffic Improvements



Project Location



PROJECT DESCRIPTION:

This Foothill Circulation Phasing Program (FCPP) project would consist of replacing the existing painted medians along El Toro Road from Jeronimo to Trabuco with raised medians. Staff will evaluate the possibility of utilizing a planted median or a stamped concrete median based upon funding availability at the time of project design.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Well planned

Strategic Plan Strategy:

Prioritize initiatives to reduce traffic congestion, improve air quality, and manage on-street parking

This project would promote improved traffic flow and safety along this portion of El Toro Road.

PROJECT NUMBER/NAME: PW# / El Toro Raised Medians from Jeronimo to Trabuco
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

There is an anticipated annual landscape maintenance increase of an unknown amount for irrigation and landscape maintenance to the General Fund. Estimated costs would be able to be determined once final design of the project is complete.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design		\$ 100,000				\$ 100,000
Construction			\$ 800,000			\$ 800,000
Total Estimate	\$ -	\$ 100,000	\$ 800,000	\$ -	\$ -	\$ 900,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
FCCP (512)	\$ -	\$ 100,000	\$ 800,000			\$ 900,000
						\$ -
						\$ -
Total Revenue	\$ -	\$ 100,000	\$ 800,000	\$ -	\$ -	\$ 900,000

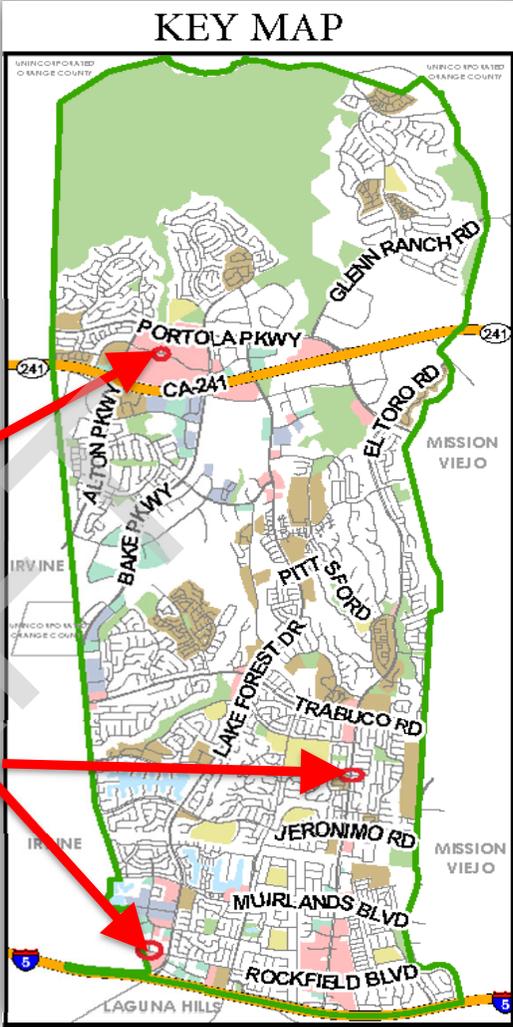
PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Protective Permissive Left Turn Phasing Program
 Traffic Engineering
 Traffic Improvements



Protective/Permissive Intersections

Pedestrian Phasing Intersection



PROJECT DESCRIPTION:

This project would install protective permissive left turn phasing ("PPLTP") at two intersections (Towne Centre and Market Place and Rockfield and Centre Drive) modify the pedestrian phasing at a third intersection (El Toro and Toledo). PPLTP allows drivers to turn left with a protected green arrow as well as the ability to turn left of the green ball when there are sufficient gaps in the traffic. The following additional locations are proposed for future years:

- Alton Parkway & Monarch Boulevard – north-south along Monarch Boulevard
- Alton Parkway & Catalina – north-south along Catalina
- Bake Parkway & Towne Centre Drive – north-south along Towne Centre Drive
- Lake Forest Drive & Towne Centre Drive – north-south along Towne Centre Drive

PROJECT NUMBER/NAME: PW# / Protective Permissive Left Turn Phasing Program
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe
Strategic Plan Priority Area: Well planned
Strategic Plan Strategy: Prioritize initiatives to reduce traffic congestion, improve air quality, and manage on-street parking

This project would promote improved traffic flow and safety at these intersections.

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide a reduction in traffic congestion, improvement in operations, enhancement of traffic signal infrastructure, which may help reduce retrofit, improvement, and signal maintenance operating costs.

NO PRIOR YEAR FUNDING

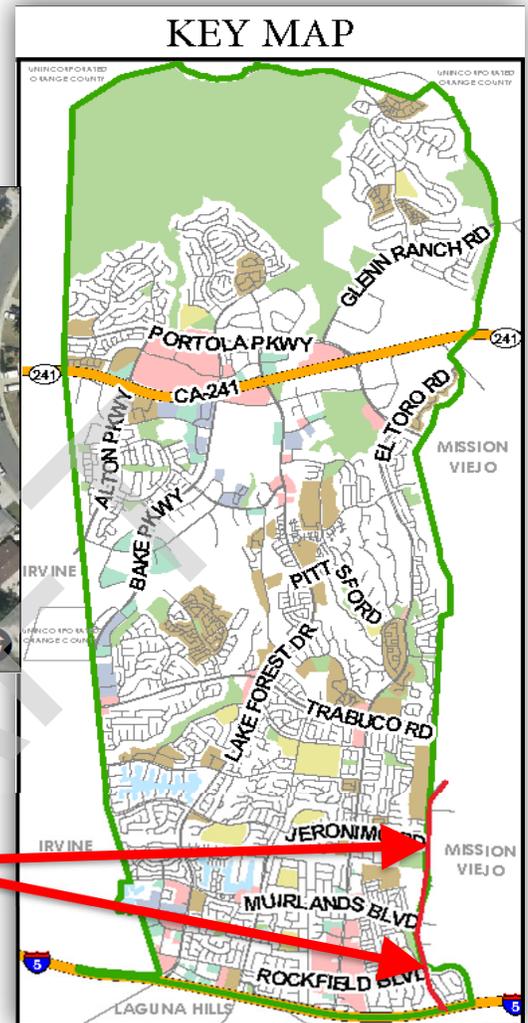
CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design	\$ 60,000					\$ 60,000
Construction	\$ 140,000	\$ 100,000				\$ 240,000
Total Estimate	\$ 200,000	\$ 100,000	\$ -	\$ -	\$ -	\$ 300,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Gas Tax HUTA (211)	\$ 200,000	\$ 100,000				\$ 300,000
						\$ -
						\$ -
Total Revenue	\$ 200,000	\$ 100,000	\$ -	\$ -	\$ -	\$ 300,000

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Los Alisos Traffic Signal Synchronization Program
 Traffic Engineering
 Traffic Improvements



Project Location

PROJECT DESCRIPTION:

The Los Alisos Boulevard Traffic Signal Synchronization Program (TSSP) project would update traffic signal coordination timing and update communication and other traffic signal hardware for the traffic signals on Los Alisos Boulevard from Laguna Hills to Mission Viejo. The City has one traffic signal on this corridor and the total estimated project cost for this signal is \$65,000. Should the City receive the grant funding, OCTA would pay 80% of the costs and the cities of Lake Forest and Mission Viejo would pay the remaining 20% for the signals in their respective jurisdictions.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Well planned

Strategic Plan Strategy:

Prioritize initiatives to reduce traffic congestion, improve air quality, and manage on-street parking

This project would promote improved traffic flow and safety at this intersection.

PROJECT NUMBER/NAME: PW# / Los Alisos Traffic Signal Synchronization Program
RESPONSIBLE DEPARTMENT: Traffic Engineering
CATEGORY: Traffic Improvements

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide a reduction in traffic congestion, improvement in operations, enhancement of traffic signal infrastructure, which may help reduce retrofit, improvement, and signal maintenance operating costs.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 18,000					\$ 18,000
Total Estimate	\$ 18,000	\$ -	\$ -	\$ -	\$ -	\$ 18,000

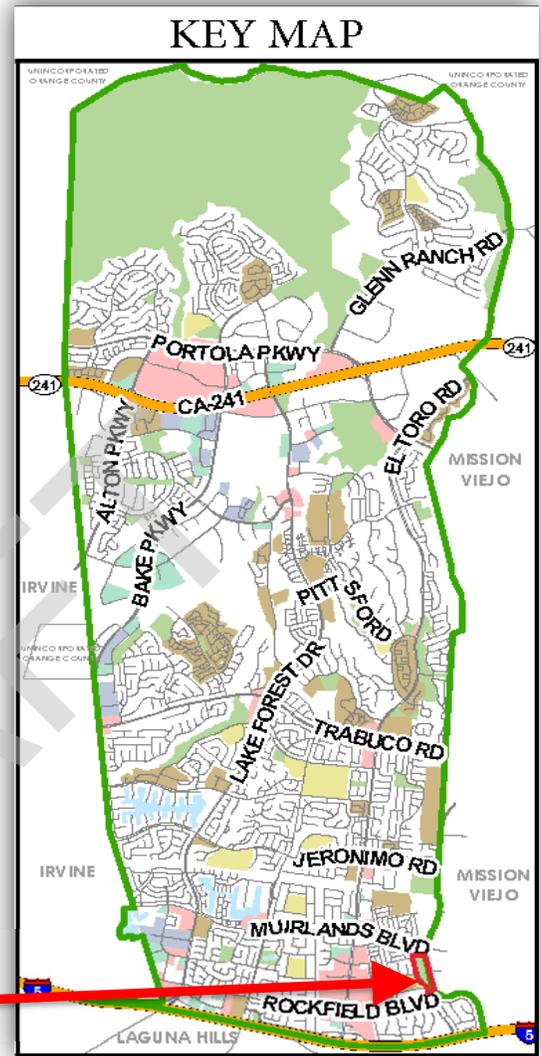
Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
SCAQMD (235)	\$ 18,000					\$ 18,000
						\$ -
						\$ -
Total Revenue	\$ 18,000	\$ -	\$ -	\$ -	\$ -	\$ 18,000

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / CDBG - El Toro Park Improvements
Maintenance
Parks and Recreation



Project Location



PROJECT DESCRIPTION:

This project would perform repairs to park lighting, replace benches, and make improvements to the tennis courts, as well as install safety mechanisms to reduce instances of vandalism to the restrooms.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The project would make repairs to existing park facilities and replace amenities.

PROJECT NUMBER/NAME: PW# / CDBG - El Toro Park Improvements
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide preventive maintenance and/or rehabilitation, which would reduce annual maintenance costs over the life of the assets.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

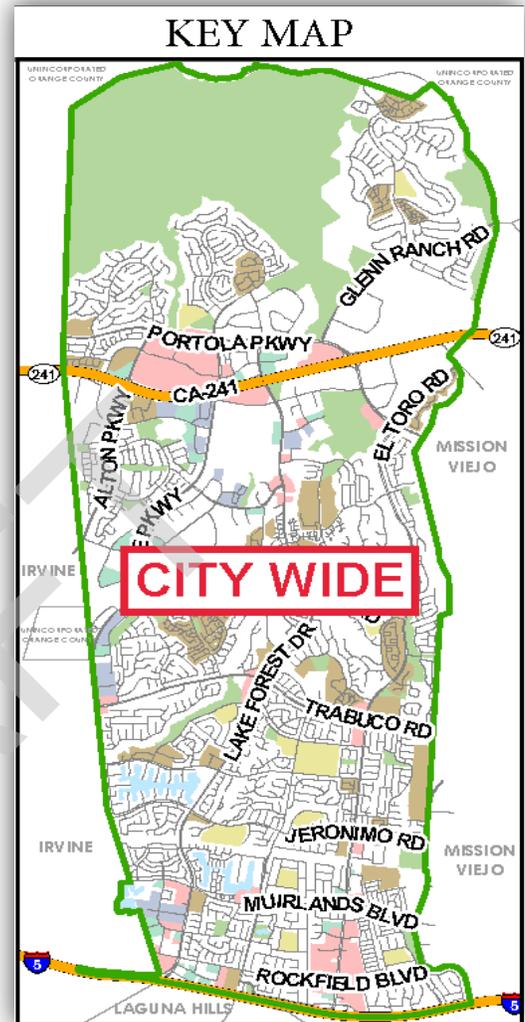
PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 132,500		\$ 125,000		\$ 125,000	\$ 382,500
Total Estimate	\$ 132,500	\$ -	\$ 125,000	\$ -	\$ 125,000	\$ 382,500

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CDBG (260)	\$ 132,500		\$ 125,000		\$ 125,000	\$ 382,500
						\$ -
						\$ -
Total Revenue	\$ 132,500	\$ -	\$ 125,000	\$ -	\$ 125,000	\$ 382,500

Note: CDBG funding in Fiscal Year 2021-22 and 2023-24 to be programmed toward park improvements. CDBG funding in Fiscal Year 2022-23 to be programmed towards ADA Ramps.

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Sports Court Resurfacing Project
 Maintenance
 Parks and Recreation



PROJECT DESCRIPTION:

This project would perform repairs necessary to rehabilitate and maintain the playability of the existing sport courts (tennis, handball, hockey, and basketball courts) citywide. Each court would be evaluated to determine the necessary repairs needed, such as sealant and concrete repairs, markings, painting, chain link fence, equipment and screen repairs and/or replacements. This project would also apply surface gritted paint to ensure playability and safety of the users. Eighteen park sites are identified for inspection/evaluation under this project with repairs being performed as needed.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The resurfacing of the sports courts would improve play surface condition.

PROJECT NUMBER/NAME: PW# / Sports Court Resurfacing Project
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

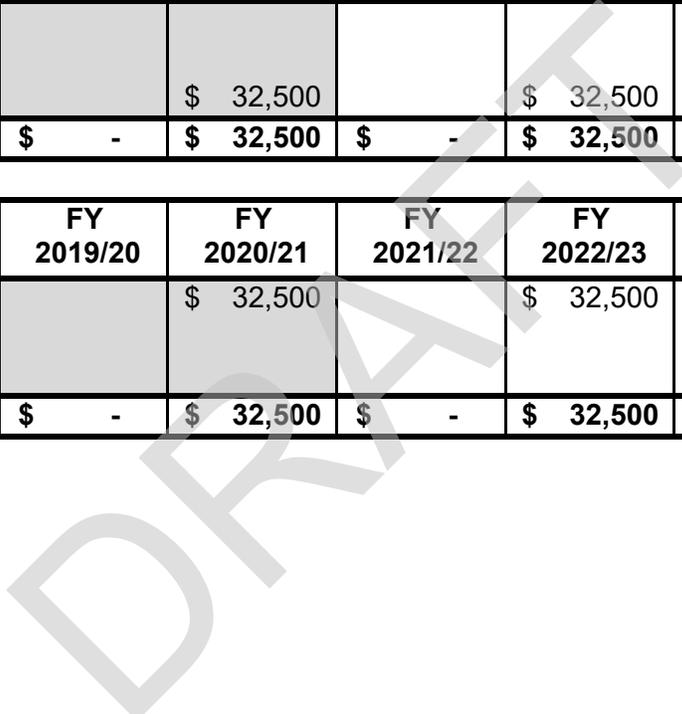
This project would provide preventive maintenance and/or rehabilitation, which would reduce annual maintenance costs over the life of the assets. Recurring resurfacing also reduces risk management costs.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction		\$ 32,500		\$ 32,500		\$ 65,000
Total Estimate	\$ -	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ 65,000

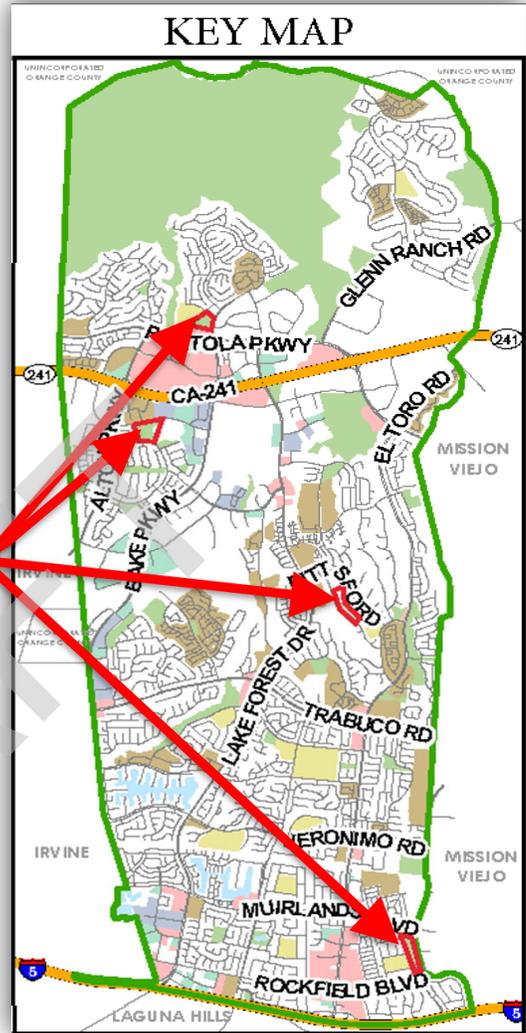
Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)		\$ 32,500		\$ 32,500		\$ 65,000
						\$ -
						\$ -
Total Revenue	\$ -	\$ 32,500	\$ -	\$ 32,500	\$ -	\$ 65,000



PROJECT NUMBER/NAME: PW# / Playground Resurfacing Project
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation



Project Locations



PROJECT DESCRIPTION:

This project would make repairs to playground surfaces in preparation of a sealant coat application on the resilient playground surfaces. This sealant application elongates the useful life of the existing playground resilient surfaces by delaying sun damage susceptibility. Some parks require full replacement of the resilient surface, which is accounted for in the project budget. The following parks - Pittsford Park (3,500 sq. ft.), El Toro Park (1,000 sq. ft.), Baker Ranch (2,000 sq. ft.), Borrego Overlook (800 sq. ft.) would be repaired in FY 2019-20.

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe
Strategic Plan Priority Area: Attractive
Strategic Plan Strategy: Proactively enhance the visual character of the City and plan for maintenance of all City assets.
 The maintenance and resurfacing of the resilient playground surfaces would improve play surface condition.

PROJECT NUMBER/NAME: PW# / Playground Resurfacing Project
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide preventive maintenance and/or rehabilitation, which would reduce annual maintenance costs over the life of the assets. Recurring resurfacing also reduces risk management costs.

NO PRIOR YEAR FUNDING

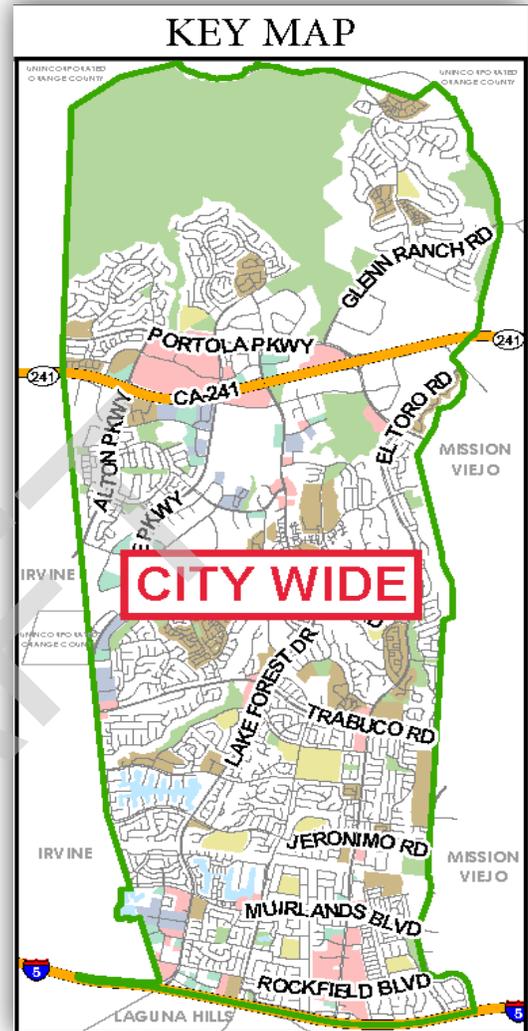
CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 225,000		\$ 50,000		\$ 50,000	\$ 325,000
Total Estimate	\$ 225,000	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ 325,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 225,000		\$ 50,000		\$ 50,000	\$ 325,000
						\$ -
						\$ -
Total Revenue	\$ 225,000	\$ -	\$ 50,000	\$ -	\$ 50,000	\$ 325,000

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Park Sidewalk Rehabilitation Project
Maintenance
Parks and Recreation



PROJECT DESCRIPTION:

This project would remove and replace sidewalk panels within the pedestrian path of travel in all city parks. The parks were evaluated and all sidewalk displacements removed. However, some sections of sidewalk require more extensive repair such as replacement of sections of the sidewalk.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

Regular sidewalk repair provides a high-quality pedestrian circulation system. Smooth, unbroken surfaces are safer for pedestrians.

PROJECT NUMBER/NAME: PW# / Park Sidewalk Rehabilitation Project
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide preventive maintenance, which would help control or reduce sidewalk, risk management, and operating costs.

NO PRIOR YEAR FUNDING

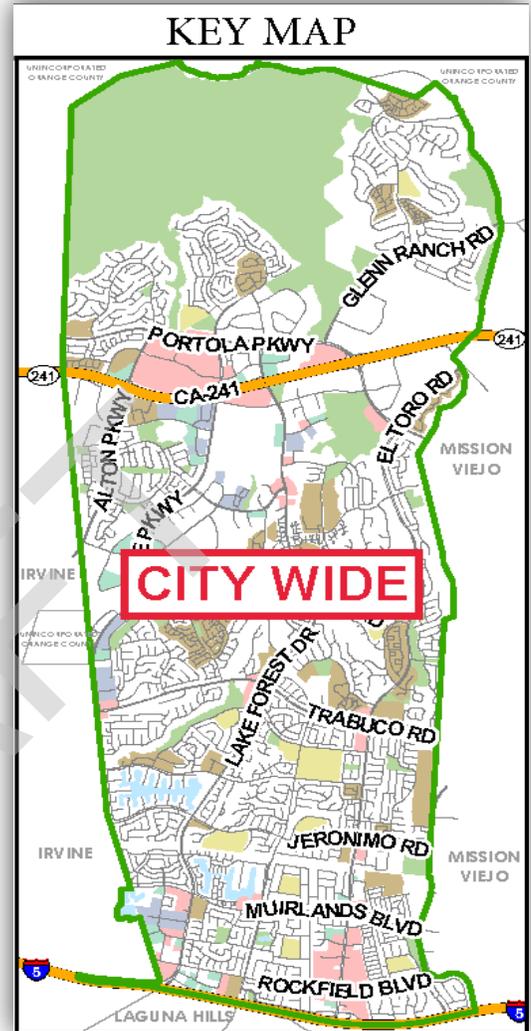
CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 50,000	\$ 50,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 175,000
Total Estimate	\$ 50,000	\$ 50,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 175,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 50,000	\$ 50,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 175,000
						\$ -
						\$ -
Total Revenue	\$ 50,000	\$ 50,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 175,000

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Park Amenities Replacements
Maintenance
Parks and Recreation



PROJECT DESCRIPTION:

This annual project would replace park amenities such as trash enclosures, picnic tables, benches, and drinking fountains at City parks. The condition of park amenities are evaluated by staff and are replaced when needed.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The project would make repairs to existing park facilities and replace amenities.

PROJECT NUMBER/NAME: PW# / Park Amenities Replacements
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project is not expected to have an impact on the operating budget.

NO PRIOR YEAR FUNDING

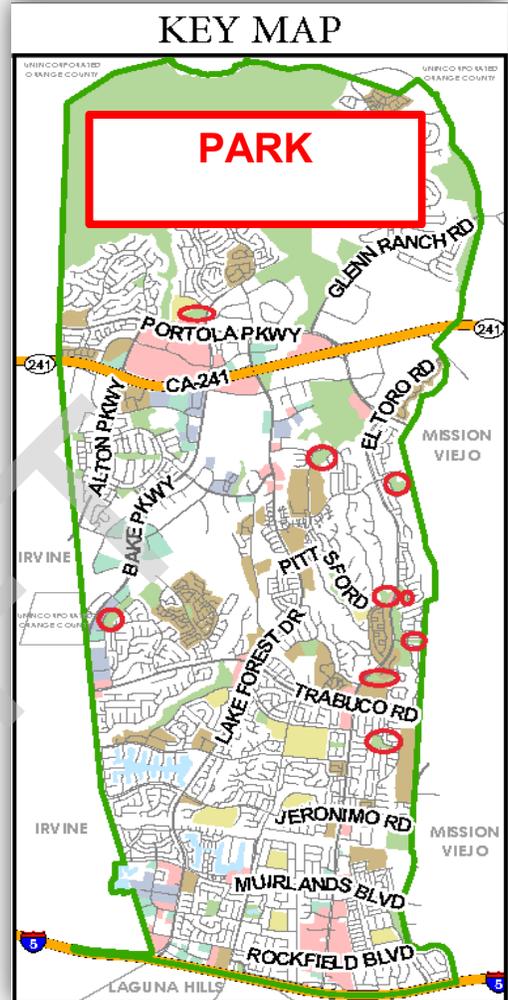
CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 200,000
Total Estimate	\$ 40,000	\$ 200,000				

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 200,000
						\$ -
						\$ -
Total Revenue	\$ 40,000	\$ 200,000				

DRAFT

PROJECT NUMBER/NAME: PW# / Neighborhood Park Renovations
RESPONSIBLE DEPARTMENT: Engineering
CATEGORY: Parks and Recreation



PROJECT DESCRIPTION:

As part of the 2017-2019 CIP, designs for improvements and renovations at the 10 parks listed below were developed. This project would construct the recommended renovations at these 10 community

The first phase of construction in FY 2019-20 would improve:

- Borrego Overlook Park, Cherry Park, Montbury Park, Pebble Creek Park

The second phase of construction in FY 2020-21 would improve:

- Regency Park, Rancho Serrano Park, Darrin Park, Sundowner Park, Vintage Park

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The project would rehabilitate to existing park facilities and replace amenities.

PROJECT NUMBER/NAME: PW# / Neighborhood Park Renovations
RESPONSIBLE DEPARTMENT: Engineering
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide preventive maintenance and/or rehabilitation, which would reduce annual maintenance costs over the life of the assets.

PRIOR YEAR FUNDING - Design \$518,000 Peachwood Construction \$350,000

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 3,150,000	\$ 3,500,000	\$ -			\$ 6,650,000
Total Estimate	\$ 3,150,000	\$ 3,500,000	\$ -	\$ -	\$ -	\$ 6,650,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
NIP Reserve (160)	\$ 3,150,000	\$ 3,500,000				\$ 6,650,000
						\$ -
						\$ -
Total Revenue	\$ 3,150,000	\$ 3,500,000	\$ -	\$ -	\$ -	\$ 6,650,000

Note: Improvements at Peachwood Park were advanced to Fiscal Year 2018-19. The Neighborhood Improvement Park Reserve of \$7,000,000 approved in Fiscal Year 2018-19 would be depleted at the end of FY 2021-22.

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Park Light Pole Replacements
Maintenance
Parks and Recreation



PROJECT DESCRIPTION:

This project would replace existing steel light poles within City parks with aluminum poles with LED lighting. Staff has inspected and identified existing light poles within the City parks whose bases are eroding and are in need of replacement. The replacement of the existing steel poles provides an opportunity to install with new aluminum light poles that do not rust and allow for the upgrade to LED lighting. Parks include Concourse, El Toro, Foothill Ranch, Lake Forest, Mountain View, Nature, Ranchwood, Rimgate, and Serrano. This project includes 92 poles and 198 inserts.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

Replacement of damaged light poles throughout City parks.

PROJECT NUMBER/NAME: PW# / Park Light Pole Replacements
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide preventive maintenance and/or rehabilitation, which would reduce annual maintenance costs over the life of the assets. This project also would provide a reduction in energy costs from conversion to LED lighting.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

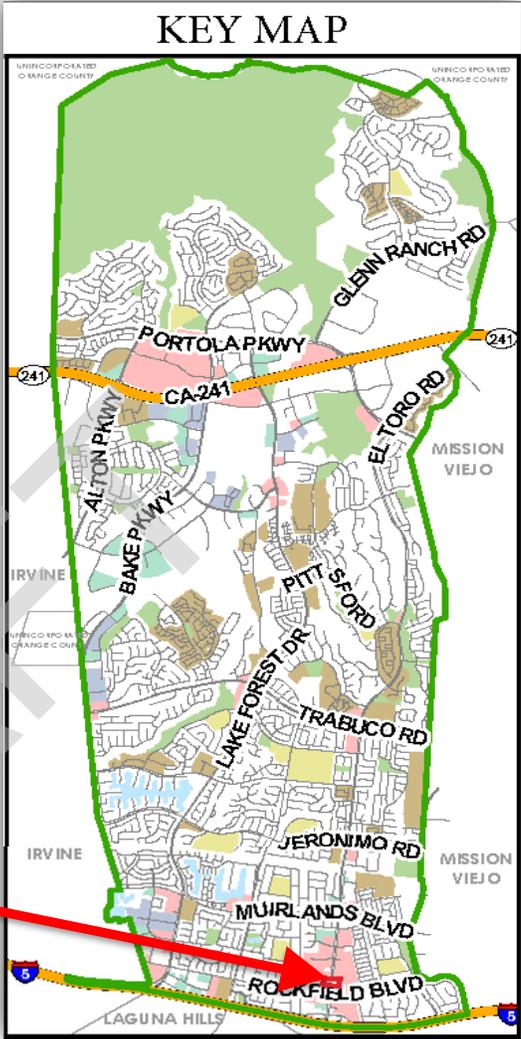
PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 325,000					\$ 325,000
Total Estimate	\$ 325,000	\$ -	\$ -	\$ -	\$ -	\$ 325,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 325,000					\$ 325,000
						\$ -
						\$ -
Total Revenue	\$ 325,000	\$ -	\$ -	\$ -	\$ -	\$ 325,000

PROJECT NUMBER/NAME: PW# / Arbor Mini Park (Garden Park)
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation



Project Location



PROJECT DESCRIPTION:
 This project would install the facilities and amenities needed to convert the Arbors corners at Rockfield and El Toro Road to a city park with a demonstration garden.

PURPOSE:
Strategic Plan Goal: Our livable city is well planned, attractive and safe
Strategic Plan Priority Area: Attractive
Strategic Plan Strategy: Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The installation of new facilities and amenities to the Arbors would provide conversion to a city park with demonstration garden.

PROJECT NUMBER/NAME: PW# / Arbor Mini Park (Garden Park)
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project is not expected to increase long term operating cost. Annual maintenance would be required from the City's landscape contractor. A level of maintenance effort is ongoing for the current amenities and ongoing cost estimates are not expected to increase significantly above the current level.

NO PRIOR YEAR FUNDING

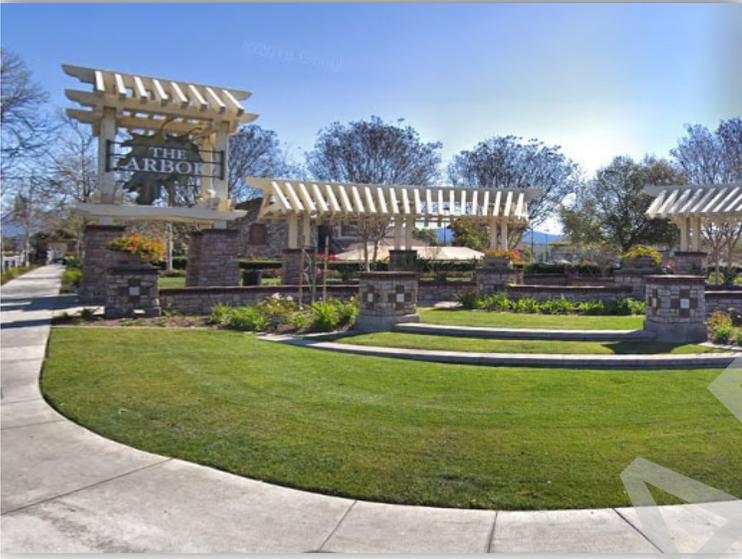
CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 20,000	\$ 10,000				\$ 30,000
Total Estimate	\$ 20,000	\$ 10,000	\$ -	\$ -	\$ -	\$ 30,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 20,000	\$ 10,000				\$ 30,000
						\$ -
						\$ -
Total Revenue	\$ 20,000	\$ 10,000	\$ -	\$ -	\$ -	\$ 30,000

PROGRAM NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / The Arbor Parkway Repairs
 Maintenance
 Parks & Recreation Improvements



Project Location



PROGRAM DESCRIPTION:

This project would repair the existing landscaping at the Arbors, a large section of landscaped parkway along El Toro Road, including both easterly corners of El Toro Road and Rockfield Blvd. The Arbors was constructed in 2006. Since that time the City has maintained the landscaping/hardscape in this area, however, due to the age and condition of the facilities, repairs are warranted. The project would repair/repaint the hardscape amenities (electrical, lighting, structures, bus shelters) and provide temporary fencing during the repair/renovation process.

PURPOSE:

Strategic Plan Goal: A

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area: 2

Attractive

Strategic Plan Strategy: a

Proactively enhance the visual character of the City and plan for

The purpose of this project is to improve the visual character of the Arbors.

PROGRAM NUMBER/NAME: PW# / The Arbor Parkway Repairs
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks & Recreation Improvements

ESTIMATED ANNUAL COST IMPACT OF PROGRAM ON CITY OPERATING BUDGET:

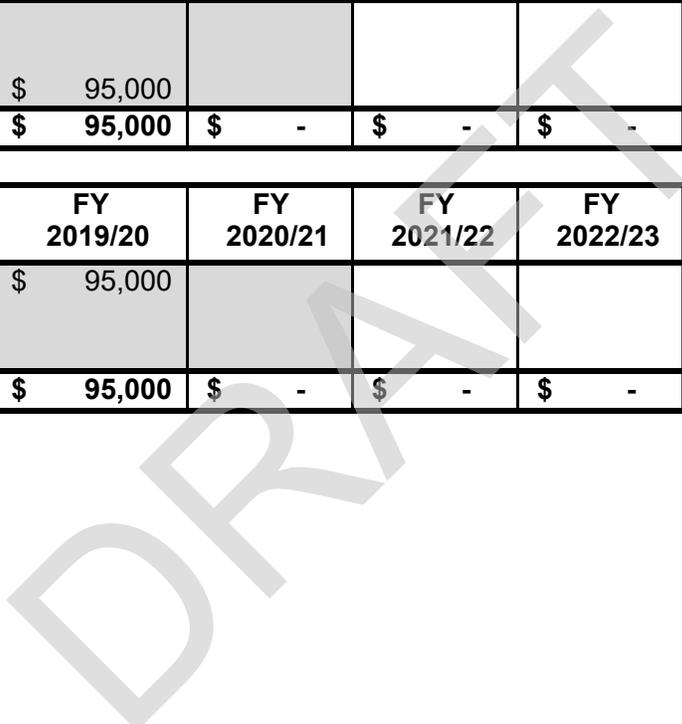
This project would provide preventive maintenance and/or rehabilitation, which would reduce annual maintenance costs over the life of the assets.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 95,000					\$ 95,000
Total Estimate	\$ 95,000	\$ -	\$ -	\$ -	\$ -	\$ 95,000

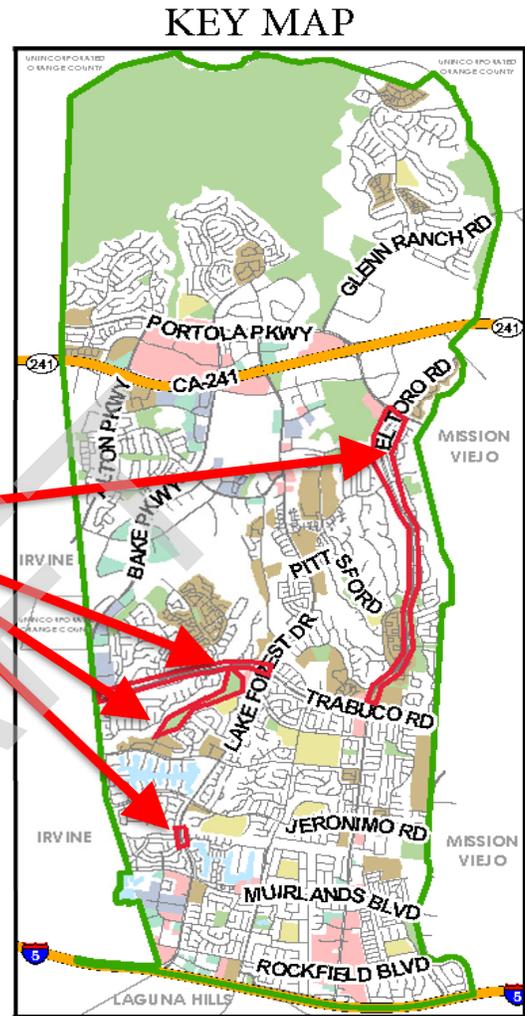
Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 95,000					\$ 95,000
						\$ -
						\$ -
Total Revenue	\$ 95,000	\$ -	\$ -	\$ -	\$ -	\$ 95,000



PROJECT NUMBER/NAME: PW# / Urban Forestry Management
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation



Project Locations



PROJECT DESCRIPTION:

This project would remove dead Eucalyptus trees from the Serrano Creek Forest. Over the years drought and insects have severely affected the condition of trees. The thinning of the forest would provide a healthy environment for the remaining trees. This project would also plant new trees in Serrano Park and other parts of the community. The project would remove 207 dead Eucalyptus trees. The project would add 75 parkway trees along Trabuco between Bake and Lake Forest Drive, 200 parkway trees on El Toro Road between Portola and Trabuco and 75 slope trees on Overlake slope between Muirlands and Jeronimo.

PROJECT NUMBER/NAME: PW# / Urban Forestry Management
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe

Strategic Plan Priority Area: Attractive

Strategic Plan Strategy: Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The removal of the dead or dying trees and replacement of damaged trees would improve the City's urban forest.

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project is expected to have an insignificant impact on the operating budget.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 205,000					\$ 205,000
Total Estimate	\$ 205,000	\$ -	\$ -	\$ -	\$ -	\$ 205,000

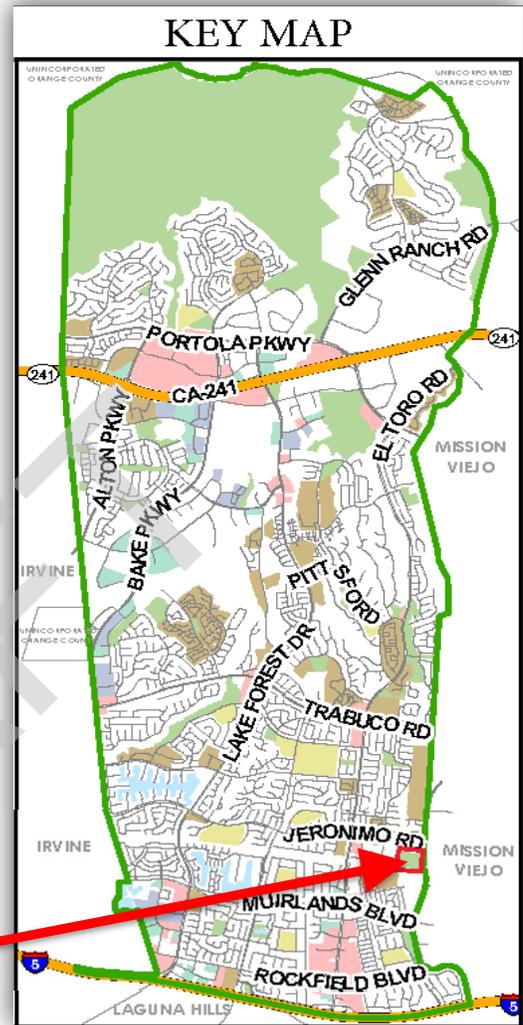
Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 205,000					\$ 205,000
						\$ -
						\$ -
Total Revenue	\$ 205,000	\$ -	\$ -	\$ -	\$ -	\$ 205,000

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Heroes Park Irrigation Improvements
Maintenance
Parks and Recreation



Project Location



PROJECT DESCRIPTION:

This project would replace the current irrigation infrastructure at the park. The irrigation system at this park has been changed and modified many times over the decades and is no longer effective at watering all portions of the park. The existing irrigation system creates excessively dry and wet areas, making play difficult impacting the maintenance of the fields. As part of these improvements, an aged irrigation pump that has lasted beyond its current lifespan would also be replaced.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The project would make repairs to existing park facilities and replace amenities.

PROJECT NUMBER/NAME: PW# / Heroes Park Irrigation Improvements
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

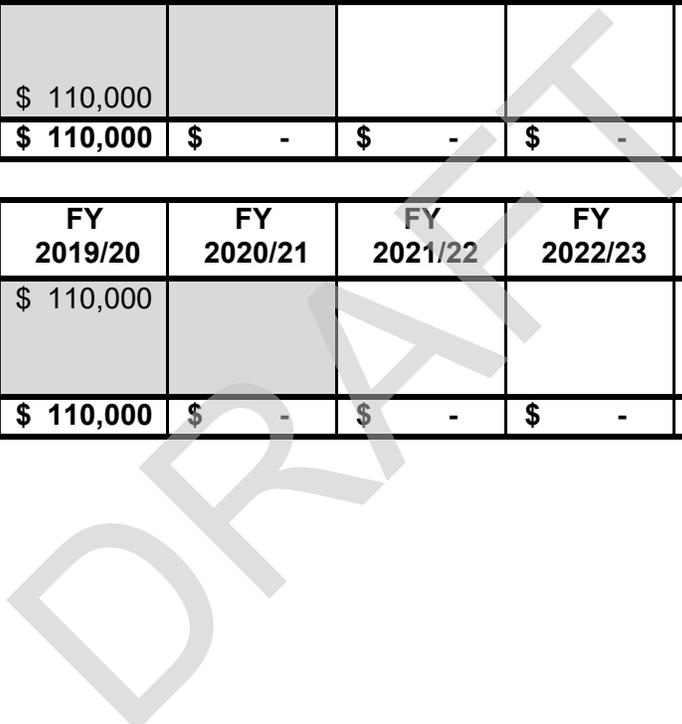
This project would provide preventive maintenance and/or rehabilitation, which would reduce annual maintenance costs over the life of the assets.

NO PRIOR YEAR FUNDING

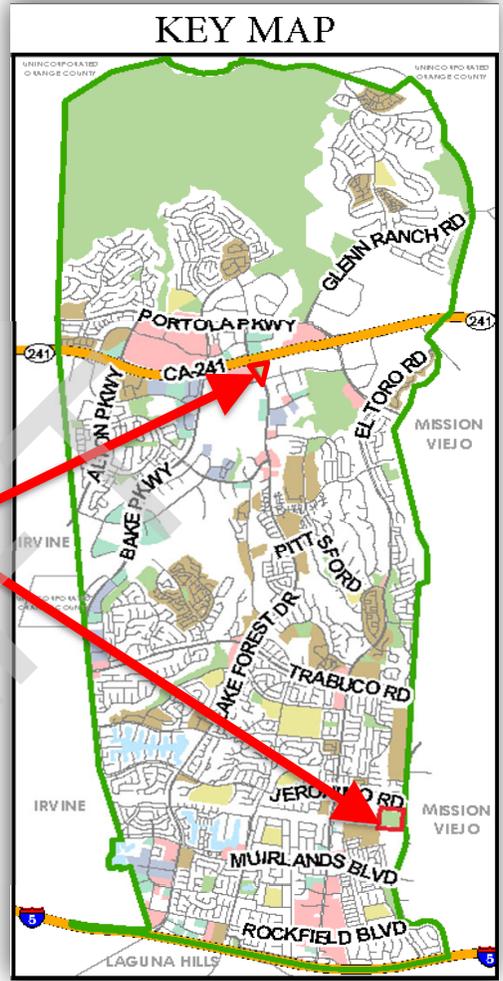
CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 110,000					\$ 110,000
Total Estimate	\$ 110,000	\$ -	\$ -	\$ -	\$ -	\$ 110,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 110,000					\$ 110,000
						\$ -
						\$ -
Total Revenue	\$ 110,000	\$ -	\$ -	\$ -	\$ -	\$ 110,000



PROJECT NUMBER/NAME: PW# / Heroes Park & Etnies Park Musco LED Light Replacements
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation



PROJECT DESCRIPTION:

This project would study the benefits of replacing the existing MUSCO lights at Etnies and Heroes Parks with LED Sports Lighting, and in a future CIP cycle replace the existing lighting, if warranted by the study. The current lighting at the parks can burn out quickly and is affected by heavy wind events. This requires the City's electrical contractor to rent a very large boom truck and replace bulbs in large quantities. An energy efficiency study, along with a luminescence study and measurement, would be made to project the project payback, ensure the visibility and appropriate light type and voltage is provided. Etnies Estimate (\$245,000) Heroes Estimate (\$450,000)

PROJECT NUMBER/NAME: PW# / Heroes Park & Etnies Park Musco LED Light Replacements
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe
Strategic Plan Priority Area: Attractive
Strategic Plan Strategy: Proactively enhance the visual character of the City and plan for maintenance of all City assets.

This project would upgrade the Musco Sports Lights with LED bulbs to reduce maintenance and energy costs. LED lighting provides improved coverage and lasts longer than the metal halide lights currently used.

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide preventive maintenance and/or rehabilitation, which would reduce annual maintenance costs over the life of the assets. This project also provides a reduction in energy costs from conversion to LED lighting.

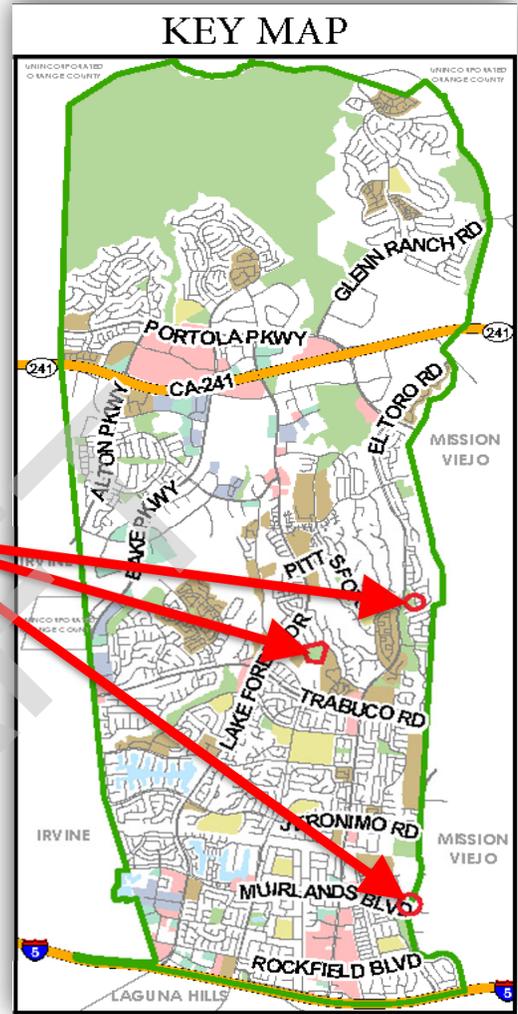
NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction		\$ 30,000	\$ 245,000	\$ 450,000		\$ 725,000
Total Estimate	\$ -	\$ 30,000	\$ 245,000	\$ 450,000	\$ -	\$ 725,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ -	\$ 30,000	\$ 245,000	\$ 450,000		\$ 725,000
						\$ -
						\$ -
Total Revenue	\$ -	\$ 30,000	\$ 245,000	\$ 450,000	\$ -	\$ 725,000

PROJECT NUMBER/NAME: PW# / Park Name Sign Medallion Replacements
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation



PROJECT DESCRIPTION:

This project would remove and replace park monument signs at Rimgate, Sundowner and El Toro Park at the entrance on the corner of Muirlands and Los Alisos. The City seal medallions on the park name signs are beyond maintenance. The medallion materials have eroded away and can no longer be repaired.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The project would replace deteriorated park sign medallions improving the attractiveness of the park for residents and visitors.

PROJECT NUMBER/NAME: PW# / Park Name Sign Medallion Replacements
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

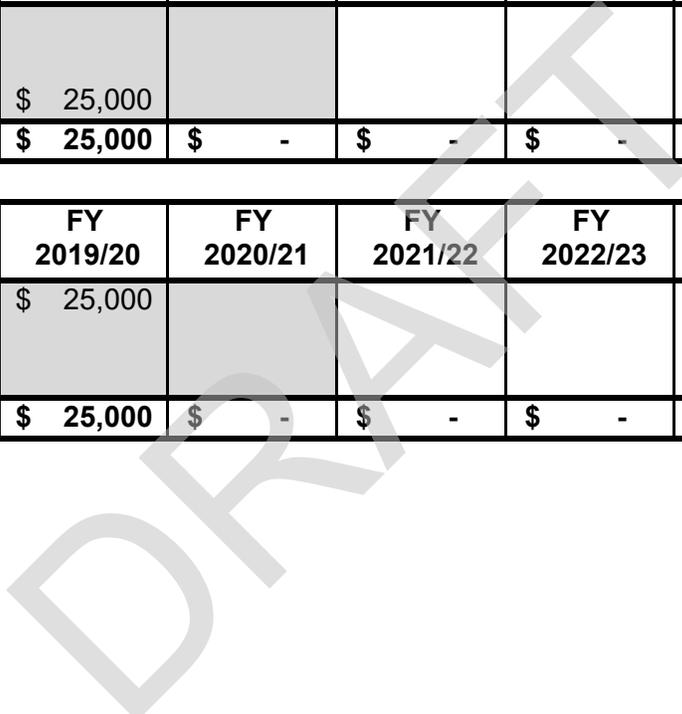
This project is expected to have an insignificant impact on the operating budget.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

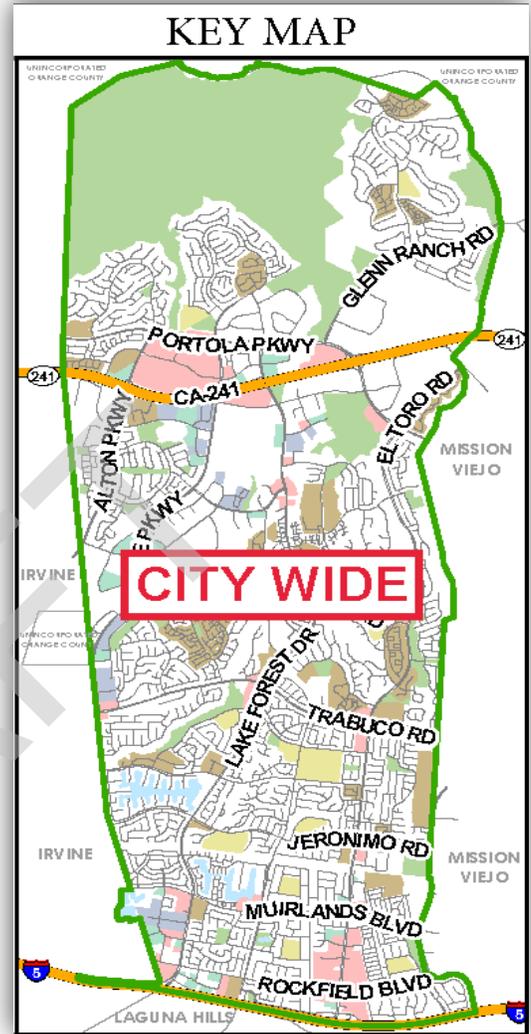
PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 25,000					\$ 25,000
Total Estimate	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ 25,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 25,000					\$ 25,000
						\$ -
						\$ -
Total Revenue	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ 25,000



PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Park Restroom Timers Installation
Maintenance
Parks and Recreation



PROJECT DESCRIPTION:

This project would improve exterior lighting and install atomic clocks at each of the park restrooms. The restrooms currently require all restrooms to be locked by automatic timers that must be adjusted frequently when time changes and sunrises and sunsets change. The improved exterior lighting would make it easier to see anyone vandalizing the restrooms after hours.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The project would help park staff with maintaining the park restrooms in an efficient manner, as the atomic clocks would work with the various sunsets and sunrises to adjust automatically creating a safer park for residents.

PROJECT NUMBER/NAME: PW# / Park Restroom Timers Installation
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project is expected to have an insignificant impact on the operating budget.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 25,000					\$ 25,000
Total Estimate	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ 25,000

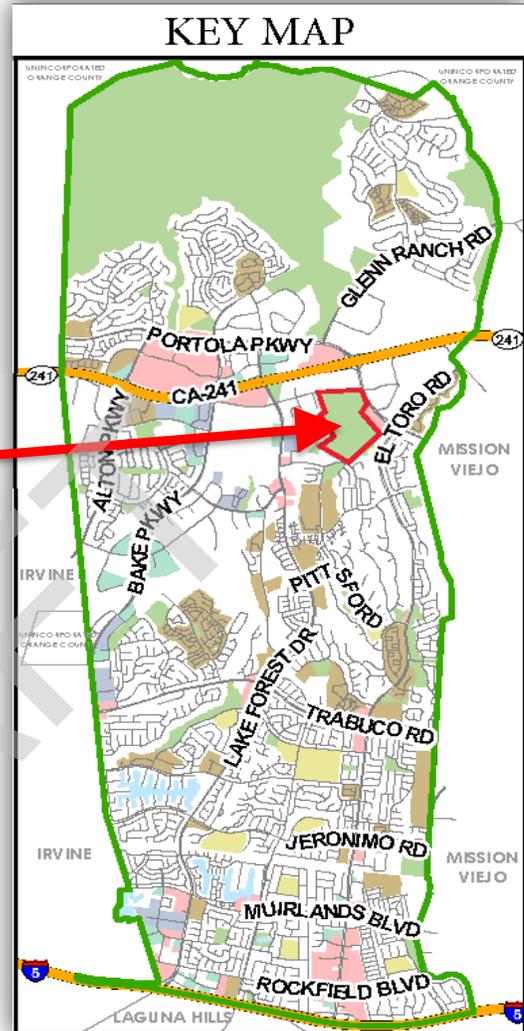
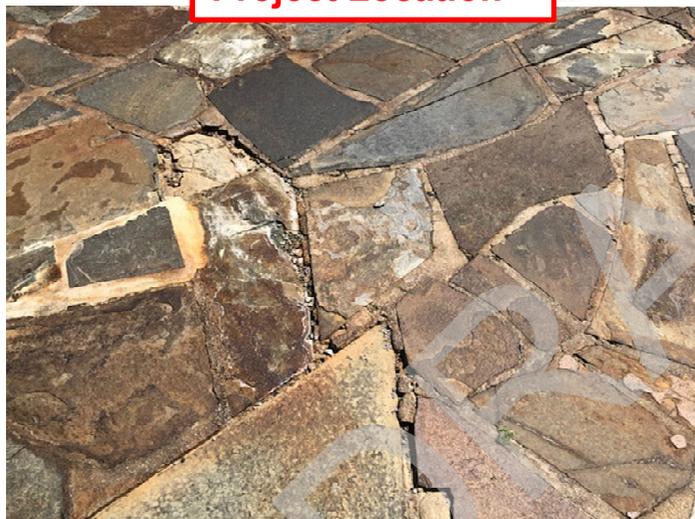
Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 25,000					\$ 25,000
						\$ -
						\$ -
Total Revenue	\$ 25,000	\$ -	\$ -	\$ -	\$ -	\$ 25,000

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Sports Complex Paver Replacement Project
 Maintenance
 Parks and Recreation



Project Location



PROJECT DESCRIPTION:

This project would replace the pavers at the entrance to the Sports Park. The original pavers at both sides of the park have become dislodged and stained surrounding sidewalks. This project would analyze and install the best material for the entrances to the park.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The project would replace the damaged pavers in the Sports Complex.

PROJECT NUMBER/NAME: PW# / Sports Complex Paver Replacement Project
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

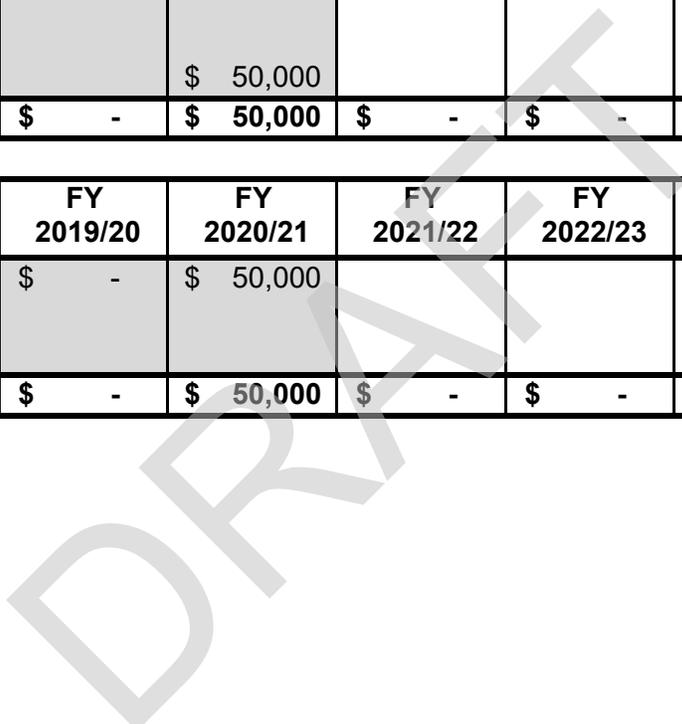
ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:
 This project is expected to have an insignificant impact on the operating budget.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction		\$ 50,000				\$ 50,000
Total Estimate	\$ -	\$ 50,000	\$ -	\$ -	\$ -	\$ 50,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ -	\$ 50,000				\$ 50,000
						\$ -
						\$ -
Total Revenue	\$ -	\$ 50,000	\$ -	\$ -	\$ -	\$ 50,000

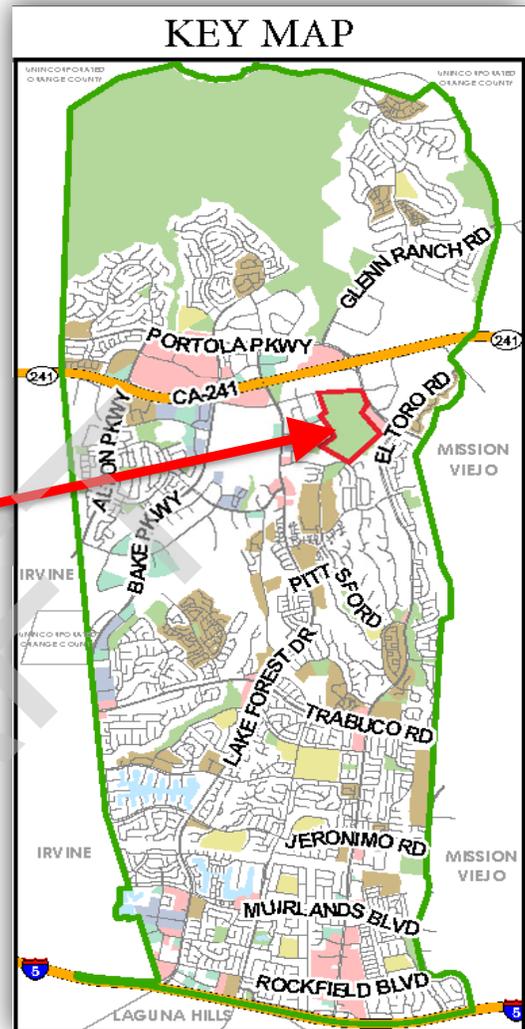


PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Recreation Center Sliding Doors Installation
Maintenance
Parks and Recreation



Project Location



PROJECT DESCRIPTION:

This project would replace the existing front and rear doors at the sports complex recreation center with automated sliding doors. The existing swinging doors not designed to handle the amount of usage the doors receive, causing significant wear on the motor that opens the automatic door. In addition, people try to force the automatic doors closed causing increased wear on internal parts, requiring numerous call outs for adjustments. The project would install automatic sliding doors, better equipped to handle the heavy use of the Recreation Center.

PROJECT NUMBER/NAME: PW# / Recreation Center Sliding Doors Installation
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe

Strategic Plan Priority Area: Attractive

Strategic Plan Strategy: Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The replacement of the doors would help staff maintain the recreation center by reducing the need for frequent repairs of the doors.

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project is expected to have an insignificant impact on the operating budget.

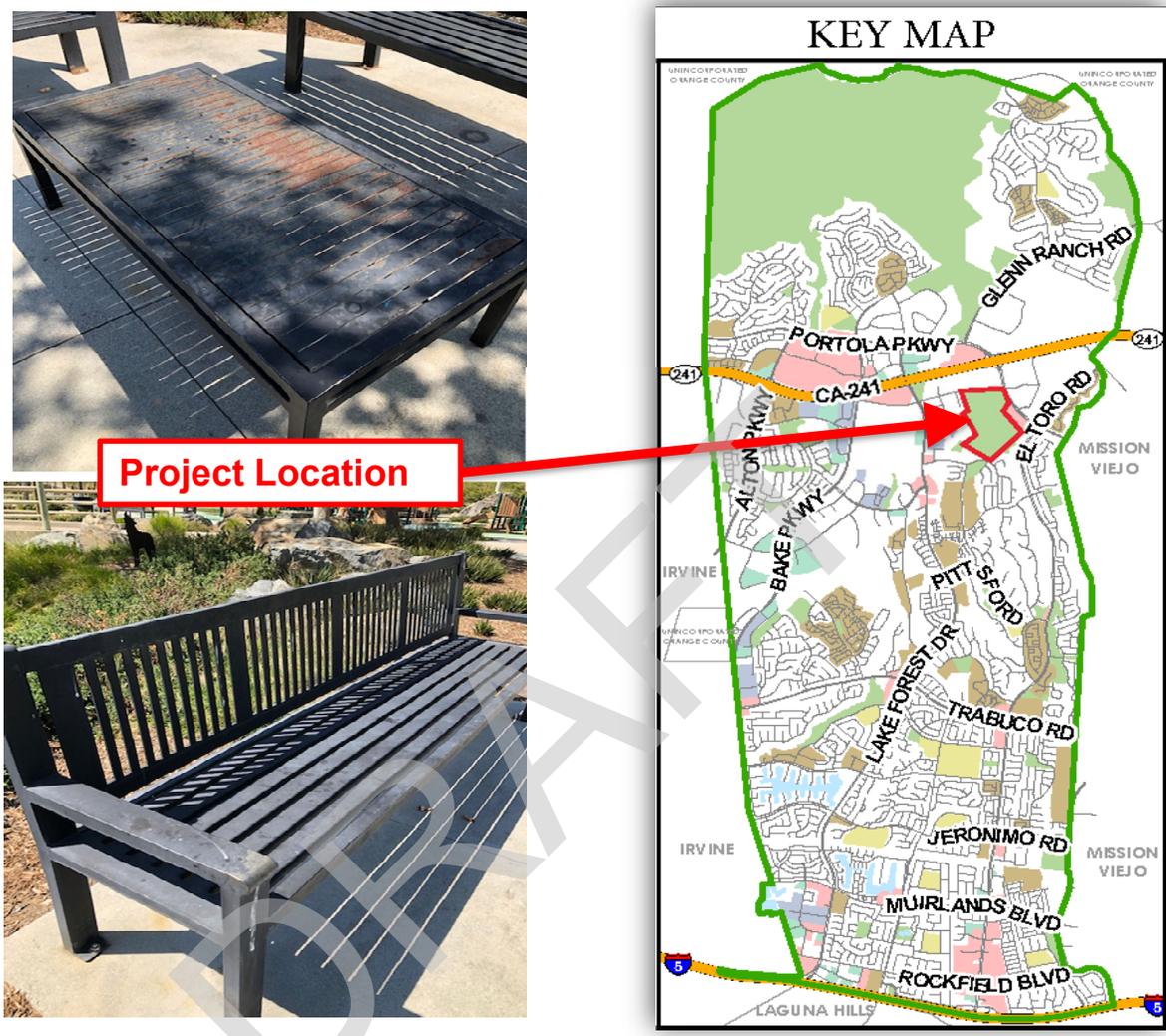
NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 40,000					\$ 40,000
Total Estimate	\$ 40,000	\$ -	\$ -	\$ -	\$ -	\$ 40,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 40,000					\$ 40,000
						\$ -
						\$ -
Total Revenue	\$ 40,000	\$ -	\$ -	\$ -	\$ -	\$ 40,000

PROJECT NUMBER/NAME: PW# / Sports Park Complex Painting
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation



PROJECT DESCRIPTION:

This project would repaint the benches and tables located on the Sports Park property. As a result of weather, numerous benches, chairs and tables have begun to show premature wear and rusting. Without new paint the seating will be compromised and require complete replacement. Repainting these amenities would protect and extend their useful. This project would repaint 88 amenities.

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe
Strategic Plan Priority Area: Attractive
Strategic Plan Strategy: Proactively enhance the visual character of the City and plan for maintenance of all City assets.
 The project would repaint the damaged benches and tables at the Sports Park.

PROJECT NUMBER/NAME: PW# / Sports Park Complex Painting
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide preventive maintenance and/or rehabilitation, which would reduce annual maintenance costs over the life of the assets. Recurring painting is necessary to proactively maintain the assets properly.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 36,000					\$ 36,000
Total Estimate	\$ 36,000	\$ -	\$ -	\$ -	\$ -	\$ 36,000

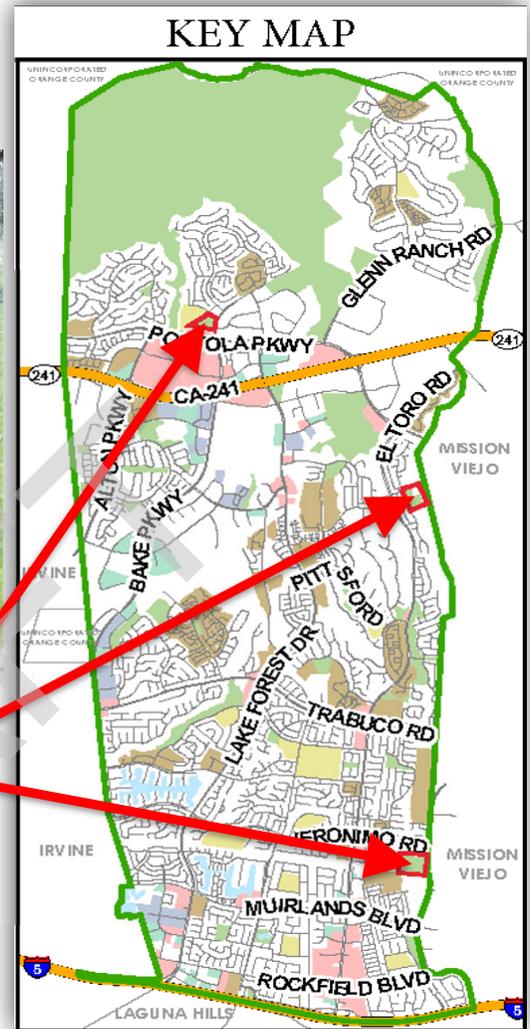
Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 36,000					\$ 36,000
						\$ -
						\$ -
Total Revenue	\$ 36,000	\$ -	\$ -	\$ -	\$ -	\$ 36,000

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Calsense Controllers
Maintenance
Parks and Recreation



Project Locations



PROJECT DESCRIPTION:

This project would update hardware and software necessary to run the existing Calsense Irrigation infrastructure utilized in several city parks. The existing irrigations systems in these parks cannot be operated digitally and must be operated manually due to the Calsense controllers no longer function on outdated software. Calsense controllers automatically shuts off for weather events thus saving water and maintenance time. With the new upgraded communications devices, staff would be able to monitor the whole city at one time, online, using cloud based software. This system would also allow reports on water usage for better management and alert staff when things break and what needs to be fixed.

PROJECT NUMBER/NAME: PW# / Calsense Controllers
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe

Strategic Plan Priority Area: Attractive

Strategic Plan Strategy: Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The project would maintain the park irrigation systems in an efficient manner and continue to keep the parks attractive and well maintained.

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project is expected to have an insignificant impact on the operating budget. Updates to the software technology would be needed in 5 years.

NO PRIOR YEAR FUNDING

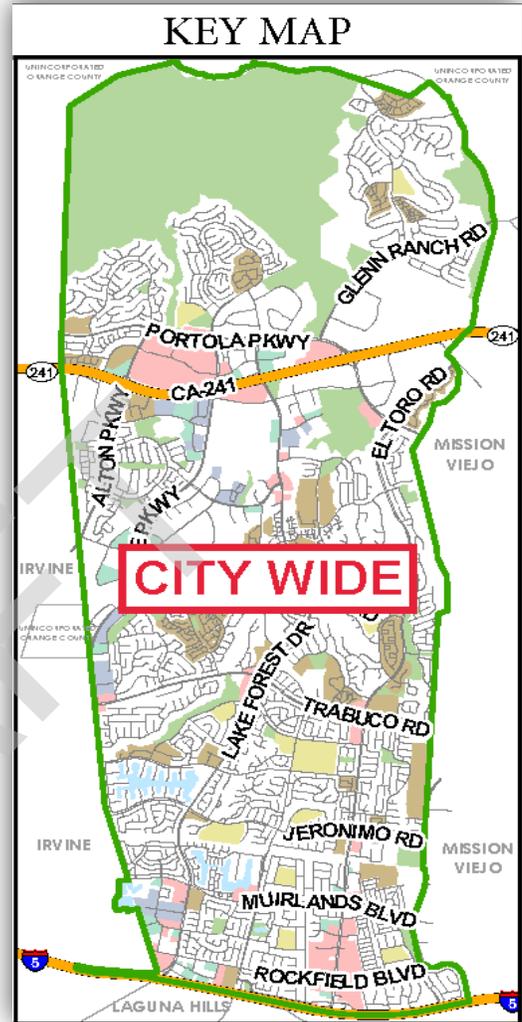
CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 45,000					\$ 45,000
Total Estimate	\$ 45,000	\$ -	\$ -	\$ -	\$ -	\$ 45,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 45,000					\$ 45,000
						\$ -
						\$ -
Total Revenue	\$ 45,000	\$ -	\$ -	\$ -	\$ -	\$ 45,000

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Park Parking Lot Resurfacing
 Engineering
 Parks and Recreation



PROJECT DESCRIPTION:

This project would perform repairs to the asphalt and slurry seal the parking lots at various parks throughout the City. The parks included for this project are Concourse Park, Borrego Park, Foothill Ranch Park, Etnies Skatepark, Heroes Park, Rancho Serrano Park, Tamarisk Park, and Darrin Park.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

Strategic Plan Strategy:

Maintaining a "Good" Pavement Condition Index helps to sustain the quality of the pavement in the parking lots.

PROJECT NUMBER/NAME: PW# / Park Parking Lot Resurfacing
RESPONSIBLE DEPARTMENT: Engineering
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project would provide preventive maintenance and/or rehabilitation, which would reduce annual maintenance costs over the life of the pavement by an estimated average of 30% (Source: American Public Works Association). Recurring resurfacing also reduces risk management costs.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction		\$ 120,000				\$ 120,000
Total Estimate	\$ -	\$ 120,000	\$ -	\$ -	\$ -	\$ 120,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)		\$ 120,000				\$ 120,000
						\$ -
						\$ -
Total Revenue	\$ -	\$ 120,000	\$ -	\$ -	\$ -	\$ 120,000

PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / Heroes Park Security Improvements
Maintenance
Parks and Recreation



Project Location



PROJECT DESCRIPTION:

This project would install security cameras to help deter vandalism that occurs at the park. Cameras would be placed to capture images of cars entering and exiting the park as well as views of the restrooms and concessions building, which has had frequent instances of vandalism.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The installation of security cameras in Heroes park would deter vandalism in the park.

PROJECT NUMBER/NAME: PW# / Heroes Park Security Improvements
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

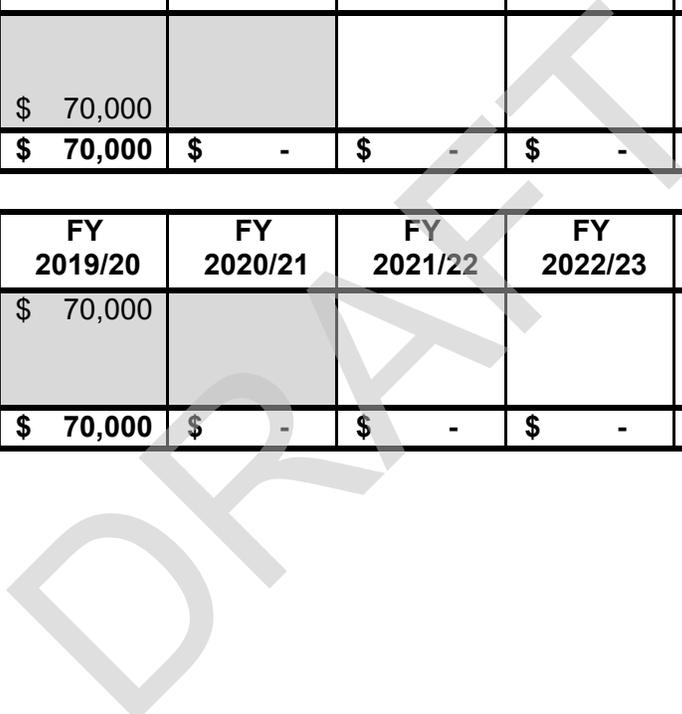
There is an anticipated annual increase of \$10,000 for security camera maintenance, monitoring and equipment replacement to the General Fund.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 70,000					\$ 70,000
Total Estimate	\$ 70,000	\$ -	\$ -	\$ -	\$ -	\$ 70,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ 70,000					\$ 70,000
						\$ -
						\$ -
Total Revenue	\$ 70,000	\$ -	\$ -	\$ -	\$ -	\$ 70,000

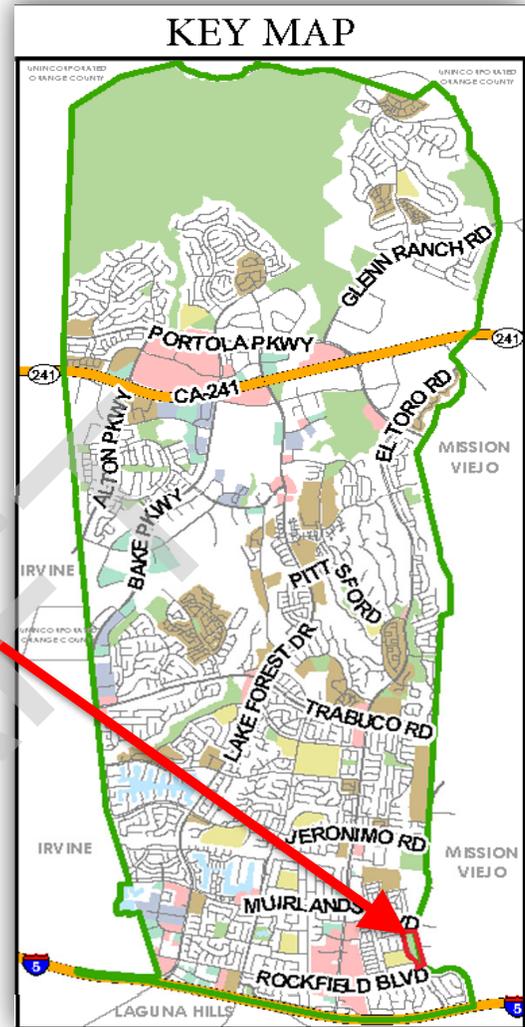


PROJECT NUMBER/NAME:
RESPONSIBLE DEPARTMENT:
CATEGORY:

PW# / El Toro Park Security Improvements
Maintenance
Parks and Recreation



Project Location



PROJECT DESCRIPTION:

This project would install security cameras to help deter vandalism that occurs at the park. Cameras would be placed to capture views of the restrooms and tennis courts, which have had frequent instances of vandalism.

PURPOSE:

Strategic Plan Goal:

Our livable city is well planned, attractive and safe

Strategic Plan Priority Area:

Attractive

Strategic Plan Strategy:

Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The installation of security cameras in El Toro park would deter vandalism in the park.

PROJECT NUMBER/NAME: PW# / El Toro Park Security Improvements
RESPONSIBLE DEPARTMENT: Maintenance
CATEGORY: Parks and Recreation

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

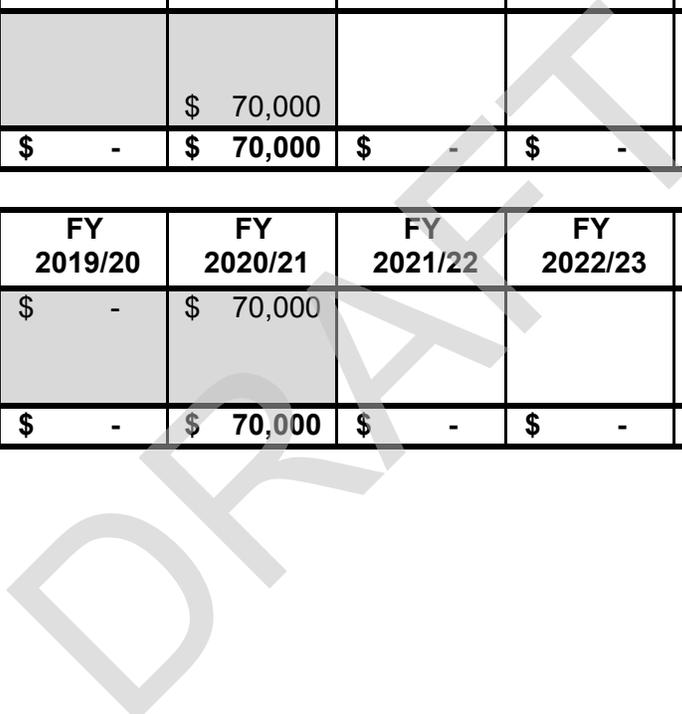
There is an anticipated annual increase of \$10,000 for security camera maintenance, monitoring and equipment replacement to the General Fund.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction		\$ 70,000				\$ 70,000
Total Estimate	\$ -	\$ 70,000	\$ -	\$ -	\$ -	\$ 70,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
CIP (120)	\$ -	\$ 70,000				\$ 70,000
						\$ -
						\$ -
Total Revenue	\$ -	\$ 70,000	\$ -	\$ -	\$ -	\$ 70,000



PROJECT NUMBER/NAME:

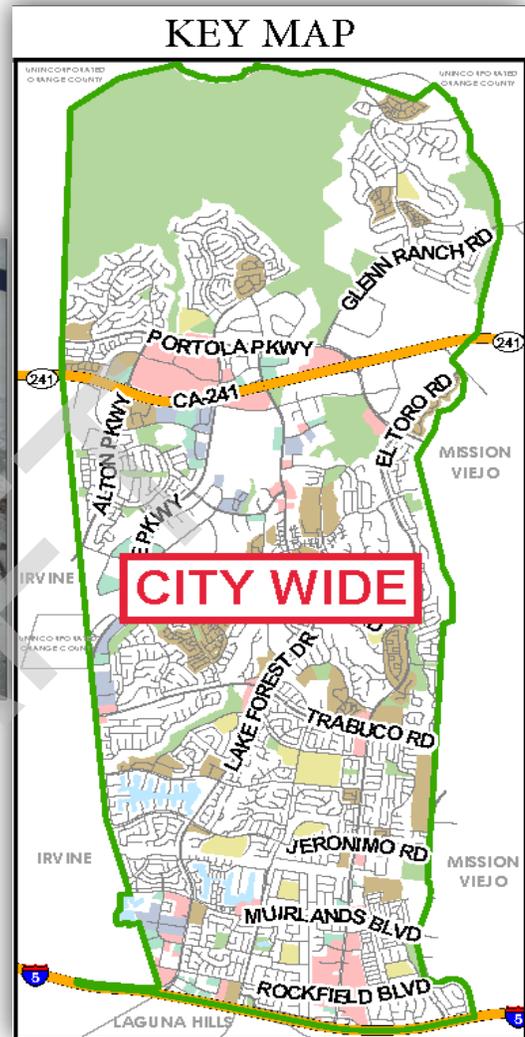
PW# / Catch Basin Best Management Practices Environmental Tier 1 Improvements

RESPONSIBLE DEPARTMENT:

Water Quality/NPDES

CATEGORY:

Environmental



PROJECT DESCRIPTION:

This project would install catch basin Best Management Practices ("BMP") citywide. This project would be the 8th and 9th phases for catch basin retrofits under the OCTA grant program for the Environmental Tier 1 Improvements Program. This project addresses requirements mandated by a pending statewide trash policy under development by the State Water Resources Control Board. There are 1,006 catch basins citywide. To-date the City has installed 666 debris screens.

PROJECT NUMBER/NAME: PW# / Catch Basin Best Management Practices Environmental Tier 1 Improvements
RESPONSIBLE DEPARTMENT: Water Quality/NPDES
CATEGORY: Environmental

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe
Strategic Plan Priority Area: Attractive
Strategic Plan Strategy: Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The project would help prevent pollutants from entering the drainage system and allow the debris to be more easily collected during street sweeping, helping to maintain an attractive city and prevent pollutants generated and transported at street level from entering the storm drain system that affects downstream water bodies.

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project is expected to have an insignificant impact on the operating budget.

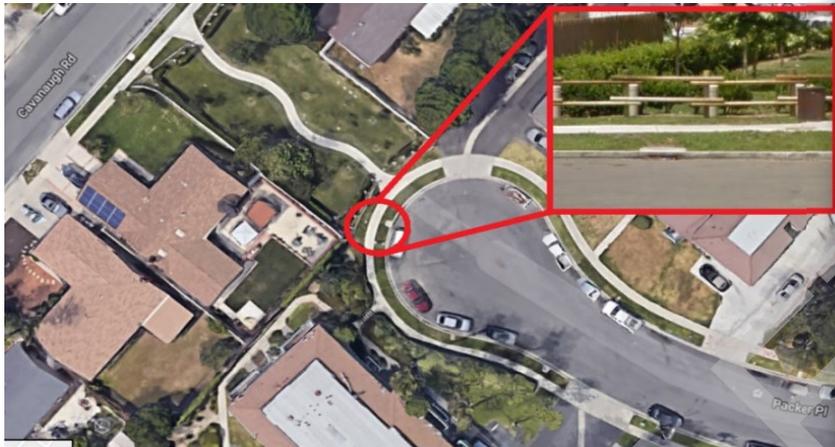
NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

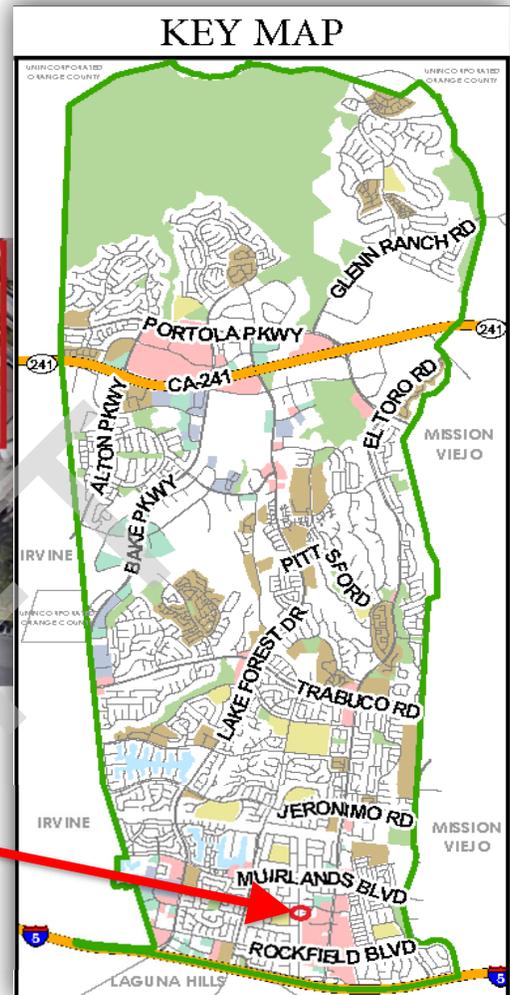
PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design						\$ -
Construction	\$ 133,500	\$ 133,500	\$ 133,500	\$ 133,500	\$ 133,500	\$ 667,500
Total Estimate	\$ 133,500	\$ 667,500				

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
M2 CTFP (223)	\$ 100,125	\$ 100,125	\$ 100,125	\$ 100,125	\$ 100,125	\$ 500,625
CIP (120)	\$ 33,375	\$ 33,375	\$ 33,375	\$ 33,375	\$ 33,375	\$ 166,875
						\$ -
Total Revenue	\$ 133,500	\$ 667,500				

PROJECT NUMBER/NAME: PW# / Packer Place Storm Drain Improvements
RESPONSIBLE DEPARTMENT: Engineering
CATEGORY: Environmental



Project Location



PROJECT DESCRIPTION:

This project would design and construct a new drainage system near Packer Place where a small park is located. The current drainage system is inadequate to handle water flow from instances of the average rain event. This project would improve the design and capacity of the drainage system providing for appropriate water flow reducing instances of standing water impacting the street.

PURPOSE:

Strategic Plan Goal: Our livable city is well planned, attractive and safe

Strategic Plan Priority Area: Attractive

Strategic Plan Strategy: Proactively enhance the visual character of the City and plan for maintenance of all City assets.

The project would construct a well planned drainage system, maintaining the attractiveness of the pocket park and improving safety by mitigating the flooding in the cul-de-sac of Packer Place.

PROJECT NUMBER/NAME: PW# / Packer Place Storm Drain Improvements
RESPONSIBLE DEPARTMENT: Engineering
CATEGORY: Environmental

ESTIMATED ANNUAL COST IMPACT OF PROJECT ON CITY OPERATING BUDGET:

This project is expected to have an insignificant impact on the operating budget.

NO PRIOR YEAR FUNDING

CURRENT AND FUTURE FUNDING

PROJECT ESTIMATE	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Land						\$ -
Planning/Design	\$ 7,500					\$ 7,500
Construction		\$ 67,500				\$ 67,500
Total Estimate	\$ 7,500	\$ 67,500	\$ -	\$ -	\$ -	\$ 75,000

Funding Source	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	TOTAL
Gas Tax HUTA (210)	\$ 7,500	\$ 67,500				\$ 75,000
						\$ -
						\$ -
Total Revenue	\$ 7,500	\$ 67,500	\$ -	\$ -	\$ -	\$ 75,000

DRAFT

Appendix 4: Cumulative (2040) Plus Plan Intersection Level of Service
Worksheets

Lake Forest GPU (Constrained AM)

Vistro File: H:\...\2040_Constrained_AM.vistro

Scenario: Base Scenario

Report File: H:\...\Constrained_AM_LOS.pdf

10/7/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1		Signalized	ICU 1	NWB Left	0.478	-	A
2		Signalized	ICU 1	SWB Left	0.478	-	A
3		Signalized	ICU 1	NWB Thru	0.561	-	A
4		Signalized	ICU 1	NB Thru	0.548	-	A
5		Signalized	ICU 1	NEB Thru	0.661	-	B
6		Signalized	ICU 1	NEB Left	0.673	-	B
7		Signalized	ICU 1	NB Thru	0.394	-	A
8		Signalized	ICU 1	NB Thru	0.465	-	A
9		Signalized	ICU 1	SWB Thru	0.629	-	B
10		Signalized	ICU 1	NWB Thru	0.726	-	C
11		Signalized	ICU 1	SWB Thru	0.964	-	E
12		Signalized	ICU 1	NB Thru	0.642	-	B
13		Signalized	ICU 1	WB Thru	0.779	-	C
14		Signalized	ICU 1	NEB Thru	0.738	-	C
15		Signalized	ICU 1	SWB Thru	0.714	-	C
16		Signalized	ICU 1	NWB Thru	0.599	-	A
17		Signalized	ICU 1	SWB Thru	0.681	-	B
18		Signalized	ICU 1	NEB Thru	0.865	-	D
19		Signalized	ICU 1	SWB Thru	0.658	-	B
20		Signalized	ICU 1	SWB Thru	0.601	-	B
21		Signalized	ICU 1	SWB Thru	0.576	-	A
22		Signalized	ICU 1	NEB Thru	0.925	-	E
23		Signalized	ICU 1	WB Thru	0.685	-	B
24		Signalized	ICU 1	NWB Thru	0.556	-	A
25		Signalized	ICU 1	SWB Thru	0.691	-	B
26		Signalized	ICU 1	SWB Thru	0.781	-	C
27		Signalized	ICU 1	SWB Thru	0.586	-	A
28		Signalized	ICU 1	NWB Thru	0.494	-	A
29		Signalized	ICU 1	SWB Thru	0.742	-	C
30		Signalized	ICU 1	SWB Thru	0.656	-	B
31		Signalized	ICU 1	SWB Thru	0.687	-	B
32		Signalized	ICU 1	SEB Thru	0.450	-	A
33		Signalized	ICU 1	SWB Thru	0.816	-	D
34		Signalized	ICU 1	SWB Thru	0.663	-	B
35		Signalized	ICU 1	EB Thru	0.518	-	A

36		Signalized	ICU 1	WB Thru	0.645	-	B
37		Signalized	ICU 1	SWB Thru	0.606	-	B
38		Signalized	ICU 1	SWB Thru	0.781	-	C
39		Signalized	ICU 1	SWB Thru	0.472	-	A
40		Signalized	ICU 1	NB Thru	0.650	-	B
41		Signalized	ICU 1	SWB Thru	0.607	-	B
42		Signalized	ICU 1	SWB Thru	0.667	-	B
51		Signalized	ICU 1	SWB Right	0.443	-	A
56		Signalized	ICU 1	SWB Thru	0.811	-	D
57		Signalized	ICU 1	NEB Left	0.576	-	A
60		Signalized	ICU 1	NWB Thru	0.590	-	A
101		Signalized	ICU 1	SWB Thru	0.650	-	B
102		Signalized	ICU 1	SWB Thru	0.490	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.478

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	175.00	100.00	100.00	150.00	100.00	55.00	315.00	100.00	245.00	170.00	100.00	585.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	130	30	480	240	280	20	520	260	140	20	380	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.31	3.33	2.08	2.08	2.14	0.00	1.92	1.92	2.14	0.00	2.11	2.11
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	30	120	240	280	5	520	260	35	20	380	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	8	30	60	70	1	130	65	9	5	95	12
Total Analysis Volume [veh/h]	130	30	120	240	280	5	520	260	35	20	380	47
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Permis	Protect	Permis	Unsign	Protect	Permis	Unsign
Signal Group	7	4	0	3	8	8	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.00	0.14	0.08	0.00	0.15	0.05	0.00	0.01	0.11	0.00
Intersection LOS	A											
Intersection V/C	0.478											

Intersection Level Of Service Report
Intersection 2:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.478

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	190.00	100.00	180.00	285.00	100.00	285.00	230.00	100.00	100.00	230.00	100.00	220.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	130	210	300	260	390	190	480	330	140	360	370	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.31	1.90	2.00	1.92	2.05	2.11	2.08	2.12	2.14	1.94	1.89	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	210	75	260	390	47	480	330	140	360	370	37
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	53	19	65	98	12	120	83	35	90	93	9
Total Analysis Volume [veh/h]	130	210	75	260	390	47	480	330	140	360	370	37
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.06	0.04	0.15	0.11	0.03	0.14	0.09	0.09	0.11	0.07	0.02
Intersection LOS	A											
Intersection V/C	0.478											

Intersection Level Of Service Report
Intersection 3:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.561

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	195.00	100.00	295.00	110.00	100.00	425.00	300.00	100.00	100.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	120	220	250	200	390	20	600	860	240	30	760	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.67	1.82	2.00	2.00	2.05	0.00	2.00	1.98	2.08	3.33	1.97	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	220	62	200	390	5	600	860	240	30	760	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	55	16	50	98	1	150	215	60	8	190	13
Total Analysis Volume [veh/h]	120	220	62	200	390	5	600	860	240	30	760	52
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.06	0.04	0.12	0.11	0.00	0.18	0.22	0.22	0.01	0.15	0.03
Intersection LOS	A											
Intersection V/C	0.561											

Intersection Level Of Service Report
Intersection 4:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.548

Intersection Setup

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Approach	Northbound			Westbound			Northeastbound			Southeastbound		
Lane Configuration	11111			11111			111			11111		
Turning Movement	Left	Thru	Right	Left2	Left	Thru	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	0	0	0	2	0	1
Pocket Length [ft]	200.00	100.00	100.00	215.00	100.00	345.00	100.00	100.00	100.00	515.00	100.00	185.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Base Volume Input [veh/h]	240	1250	700	710	120	870	90	50	120	220	840	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.08	2.00	2.00	1.97	1.67	1.95	2.22	2.00	1.67	1.82	2.02	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	1250	175	710	120	870	90	50	120	220	840	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	313	44	178	30	218	23	13	30	55	210	8
Total Analysis Volume [veh/h]	240	1250	175	710	120	870	90	50	120	220	840	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Protect	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	3	8	1	1	6	0	5	2	2	7	4	4
Auxiliary Signal Groups			1,8									
Lead / Lag	Lead	-	-	Lead	Lag	-	Lead	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.25	0.00	0.21	0.04	0.00	0.05	0.05	0.05	0.06	0.16	0.02
Intersection LOS	A											
Intersection V/C	0.548											

Intersection Level Of Service Report
Intersection 5:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	/			/ /			/ /			/		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	0	0	2	0	0	1
Pocket Length [ft]	535.00	100.00	300.00	620.00	100.00	70.00	100.00	100.00	555.00	100.00	100.00	730.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	210	1060	390	430	1470	60	200	0	430	340	0	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.90	1.98	2.05	2.09	1.97	1.67	2.00	0.00	2.09	2.06	0.00	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	1060	97	430	1470	15	200	0	107	340	0	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	265	24	108	368	4	50	0	27	85	0	7
Total Analysis Volume [veh/h]	210	1060	97	430	1470	15	200	0	107	340	0	27
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	212
Lost time [s]	11.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.21	0.00	0.13	0.29	0.00	0.06	0.00	0.00	0.20	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.661											

Intersection Level Of Service Report
Intersection 6:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.673

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	2	1	0	1
Pocket Length [ft]	170.00	100.00	100.00	370.00	100.00	100.00	100.00	100.00	435.00	550.00	100.00	550.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	380	540	140	50	1100	840	150	0	100	460	0	760
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.11	2.04	2.14	2.00	2.00	2.02	2.00	0.00	2.00	1.96	0.00	1.97
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	380	540	35	50	1100	210	150	0	25	460	0	190
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	135	9	13	275	53	38	0	6	115	0	48
Total Analysis Volume [veh/h]	380	540	35	50	1100	210	150	0	25	460	0	190
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.11	0.00	0.03	0.22	0.00	0.04	0.00	0.00	0.14	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.673											

Intersection Level Of Service Report

Intersection 7:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.394

Intersection Setup

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Approach	Northbound		Eastbound		Southwestbound	
Lane Configuration	T T T				T T	
Turning Movement	Left	Thru	Left	Right	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	1
Pocket Length [ft]	355.00	100.00	100.00	100.00	100.00	395.00
Speed [mph]	30.00		0.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Base Volume Input [veh/h]	150	1170	0	0	860	630
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.97	0.00	0.00	1.98	2.06
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	1170	0	0	860	157
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	293	0	0	215	39
Total Analysis Volume [veh/h]	150	1170	0	0	860	157
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	0	0	6	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.34	0.00	0.00	0.25	0.09
Intersection LOS	A					
Intersection V/C	0.394					

Intersection Level Of Service Report

Intersection 8:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.465

Intersection Setup

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration	↑↑		↑↑		11f	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	1	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	655.00	365.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Base Volume Input [veh/h]	0	1010	930	0	400	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.98	2.04	0.00	2.00	1.76
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1010	930	0	400	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	253	233	0	100	11
Total Analysis Volume [veh/h]	0	1010	930	0	400	42
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	0	2	6	0	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.30	0.27	0.00	0.12	0.02
Intersection LOS	A					
Intersection V/C	0.465					

Intersection Level Of Service Report
Intersection 9:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Approach	Northeastbound		Southwestbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	1	0	1	1
Pocket Length [ft]	100.00	230.00	390.00	100.00	185.00	145.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Base Volume Input [veh/h]	750	310	200	1050	820	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.94	2.00	2.00	1.95	2.11
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	750	77	200	1050	820	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	188	19	50	263	205	12
Total Analysis Volume [veh/h]	750	77	200	1050	820	47
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.05	0.12	0.31	0.24	0.01
Intersection LOS	B					
Intersection V/C	0.629					

Intersection Level Of Service Report
Intersection 10:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.726

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	1	2	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	340.00	100.00	200.00	250.00	100.00	110.00	245.00	100.00	215.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Base Volume Input [veh/h]	260	710	150	70	720	260	280	900	150	80	280	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.92	1.97	2.00	1.43	1.94	1.92	2.14	2.00	2.00	2.50	2.14	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	710	37	70	720	65	280	900	37	80	280	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	178	9	18	180	16	70	225	9	20	70	3
Total Analysis Volume [veh/h]	260	710	37	70	720	65	280	900	37	80	280	12
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.21	0.02	0.04	0.21	0.04	0.08	0.26	0.02	0.05	0.08	0.01
Intersection LOS	C											
Intersection V/C	0.726											

Intersection Level Of Service Report
Intersection 11:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: E
 Volume to Capacity (v/c): 0.964

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.						Rancho Pkwy. S.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	190.00	100.00	190.00	190.00	100.00	80.00	100.00	100.00	100.00	190.00	100.00	180.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.						Rancho Pkwy. S.		
Base Volume Input [veh/h]	460	890	390	170	1430	410	70	70	50	140	350	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.96	2.02	2.05	1.76	2.03	1.95	1.43	1.43	2.00	2.14	2.00	2.06
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	460	890	97	170	1430	102	70	70	50	140	350	340
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	223	24	43	358	26	18	18	13	35	88	85
Total Analysis Volume [veh/h]	460	890	97	170	1430	102	70	70	50	140	350	340
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.27	0.26	0.06	0.10	0.42	0.06	0.02	0.04	0.04	0.04	0.20	0.20
Intersection LOS	E											
Intersection V/C	0.964											

Intersection Level Of Service Report
Intersection 12:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.642

Intersection Setup

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Approach	Northbound			Southbound			Northeastbound			Southwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	1	1	0	2
Pocket Length [ft]	400.00	100.00	100.00	200.00	100.00	100.00	395.00	100.00	260.00	150.00	100.00	170.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Base Volume Input [veh/h]	410	1990	30	150	1010	320	420	210	440	20	650	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.95	2.01	3.33	2.00	1.98	1.88	1.90	1.90	2.05	0.00	2.00	1.93
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	410	1990	30	150	1010	80	420	210	110	20	650	142
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	103	498	8	38	253	20	105	53	28	5	163	36
Total Analysis Volume [veh/h]	410	1990	30	150	1010	80	420	210	110	20	650	142
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.30	0.30	0.04	0.20	0.05	0.12	0.04	0.06	0.01	0.13	0.04
Intersection LOS	B											
Intersection V/C	0.642											

Intersection Level Of Service Report
Intersection 13:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.779

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	1 1 1			1 1 1			1 1 1			1 1 1		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Thru	Right	Right2	Left2	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	1	0	0
Pocket Length [ft]	285.00	100.00	180.00	285.00	100.00	220.00	345.00	100.00	100.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Base Volume Input [veh/h]	30	1370	150	240	1140	650	380	230	20	160	360	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.33	1.97	2.00	2.08	2.02	2.00	2.11	2.17	0.00	1.88	1.94	1.85
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	1370	20	240	1140	162	380	230	20	160	360	270
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	343	5	60	285	41	95	58	5	40	90	68
Total Analysis Volume [veh/h]	30	1370	20	240	1140	162	380	230	20	160	360	270
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Protect	Permis	Protect	Permis	Permis
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.40	0.01	0.14	0.34	0.10	0.11	0.15	0.15	0.09	0.11	0.19
Intersection LOS	C											
Intersection V/C	0.779											

Intersection Level Of Service Report
Intersection 14:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.738

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	2	2	0	1
Pocket Length [ft]	305.00	100.00	155.00	305.00	100.00	150.00	305.00	100.00	225.00	275.00	100.00	275.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Base Volume Input [veh/h]	150	2290	110	110	1700	190	550	800	390	230	230	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.01	1.82	1.82	2.00	2.11	2.00	2.00	2.05	2.17	2.17	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	2290	27	110	1700	47	550	800	97	230	230	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	573	7	28	425	12	138	200	24	58	58	8
Total Analysis Volume [veh/h]	150	2290	27	110	1700	47	550	800	97	230	230	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.45	0.02	0.03	0.33	0.03	0.16	0.12	0.06	0.07	0.05	0.02
Intersection LOS	C											
Intersection V/C	0.738											

Intersection Level Of Service Report
Intersection 15:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.714

Intersection Setup

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Approach	Northbound			Northeastbound			Southwestbound			Southeastbound		
Lane Configuration				/ /			/ /			/ /		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	0	2	0	1
Pocket Length [ft]	210.00	100.00	280.00	275.00	100.00	405.00	160.00	100.00	100.00	175.00	100.00	225.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Base Volume Input [veh/h]	560	930	390	170	890	190	290	1470	260	190	560	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.96	2.04	2.05	1.76	2.02	2.11	2.07	1.97	1.92	2.11	1.96	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	560	930	97	170	890	47	290	1470	260	190	560	62
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	140	233	24	43	223	12	73	368	65	48	140	16
Total Analysis Volume [veh/h]	560	930	97	170	890	47	290	1470	260	190	560	62
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	5	2	2	1	6	6	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.18	0.06	0.05	0.17	0.03	0.09	0.34	0.34	0.06	0.11	0.04
Intersection LOS	C											
Intersection V/C	0.714											

Intersection Level Of Service Report
Intersection 16:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.599

Intersection Setup

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Approach	Southbound		Northeastbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	1	0
Pocket Length [ft]	100.00	200.00	100.00	100.00	190.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Base Volume Input [veh/h]	700	340	330	290	370	1580
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.06	2.12	2.07	1.89	2.03
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	700	122	330	35	370	1580
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	175	31	83	9	93	395
Total Analysis Volume [veh/h]	700	122	330	35	370	1580
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Protected	Permissive
Signal Group	4	4	2	2	3	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.07	0.19	0.02	0.22	0.31
Intersection LOS	A					
Intersection V/C	0.599					

Intersection Level Of Service Report
Intersection 17:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.681

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	360.00	100.00	305.00	165.00	100.00	175.00	225.00	100.00	230.00	205.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Base Volume Input [veh/h]	120	790	160	300	1680	630	300	910	240	300	480	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.67	2.03	1.88	2.00	2.02	2.06	2.00	1.98	2.08	2.00	2.08	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	790	40	300	1680	157	300	910	60	300	480	120
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	198	10	75	420	39	75	228	15	75	120	30
Total Analysis Volume [veh/h]	120	790	40	300	1680	157	300	910	60	300	480	120
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3			6,7						
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.15	0.00	0.09	0.33	0.00	0.09	0.18	0.04	0.09	0.12	0.12
Intersection LOS	B											
Intersection V/C	0.681											

Intersection Level Of Service Report
Intersection 18:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.865

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	180.00	100.00	205.00	205.00	100.00	225.00	285.00	100.00	100.00	205.00	100.00	110.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	320	2440	70	90	2270	160	270	450	120	50	60	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.88	2.01	1.43	2.22	1.98	1.88	1.85	2.00	1.67	2.00	1.67	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	2440	17	90	2270	40	270	450	120	50	60	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	610	4	23	568	10	68	113	30	13	15	4
Total Analysis Volume [veh/h]	320	2440	17	90	2270	40	270	450	120	50	60	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.48	0.01	0.05	0.45	0.02	0.16	0.17	0.17	0.01	0.02	0.01
Intersection LOS	D											
Intersection V/C	0.865											

Intersection Level Of Service Report
Intersection 19:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.658

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Approach	Eastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	185.00	180.00	100.00	200.00	155.00	100.00	100.00	135.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	160	1150	70	40	1890	150	160	400	50	20	130	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.88	2.00	1.43	2.50	2.01	2.00	1.88	2.00	2.00	0.00	2.31	2.14
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	1150	17	40	1890	37	160	400	50	20	130	35
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	288	4	10	473	9	40	100	13	5	33	9
Total Analysis Volume [veh/h]	160	1150	17	40	1890	37	160	400	50	20	130	35
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.23	0.01	0.02	0.37	0.02	0.09	0.13	0.13	0.01	0.05	0.05
Intersection LOS	B											
Intersection V/C	0.658											

Intersection Level Of Service Report

Intersection 20:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.601

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇌			⇌			⇌			⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	175.00	100.00	100.00	200.00	100.00	100.00	110.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	90	380	210	170	600	220	320	210	40	40	170	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.22	2.11	1.90	1.76	2.00	1.82	1.88	1.90	2.50	2.50	1.76	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	380	210	170	600	220	320	210	40	40	170	60
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	95	53	43	150	55	80	53	10	10	43	15
Total Analysis Volume [veh/h]	90	380	210	170	600	220	320	210	40	40	170	60
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	157
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.17	0.17	0.10	0.24	0.24	0.19	0.07	0.07	0.02	0.07	0.07
Intersection LOS	B											
Intersection V/C	0.601											

Intersection Level Of Service Report
Intersection 21:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.576

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	250.00	100.00	250.00	210.00	100.00	1000.0	100.00	100.00	25.00	170.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	140	1040	30	20	1770	300	40	30	10	160	30	240
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	2.02	3.33	0.00	1.98	2.00	2.50	3.33	0.00	1.88	3.33	2.08
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	1040	7	20	1770	75	40	30	2	160	30	60
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	260	2	5	443	19	10	8	1	40	8	15
Total Analysis Volume [veh/h]	140	1040	7	20	1770	75	40	30	2	160	30	60
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.20	0.00	0.01	0.35	0.04	0.02	0.04	0.00	0.05	0.06	0.04
Intersection LOS	A											
Intersection V/C	0.576											

Intersection Level Of Service Report
Intersection 22:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: E
 Volume to Capacity (v/c): 0.925

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	350.00	100.00	190.00	285.00	100.00	200.00	255.00	100.00	100.00	150.00	100.00	80.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	440	2680	80	60	2500	170	400	530	150	10	70	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.05	2.01	2.50	1.67	2.00	1.76	2.00	2.08	2.00	0.00	1.43	2.31
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	440	2680	20	60	2500	42	400	530	150	10	70	32
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	670	5	15	625	11	100	133	38	3	18	8
Total Analysis Volume [veh/h]	440	2680	20	60	2500	42	400	530	150	10	70	32
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.53	0.01	0.04	0.49	0.02	0.24	0.20	0.20	0.00	0.02	0.02
Intersection LOS	E											
Intersection V/C	0.925											

Intersection Level Of Service Report
Intersection 23:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.685

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	1 1 1			1 1 1			1 1			1 1		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Pocket Length [ft]	195.00	100.00	300.00	255.00	100.00	275.00	240.00	100.00	100.00	190.00	100.00	195.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	270	1550	410	100	980	200	300	640	350	100	180	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.85	2.00	1.95	2.00	2.04	2.00	2.00	2.03	2.00	2.00	2.22	1.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	1550	102	100	980	50	300	640	87	100	180	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	388	26	25	245	13	75	160	22	25	45	4
Total Analysis Volume [veh/h]	270	1550	102	100	980	50	300	640	87	100	180	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.30	0.06	0.06	0.19	0.03	0.18	0.21	0.21	0.06	0.05	0.01
Intersection LOS	B											
Intersection V/C	0.685											

Intersection Level Of Service Report
Intersection 24:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.556

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	200.00	100.00	115.00	175.00	100.00	95.00	95.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	110	410	150	130	500	440	200	660	130	110	400	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	1.95	2.00	2.31	2.00	2.05	2.00	1.97	2.31	1.82	2.00	1.76
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	410	37	130	500	110	200	660	130	110	400	170
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	103	9	33	125	28	50	165	33	28	100	43
Total Analysis Volume [veh/h]	110	410	37	130	500	110	200	660	130	110	400	170
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	105
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.12	0.02	0.08	0.15	0.06	0.12	0.23	0.23	0.06	0.17	0.17
Intersection LOS	A											
Intersection V/C	0.556											

Intersection Level Of Service Report
Intersection 25:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.691

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	1	0	0
Pocket Length [ft]	195.00	100.00	125.00	360.00	100.00	575.00	155.00	100.00	145.00	180.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	80	890	310	340	1590	200	410	680	280	100	440	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.50	2.02	1.94	2.06	2.01	2.00	1.95	2.06	2.14	2.00	2.05	2.11
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	890	77	340	1590	50	410	680	70	100	440	190
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	223	19	85	398	13	103	170	18	25	110	48
Total Analysis Volume [veh/h]	80	890	77	340	1590	50	410	680	70	100	440	190
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3									
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.17	0.00	0.10	0.31	0.03	0.12	0.20	0.04	0.06	0.19	0.19
Intersection LOS	B											
Intersection V/C	0.691											

Intersection Level Of Service Report
Intersection 26:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.781

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	285.00	100.00	100.00	295.00	100.00	110.00	180.00	100.00	175.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	240	760	200	380	1540	250	280	650	130	180	700	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.08	1.97	2.00	2.11	2.01	2.00	2.14	2.00	2.31	2.22	2.00	2.06
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	760	50	380	1540	62	280	650	32	180	700	85
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	190	13	95	385	16	70	163	8	45	175	21
Total Analysis Volume [veh/h]	240	760	50	380	1540	62	280	650	32	180	700	85
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.15	0.03	0.22	0.30	0.04	0.08	0.19	0.02	0.05	0.21	0.05
Intersection LOS	C											
Intersection V/C	0.781											

Intersection Level Of Service Report
Intersection 27:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.586

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	295.00	100.00	285.00	235.00	100.00	290.00	245.00	100.00	210.00	185.00	100.00	255.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	70	970	290	80	1640	180	350	590	210	70	210	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.43	1.96	2.07	2.50	2.01	2.22	2.00	2.03	1.90	1.43	1.90	3.33
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	970	72	80	1640	45	350	590	52	70	210	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	243	18	20	410	11	88	148	13	18	53	2
Total Analysis Volume [veh/h]	70	970	72	80	1640	45	350	590	52	70	210	7
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Overla
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.19	0.04	0.02	0.32	0.03	0.10	0.17	0.03	0.02	0.06	0.00
Intersection LOS	A											
Intersection V/C	0.586											

Intersection Level Of Service Report
Intersection 28:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.494

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	185.00	100.00	190.00	175.00	100.00	200.00	180.00	100.00	95.00	300.00	100.00	125.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	110	320	90	190	340	350	80	630	150	90	430	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	1.88	2.22	2.11	2.06	2.00	2.50	2.06	2.00	2.22	2.09	1.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	320	22	190	340	87	80	630	37	90	430	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	80	6	48	85	22	20	158	9	23	108	4
Total Analysis Volume [veh/h]	110	320	22	190	340	87	80	630	37	90	430	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.09	0.01	0.11	0.10	0.05	0.05	0.19	0.02	0.05	0.13	0.01
Intersection LOS	A											
Intersection V/C	0.494											

Intersection Level Of Service Report
Intersection 29:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.742

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	245.00	100.00	100.00	150.00	100.00	345.00	215.00	100.00	120.00	170.00	100.00	295.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	160	910	220	190	1760	120	350	830	80	190	410	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.88	1.98	1.82	2.11	1.99	1.67	2.00	2.05	2.50	2.11	1.95	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	910	55	190	1760	30	350	830	20	190	410	65
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	228	14	48	440	8	88	208	5	48	103	16
Total Analysis Volume [veh/h]	160	910	55	190	1760	30	350	830	20	190	410	65
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.18	0.03	0.06	0.35	0.02	0.10	0.24	0.01	0.06	0.12	0.04
Intersection LOS	C											
Intersection V/C	0.742											

Intersection Level Of Service Report
Intersection 30:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.656

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	210.00	100.00	410.00	190.00	100.00	125.00	250.00	100.00	145.00	305.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	220	720	260	440	1230	450	230	450	200	180	580	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	1.94	1.92	2.05	2.03	2.00	2.17	2.00	2.00	2.22	2.07	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	720	65	440	1230	112	230	450	200	180	580	210
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	180	16	110	308	28	58	113	50	45	145	53
Total Analysis Volume [veh/h]	220	720	65	440	1230	112	230	450	200	180	580	210
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.14	0.04	0.13	0.24	0.07	0.07	0.13	0.12	0.05	0.23	0.23
Intersection LOS	B											
Intersection V/C	0.656											

Intersection Level Of Service Report
Intersection 31:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.687

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	2	0	1	2	0	1	2	0	2
Pocket Length [ft]	225.00	100.00	290.00	165.00	100.00	180.00	260.00	100.00	155.00	145.00	100.00	250.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	440	1250	390	380	1930	260	490	520	260	110	220	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.05	2.00	2.05	2.11	2.02	1.92	2.04	1.92	1.92	1.82	1.82	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	440	1250	97	380	1930	260	490	520	65	110	220	65
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	313	24	95	483	65	123	130	16	28	55	16
Total Analysis Volume [veh/h]	440	1250	97	380	1930	260	490	520	65	110	220	65
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Permis	Permis	Overla
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.25	0.06	0.11	0.32	0.32	0.14	0.15	0.04	0.03	0.06	0.00
Intersection LOS	B											
Intersection V/C	0.687											

Intersection Level Of Service Report
Intersection 32:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.450

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	155.00	100.00	100.00	100.00	170.00	100.00	100.00	255.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	60	80	40	110	40	240	40	600	80	70	660	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.67	2.50	2.50	1.82	2.50	2.08	2.50	2.00	2.50	1.43	1.97	3.33
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	80	10	110	40	240	40	600	80	70	660	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	20	3	28	10	60	10	150	20	18	165	8
Total Analysis Volume [veh/h]	60	80	10	110	40	240	40	600	80	70	660	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	149
Lost time [s]	7.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	5	5	6	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.01	0.06	0.11	0.11	0.02	0.20	0.20	0.04	0.20	0.20
Intersection LOS	A											
Intersection V/C	0.450											

Intersection Level Of Service Report
Intersection 33:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.816

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	2	0	1	2	0	1
Pocket Length [ft]	250.00	100.00	235.00	200.00	100.00	100.00	195.00	100.00	200.00	245.00	100.00	155.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	490	1090	220	250	2030	60	810	190	170	80	260	600
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.04	2.02	1.82	2.00	2.02	1.67	1.98	2.11	1.76	2.50	1.92	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	490	1090	55	250	2030	60	810	190	42	80	260	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	123	273	14	63	508	15	203	48	11	20	65	38
Total Analysis Volume [veh/h]	490	1090	55	250	2030	60	810	190	42	80	260	150
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Unsign
Signal Group	5	2	2	1	6	6	3	8	8	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.16	0.03	0.07	0.31	0.31	0.24	0.06	0.02	0.02	0.08	0.00
Intersection LOS	D											
Intersection V/C	0.816											

Intersection Level Of Service Report
Intersection 34:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.663

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	TTT			TTT			TT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	200.00	100.00	100.00	160.00	100.00	160.00	100.00	100.00	50.00	250.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	260	710	10	20	1080	490	10	50	40	360	10	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.92	1.97	0.00	0.00	2.04	2.04	0.00	2.00	2.50	1.94	0.00	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	710	10	20	1080	122	10	50	40	360	10	65
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	178	3	5	270	31	3	13	10	90	3	16
Total Analysis Volume [veh/h]	260	710	10	20	1080	122	10	50	40	360	10	65
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.21	0.21	0.01	0.32	0.07	0.01	0.03	0.03	0.11	0.11	0.04
Intersection LOS	B											
Intersection V/C	0.663											

Intersection Level Of Service Report
Intersection 35:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Approach	Northbound			Eastbound			Southwestbound			Southeastbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	640.00	100.00	640.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Base Volume Input [veh/h]	690	0	630	0	1820	0	0	1360	1390	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.03	0.00	2.06	0.00	1.98	0.00	0.00	1.99	2.01	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	690	0	157	0	1820	0	0	1360	347	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	173	0	39	0	455	0	0	340	87	0	0	0
Total Analysis Volume [veh/h]	690	0	157	0	1820	0	0	1360	347	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Split	Split	Split	Permis								
Signal Group	8	0	8	0	2	0	0	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.00	0.05	0.00	0.27	0.00	0.00	0.27	0.20	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.518											

Intersection Level Of Service Report
Intersection 36:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.645

Intersection Setup

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐						⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	125.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	100.00	465.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	190	0	300	1070	290	660	0	1090	80	360	1530	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.11	0.00	2.00	1.96	2.07	1.97	0.00	2.02	2.50	1.94	2.03	1.91
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	0	300	1070	290	165	0	1090	80	360	1530	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	0	75	268	73	41	0	273	20	90	383	29
Total Analysis Volume [veh/h]	190	0	300	1070	290	165	0	1090	80	360	1530	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	8	0	8	4	4	4	0	2	2	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.09	0.21	0.09	0.10	0.00	0.17	0.17	0.11	0.30	0.07
Intersection LOS	B											
Intersection V/C	0.645											

Intersection Level Of Service Report
Intersection 37:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.606

Intersection Setup

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	TTL			TTL			TTL			TTL		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	2	1	0	1	2	0	1
Pocket Length [ft]	145.00	100.00	100.00	100.00	100.00	265.00	35.00	100.00	120.00	135.00	100.00	45.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	140	50	40	860	990	20	10	580	670	160	300	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	2.00	2.50	1.98	2.02	0.00	0.00	2.07	1.94	1.88	2.00	1.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	50	10	860	990	20	10	580	167	160	300	70
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	13	3	215	248	5	3	145	42	40	75	18
Total Analysis Volume [veh/h]	140	50	10	860	990	20	10	580	167	160	300	70
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permis	Permis	Overla	Split	Split	Split	Protect	Permis	Protect	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	8	1	6	6
Auxiliary Signal Groups			4,5									
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.03	0.00	0.25	0.30	0.30	0.01	0.17	0.10	0.05	0.09	0.04
Intersection LOS	B											
Intersection V/C	0.606											

Intersection Level Of Service Report
Intersection 38:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.781

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	↵ ↑ ↵			↵ ↑ ↑ ↑ ↵			↵ ↑ ↵			↵ ↵		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	1	1	0	1
Pocket Length [ft]	110.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	410.00	165.00	100.00	165.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Base Volume Input [veh/h]	100	1270	790	0	3840	90	400	70	450	50	10	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.97	2.03	0.00	2.01	2.22	2.00	1.43	2.00	2.00	0.00	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	1270	197	0	3840	90	400	70	450	50	10	210
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	318	49	0	960	23	100	18	113	13	3	53
Total Analysis Volume [veh/h]	100	1270	197	0	3840	90	400	70	450	50	10	210
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Permis	Permis	Overla
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.25	0.12	0.00	0.46	0.46	0.12	0.18	0.18	0.03	0.01	0.06
Intersection LOS	C											
Intersection V/C	0.781											

Intersection Level Of Service Report
Intersection 39:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.472

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T			RT			T			RT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	2	0	1	1	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	305.00	100.00	135.00	215.00	100.00	100.00	215.00	100.00	90.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	0	1160	20	130	1260	1070	40	200	410	890	260	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.98	0.00	2.31	1.98	1.96	2.50	2.00	1.95	2.02	1.92	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1160	20	130	1260	267	40	200	102	890	260	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	290	5	33	315	67	10	50	26	223	65	4
Total Analysis Volume [veh/h]	0	1160	20	130	1260	267	40	200	102	890	260	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Overla	Split	Split	Split
Signal Group	0	2	2	1	6	6	8	8	1	4	4	4
Auxiliary Signal Groups									1,8			
Lead / Lag	-	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.17	0.17	0.04	0.25	0.16	0.02	0.14	0.00	0.17	0.08	0.01
Intersection LOS	A											
Intersection V/C	0.472											

Intersection Level Of Service Report
Intersection 40:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.650

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	0	0	1	1	0	0
Pocket Length [ft]	295.00	100.00	195.00	135.00	100.00	100.00	100.00	100.00	95.00	165.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Base Volume Input [veh/h]	1100	1690	10	40	1030	330	10	30	30	120	60	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.01	0.00	2.50	2.04	2.12	0.00	3.33	3.33	1.67	1.67	1.91
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1100	1690	2	40	1030	82	10	30	7	120	60	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	275	423	1	10	258	21	3	8	2	30	15	29
Total Analysis Volume [veh/h]	1100	1690	2	40	1030	82	10	30	7	120	60	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	182
Lost time [s]	9.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Protect	Permis	Permis	Permis	Split	Split	Split
Signal Group	5	2	2	1	6	4	8	8	1	4	4	0
Auxiliary Signal Groups									1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.32	0.33	0.00	0.01	0.20	0.05	0.01	0.01	0.00	0.04	0.05	0.07
Intersection LOS	B											
Intersection V/C	0.650											

Intersection Level Of Service Report
Intersection 41:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.607

Intersection Setup

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Approach	Southbound			Northeastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	1	0	1
Pocket Length [ft]	200.00	100.00	205.00	225.00	100.00	230.00	260.00	100.00	155.00	245.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Base Volume Input [veh/h]	50	60	230	70	810	160	250	1660	70	260	70	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.67	2.17	1.43	1.98	1.88	2.00	1.99	1.43	1.92	1.43	2.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	60	57	70	810	40	250	1660	17	260	70	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	15	14	18	203	10	63	415	4	65	18	5
Total Analysis Volume [veh/h]	50	60	57	70	810	40	250	1660	17	260	70	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	111
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	7	4	4	5	2	2	1	6	6	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.02	0.03	0.04	0.16	0.02	0.07	0.33	0.01	0.15	0.02	0.01
Intersection LOS	B											
Intersection V/C	0.607											

Intersection Level Of Service Report
Intersection 42:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.667

Intersection Setup

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Approach	Eastbound		Southwestbound		Northwestbound	
Lane Configuration	YY		TYY		YYT	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	2	0
Pocket Length [ft]	100.00	100.00	305.00	100.00	260.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Base Volume Input [veh/h]	790	610	350	2030	450	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.03	1.97	2.00	2.02	2.00	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	790	610	350	2030	450	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	198	153	88	508	113	7
Total Analysis Volume [veh/h]	790	610	350	2030	450	27
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	8	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.27	0.27	0.21	0.40	0.13	0.02
Intersection LOS	B					
Intersection V/C	0.667					

Intersection Level Of Service Report
Intersection 51:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Approach	Eastbound		Northeastbound		Southwestbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	255.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Base Volume Input [veh/h]	60	180	220	540	930	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.67	2.22	1.82	2.04	2.04	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	45	220	540	930	250
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	11	55	135	233	63
Total Analysis Volume [veh/h]	60	45	220	540	930	250
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	5	5	2	6	6
Auxiliary Signal Groups		5				
Lead / Lag	Lag	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.13	0.11	0.23	0.23
Intersection LOS	A					
Intersection V/C	0.443					

Intersection Level Of Service Report
Intersection 56:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.811

Intersection Setup

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Approach	Northbound			Southbound			Eastbound			Southwestbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	2	1	0	1	1	0	1
Pocket Length [ft]	170.00	100.00	170.00	100.00	100.00	165.00	290.00	100.00	225.00	295.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Base Volume Input [veh/h]	260	10	330	170	160	160	30	970	160	520	1320	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.92	0.00	2.12	1.76	1.88	1.88	3.33	1.96	1.88	1.92	1.97	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	10	82	170	160	40	30	970	40	520	1320	25
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	3	21	43	40	10	8	243	10	130	330	6
Total Analysis Volume [veh/h]	260	10	82	170	160	40	30	970	40	520	1320	25
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.05	0.10	0.09	0.02	0.02	0.29	0.02	0.31	0.39	0.01
Intersection LOS	D											
Intersection V/C	0.811											

Intersection Level Of Service Report
Intersection 57:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.576

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌			⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	140.00	100.00	175.00	105.00	100.00	200.00	100.00	100.00	35.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Base Volume Input [veh/h]	360	640	10	20	620	440	10	10	10	400	10	310
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.94	2.03	0.00	0.00	1.94	2.05	0.00	0.00	0.00	2.00	0.00	1.94
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	360	640	2	20	620	110	10	10	10	400	10	77
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	160	1	5	155	28	3	3	3	100	3	19
Total Analysis Volume [veh/h]	360	640	2	20	620	110	10	10	10	400	10	77
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.19	0.00	0.01	0.18	0.06	0.01	0.01	0.01	0.12	0.12	0.05
Intersection LOS	A											
Intersection V/C	0.576											

Intersection Level Of Service Report
Intersection 60:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.590

Intersection Setup

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Approach	Southbound			Eastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left2	Left	Right	Left2	Left	Thru	Left	Thru	Right	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	210.00	100.00	100.00	140.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Base Volume Input [veh/h]	40	250	70	90	170	270	10	10	10	620	560	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.50	2.00	1.43	2.22	1.76	1.85	0.00	0.00	0.00	1.94	1.96	1.85
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	250	17	90	170	270	10	10	10	620	560	270
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	63	4	23	43	68	3	3	3	155	140	68
Total Analysis Volume [veh/h]	40	250	17	90	170	270	10	10	10	620	560	270
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	129
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis								
Signal Group	1	6	6	4	4	4	8	8	8	5	2	2
Auxiliary Signal Groups												
Lead / Lag	Lead	Lag	-	Lag	Lag	-	Lag	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.07	0.08	0.05	0.10	0.16	0.01	0.01	0.01	0.36	0.24	0.24
Intersection LOS	A											
Intersection V/C	0.590											

Intersection Level Of Service Report
Intersection 101:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.650

Intersection Setup

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Approach	Eastbound			Westbound			Northeastbound			Southwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Pocket Length [ft]	65.00	100.00	100.00	60.00	100.00	100.00	150.00	100.00	190.00	155.00	100.00	195.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	20	20	40	440	20	100	10	760	220	140	900	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.50	2.05	0.00	2.00	0.00	1.97	1.82	2.14	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	20	40	440	20	100	10	760	55	140	900	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	5	10	110	5	25	3	190	14	35	225	1
Total Analysis Volume [veh/h]	20	20	40	440	20	100	10	760	55	140	900	2
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.04	0.04	0.26	0.07	0.07	0.01	0.22	0.03	0.08	0.26	0.00
Intersection LOS	B											
Intersection V/C	0.650											

Intersection Level Of Service Report
Intersection 102:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Approach	Northeastbound		Southwestbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	1	0
Pocket Length [ft]	240.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Base Volume Input [veh/h]	110	1040	1630	90	70	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	2.02	2.02	2.22	1.43	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	1040	1630	90	70	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	260	408	23	18	13
Total Analysis Volume [veh/h]	110	1040	1630	90	70	52
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	5	2	6	6	7	5
Auxiliary Signal Groups						5
Lead / Lag	Lead	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.20	0.34	0.34	0.04	0.00
Intersection LOS	A					
Intersection V/C	0.490					

Lake Forest GPU (Constrained AM)

Vistro File: H:\...\2040_Constrained_AM.vistro

Scenario: Base Scenario

Report File: H:\...\Constrained_AM_LOS.pdf

10/7/2019

Turning Movement Volume: Summary

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
1		130	30	480	240	280	20	520	260	140	20	380	190	2690

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
2		130	210	300	260	390	190	480	330	140	360	370	150	3310

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
3		120	220	250	200	390	20	600	860	240	30	760	210	3900

ID	Intersection Name	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume
		Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right	
4		240	1250	700	710	120	870	90	50	120	220	840	120	5330

ID	Intersection Name	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		210	1060	390	430	1470	60	200	430	340	110	4700

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		380	540	140	50	1100	840	150	100	460	760	4520

ID	Intersection Name	Northbound		Southwestbound		Total Volume
		Left	Thru	Thru	Right	
7		150	1170	860	630	2810

ID	Intersection Name	Northbound			Southbound			Southeastbound		Total Volume
		Thru	Left	Right	Thru	Left	Right	Left	Right	
8		1010			930			400	170	2510

ID	Intersection Name	Northeastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
9		750	310	200	1050	820	190	3320

ID	Intersection Name	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		260	710	150	70	720	260	280	900	150	80	280	50	3910

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
11		460	890	390	170	1430	410	70	70	50	140	350	340	4770

ID	Intersection Name	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		410	1990	30	150	1010	320	420	210	440	20	650	570	6220

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		30	1370	150	240	1140	650	380	230	20	160	360	270	5000

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
14		150	2290	110	110	1700	190	550	800	390	230	230	120	6870

ID	Intersection Name	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		560	930	390	170	890	190	290	1470	260	190	560	250	6150

ID	Intersection Name	Southbound		Northeastbound		Northwestbound		Total Volume
		Thru	Right	Left	Right	Left	Thru	
16		700	340	330	290	370	1580	3610

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
17		120	790	160	300	1680	630	300	910	240	300	480	120	6030

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
18		320	2440	70	90	2270	160	270	450	120	50	60	60	6360

ID	Intersection Name	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		160	1150	70	40	1890	150	160	400	50	20	130	140	4360

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
20		90	380	210	170	600	220	320	210	40	40	170	60	2510

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
21		140	1040	30	20	1770	300	40	30	10	160	30	240	3810

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
22		440	2680	80	60	2500	170	400	530	150	10	70	130	7220

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		270	1550	410	100	980	200	300	640	350	100	180	70	5150

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
24		110	410	150	130	500	440	200	660	130	110	400	170	3410

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
25		80	890	310	340	1590	200	410	680	280	100	440	190	5510

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
26		240	760	200	380	1540	250	280	650	130	180	700	340	5650

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
27		70	970	290	80	1640	180	350	590	210	70	210	30	4690

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
28		110	320	90	190	340	350	80	630	150	90	430	70	2850

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
29		160	910	220	190	1760	120	350	830	80	190	410	260	5480

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
30		220	720	260	440	1230	450	230	450	200	180	580	210	5170

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
31		440	1250	390	380	1930	260	490	520	260	110	220	260	6510

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
32		60	80	40	110	40	240	40	600	80	70	660	30	2050

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
33		490	1090	220	250	2030	60	810	190	170	80	260	600	6250

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		260	710	10	20	1080	490	10	50	40	360	10	260	3300

ID	Intersection Name	Northbound		Eastbound		Southwestbound		Total Volume
		Left	Right	Thru	Thru	Right		
35		690	630	1820	1360	1390	5890	

ID	Intersection Name	Northbound		Southbound			Eastbound		Westbound			Total Volume
		Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		190	300	1070	290	660	1090	80	360	1530	470	6040

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
37		140	50	40	860	990	20	10	580	670	160	300	70	3890

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
38		100	1270	790	0	3840	90	400	70	450	50	10	210	7280

ID	Intersection Name	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
		Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		1160	20	130	1260	1070	40	200	410	890	260	60	5500

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		1100	1690	10	40	1030	330	10	30	30	120	60	470	4920

ID	Intersection Name	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		50	60	230	70	810	160	250	1660	70	260	70	80	3770

ID	Intersection Name	Eastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
42		790	610	350	2030	450	110	4340

ID	Intersection Name	Eastbound		Northeastbound		Southwestbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
51		60	180	220	540	930	250	2180

ID	Intersection Name	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		260	10	330	170	160	160	30	970	160	520	1320	100	4190

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
57		360	640	10	20	620	440	10	10	10	400	10	310	2840

ID	Intersection Name	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
		2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		40	250	70	90	170	270	10	10	10	620	560	270	2370

ID	Intersection Name	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		20	20	40	440	20	100	10	760	220	140	900	10	2680

ID	Intersection Name	Northeastbound		Southwestbound		Southeastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
102		110	1040	1630	90	70	210	3150

Lake Forest GPU (Constrained AM)

Vistro File: H:\...\2040_Constrained_AM.vistro

Scenario: Base Scenario

Report File: H:\...\Constrained_AM_LOS.pdf

10/7/2019

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1		Final Base	130	30	480	240	280	20	520	260	140	20	380	190	2690
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	130	30	480	240	280	20	520	260	140	20	380	190	2690

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
2		Final Base	130	210	300	260	390	190	480	330	140	360	370	150	3310
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	130	210	300	260	390	190	480	330	140	360	370	150	3310

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3		Final Base	120	220	250	200	390	20	600	860	240	30	760	210	3900
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	120	220	250	200	390	20	600	860	240	30	760	210	3900

ID	Intersection Name	Volume Type	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume
			Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right	
4		Final Base	240	1250	700	710	120	870	90	50	120	220	840	120	5330
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	240	1250	700	710	120	870	90	50	120	220	840	120	5330

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		Final Base	210	1060	390	430	1470	60	200	430	340	110	4700
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	210	1060	390	430	1470	60	200	430	340	110	4700

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		Final Base	380	540	140	50	1100	840	150	100	460	760	4520
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	380	540	140	50	1100	840	150	100	460	760	4520

ID	Intersection Name	Volume Type	Northbound		Southwestbound		Total Volume
			Left	Thru	Thru	Right	
7		Final Base	150	1170	860	630	2810
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	150	1170	860	630	2810

ID	Intersection Name	Volume Type	Northbound		Southbound		Southeastbound		Total Volume
			Thru	Thru	Left	Right			
8		Final Base	1010	930	400	170	2510		
		Growth Factor	1.00	1.00	1.00	1.00	-		
		In Process	0	0	0	0	0		
		Net New Trips	0	0	0	0	0		
		Other	0	0	0	0	0		
		Future Total	1010	930	400	170	2510		

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
9		Final Base	750	310	200	1050	820	190	3320
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	750	310	200	1050	820	190	3320

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		Final Base	260	710	150	70	720	260	280	900	150	80	280	50	3910
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	260	710	150	70	720	260	280	900	150	80	280	50	3910

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11		Final Base	460	890	390	170	1430	410	70	70	50	140	350	340	4770
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	460	890	390	170	1430	410	70	70	50	140	350	340	4770

ID	Intersection Name	Volume Type	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		Final Base	410	1990	30	150	1010	320	420	210	440	20	650	570	6220
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	410	1990	30	150	1010	320	420	210	440	20	650	570	6220

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		Final Base	30	1370	150	240	1140	650	380	230	20	160	360	270	5000
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	30	1370	150	240	1140	650	380	230	20	160	360	270	5000

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14		Final Base	150	2290	110	110	1700	190	550	800	390	230	230	120	6870
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	150	2290	110	110	1700	190	550	800	390	230	230	120	6870

ID	Intersection Name	Volume Type	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		Final Base	560	930	390	170	890	190	290	1470	260	190	560	250	6150
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	560	930	390	170	890	190	290	1470	260	190	560	250	6150

ID	Intersection Name	Volume Type	Southbound		Northeastbound		Northwestbound		Total Volume
			Thru	Right	Left	Right	Left	Thru	
16		Final Base	700	340	330	290	370	1580	3610
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	700	340	330	290	370	1580	3610

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17		Final Base	120	790	160	300	1680	630	300	910	240	300	480	120	6030
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	120	790	160	300	1680	630	300	910	240	300	480	120	6030

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18		Final Base	320	2440	70	90	2270	160	270	450	120	50	60	60	6360
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	320	2440	70	90	2270	160	270	450	120	50	60	60	6360

ID	Intersection Name	Volume Type	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		Final Base	160	1150	70	40	1890	150	160	400	50	20	130	140	4360
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	160	1150	70	40	1890	150	160	400	50	20	130	140	4360

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20		Final Base	90	380	210	170	600	220	320	210	40	40	170	60	2510
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	90	380	210	170	600	220	320	210	40	40	170	60	2510

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21		Final Base	140	1040	30	20	1770	300	40	30	10	160	30	240	3810
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	140	1040	30	20	1770	300	40	30	10	160	30	240	3810

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22		Final Base	440	2680	80	60	2500	170	400	530	150	10	70	130	7220
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	440	2680	80	60	2500	170	400	530	150	10	70	130	7220

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		Final Base	270	1550	410	100	980	200	300	640	350	100	180	70	5150
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	270	1550	410	100	980	200	300	640	350	100	180	70	5150

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
24		Final Base	110	410	150	130	500	440	200	660	130	110	400	170	3410
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	110	410	150	130	500	440	200	660	130	110	400	170	3410

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
25		Final Base	80	890	310	340	1590	200	410	680	280	100	440	190	5510
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	80	890	310	340	1590	200	410	680	280	100	440	190	5510

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
26		Final Base	240	760	200	380	1540	250	280	650	130	180	700	340	5650
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	240	760	200	380	1540	250	280	650	130	180	700	340	5650

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27		Final Base	70	970	290	80	1640	180	350	590	210	70	210	30	4690
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	70	970	290	80	1640	180	350	590	210	70	210	30	4690

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28		Final Base	110	320	90	190	340	350	80	630	150	90	430	70	2850
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	110	320	90	190	340	350	80	630	150	90	430	70	2850

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
29		Final Base	160	910	220	190	1760	120	350	830	80	190	410	260	5480
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	160	910	220	190	1760	120	350	830	80	190	410	260	5480

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
30		Final Base	220	720	260	440	1230	450	230	450	200	180	580	210	5170
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	220	720	260	440	1230	450	230	450	200	180	580	210	5170

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31		Final Base	440	1250	390	380	1930	260	490	520	260	110	220	260	6510
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	440	1250	390	380	1930	260	490	520	260	110	220	260	6510

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
32		Final Base	60	80	40	110	40	240	40	600	80	70	660	30	2050
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	60	80	40	110	40	240	40	600	80	70	660	30	2050

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
33		Final Base	490	1090	220	250	2030	60	810	190	170	80	260	600	6250
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	490	1090	220	250	2030	60	810	190	170	80	260	600	6250

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		Final Base	260	710	10	20	1080	490	10	50	40	360	10	260	3300
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	260	710	10	20	1080	490	10	50	40	360	10	260	3300

ID	Intersection Name	Volume Type	Northbound		Eastbound	Southwestbound		Total Volume
			Left	Right	Thru	Thru	Right	
35		Final Base	690	630	1820	1360	1390	5890
		Growth Factor	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0
		Other	0	0	0	0	0	0
		Future Total	690	630	1820	1360	1390	5890

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound		Westbound			Total Volume
			Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		Final Base	190	300	1070	290	660	1090	80	360	1530	470	6040
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	190	300	1070	290	660	1090	80	360	1530	470	6040

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
37		Final Base	140	50	40	860	990	20	10	580	670	160	300	70	3890
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	140	50	40	860	990	20	10	580	670	160	300	70	3890

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
38		Final Base	100	1270	790	0	3840	90	400	70	450	50	10	210	7280
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	100	1270	790	0	3840	90	400	70	450	50	10	210	7280

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
			Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		Final Base	1160	20	130	1260	1070	40	200	410	890	260	60	5500
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	1160	20	130	1260	1070	40	200	410	890	260	60	5500

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		Final Base	1100	1690	10	40	1030	330	10	30	30	120	60	470	4920
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	1100	1690	10	40	1030	330	10	30	30	120	60	470	4920

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		Final Base	50	60	230	70	810	160	250	1660	70	260	70	80	3770
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	50	60	230	70	810	160	250	1660	70	260	70	80	3770

ID	Intersection Name	Volume Type	Eastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
42		Final Base	790	610	350	2030	450	110	4340
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	790	610	350	2030	450	110	4340

ID	Intersection Name	Volume Type	Eastbound		Northeastbound		Southwestbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
51		Final Base	60	180	220	540	930	250	2180
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	60	180	220	540	930	250	2180

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		Final Base	260	10	330	170	160	160	30	970	160	520	1320	100	4190
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	260	10	330	170	160	160	30	970	160	520	1320	100	4190

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
57		Final Base	360	640	10	20	620	440	10	10	10	400	10	310	2840
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	360	640	10	20	620	440	10	10	10	400	10	310	2840

ID	Intersection Name	Volume Type	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
			2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		Final Base	40	250	70	90	170	270	10	10	10	620	560	270	2370
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	40	250	70	90	170	270	10	10	10	620	560	270	2370

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		Final Base	20	20	40	440	20	100	10	760	220	140	900	10	2680
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	20	20	40	440	20	100	10	760	220	140	900	10	2680

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Southeastbound		Total Volume
			Left	Thru	Thru	Right	Left	Right	
102		Final Base	110	1040	1630	90	70	210	3150
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	110	1040	1630	90	70	210	3150

HCM 6th Signalized Intersection Summary
5: Portola Pkwy. & SR-241 Ramps

2040 (Committed) AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 			 	  		 	  	
Traffic Volume (veh/h)	340	0	110	200	0	430	430	1470	60	210	1060	390
Future Volume (veh/h)	340	0	110	200	0	430	430	1470	60	210	1060	390
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	0	0	233	0	0	500	1709	0	244	1233	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	429	0		300	0		585	2506		301	2086	
Arrive On Green	0.24	0.00	0.00	0.09	0.00	0.00	0.17	0.49	0.00	0.09	0.41	0.00
Sat Flow, veh/h	1781	395		3456	233		3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	395	65.0		233	71.8		500	1709	0	244	1233	0
Grp Sat Flow(s),veh/h/ln	1781	E		1728	E		1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	32.2			9.8			21.0	38.2	0.0	10.3	28.1	0.0
Cycle Q Clear(g_c), s	32.2			9.8			21.0	38.2	0.0	10.3	28.1	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	429			300			585	2506		301	2086	
V/C Ratio(X)	0.92			0.78			0.85	0.68		0.81	0.59	
Avail Cap(c_a), veh/h	830			1610			1031	3116		568	2431	
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.2			66.7			60.1	29.1	0.0	66.9	34.4	0.0
Incr Delay (d2), s/veh	9.9			5.2			4.4	0.7	0.0	5.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.7			4.6			9.6	15.8	0.0	4.8	11.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.0			71.8			64.6	29.7	0.0	72.1	34.9	0.0
LnGrp LOS	E			E			E	C		E	C	
Approach Vol, veh/h								2209	A		1477	A
Approach Delay, s/veh								37.6			41.0	
Approach LOS								D			D	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	21.5	83.2	21.4		33.8	70.9	44.5					
Change Period (Y+Rc), s	8.5	10.0	8.5		8.5	10.0	8.5					
Max Green Setting (Gmax), s	24.5	91.0	69.5		44.5	71.0	69.5					
Max Q Clear Time (g_c+I1), s	12.3	40.2	11.8		23.0	30.1	34.2					
Green Ext Time (p_c), s	0.6	33.0	1.1		2.3	19.4	1.7					

Intersection Summary

HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Alton Pkwy. & SR-241 Ramps

2040 (Committed) AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 	 			 	  		 	  	
Traffic Volume (veh/h)	460	0	760	150	0	100	380	540	140	50	1100	840
Future Volume (veh/h)	460	0	760	150	0	100	380	540	140	50	1100	840
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	511	0	0	167	0	0	422	600	0	56	1222	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	574	0		574	0		450	2771		93	1747	
Arrive On Green	0.17	0.00	0.00	0.17	0.00	0.00	0.34	0.72	0.00	0.05	0.34	0.00
Sat Flow, veh/h	3456	511		3456	167		1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	511	58.6		167	40.4		422	600	0	56	1222	0
Grp Sat Flow(s),veh/h/ln	1728	E		1728	D		1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	15.9			4.7			25.3	4.3	0.0	3.4	22.8	0.0
Cycle Q Clear(g_c), s	15.9			4.7			25.3	4.3	0.0	3.4	22.8	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	574			574			450	2771		93	1747	
V/C Ratio(X)	0.89			0.29			0.94	0.22		0.60	0.70	
Avail Cap(c_a), veh/h	625			625			526	2771		146	1747	
HCM Platoon Ratio	1.00			1.00			1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			0.92	0.92	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.9			40.2			35.7	7.6	0.0	51.0	31.3	0.0
Incr Delay (d2), s/veh	13.8			0.2			21.1	0.2	0.0	2.3	2.4	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9			2.0			12.8	1.5	0.0	1.6	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6			40.4			56.8	7.8	0.0	53.3	33.6	0.0
LnGrp LOS	E			D			E	A		D	C	
Approach Vol, veh/h								1022	A		1278	A
Approach Delay, s/veh								28.0			34.5	
Approach LOS								C			C	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	36.3	46.9	26.8		14.2	69.0	26.8					
Change Period (Y+Rc), s	8.5	9.3	8.5		8.5	9.3	8.5					
Max Green Setting (Gmax), s	32.5	31.3	19.9		9.0	54.8	19.9					
Max Q Clear Time (g_c+I1), s	27.3	24.8	6.7		5.4	6.3	17.9					
Green Ext Time (p_c), s	0.5	4.8	0.3		0.0	6.9	0.4					

Intersection Summary

HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
7: Lake Forest Dr. & SR-241 NB Ramp

2040 (Committed) AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↶↶	↷↷	↷↷	↶
Traffic Volume (veh/h)	0	0	150	1170	860	630
Future Volume (veh/h)	0	0	150	1170	860	630
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			172	1345	989	724
Peak Hour Factor			0.87	0.87	0.87	0.87
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			272	3216	2658	1186
Arrive On Green			0.16	1.00	0.75	0.75
Sat Flow, veh/h			3456	3647	3647	1585
Grp Volume(v), veh/h			172	1345	989	724
Grp Sat Flow(s),veh/h/ln			1728	1777	1777	1585
Q Serve(g_s), s			2.8	0.0	5.8	12.7
Cycle Q Clear(g_c), s			2.8	0.0	5.8	12.7
Prop In Lane			1.00			1.00
Lane Grp Cap(c), veh/h			272	3216	2658	1186
V/C Ratio(X)			0.63	0.42	0.37	0.61
Avail Cap(c_a), veh/h			420	3216	2658	1186
HCM Platoon Ratio			2.00	2.00	1.00	1.00
Upstream Filter(I)			0.79	0.79	0.70	0.70
Uniform Delay (d), s/veh			24.5	0.0	2.6	3.5
Incr Delay (d2), s/veh			0.7	0.3	0.3	1.7
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			1.1	0.1	1.0	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			25.2	0.3	2.9	5.2
LnGrp LOS			C	A	A	A
Approach Vol, veh/h				1517	1713	
Approach Delay, s/veh				3.1	3.9	
Approach LOS				A	A	
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		60.0			9.4	50.6
Change Period (Y+Rc), s		5.7			* 4.7	5.7
Max Green Setting (Gmax), s		54.3			* 7.3	42.3
Max Q Clear Time (g_c+I1), s		2.0			4.8	14.7
Green Ext Time (p_c), s		4.7			0.1	18.4
Intersection Summary						
HCM 6th Ctrl Delay			3.5			
HCM 6th LOS			A			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Summary
 8: Lake Forest Dr. & SR-241 SB Ramp

2040 (Committed) AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔	↔		↑↑	↓↓	
Traffic Volume (veh/h)	400	170	0	1010	930	0
Future Volume (veh/h)	400	170	0	1010	930	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	0
Adj Flow Rate, veh/h	471	200	0	1188	1094	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	0	2	2	0
Cap, veh/h	611	280	0	2321	2321	0
Arrive On Green	0.18	0.18	0.00	0.65	1.00	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	471	200	0	1188	1094	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	7.8	7.1	0.0	10.5	0.0	0.0
Cycle Q Clear(g_c), s	7.8	7.1	0.0	10.5	0.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	611	280	0	2321	2321	0
V/C Ratio(X)	0.77	0.71	0.00	0.51	0.47	0.00
Avail Cap(c_a), veh/h	893	409	0	2321	2321	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.59	0.94	0.00
Uniform Delay (d), s/veh	23.5	23.3	0.0	5.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	1.3	0.0	0.5	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	2.6	0.0	2.7	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.8	24.5	0.0	5.9	0.6	0.0
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	671			1188	1094	
Approach Delay, s/veh	24.7			5.9	0.6	
Approach LOS	C			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		44.9		15.1		44.9
Change Period (Y+Rc), s		5.7		4.5		5.7
Max Green Setting (Gmax), s		34.3		15.5		34.3
Max Q Clear Time (g_c+I1), s		12.5		9.8		2.0
Green Ext Time (p_c), s		12.9		0.8		14.8
Intersection Summary						
HCM 6th Ctrl Delay			8.2			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 35: Lake Forest Dr. & I-5 NB Ramps

2040 (Committed) AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	690	0	630	0	1820	0	0	1360	1390
Future Volume (veh/h)	0	0	0	690	0	630	0	1820	0	0	1360	1390
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	0	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				704	0	643	0	1857	0	0	1388	0
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	0	2	0	0	2	2
Cap, veh/h				997	0	805	0	3707	0	0	2155	
Arrive On Green				0.29	0.00	0.29	0.00	0.58	0.00	0.00	0.58	0.00
Sat Flow, veh/h				3456	0	2790	0	6958	0	0	3741	3170
Grp Volume(v), veh/h				704	0	643	0	1857	0	0	1388	0
Grp Sat Flow(s),veh/h/ln				1728	0	1395	0	1609	0	0	1870	1585
Q Serve(g_s), s				15.5	0.0	18.1	0.0	14.6	0.0	0.0	21.2	0.0
Cycle Q Clear(g_c), s				15.5	0.0	18.1	0.0	14.6	0.0	0.0	21.2	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				997	0	805	0	3707	0	0	2155	
V/C Ratio(X)				0.71	0.00	0.80	0.00	0.50	0.00	0.00	0.64	
Avail Cap(c_a), veh/h				1685	0	1360	0	5577	0	0	3242	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				27.0	0.0	27.9	0.0	10.7	0.0	0.0	12.1	0.0
Incr Delay (d2), s/veh				0.7	0.0	1.4	0.0	0.1	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.2	0.0	6.0	0.0	4.7	0.0	0.0	8.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.7	0.0	29.3	0.0	10.9	0.0	0.0	12.6	0.0
LnGrp LOS				C	A	C	A	B	A	A	B	
Approach Vol, veh/h					1347			1857			1388	A
Approach Delay, s/veh					28.5			10.9			12.6	
Approach LOS					C			B			B	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		54.8				54.8		30.1				
Change Period (Y+Rc), s		5.9				5.9		5.6				
Max Green Setting (Gmax), s		73.6				73.6		41.4				
Max Q Clear Time (g_c+I1), s		16.6				23.2		20.1				
Green Ext Time (p_c), s		32.3				20.8		4.4				

Intersection Summary

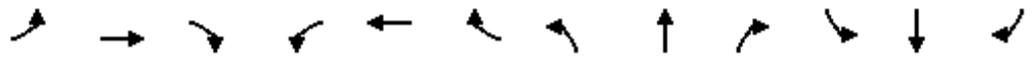
HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 36: Lake Forest Dr. & I-5 SB Ramps/Avenida De La Carlota

2040 (Committed) AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↑↑	↗	↔↔		↗↗		↑↑↑		↔↔	↑↑↔	↗
Traffic Volume (veh/h)	1070	290	660	190	0	300	0	1090	80	360	1530	470
Future Volume (veh/h)	1070	290	660	190	0	300	0	1090	80	360	1530	470
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1103	299	680	196	0	309	0	1124	82	371	1577	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	2
Cap, veh/h	2291	1621	723	0	0	0	0	1513	110	441	2310	
Arrive On Green	0.46	0.46	0.46	0.00	0.00	0.00	0.00	0.25	0.25	0.12	0.41	0.00
Sat Flow, veh/h	5023	3554	1585		0		0	6429	448	3563	5611	1585
Grp Volume(v), veh/h	1103	299	680		0.0		0	878	328	371	1577	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585				0	1609	1790	1781	1870	1585
Q Serve(g_s), s	15.2	4.9	40.5				0.0	16.6	16.8	10.1	22.8	0.0
Cycle Q Clear(g_c), s	15.2	4.9	40.5				0.0	16.6	16.8	10.1	22.8	0.0
Prop In Lane	1.00		1.00				0.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	2291	1621	723				0	1184	439	441	2310	
V/C Ratio(X)	0.48	0.18	0.94				0.00	0.74	0.75	0.84	0.68	
Avail Cap(c_a), veh/h	2647	1872	835				0	1403	520	547	2730	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.8	16.0	25.7				0.0	34.5	34.5	42.4	23.9	0.0
Incr Delay (d2), s/veh	0.1	0.0	16.2				0.0	1.8	4.9	7.9	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	2.0	17.6				0.0	6.6	7.8	4.9	9.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	16.0	41.8				0.0	36.3	39.4	50.3	24.4	0.0
LnGrp LOS	B	B	D				A	D	D	D	C	
Approach Vol, veh/h		2082						1206			1948	A
Approach Delay, s/veh		25.9						37.1			29.4	
Approach LOS		C						D			C	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.5	30.6		52.0		47.1						
Change Period (Y+Rc), s	* 4.2	6.3		6.8		6.3						
Max Green Setting (Gmax), s	* 15	28.8		52.2		48.2						
Max Q Clear Time (g_c+I1), s	12.1	18.8		42.5		24.8						
Green Ext Time (p_c), s	0.2	5.5		2.7		13.0						

Intersection Summary

HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 37: Paseo De La Valencia/I-5 SB Ramps & Avenida De La Carlota

2040 (Committed) AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 			 	 	
Traffic Volume (veh/h)	160	300	70	10	580	670	140	50	40	860	990	20
Future Volume (veh/h)	160	300	70	10	580	670	140	50	40	860	990	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	316	74	11	611	705	147	53	42	905	1042	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	1581	800	18	1424	1138	206	112	110	1131	1160	23
Arrive On Green	0.05	0.44	0.44	0.01	0.40	0.40	0.06	0.06	0.06	0.32	0.32	0.32
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	3563	3654	74
Grp Volume(v), veh/h	168	316	74	11	611	705	147	53	42	905	533	530
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1857
Q Serve(g_s), s	6.8	7.6	3.4	0.9	17.4	31.6	5.8	3.8	3.5	32.5	38.1	38.1
Cycle Q Clear(g_c), s	6.8	7.6	3.4	0.9	17.4	31.6	5.8	3.8	3.5	32.5	38.1	38.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	188	1581	800	18	1424	1138	206	112	110	1131	594	590
V/C Ratio(X)	0.90	0.20	0.09	0.62	0.43	0.62	0.71	0.47	0.38	0.80	0.90	0.90
Avail Cap(c_a), veh/h	188	1581	800	52	1424	1138	864	468	412	1221	641	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.17	0.17	0.17	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.8	23.7	18.0	69.0	30.4	10.0	64.6	63.7	62.2	43.7	45.6	45.6
Incr Delay (d2), s/veh	37.1	0.3	0.2	2.2	0.2	0.4	1.7	1.2	0.8	3.2	14.1	14.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	3.3	1.5	0.4	7.6	25.5	2.6	1.9	1.5	14.9	20.0	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.9	24.0	18.3	71.3	30.5	10.4	66.4	64.9	63.0	46.9	59.7	59.8
LnGrp LOS	F	C	B	E	C	B	E	E	E	D	E	E
Approach Vol, veh/h		558			1327			242			1968	
Approach Delay, s/veh		47.0			20.2			65.5			53.8	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.1	62.1		14.4	5.9	68.3		51.5				
Change Period (Y+Rc), s	4.5	6.0		6.0	4.5	6.0		7.0				
Max Green Setting (Gmax), s	7.6	25.9		35.0	4.1	29.4		48.0				
Max Q Clear Time (g_c+I1), s	8.8	33.6		7.8	2.9	9.6		40.1				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	1.4		4.3				

Intersection Summary

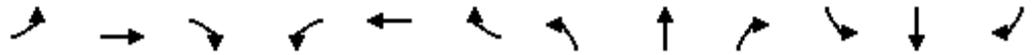
HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 38: El Toro Rd. & Bridger Rd./I-5 NB Ramps

2040 (Committed) AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	10	210	400	70	450	100	1270	790	0	3840	90
Future Volume (veh/h)	50	10	210	400	70	450	100	1270	790	0	3840	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	11	221	305	0	647	105	1181	936	0	4042	95
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	120	170	386	0	686	76	2236	1895	1	4007	94
Arrive On Green	0.06	0.06	0.06	0.22	0.00	0.22	0.04	0.60	0.60	0.00	1.00	1.00
Sat Flow, veh/h	1781	1870	1585	1781	0	3170	1781	3741	3170	1781	7718	180
Grp Volume(v), veh/h	53	11	221	305	0	647	105	1181	936	0	3168	969
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	1781	1870	1585	1781	1515	1838
Q Serve(g_s), s	4.0	0.8	9.0	22.7	0.0	28.1	6.0	26.0	23.6	0.0	0.0	72.7
Cycle Q Clear(g_c), s	4.0	0.8	9.0	22.7	0.0	28.1	6.0	26.0	23.6	0.0	0.0	72.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	115	120	170	386	0	686	76	2236	1895	1	3146	954
V/C Ratio(X)	0.46	0.09	1.30	0.79	0.00	0.94	1.38	0.53	0.49	0.00	1.01	1.02
Avail Cap(c_a), veh/h	115	120	170	509	0	906	76	2236	1895	64	3146	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.69	0.69	0.69	0.00	0.32	0.32
Uniform Delay (d), s/veh	63.2	61.7	62.5	51.9	0.0	54.0	67.0	16.5	16.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.1	171.7	4.4	0.0	13.5	215.6	0.6	0.6	0.0	10.8	20.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.4	14.2	10.6	0.0	12.5	7.3	11.2	8.6	0.0	2.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	61.8	234.2	56.3	0.0	67.4	282.6	17.2	16.7	0.0	10.8	20.4
LnGrp LOS	E	E	F	E	A	E	F	B	B	A	F	F
Approach Vol, veh/h		285			952			2222			4137	
Approach Delay, s/veh		196.0			63.9			29.5			13.0	
Approach LOS		F			E			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	89.7		14.0	11.0	78.7		36.3				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	5.0	64.0		9.0	6.0	63.0		40.0				
Max Q Clear Time (g_c+I1), s	0.0	28.0		11.0	8.0	74.7		30.1				
Green Ext Time (p_c), s	0.0	2.1		0.0	0.0	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lake Forest GPU (Constrained PM)

Vistro File: H:\...\2040_Constrained_PM.vistro

Scenario: Base Scenario

Report File: H:\...\Constrained_PM_LOS.pdf

10/7/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1		Signalized	ICU 1	NWB Left	0.431	-	A
2		Signalized	ICU 1	SWB Left	0.617	-	B
3		Signalized	ICU 1	NWB Right	0.605	-	B
4		Signalized	ICU 1	SEB Thru	0.615	-	B
5		Signalized	ICU 1	SB Thru	0.767	-	C
6		Signalized	ICU 1	NEB Left	0.685	-	B
7		Signalized	ICU 1	NB Thru	0.462	-	A
8		Signalized	ICU 1	NB Thru	0.571	-	A
9		Signalized	ICU 1	NEB Thru	0.763	-	C
10		Signalized	ICU 1	SEB Thru	0.888	-	D
11		Signalized	ICU 1	NEB Thru	0.854	-	D
12		Signalized	ICU 1	SB Thru	0.762	-	C
13		Signalized	ICU 1	NEB Thru	0.677	-	B
14		Signalized	ICU 1	SWB Thru	0.780	-	C
15		Signalized	ICU 1	NEB Thru	0.713	-	C
16		Signalized	ICU 1	SB Thru	0.607	-	B
17		Signalized	ICU 1	SEB Thru	0.694	-	B
18		Signalized	ICU 1	NEB Thru	0.823	-	D
19		Signalized	ICU 1	EB Thru	0.690	-	B
20		Signalized	ICU 1	SEB Right	0.404	-	A
21		Signalized	ICU 1	NEB Thru	0.532	-	A
22		Signalized	ICU 1	SWB Thru	0.949	-	E
23		Signalized	ICU 1	NEB Thru	0.860	-	D
24		Signalized	ICU 1	SEB Thru	0.588	-	A
25		Signalized	ICU 1	SEB Thru	0.853	-	D
26		Signalized	ICU 1	NEB Thru	0.737	-	C
27		Signalized	ICU 1	NEB Thru	0.789	-	C
28		Signalized	ICU 1	SEB Thru	0.594	-	A
29		Signalized	ICU 1	NEB Thru	0.805	-	D
30		Signalized	ICU 1	SEB Thru	0.658	-	B
31		Signalized	ICU 1	NEB Thru	0.947	-	E
32		Signalized	ICU 1	SEB Right	0.730	-	C
33		Signalized	ICU 1	NEB Thru	0.731	-	C
34		Signalized	ICU 1	NB Thru	0.592	-	A
35		Signalized	ICU 1	EB Thru	0.618	-	B

36		Signalized	ICU 1	EB Thru	1.068	-	F
37		Signalized	ICU 1	SEB Thru	0.621	-	B
38		Signalized	ICU 1	NEB Thru	0.961	-	E
39		Signalized	ICU 1	NEB Thru	0.780	-	C
40		Signalized	ICU 1	SWB Thru	0.813	-	D
41		Signalized	ICU 1	NEB Thru	0.535	-	A
42		Signalized	ICU 1	EB Right	0.816	-	D
51		Signalized	ICU 1	EB Left	0.463	-	A
56		Signalized	ICU 1	EB Thru	0.883	-	D
57		Signalized	ICU 1	NEB Thru	0.700	-	B
60		Signalized	ICU 1	EB Thru	0.885	-	D
101		Signalized	ICU 1	NEB Thru	0.509	-	A
102		Signalized	ICU 1	NEB Thru	0.388	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.431

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	175.00	100.00	100.00	150.00	100.00	55.00	315.00	100.00	245.00	170.00	100.00	585.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	200	270	630	150	110	30	470	190	240	10	240	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.85	2.06	2.00	1.82	3.33	1.91	2.11	2.08	0.00	2.08	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	270	157	150	110	7	470	190	60	10	240	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	68	39	38	28	2	118	48	15	3	60	11
Total Analysis Volume [veh/h]	200	270	157	150	110	7	470	190	60	10	240	45
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Permis	Protect	Permis	Unsign	Protect	Permis	Unsign
Signal Group	7	4	0	3	8	8	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.08	0.00	0.09	0.03	0.00	0.14	0.04	0.00	0.00	0.07	0.00
Intersection LOS	A											
Intersection V/C	0.431											

Intersection Level Of Service Report
Intersection 2:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	190.00	100.00	180.00	285.00	100.00	285.00	230.00	100.00	100.00	230.00	100.00	220.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	230	350	350	360	250	110	410	760	100	230	650	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.17	2.00	2.00	1.94	2.00	1.82	1.95	1.97	2.00	2.17	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	350	87	360	250	27	410	760	100	230	650	37
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	88	22	90	63	7	103	190	25	58	163	9
Total Analysis Volume [veh/h]	230	350	87	360	250	27	410	760	100	230	650	37
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.10	0.05	0.21	0.07	0.02	0.12	0.17	0.17	0.07	0.13	0.02
Intersection LOS	B											
Intersection V/C	0.617											

Intersection Level Of Service Report
Intersection 3:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.605

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	195.00	100.00	295.00	110.00	100.00	425.00	300.00	100.00	100.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	270	310	460	130	290	30	320	1030	180	10	1110	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.85	1.94	1.96	2.31	2.07	3.33	1.88	2.04	2.22	0.00	1.98	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	310	115	130	290	7	320	1030	180	10	1110	55
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	78	29	33	73	2	80	258	45	3	278	14
Total Analysis Volume [veh/h]	270	310	115	130	290	7	320	1030	180	10	1110	55
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	122
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.09	0.07	0.08	0.09	0.00	0.09	0.24	0.24	0.00	0.22	0.03
Intersection LOS	B											
Intersection V/C	0.605											

Intersection Level Of Service Report
Intersection 4:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

Intersection Setup

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Approach	Northbound			Westbound			Northeastbound			Southeastbound		
Lane Configuration	11111			11111			111			11111		
Turning Movement	Left	Thru	Right	Left2	Left	Thru	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	0	0	0	2	0	1
Pocket Length [ft]	200.00	100.00	100.00	215.00	100.00	345.00	100.00	100.00	100.00	515.00	100.00	185.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Base Volume Input [veh/h]	110	920	880	650	80	400	130	80	180	900	1450	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	1.96	2.05	2.00	2.50	2.00	2.31	2.50	2.22	2.00	2.00	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	920	220	650	80	400	130	80	180	900	1450	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	230	55	163	20	100	33	20	45	225	363	8
Total Analysis Volume [veh/h]	110	920	220	650	80	400	130	80	180	900	1450	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Protect	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	3	8	1	1	6	0	5	2	2	7	4	4
Auxiliary Signal Groups			1,8									
Lead / Lag	Lead	-	-	Lead	Lag	-	Lead	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.18	0.00	0.19	0.02	0.00	0.08	0.08	0.08	0.26	0.28	0.02
Intersection LOS	B											
Intersection V/C	0.615											

Intersection Level Of Service Report
Intersection 5:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.767

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	/			/ /			/			/		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	0	0	2	0	0	1
Pocket Length [ft]	535.00	100.00	300.00	620.00	100.00	70.00	100.00	100.00	555.00	100.00	100.00	730.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	520	1610	300	80	1200	170	130	0	200	490	0	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.92	1.99	2.00	2.50	2.00	1.76	2.31	0.00	2.00	2.04	0.00	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	520	1610	75	80	1200	42	130	0	50	490	0	65
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	130	403	19	20	300	11	33	0	13	123	0	16
Total Analysis Volume [veh/h]	520	1610	75	80	1200	42	130	0	50	490	0	65
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	212
Lost time [s]	11.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.32	0.00	0.02	0.24	0.00	0.04	0.00	0.00	0.29	0.00	0.00
Intersection LOS	C											
Intersection V/C	0.767											

Intersection Level Of Service Report
Intersection 6:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.685

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	2	1	0	1
Pocket Length [ft]	170.00	100.00	100.00	370.00	100.00	100.00	100.00	100.00	435.00	550.00	100.00	550.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	460	1080	60	100	680	570	50	0	60	720	0	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.96	2.04	1.67	2.00	2.06	1.93	2.00	0.00	1.67	1.94	0.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	460	1080	15	100	680	142	50	0	15	720	0	87
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	270	4	25	170	36	13	0	4	180	0	22
Total Analysis Volume [veh/h]	460	1080	15	100	680	142	50	0	15	720	0	87
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.27	0.21	0.00	0.06	0.13	0.00	0.01	0.00	0.00	0.21	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.685											

Intersection Level Of Service Report

Intersection 7:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Approach	Northbound		Eastbound		Southwestbound	
Lane Configuration	T T T				T T	
Turning Movement	Left	Thru	Left	Right	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	1
Pocket Length [ft]	355.00	100.00	100.00	100.00	100.00	395.00
Speed [mph]	30.00		0.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Base Volume Input [veh/h]	230	1400	0	0	1010	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.17	2.00	0.00	0.00	1.98	1.91
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	1400	0	0	1010	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	350	0	0	253	29
Total Analysis Volume [veh/h]	230	1400	0	0	1010	117
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	0	0	6	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.41	0.00	0.00	0.30	0.07
Intersection LOS	A					
Intersection V/C	0.462					

Intersection Level Of Service Report
Intersection 8:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration	↑↑		↑↑		11f	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	1	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	655.00	365.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Base Volume Input [veh/h]	0	1380	1070	0	390	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.03	1.96	0.00	2.05	2.11
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1380	1070	0	390	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	345	268	0	98	12
Total Analysis Volume [veh/h]	0	1380	1070	0	390	47
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	0	2	6	0	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.41	0.31	0.00	0.11	0.03
Intersection LOS	A					
Intersection V/C	0.571					

Intersection Level Of Service Report

Intersection 9:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.763

Intersection Setup

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Approach	Northeastbound		Southwestbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	1	0	1	1
Pocket Length [ft]	100.00	230.00	390.00	100.00	185.00	145.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Base Volume Input [veh/h]	1130	900	420	810	440	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.04	2.00	1.90	1.98	2.05	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1130	225	420	810	440	87
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	283	56	105	203	110	22
Total Analysis Volume [veh/h]	1130	225	420	810	440	87
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.33	0.13	0.25	0.24	0.13	0.03
Intersection LOS	C					
Intersection V/C	0.763					

Intersection Level Of Service Report
Intersection 10:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.888

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	1	2	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	340.00	100.00	200.00	250.00	100.00	110.00	245.00	100.00	215.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Base Volume Input [veh/h]	310	780	200	150	920	320	270	530	170	240	1040	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.94	2.05	2.00	2.00	1.96	1.88	1.85	2.08	1.76	2.08	2.02	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	310	780	50	150	920	80	270	530	42	240	1040	22
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	195	13	38	230	20	68	133	11	60	260	6
Total Analysis Volume [veh/h]	310	780	50	150	920	80	270	530	42	240	1040	22
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.23	0.03	0.09	0.27	0.05	0.08	0.16	0.02	0.14	0.31	0.01
Intersection LOS	D											
Intersection V/C	0.888											

Intersection Level Of Service Report
Intersection 11:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.854

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.						Rancho Pkwy. S.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	190.00	100.00	190.00	190.00	100.00	80.00	100.00	100.00	100.00	190.00	100.00	180.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.						Rancho Pkwy. S.		
Base Volume Input [veh/h]	400	1690	120	80	1090	180	300	260	150	420	40	490
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.01	1.67	2.50	2.02	2.22	2.00	1.92	2.00	1.90	2.50	2.04
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	400	1690	30	80	1090	45	300	260	150	420	40	490
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	100	423	8	20	273	11	75	65	38	105	10	123
Total Analysis Volume [veh/h]	400	1690	30	80	1090	45	300	260	150	420	40	490
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.24	0.50	0.02	0.05	0.32	0.03	0.09	0.12	0.12	0.12	0.16	0.16
Intersection LOS	D											
Intersection V/C	0.854											

Intersection Level Of Service Report
Intersection 12:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.762

Intersection Setup

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Approach	Northbound			Southbound			Northeastbound			Southwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	1	1	0	2
Pocket Length [ft]	400.00	100.00	100.00	200.00	100.00	100.00	395.00	100.00	260.00	150.00	100.00	170.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Base Volume Input [veh/h]	330	1160	50	460	2140	690	510	550	480	10	210	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.12	1.98	2.00	1.96	2.01	2.03	1.96	2.00	2.08	0.00	1.90	2.17
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	330	1160	50	460	2140	172	510	550	120	10	210	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	290	13	115	535	43	128	138	30	3	53	14
Total Analysis Volume [veh/h]	330	1160	50	460	2140	172	510	550	120	10	210	57
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.18	0.18	0.14	0.42	0.10	0.15	0.11	0.07	0.01	0.04	0.02
Intersection LOS	C											
Intersection V/C	0.762											

Intersection Level Of Service Report
Intersection 13:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.677

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	1 1 1			1 1 1			1 1 1			1 1 1		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Thru	Right	Right2	Left2	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	1	0	0
Pocket Length [ft]	285.00	100.00	180.00	285.00	100.00	220.00	345.00	100.00	100.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Base Volume Input [veh/h]	10	1150	270	230	1620	400	590	400	30	160	260	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	1.85	2.17	1.98	2.00	2.03	2.00	3.33	1.88	1.92	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	1150	67	230	1620	100	590	400	30	160	260	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	288	17	58	405	25	148	100	8	40	65	55
Total Analysis Volume [veh/h]	10	1150	67	230	1620	100	590	400	30	160	260	220
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	131
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Protect	Permis	Protect	Permis	Permis
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.34	0.04	0.14	0.48	0.06	0.17	0.25	0.25	0.09	0.08	0.14
Intersection LOS	B											
Intersection V/C	0.677											

Intersection Level Of Service Report
Intersection 14:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.780

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	2	2	0	1
Pocket Length [ft]	305.00	100.00	155.00	305.00	100.00	150.00	305.00	100.00	225.00	275.00	100.00	275.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Base Volume Input [veh/h]	130	2000	700	410	2010	200	300	340	200	290	640	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.31	2.00	2.00	1.95	1.99	2.00	2.00	2.06	2.00	2.07	2.03	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	2000	175	410	2010	50	300	340	12	290	640	100
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	500	44	103	503	13	75	85	3	73	160	25
Total Analysis Volume [veh/h]	130	2000	175	410	2010	50	300	340	12	290	640	100
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.39	0.10	0.12	0.39	0.03	0.09	0.05	0.01	0.09	0.13	0.06
Intersection LOS	C											
Intersection V/C	0.780											

Intersection Level Of Service Report
Intersection 15:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.713

Intersection Setup

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Approach	Northbound			Northeastbound			Southwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	0	2	0	1
Pocket Length [ft]	210.00	100.00	280.00	275.00	100.00	405.00	160.00	100.00	100.00	175.00	100.00	225.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Base Volume Input [veh/h]	280	560	350	280	1340	520	380	1140	190	480	1050	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	1.96	2.00	2.14	2.01	1.92	2.11	2.02	2.11	2.08	2.00	1.76
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	280	560	87	280	1340	130	380	1140	190	480	1050	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	70	140	22	70	335	33	95	285	48	120	263	11
Total Analysis Volume [veh/h]	280	560	87	280	1340	130	380	1140	190	480	1050	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	5	2	2	1	6	6	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.11	0.05	0.08	0.26	0.08	0.11	0.26	0.26	0.14	0.21	0.02
Intersection LOS	C											
Intersection V/C	0.713											

Intersection Level Of Service Report
Intersection 16:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.607

Intersection Setup

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Approach	Southbound		Northeastbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	1	0
Pocket Length [ft]	100.00	200.00	100.00	100.00	190.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Base Volume Input [veh/h]	1730	280	210	380	160	940
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.02	2.14	1.90	2.11	1.88	2.02
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1730	70	210	95	160	940
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	433	18	53	24	40	235
Total Analysis Volume [veh/h]	1730	70	210	95	160	940
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Protected	Permissive
Signal Group	4	4	2	2	3	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.34	0.04	0.12	0.06	0.09	0.18
Intersection LOS	B					
Intersection V/C	0.607					

Intersection Level Of Service Report
Intersection 17:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.694

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	360.00	100.00	305.00	165.00	100.00	175.00	225.00	100.00	230.00	205.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Base Volume Input [veh/h]	300	1250	340	310	1020	280	120	490	260	470	1090	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.06	1.94	1.96	2.14	1.67	2.04	1.92	1.91	2.02	2.14
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	1250	85	310	1020	70	120	490	65	470	1090	280
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	75	313	21	78	255	18	30	123	16	118	273	70
Total Analysis Volume [veh/h]	300	1250	85	310	1020	70	120	490	65	470	1090	280
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3			6,7						
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.25	0.01	0.09	0.20	0.00	0.04	0.10	0.04	0.14	0.27	0.27
Intersection LOS	B											
Intersection V/C	0.694											

Intersection Level Of Service Report
Intersection 18:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.823

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	180.00	100.00	205.00	205.00	100.00	225.00	285.00	100.00	100.00	205.00	100.00	110.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	110	2500	430	110	2490	30	60	110	100	230	610	360
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	2.00	2.09	1.82	2.01	3.33	1.67	1.82	2.00	2.17	1.97	1.94
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	2500	107	110	2490	7	60	110	100	230	610	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	625	27	28	623	2	15	28	25	58	153	23
Total Analysis Volume [veh/h]	110	2500	107	110	2490	7	60	110	100	230	610	90
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.49	0.06	0.06	0.49	0.00	0.04	0.06	0.06	0.07	0.18	0.05
Intersection LOS	D											
Intersection V/C	0.823											

Intersection Level Of Service Report
Intersection 19:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.690

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Approach	Eastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	185.00	180.00	100.00	200.00	155.00	100.00	100.00	135.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	140	1930	180	40	1280	30	70	70	20	140	530	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	2.02	2.22	2.50	2.03	3.33	1.43	1.43	0.00	2.14	2.08	2.14
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	1930	45	40	1280	7	70	70	20	140	530	140
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	483	11	10	320	2	18	18	5	35	133	35
Total Analysis Volume [veh/h]	140	1930	45	40	1280	7	70	70	20	140	530	140
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.38	0.03	0.02	0.25	0.00	0.04	0.03	0.03	0.08	0.20	0.20
Intersection LOS	B											
Intersection V/C	0.690											

Intersection Level Of Service Report
Intersection 20:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.404

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	175.00	100.00	100.00	200.00	100.00	100.00	110.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	30	380	50	90	350	30	50	110	50	130	460	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.33	2.11	2.00	2.22	2.00	3.33	2.00	1.82	2.00	2.31	1.96	3.33
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	380	50	90	350	30	50	110	50	130	460	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	95	13	23	88	8	13	28	13	33	115	8
Total Analysis Volume [veh/h]	30	380	50	90	350	30	50	110	50	130	460	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	157
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.13	0.13	0.05	0.11	0.11	0.03	0.05	0.05	0.08	0.14	0.14
Intersection LOS	A											
Intersection V/C	0.404											

Intersection Level Of Service Report
Intersection 21:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.532

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	250.00	100.00	250.00	210.00	100.00	1000.0	100.00	100.00	25.00	170.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	90	1690	30	20	1170	90	10	20	20	320	80	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.22	2.01	3.33	0.00	1.97	2.22	0.00	0.00	0.00	1.88	2.50	1.88
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	1690	7	20	1170	22	10	20	5	320	80	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	423	2	5	293	6	3	5	1	80	20	10
Total Analysis Volume [veh/h]	90	1690	7	20	1170	22	10	20	5	320	80	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.33	0.00	0.01	0.23	0.01	0.01	0.02	0.00	0.09	0.12	0.02
Intersection LOS	A											
Intersection V/C	0.532											

Intersection Level Of Service Report
Intersection 22:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: E
 Volume to Capacity (v/c): 0.949

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	350.00	100.00	190.00	285.00	100.00	200.00	255.00	100.00	100.00	150.00	100.00	80.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	40	2720	550	210	2720	50	140	140	90	220	530	450
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.50	1.99	2.00	1.90	1.99	2.00	2.14	2.14	2.22	1.82	2.08	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	2720	137	210	2720	12	140	140	90	220	530	112
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	680	34	53	680	3	35	35	23	55	133	28
Total Analysis Volume [veh/h]	40	2720	137	210	2720	12	140	140	90	220	530	112
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	131
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.53	0.08	0.12	0.53	0.01	0.08	0.07	0.07	0.06	0.16	0.07
Intersection LOS	E											
Intersection V/C	0.949											

Intersection Level Of Service Report
Intersection 23:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.860

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration				/ / /			/			/ /		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Pocket Length [ft]	195.00	100.00	300.00	255.00	100.00	275.00	240.00	100.00	100.00	190.00	100.00	195.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	180	1210	130	110	1910	300	110	270	90	350	900	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.22	1.98	2.31	1.82	1.99	2.00	1.82	1.85	2.22	2.00	2.00	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	1210	32	110	1910	75	110	270	90	350	900	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	303	8	28	478	19	28	68	23	88	225	8
Total Analysis Volume [veh/h]	180	1210	32	110	1910	75	110	270	90	350	900	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.24	0.02	0.06	0.37	0.04	0.06	0.11	0.11	0.21	0.26	0.02
Intersection LOS	D											
Intersection V/C	0.860											

Intersection Level Of Service Report
Intersection 24:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	200.00	100.00	115.00	175.00	100.00	95.00	95.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	60	370	40	130	310	20	60	400	50	100	990	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.67	1.89	2.50	2.31	1.94	0.00	1.67	2.00	2.00	2.00	2.02	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	370	10	130	310	5	60	400	50	100	990	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	93	3	33	78	1	15	100	13	25	248	23
Total Analysis Volume [veh/h]	60	370	10	130	310	5	60	400	50	100	990	90
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.11	0.01	0.08	0.09	0.00	0.04	0.13	0.13	0.06	0.32	0.32
Intersection LOS	A											
Intersection V/C	0.588											

Intersection Level Of Service Report
Intersection 25:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.853

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	1	0	0
Pocket Length [ft]	195.00	100.00	125.00	360.00	100.00	575.00	155.00	100.00	145.00	180.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	140	1620	440	210	980	30	340	420	210	30	980	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	1.98	2.05	1.90	2.04	3.33	2.06	1.90	1.90	3.33	2.04	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	1620	110	210	980	7	340	420	52	30	980	110
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	405	28	53	245	2	85	105	13	8	245	28
Total Analysis Volume [veh/h]	140	1620	110	210	980	7	340	420	52	30	980	110
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3									
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.32	0.00	0.06	0.19	0.00	0.10	0.12	0.03	0.02	0.32	0.32
Intersection LOS	D											
Intersection V/C	0.853											

Intersection Level Of Service Report
Intersection 26:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.737

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	285.00	100.00	100.00	295.00	100.00	110.00	180.00	100.00	175.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	260	1280	340	190	640	170	360	500	190	420	730	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.92	2.03	2.06	2.11	2.03	1.76	1.94	2.00	2.11	1.90	2.05	1.85
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	1280	85	190	640	42	360	500	47	420	730	67
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	320	21	48	160	11	90	125	12	105	183	17
Total Analysis Volume [veh/h]	260	1280	85	190	640	42	360	500	47	420	730	67
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.25	0.05	0.11	0.13	0.02	0.11	0.15	0.03	0.12	0.21	0.04
Intersection LOS	C											
Intersection V/C	0.737											

Intersection Level Of Service Report
Intersection 27:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.789

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	295.00	100.00	285.00	235.00	100.00	290.00	245.00	100.00	210.00	185.00	100.00	255.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	10	1850	540	240	1210	50	210	240	180	280	830	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.04	2.08	1.98	2.00	1.90	2.08	2.22	2.14	2.05	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	1850	135	240	1210	12	210	240	45	280	830	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	463	34	60	303	3	53	60	11	70	208	8
Total Analysis Volume [veh/h]	10	1850	135	240	1210	12	210	240	45	280	830	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Overla
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.36	0.08	0.07	0.24	0.01	0.06	0.07	0.03	0.08	0.24	0.01
Intersection LOS	C											
Intersection V/C	0.789											

Intersection Level Of Service Report
Intersection 28:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.594

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	185.00	100.00	190.00	175.00	100.00	200.00	180.00	100.00	95.00	300.00	100.00	125.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	140	230	160	210	220	100	40	430	170	170	1120	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	2.17	1.88	1.90	1.82	2.00	2.50	2.09	1.76	1.76	1.96	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	230	40	210	220	25	40	430	42	170	1120	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	58	10	53	55	6	10	108	11	43	280	7
Total Analysis Volume [veh/h]	140	230	40	210	220	25	40	430	42	170	1120	27
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.07	0.02	0.12	0.06	0.01	0.02	0.13	0.02	0.10	0.33	0.02
Intersection LOS	A											
Intersection V/C	0.594											

Intersection Level Of Service Report
Intersection 29:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.805

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	245.00	100.00	100.00	150.00	100.00	345.00	215.00	100.00	120.00	170.00	100.00	295.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	270	1810	360	80	1160	110	310	330	200	190	960	420
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.85	1.99	1.94	2.50	1.98	1.82	1.94	2.12	2.00	2.11	1.98	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	1810	90	80	1160	27	310	330	50	190	960	105
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	453	23	20	290	7	78	83	13	48	240	26
Total Analysis Volume [veh/h]	270	1810	90	80	1160	27	310	330	50	190	960	105
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.35	0.05	0.02	0.23	0.02	0.09	0.10	0.03	0.06	0.28	0.06
Intersection LOS	D											
Intersection V/C	0.805											

Intersection Level Of Service Report
Intersection 30:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.658

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	210.00	100.00	410.00	190.00	100.00	125.00	250.00	100.00	145.00	305.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	150	1250	270	270	770	170	100	480	220	410	640	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	1.85	1.85	1.95	1.76	2.00	2.08	1.82	1.95	2.03	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	1250	67	270	770	42	100	480	220	410	640	210
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	313	17	68	193	11	25	120	55	103	160	53
Total Analysis Volume [veh/h]	150	1250	67	270	770	42	100	480	220	410	640	210
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.25	0.04	0.08	0.15	0.02	0.03	0.14	0.13	0.12	0.25	0.25
Intersection LOS	B											
Intersection V/C	0.658											

Intersection Level Of Service Report
Intersection 31:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: E
 Volume to Capacity (v/c): 0.947

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	2	0	1	2	0	1	2	0	2
Pocket Length [ft]	225.00	100.00	290.00	165.00	100.00	180.00	260.00	100.00	155.00	145.00	100.00	250.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	410	2370	680	380	1440	220	390	330	320	430	460	510
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.95	1.98	2.06	2.11	2.01	1.82	2.05	2.12	1.88	2.09	1.96	1.96
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	410	2370	170	380	1440	220	390	330	80	430	460	127
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	103	593	43	95	360	55	98	83	20	108	115	32
Total Analysis Volume [veh/h]	410	2370	170	380	1440	220	390	330	80	430	460	127
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Permis	Permis	Overla
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.46	0.10	0.11	0.24	0.24	0.08	0.19	0.05	0.13	0.14	0.00
Intersection LOS	E											
Intersection V/C	0.947											

Intersection Level Of Service Report
Intersection 32:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.730

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	155.00	100.00	100.00	100.00	170.00	100.00	100.00	255.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	70	60	50	120	70	160	50	570	140	550	1310	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.43	1.67	2.00	1.67	1.43	1.88	2.00	1.93	2.14	2.00	1.98	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	60	12	120	70	160	50	570	140	550	1310	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	15	3	30	18	40	13	143	35	138	328	23
Total Analysis Volume [veh/h]	70	60	12	120	70	160	50	570	140	550	1310	90
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	5	5	6	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.04	0.01	0.07	0.10	0.10	0.03	0.21	0.21	0.32	0.41	0.41
Intersection LOS	C											
Intersection V/C	0.730											

Intersection Level Of Service Report
Intersection 33:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.731

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	2	0	1	2	0	1
Pocket Length [ft]	250.00	100.00	235.00	200.00	100.00	100.00	195.00	100.00	200.00	245.00	100.00	155.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	740	2280	630	260	1420	70	530	200	130	110	290	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.03	2.02	2.06	1.92	1.97	1.43	2.08	2.00	2.31	1.82	2.07	1.91
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	740	2280	157	260	1420	70	530	200	32	110	290	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	185	570	39	65	355	18	133	50	8	28	73	29
Total Analysis Volume [veh/h]	740	2280	157	260	1420	70	530	200	32	110	290	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Unsign
Signal Group	5	2	2	1	6	6	3	8	8	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.34	0.09	0.08	0.22	0.22	0.16	0.06	0.02	0.03	0.09	0.00
Intersection LOS	C											
Intersection V/C	0.731											

Intersection Level Of Service Report
Intersection 34:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.592

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	200.00	100.00	100.00	160.00	100.00	160.00	100.00	100.00	50.00	250.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	250	1040	10	20	690	250	10	30	20	550	30	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.02	0.00	0.00	2.03	2.00	0.00	3.33	0.00	2.00	3.33	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	250	1040	10	20	690	62	10	30	20	550	30	65
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	63	260	3	5	173	16	3	8	5	138	8	16
Total Analysis Volume [veh/h]	250	1040	10	20	690	62	10	30	20	550	30	65
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.31	0.31	0.01	0.20	0.04	0.01	0.02	0.02	0.16	0.17	0.04
Intersection LOS	A											
Intersection V/C	0.592											

Intersection Level Of Service Report
Intersection 35:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.618

Intersection Setup

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Approach	Northbound			Eastbound			Southwestbound			Southeastbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	640.00	100.00	640.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Base Volume Input [veh/h]	360	0	780	0	3160	0	0	1290	1090	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.94	0.00	2.05	0.00	1.99	0.00	0.00	2.02	2.02	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	360	0	195	0	3160	0	0	1290	272	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	0	49	0	790	0	0	323	68	0	0	0
Total Analysis Volume [veh/h]	360	0	195	0	3160	0	0	1290	272	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Split	Split	Split	Permis								
Signal Group	8	0	8	0	2	0	0	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.06	0.00	0.46	0.00	0.00	0.25	0.16	0.00	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.618											

Intersection Level Of Service Report
Intersection 36:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: F
 Volume to Capacity (v/c): 1.068

Intersection Setup

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			TTL			TTT			TTL		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	125.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	100.00	465.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	170	0	460	1990	470	610	0	2500	170	350	870	620
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.76	0.00	1.96	2.01	1.91	1.97	0.00	2.00	1.76	2.00	1.95	1.94
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	170	0	460	1990	470	152	0	2500	170	350	870	155
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	0	115	498	118	38	0	625	43	88	218	39
Total Analysis Volume [veh/h]	170	0	460	1990	470	152	0	2500	170	350	870	155
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	8	0	8	4	4	4	0	2	2	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.14	0.39	0.14	0.09	0.00	0.39	0.39	0.10	0.17	0.09
Intersection LOS	F											
Intersection V/C	1.068											

Intersection Level Of Service Report
Intersection 37:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.621

Intersection Setup

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	☞☞☞			☞☞☞			☞☞☞			☞☞☞		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	2	1	0	1	2	0	1
Pocket Length [ft]	145.00	100.00	100.00	100.00	100.00	265.00	35.00	100.00	120.00	135.00	100.00	45.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	80	100	110	1240	430	30	20	480	610	220	960	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.50	2.00	1.82	2.02	2.09	3.33	0.00	2.08	1.97	1.82	1.98	2.06
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	100	27	1240	430	30	20	480	152	220	960	340
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	25	7	310	108	8	5	120	38	55	240	85
Total Analysis Volume [veh/h]	80	100	27	1240	430	30	20	480	152	220	960	340
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Permis	Permis	Overla	Split	Split	Split	Protect	Permis	Protect	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	8	1	6	6
Auxiliary Signal Groups			4,5									
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.06	0.00	0.24	0.25	0.25	0.01	0.14	0.09	0.06	0.28	0.20
Intersection LOS	B											
Intersection V/C	0.621											

Intersection Level Of Service Report
Intersection 38:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: E
 Volume to Capacity (v/c): 0.961

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	↵ ↑ ↵			↵ ↑ ↑ ↑ ↵			↵ ↑ ↵			↵ ↵		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	1	1	0	1
Pocket Length [ft]	110.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	410.00	165.00	100.00	165.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Base Volume Input [veh/h]	100	2860	900	0	2400	110	500	70	810	130	10	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.99	2.00	0.00	2.00	1.82	2.00	1.43	1.98	2.31	0.00	2.14
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	2860	225	0	2400	110	500	70	810	130	10	280
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	715	56	0	600	28	125	18	203	33	3	70
Total Analysis Volume [veh/h]	100	2860	225	0	2400	110	500	70	810	130	10	280
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Permis	Permis	Overla
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.56	0.13	0.00	0.30	0.30	0.15	0.27	0.27	0.08	0.01	0.11
Intersection LOS	E											
Intersection V/C	0.961											

Intersection Level Of Service Report

Intersection 39:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.780

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T			RT			T			RT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	2	0	1	1	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	305.00	100.00	135.00	215.00	100.00	100.00	215.00	100.00	90.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	0	2310	50	290	1180	870	60	180	580	1520	740	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.99	2.00	2.07	2.03	1.95	1.67	2.22	2.07	1.97	2.03	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2310	50	290	1180	217	60	180	145	1520	740	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	578	13	73	295	54	15	45	36	380	185	1
Total Analysis Volume [veh/h]	0	2310	50	290	1180	217	60	180	145	1520	740	5
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Overla	Split	Split	Split
Signal Group	0	2	2	1	6	6	8	8	1	4	4	4
Auxiliary Signal Groups									1,8			
Lead / Lag	-	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.35	0.35	0.09	0.23	0.13	0.04	0.14	0.00	0.30	0.22	0.00
Intersection LOS	C											
Intersection V/C	0.780											

Intersection Level Of Service Report
Intersection 40:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.813

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	0	0	1	1	0	0
Pocket Length [ft]	295.00	100.00	195.00	135.00	100.00	100.00	100.00	100.00	95.00	165.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Base Volume Input [veh/h]	720	1120	10	30	1640	220	20	30	30	350	60	1530
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.94	1.96	0.00	3.33	2.01	1.82	0.00	3.33	3.33	2.00	1.67	2.03
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	720	1120	2	30	1640	55	20	30	7	350	60	382
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	180	280	1	8	410	14	5	8	2	88	15	96
Total Analysis Volume [veh/h]	720	1120	2	30	1640	55	20	30	7	350	60	382
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	182
Lost time [s]	9.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Protect	Permis	Permis	Permis	Split	Split	Split
Signal Group	5	2	2	1	6	4	8	8	1	4	4	0
Auxiliary Signal Groups									1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.22	0.00	0.01	0.32	0.03	0.01	0.01	0.00	0.10	0.12	0.22
Intersection LOS	D											
Intersection V/C	0.813											

Intersection Level Of Service Report
Intersection 41:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.535

Intersection Setup

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Approach	Southbound			Northeastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	1	0	1
Pocket Length [ft]	200.00	100.00	205.00	225.00	100.00	230.00	260.00	100.00	155.00	245.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Base Volume Input [veh/h]	30	80	150	150	1540	160	50	870	50	240	70	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.33	2.50	2.00	2.00	2.01	1.88	2.00	1.95	2.00	2.08	1.43	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	80	37	150	1540	40	50	870	12	240	70	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	20	9	38	385	10	13	218	3	60	18	11
Total Analysis Volume [veh/h]	30	80	37	150	1540	40	50	870	12	240	70	45
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	111
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	7	4	4	5	2	2	1	6	6	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.02	0.09	0.30	0.02	0.01	0.17	0.01	0.14	0.02	0.03
Intersection LOS	A											
Intersection V/C	0.535											

Intersection Level Of Service Report
Intersection 42:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.816

Intersection Setup

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Approach	Eastbound		Southwestbound		Northwestbound	
Lane Configuration	YY		TYY		YYT	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	2	0
Pocket Length [ft]	100.00	100.00	305.00	100.00	260.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Base Volume Input [veh/h]	1710	480	100	1070	930	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.99	2.08	2.00	1.96	2.04	2.06
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1710	480	100	1070	930	85
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	428	120	25	268	233	21
Total Analysis Volume [veh/h]	1710	480	100	1070	930	85
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	8	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.43	0.43	0.06	0.21	0.27	0.05
Intersection LOS	D					
Intersection V/C	0.816					

Intersection Level Of Service Report
Intersection 51:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.463

Intersection Setup

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Approach	Eastbound		Northeastbound		Southwestbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	255.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Base Volume Input [veh/h]	360	140	130	870	560	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.94	2.14	2.31	1.95	1.96	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	360	35	130	870	560	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	9	33	218	140	23
Total Analysis Volume [veh/h]	360	35	130	870	560	90
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	5	5	2	6	6
Auxiliary Signal Groups		5				
Lead / Lag	Lag	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.00	0.08	0.17	0.13	0.13
Intersection LOS	A					
Intersection V/C	0.463					

Intersection Level Of Service Report
Intersection 56:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.883

Intersection Setup

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Approach	Northbound			Southbound			Eastbound			Southwestbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	2	1	0	1	1	0	1
Pocket Length [ft]	170.00	100.00	170.00	100.00	100.00	165.00	290.00	100.00	225.00	295.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Base Volume Input [veh/h]	220	200	410	30	70	50	190	1520	160	420	1060	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	2.00	1.95	3.33	1.43	2.00	2.11	1.97	1.88	1.90	1.98	1.88
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	200	102	30	70	12	190	1520	40	420	1060	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	50	26	8	18	3	48	380	10	105	265	10
Total Analysis Volume [veh/h]	220	200	102	30	70	12	190	1520	40	420	1060	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	131
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.12	0.06	0.02	0.04	0.01	0.11	0.45	0.02	0.25	0.31	0.02
Intersection LOS	D											
Intersection V/C	0.883											

Intersection Level Of Service Report
Intersection 57:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.700

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	140.00	100.00	175.00	105.00	100.00	200.00	100.00	100.00	35.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Base Volume Input [veh/h]	340	870	30	60	770	420	30	10	20	680	20	330
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.06	1.95	3.33	1.67	1.95	1.90	3.33	0.00	0.00	2.06	0.00	2.12
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	340	870	7	60	770	105	30	10	20	680	20	82
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	218	2	15	193	26	8	3	5	170	5	21
Total Analysis Volume [veh/h]	340	870	7	60	770	105	30	10	20	680	20	82
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.26	0.00	0.04	0.23	0.06	0.02	0.02	0.02	0.20	0.21	0.05
Intersection LOS	B											
Intersection V/C	0.700											

Intersection Level Of Service Report
Intersection 60:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.885

Intersection Setup

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Approach	Southbound			Eastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left2	Left	Right	Left2	Left	Thru	Left	Thru	Right	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	210.00	100.00	100.00	140.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Base Volume Input [veh/h]	30	660	110	160	10	740	300	220	40	290	390	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.33	1.97	1.82	1.88	0.00	2.03	2.00	1.82	2.50	2.07	2.05	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	660	110	160	10	740	300	220	40	290	390	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	165	28	40	3	185	75	55	10	73	98	5
Total Analysis Volume [veh/h]	30	660	110	160	10	740	300	220	40	290	390	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	129
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis								
Signal Group	1	6	6	4	4	4	8	8	8	5	2	2
Auxiliary Signal Groups												
Lead / Lag	Lead	Lag	-	Lag	Lag	-	Lag	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.19	0.23	0.09	0.01	0.44	0.18	0.15	0.15	0.17	0.12	0.12
Intersection LOS	D											
Intersection V/C	0.885											

Intersection Level Of Service Report
Intersection 101:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.509

Intersection Setup

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Approach	Eastbound			Westbound			Northeastbound			Southwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Pocket Length [ft]	65.00	100.00	100.00	60.00	100.00	100.00	150.00	100.00	190.00	155.00	100.00	195.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	20	10	10	100	20	110	30	1100	400	80	970	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	1.82	3.33	2.00	2.00	2.50	1.96	3.33
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	10	10	100	20	110	30	1100	100	80	970	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	3	25	5	28	8	275	25	20	243	2
Total Analysis Volume [veh/h]	20	10	10	100	20	110	30	1100	100	80	970	7
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.06	0.08	0.08	0.02	0.32	0.06	0.05	0.29	0.00
Intersection LOS	A											
Intersection V/C	0.509											

Intersection Level Of Service Report
Intersection 102:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Approach	Northeastbound		Southwestbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	1	0
Pocket Length [ft]	240.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Base Volume Input [veh/h]	110	1620	1130	40	40	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	1.98	2.04	2.50	2.50	1.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	1620	1130	40	40	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	405	283	10	10	4
Total Analysis Volume [veh/h]	110	1620	1130	40	40	17
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	5	2	6	6	7	5
Auxiliary Signal Groups						5
Lead / Lag	Lead	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.32	0.23	0.23	0.02	0.00
Intersection LOS	A					
Intersection V/C	0.388					

Lake Forest GPU (Constrained PM)

Vistro File: H:\...\2040_Constrained_PM.vistro

Scenario: Base Scenario

Report File: H:\...\Constrained_PM_LOS.pdf

10/7/2019

Turning Movement Volume: Summary

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
1		200	270	630	150	110	30	470	190	240	10	240	180	2720

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
2		230	350	350	360	250	110	410	760	100	230	650	150	3950

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
3		270	310	460	130	290	30	320	1030	180	10	1110	220	4360

ID	Intersection Name	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume
		Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right	
4		110	920	880	650	80	400	130	80	180	900	1450	120	5900

ID	Intersection Name	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		520	1610	300	80	1200	170	130	200	490	260	4960

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		460	1080	60	100	680	570	50	60	720	350	4130

ID	Intersection Name	Northbound		Southwestbound		Total Volume
		Left	Thru	Thru	Right	
7		230	1400	1010	470	3110

ID	Intersection Name	Northbound			Southbound			Southeastbound		Total Volume
		Thru	Left	Right	Thru	Left	Right	Left	Right	
8		1380			1070			390	190	3030

ID	Intersection Name	Northeastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
9		1130	900	420	810	440	350	4050

ID	Intersection Name	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		310	780	200	150	920	320	270	530	170	240	1040	90	5020

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
11		400	1690	120	80	1090	180	300	260	150	420	40	490	5220

ID	Intersection Name	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		330	1160	50	460	2140	690	510	550	480	10	210	230	6820

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		10	1150	270	230	1620	400	590	400	30	160	260	220	5340

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
14		130	2000	700	410	2010	200	300	340	200	290	640	250	7470

ID	Intersection Name	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		280	560	350	280	1340	520	380	1140	190	480	1050	170	6740

ID	Intersection Name	Southbound		Northeastbound		Northwestbound		Total Volume
		Thru	Right	Left	Right	Left	Thru	
16		1730	280	210	380	160	940	3700

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
17		300	1250	340	310	1020	280	120	490	260	470	1090	280	6210

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
18		110	2500	430	110	2490	30	60	110	100	230	610	360	7140

ID	Intersection Name	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		140	1930	180	40	1280	30	70	70	20	140	530	140	4570

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
20		30	380	50	90	350	30	50	110	50	130	460	30	1760

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
21		90	1690	30	20	1170	90	10	20	20	320	80	160	3700

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
22		40	2720	550	210	2720	50	140	140	90	220	530	450	7860

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		180	1210	130	110	1910	300	110	270	90	350	900	120	5680

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
24		60	370	40	130	310	20	60	400	50	100	990	90	2620

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
25		140	1620	440	210	980	30	340	420	210	30	980	110	5510

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
26		260	1280	340	190	640	170	360	500	190	420	730	270	5350

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
27		10	1850	540	240	1210	50	210	240	180	280	830	120	5760

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
28		140	230	160	210	220	100	40	430	170	170	1120	110	3100

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
29		270	1810	360	80	1160	110	310	330	200	190	960	420	6200

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
30		150	1250	270	270	770	170	100	480	220	410	640	210	4940

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
31		410	2370	680	380	1440	220	390	330	320	430	460	510	7940

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
32		70	60	50	120	70	160	50	570	140	550	1310	90	3240

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
33		740	2280	630	260	1420	70	530	200	130	110	290	470	7130

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		250	1040	10	20	690	250	10	30	20	550	30	260	3160

ID	Intersection Name	Northbound		Eastbound	Southwestbound		Total Volume
		Left	Right	Thru	Thru	Right	
35		360	780	3160	1290	1090	6680

ID	Intersection Name	Northbound		Southbound			Eastbound		Westbound			Total Volume
		Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		170	460	1990	470	610	2500	170	350	870	620	8210

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
37		80	100	110	1240	430	30	20	480	610	220	960	340	4620

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
38		100	2860	900	0	2400	110	500	70	810	130	10	280	8170

ID	Intersection Name	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
		Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		2310	50	290	1180	870	60	180	580	1520	740	20	7800

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		720	1120	10	30	1640	220	20	30	30	350	60	1530	5760

ID	Intersection Name	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		30	80	150	150	1540	160	50	870	50	240	70	180	3570

ID	Intersection Name	Eastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
42		1710	480	100	1070	930	340	4630

ID	Intersection Name	Eastbound		Northeastbound		Southwestbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
51		360	140	130	870	560	90	2150

ID	Intersection Name	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		220	200	410	30	70	50	190	1520	160	420	1060	160	4490

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
57		340	870	30	60	770	420	30	10	20	680	20	330	3580

ID	Intersection Name	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
		2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		30	660	110	160	10	740	300	220	40	290	390	20	2970

ID	Intersection Name	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		20	10	10	100	20	110	30	1100	400	80	970	30	2880

ID	Intersection Name	Northeastbound		Southwestbound		Southeastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
102		110	1620	1130	40	40	70	3010

Lake Forest GPU (Constrained PM)

Vistro File: H:\...\2040_Constrained_PM.vistro

Scenario: Base Scenario

Report File: H:\...\Constrained_PM_LOS.pdf

10/7/2019

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1		Final Base	200	270	630	150	110	30	470	190	240	10	240	180	2720
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	200	270	630	150	110	30	470	190	240	10	240	180	2720

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
2		Final Base	230	350	350	360	250	110	410	760	100	230	650	150	3950
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	230	350	350	360	250	110	410	760	100	230	650	150	3950

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3		Final Base	270	310	460	130	290	30	320	1030	180	10	1110	220	4360
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	270	310	460	130	290	30	320	1030	180	10	1110	220	4360

ID	Intersection Name	Volume Type	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume
			Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right	
4		Final Base	110	920	880	650	80	400	130	80	180	900	1450	120	5900
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	110	920	880	650	80	400	130	80	180	900	1450	120	5900

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		Final Base	520	1610	300	80	1200	170	130	200	490	260	4960
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	520	1610	300	80	1200	170	130	200	490	260	4960

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		Final Base	460	1080	60	100	680	570	50	60	720	350	4130
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	460	1080	60	100	680	570	50	60	720	350	4130

ID	Intersection Name	Volume Type	Northbound		Southwestbound		Total Volume
			Left	Thru	Thru	Right	
7		Final Base	230	1400	1010	470	3110
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	230	1400	1010	470	3110

ID	Intersection Name	Volume Type	Northbound		Southbound		Southeastbound		Total Volume
			Thru		Thru		Left	Right	
8		Final Base	1380		1070		390	190	3030
		Growth Factor	1.00		1.00		1.00	1.00	-
		In Process	0		0		0	0	0
		Net New Trips	0		0		0	0	0
		Other	0		0		0	0	0
		Future Total	1380		1070		390	190	3030

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
9		Final Base	1130	900	420	810	440	350	4050
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	1130	900	420	810	440	350	4050

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		Final Base	310	780	200	150	920	320	270	530	170	240	1040	90	5020
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	310	780	200	150	920	320	270	530	170	240	1040	90	5020

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11		Final Base	400	1690	120	80	1090	180	300	260	150	420	40	490	5220
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	400	1690	120	80	1090	180	300	260	150	420	40	490	5220

ID	Intersection Name	Volume Type	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		Final Base	330	1160	50	460	2140	690	510	550	480	10	210	230	6820
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	330	1160	50	460	2140	690	510	550	480	10	210	230	6820

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		Final Base	10	1150	270	230	1620	400	590	400	30	160	260	220	5340
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	10	1150	270	230	1620	400	590	400	30	160	260	220	5340

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14		Final Base	130	2000	700	410	2010	200	300	340	200	290	640	250	7470
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	130	2000	700	410	2010	200	300	340	200	290	640	250	7470

ID	Intersection Name	Volume Type	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		Final Base	280	560	350	280	1340	520	380	1140	190	480	1050	170	6740
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	280	560	350	280	1340	520	380	1140	190	480	1050	170	6740

ID	Intersection Name	Volume Type	Southbound		Northeastbound		Northwestbound		Total Volume
			Thru	Right	Left	Right	Left	Thru	
16		Final Base	1730	280	210	380	160	940	3700
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	1730	280	210	380	160	940	3700

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17		Final Base	300	1250	340	310	1020	280	120	490	260	470	1090	280	6210
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	300	1250	340	310	1020	280	120	490	260	470	1090	280	6210

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18		Final Base	110	2500	430	110	2490	30	60	110	100	230	610	360	7140
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	110	2500	430	110	2490	30	60	110	100	230	610	360	7140

ID	Intersection Name	Volume Type	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		Final Base	140	1930	180	40	1280	30	70	70	20	140	530	140	4570
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	140	1930	180	40	1280	30	70	70	20	140	530	140	4570

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
20		Final Base	30	380	50	90	350	30	50	110	50	130	460	30	1760
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	30	380	50	90	350	30	50	110	50	130	460	30	1760

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21		Final Base	90	1690	30	20	1170	90	10	20	20	320	80	160	3700
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	90	1690	30	20	1170	90	10	20	20	320	80	160	3700

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22		Final Base	40	2720	550	210	2720	50	140	140	90	220	530	450	7860
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	40	2720	550	210	2720	50	140	140	90	220	530	450	7860

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		Final Base	180	1210	130	110	1910	300	110	270	90	350	900	120	5680
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	180	1210	130	110	1910	300	110	270	90	350	900	120	5680

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
24		Final Base	60	370	40	130	310	20	60	400	50	100	990	90	2620
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	60	370	40	130	310	20	60	400	50	100	990	90	2620

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
25		Final Base	140	1620	440	210	980	30	340	420	210	30	980	110	5510
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	140	1620	440	210	980	30	340	420	210	30	980	110	5510

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
26		Final Base	260	1280	340	190	640	170	360	500	190	420	730	270	5350
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	260	1280	340	190	640	170	360	500	190	420	730	270	5350

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27		Final Base	10	1850	540	240	1210	50	210	240	180	280	830	120	5760
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	10	1850	540	240	1210	50	210	240	180	280	830	120	5760

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28		Final Base	140	230	160	210	220	100	40	430	170	170	1120	110	3100
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	140	230	160	210	220	100	40	430	170	170	1120	110	3100

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
29		Final Base	270	1810	360	80	1160	110	310	330	200	190	960	420	6200
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	270	1810	360	80	1160	110	310	330	200	190	960	420	6200

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
30		Final Base	150	1250	270	270	770	170	100	480	220	410	640	210	4940
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	150	1250	270	270	770	170	100	480	220	410	640	210	4940

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31		Final Base	410	2370	680	380	1440	220	390	330	320	430	460	510	7940
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	410	2370	680	380	1440	220	390	330	320	430	460	510	7940

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
32		Final Base	70	60	50	120	70	160	50	570	140	550	1310	90	3240
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	70	60	50	120	70	160	50	570	140	550	1310	90	3240

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
33		Final Base	740	2280	630	260	1420	70	530	200	130	110	290	470	7130
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	740	2280	630	260	1420	70	530	200	130	110	290	470	7130

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		Final Base	250	1040	10	20	690	250	10	30	20	550	30	260	3160
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	250	1040	10	20	690	250	10	30	20	550	30	260	3160

ID	Intersection Name	Volume Type	Northbound		Eastbound	Southwestbound		Total Volume
			Left	Right	Thru	Thru	Right	
35		Final Base	360	780	3160	1290	1090	6680
		Growth Factor	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0
		Other	0	0	0	0	0	0
		Future Total	360	780	3160	1290	1090	6680

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound		Westbound			Total Volume
			Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		Final Base	170	460	1990	470	610	2500	170	350	870	620	8210
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	170	460	1990	470	610	2500	170	350	870	620	8210

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
37		Final Base	80	100	110	1240	430	30	20	480	610	220	960	340	4620
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	80	100	110	1240	430	30	20	480	610	220	960	340	4620

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
38		Final Base	100	2860	900	0	2400	110	500	70	810	130	10	280	8170
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	100	2860	900	0	2400	110	500	70	810	130	10	280	8170

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
			Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		Final Base	2310	50	290	1180	870	60	180	580	1520	740	20	7800
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	2310	50	290	1180	870	60	180	580	1520	740	20	7800

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		Final Base	720	1120	10	30	1640	220	20	30	30	350	60	1530	5760
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	720	1120	10	30	1640	220	20	30	30	350	60	1530	5760

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		Final Base	30	80	150	150	1540	160	50	870	50	240	70	180	3570
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	30	80	150	150	1540	160	50	870	50	240	70	180	3570

ID	Intersection Name	Volume Type	Eastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
42		Final Base	1710	480	100	1070	930	340	4630
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	1710	480	100	1070	930	340	4630

ID	Intersection Name	Volume Type	Eastbound		Northeastbound		Southwestbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
51		Final Base	360	140	130	870	560	90	2150
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	360	140	130	870	560	90	2150

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		Final Base	220	200	410	30	70	50	190	1520	160	420	1060	160	4490
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	220	200	410	30	70	50	190	1520	160	420	1060	160	4490

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
57		Final Base	340	870	30	60	770	420	30	10	20	680	20	330	3580
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	340	870	30	60	770	420	30	10	20	680	20	330	3580

ID	Intersection Name	Volume Type	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
			2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		Final Base	30	660	110	160	10	740	300	220	40	290	390	20	2970
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	30	660	110	160	10	740	300	220	40	290	390	20	2970

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		Final Base	20	10	10	100	20	110	30	1100	400	80	970	30	2880
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	20	10	10	100	20	110	30	1100	400	80	970	30	2880

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Southeastbound		Total Volume
			Left	Thru	Thru	Right	Left	Right	
102		Final Base	110	1620	1130	40	40	70	3010
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	110	1620	1130	40	40	70	3010

HCM 6th Signalized Intersection Summary
5: Portola Pkwy. & SR-241 Ramps

2040 (Committed) PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 			 	  		 	  	
Traffic Volume (veh/h)	490	0	260	130	0	200	80	1200	170	520	1610	300
Future Volume (veh/h)	490	0	260	130	0	200	80	1200	170	520	1610	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	516	0	0	137	0	0	84	1263	0	547	1695	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	550	0		191	0		166	1771		616	2436	
Arrive On Green	0.31	0.00	0.00	0.06	0.00	0.00	0.05	0.35	0.00	0.18	0.48	0.00
Sat Flow, veh/h	1781	516		3456	137		3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	516	68.3		137	81.5		84	1263	0	547	1695	0
Grp Sat Flow(s),veh/h/ln	1781	E		1728	F		1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	45.8			6.3			3.9	34.9	0.0	25.1	42.2	0.0
Cycle Q Clear(g_c), s	45.8			6.3			3.9	34.9	0.0	25.1	42.2	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	550			191			166	1771		616	2436	
V/C Ratio(X)	0.94			0.72			0.51	0.71		0.89	0.70	
Avail Cap(c_a), veh/h	860			1669			210	1979		925	3035	
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.7			75.5			75.5	46.1	0.0	65.2	33.3	0.0
Incr Delay (d2), s/veh	13.7			6.0			2.8	1.4	0.0	7.2	0.7	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.7			3.0			1.8	15.1	0.0	11.7	17.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.3			81.5			78.3	47.4	0.0	72.4	34.0	0.0
LnGrp LOS	E			F			E	D		E	C	
Approach Vol, veh/h								1347	A		2242	A
Approach Delay, s/veh								49.3			43.4	
Approach LOS								D			D	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	37.5	66.4	17.5		16.3	87.5	58.7					
Change Period (Y+Rc), s	8.5	10.0	8.5		8.5	10.0	8.5					
Max Green Setting (Gmax), s	43.5	63.0	78.5		9.9	96.6	78.5					
Max Q Clear Time (g_c+I1), s	27.1	36.9	8.3		5.9	44.2	47.8					
Green Ext Time (p_c), s	1.9	15.5	0.6		0.1	33.3	2.3					

Intersection Summary

HCM 6th Ctrl Delay	49.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Alton Pkwy. & SR-241 Ramps

2040 (Committed) PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 	 			 	  		 	  	
Traffic Volume (veh/h)	720	0	350	50	0	60	460	1080	60	100	680	570
Future Volume (veh/h)	720	0	350	50	0	60	460	1080	60	100	680	570
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	800	0	0	56	0	0	511	1200	0	111	756	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	853	0		853	0		527	2231		138	1114	
Arrive On Green	0.25	0.00	0.00	0.25	0.00	0.00	0.59	0.87	0.00	0.08	0.22	0.00
Sat Flow, veh/h	3456	800		3456	56		1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	800	57.9		56	31.7		511	1200	0	111	756	0
Grp Sat Flow(s),veh/h/ln	1728	E		1728	C		1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	25.0			1.4			30.2	6.2	0.0	6.7	14.9	0.0
Cycle Q Clear(g_c), s	25.0			1.4			30.2	6.2	0.0	6.7	14.9	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	853			853			527	2231		138	1114	
V/C Ratio(X)	0.94			0.07			0.97	0.54		0.81	0.68	
Avail Cap(c_a), veh/h	864			864			559	2231		217	1114	
HCM Platoon Ratio	1.00			1.00			2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			0.77	0.77	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.6			31.7			22.0	4.3	0.0	49.9	39.5	0.0
Incr Delay (d2), s/veh	17.3			0.0			25.1	0.7	0.0	5.2	3.3	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5			0.6			11.7	1.5	0.0	3.2	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9			31.7			47.1	5.0	0.0	55.2	42.8	0.0
LnGrp LOS	E			C			D	A		E	D	
Approach Vol, veh/h								1711	A		867	A
Approach Delay, s/veh								17.6			44.4	
Approach LOS								B			D	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	41.1	33.3	35.6		17.0	57.4	35.6					
Change Period (Y+Rc), s	8.5	9.3	8.5		8.5	9.3	8.5					
Max Green Setting (Gmax), s	34.5	21.7	27.5		13.4	42.8	27.5					
Max Q Clear Time (g_c+I1), s	32.2	16.9	3.4		8.7	8.2	27.0					
Green Ext Time (p_c), s	0.4	2.6	0.1		0.0	15.2	0.2					
Intersection Summary												
HCM 6th Ctrl Delay			34.0									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary
7: Lake Forest Dr. & SR-241 NB Ramp

2040 (Committed) PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↖ ↗	↑ ↑	↑ ↑	↘ ↗
Traffic Volume (veh/h)	0	0	230	1400	1010	470
Future Volume (veh/h)	0	0	230	1400	1010	470
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			250	1522	1098	511
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			353	3216	2575	1148
Arrive On Green			0.20	1.00	0.72	0.72
Sat Flow, veh/h			3456	3647	3647	1585
Grp Volume(v), veh/h			250	1522	1098	511
Grp Sat Flow(s),veh/h/ln			1728	1777	1777	1585
Q Serve(g_s), s			4.0	0.0	7.4	7.9
Cycle Q Clear(g_c), s			4.0	0.0	7.4	7.9
Prop In Lane			1.00			1.00
Lane Grp Cap(c), veh/h			353	3216	2575	1148
V/C Ratio(X)			0.71	0.47	0.43	0.44
Avail Cap(c_a), veh/h			651	3216	2575	1148
HCM Platoon Ratio			2.00	2.00	1.00	1.00
Upstream Filter(I)			0.73	0.73	0.83	0.83
Uniform Delay (d), s/veh			23.0	0.0	3.3	3.4
Incr Delay (d2), s/veh			0.7	0.4	0.4	1.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			1.5	0.2	1.5	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			23.8	0.4	3.7	4.4
LnGrp LOS			C	A	A	A
Approach Vol, veh/h				1772	1609	
Approach Delay, s/veh				3.7	3.9	
Approach LOS				A	A	
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		60.0			10.8	49.2
Change Period (Y+Rc), s		5.7			* 4.7	5.7
Max Green Setting (Gmax), s		54.3			* 11	38.3
Max Q Clear Time (g_c+I1), s		2.0			6.0	9.9
Green Ext Time (p_c), s		5.7			0.2	18.1
Intersection Summary						
HCM 6th Ctrl Delay			3.8			
HCM 6th LOS			A			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Summary
8: Lake Forest Dr. & SR-241 SB Ramp

2040 (Committed) PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔	↔		↑↑	↑↑	
Traffic Volume (veh/h)	390	190	0	1380	1070	0
Future Volume (veh/h)	390	190	0	1380	1070	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	0
Adj Flow Rate, veh/h	406	198	0	1438	1115	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	0	2	2	0
Cap, veh/h	563	258	0	2371	2371	0
Arrive On Green	0.16	0.16	0.00	0.67	1.00	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	406	198	0	1438	1115	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	6.7	7.2	0.0	13.6	0.0	0.0
Cycle Q Clear(g_c), s	6.7	7.2	0.0	13.6	0.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	563	258	0	2371	2371	0
V/C Ratio(X)	0.72	0.77	0.00	0.61	0.47	0.00
Avail Cap(c_a), veh/h	778	357	0	2371	2371	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.19	0.89	0.00
Uniform Delay (d), s/veh	23.8	24.0	0.0	5.6	0.0	0.0
Incr Delay (d2), s/veh	1.0	4.0	0.0	0.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.8	0.0	3.3	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.8	28.0	0.0	5.8	0.6	0.0
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	604			1438	1115	
Approach Delay, s/veh	25.9			5.8	0.6	
Approach LOS	C			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		45.7		14.3		45.7
Change Period (Y+Rc), s		5.7		4.5		5.7
Max Green Setting (Gmax), s		36.3		13.5		36.3
Max Q Clear Time (g_c+I1), s		15.6		9.2		2.0
Green Ext Time (p_c), s		14.9		0.6		15.5
Intersection Summary						
HCM 6th Ctrl Delay			7.8			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 35: Lake Forest Dr. & I-5 NB Ramps

2040 (Committed) PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	360	0	780	0	3160	0	0	1290	1090
Future Volume (veh/h)	0	0	0	360	0	780	0	3160	0	0	1290	1090
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	0	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				379	0	821	0	3326	0	0	1358	0
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	0	2	0	2	0	0	2	2
Cap, veh/h				1090	0	880	0	3808	0	0	2214	
Arrive On Green				0.32	0.00	0.32	0.00	0.59	0.00	0.00	0.59	0.00
Sat Flow, veh/h				3456	0	2790	0	6958	0	0	3741	3170
Grp Volume(v), veh/h				379	0	821	0	3326	0	0	1358	0
Grp Sat Flow(s),veh/h/ln				1728	0	1395	0	1609	0	0	1870	1585
Q Serve(g_s), s				10.5	0.0	35.4	0.0	54.2	0.0	0.0	28.9	0.0
Cycle Q Clear(g_c), s				10.5	0.0	35.4	0.0	54.2	0.0	0.0	28.9	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1090	0	880	0	3808	0	0	2214	
V/C Ratio(X)				0.35	0.00	0.93	0.00	0.87	0.00	0.00	0.61	
Avail Cap(c_a), veh/h				1153	0	931	0	3817	0	0	2219	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				32.6	0.0	41.2	0.0	21.4	0.0	0.0	16.2	0.0
Incr Delay (d2), s/veh				0.1	0.0	15.2	0.0	2.5	0.0	0.0	0.6	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	13.9	0.0	19.9	0.0	0.0	12.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				32.8	0.0	56.4	0.0	23.9	0.0	0.0	16.8	0.0
LnGrp LOS				C	A	E	A	C	A	A	B	
Approach Vol, veh/h					1200			3326			1358	A
Approach Delay, s/veh					48.9			23.9			16.8	
Approach LOS					D			C			B	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		79.3				79.3		44.7				
Change Period (Y+Rc), s		5.9				5.9		5.6				
Max Green Setting (Gmax), s		73.6				73.6		41.4				
Max Q Clear Time (g_c+I1), s		56.2				30.9		37.4				
Green Ext Time (p_c), s		17.2				18.9		1.7				

Intersection Summary

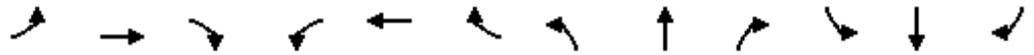
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 36: Lake Forest Dr. & I-5 SB Ramps/Avenida De La Carlota

2040 (Committed) PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↑↑	↗	↔↔		↗↗		↑↑↑		↔↔	↑↑↔	↗
Traffic Volume (veh/h)	1990	470	610	170	0	460	0	2500	170	350	870	620
Future Volume (veh/h)	1990	470	610	170	0	460	0	2500	170	350	870	620
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2073	490	635	177	0	479	0	2604	177	365	862	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	2
Cap, veh/h	1869	1322	590	0	0	0	0	2393	162	331	1927	
Arrive On Green	0.37	0.37	0.37	0.00	0.00	0.00	0.00	0.39	0.39	0.09	0.52	0.00
Sat Flow, veh/h	5023	3554	1585		0		0	6463	419	3563	3741	3170
Grp Volume(v), veh/h	2073	490	635		0.0		0	2023	758	365	862	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585				0	1609	1795	1781	1870	1585
Q Serve(g_s), s	43.2	11.7	43.2				0.0	44.8	44.8	10.8	16.9	0.0
Cycle Q Clear(g_c), s	43.2	11.7	43.2				0.0	44.8	44.8	10.8	16.9	0.0
Prop In Lane	1.00		1.00				0.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	1869	1322	590				0	1862	693	331	1927	
V/C Ratio(X)	1.11	0.37	1.08				0.00	1.09	1.09	1.10	0.45	
Avail Cap(c_a), veh/h	1869	1322	590				0	1862	693	331	1927	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.4	26.5	36.4				0.0	35.7	35.7	52.7	17.7	0.0
Incr Delay (d2), s/veh	57.5	0.1	59.4				0.0	48.6	62.9	79.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.2	4.9	26.0				0.0	25.5	31.2	8.5	7.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.9	26.6	95.8				0.0	84.3	98.5	132.1	17.9	0.0
LnGrp LOS	F	C	F				A	F	F	F	B	
Approach Vol, veh/h		3198						2781			1227	A
Approach Delay, s/veh		84.0						88.1			51.9	
Approach LOS		F						F			D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	15.0	51.1		50.0		66.1						
Change Period (Y+Rc), s	* 4.2	6.3		6.8		6.3						
Max Green Setting (Gmax), s	* 11	44.8		43.2		59.8						
Max Q Clear Time (g_c+I1), s	12.8	46.8		45.2		18.9						
Green Ext Time (p_c), s	0.0	0.0		0.0		7.4						

Intersection Summary

HCM 6th Ctrl Delay	80.1
HCM 6th LOS	F

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 37: Paseo De La Valencia/I-5 SB Ramps & Avenida De La Carlota

2040 (Committed) PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 			 	 	 
Traffic Volume (veh/h)	220	960	340	20	480	610	80	100	110	1240	430	30
Future Volume (veh/h)	220	960	340	20	480	610	80	100	110	1240	430	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	1000	354	21	500	635	83	104	115	1089	733	31
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	276	1610	858	28	1382	1071	304	165	164	1021	1021	43
Arrive On Green	0.08	0.45	0.45	0.02	0.39	0.39	0.09	0.09	0.09	0.29	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	3563	3563	151
Grp Volume(v), veh/h	229	1000	354	21	500	635	83	104	115	1089	385	379
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1843
Q Serve(g_s), s	9.8	32.1	19.8	1.8	15.0	32.5	3.4	8.1	10.5	43.0	27.7	27.7
Cycle Q Clear(g_c), s	9.8	32.1	19.8	1.8	15.0	32.5	3.4	8.1	10.5	43.0	27.7	27.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	276	1610	858	28	1382	1071	304	165	164	1021	536	528
V/C Ratio(X)	0.83	0.62	0.41	0.76	0.36	0.59	0.27	0.63	0.70	1.07	0.72	0.72
Avail Cap(c_a), veh/h	378	1610	858	49	1382	1071	806	436	394	1021	536	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.36	0.36	0.36	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.0	31.2	20.3	73.6	32.6	13.2	63.9	66.1	65.0	53.5	48.0	48.1
Incr Delay (d2), s/veh	7.9	1.8	1.5	5.6	0.3	0.9	0.2	1.5	2.0	47.6	4.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	14.3	9.4	0.9	6.6	24.2	1.5	3.9	4.4	26.0	13.6	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.0	33.0	21.8	79.1	32.9	14.1	64.1	67.5	67.0	101.1	52.0	52.1
LnGrp LOS	E	C	C	E	C	B	E	E	E	F	D	D
Approach Vol, veh/h		1583			1156			302			1853	
Approach Delay, s/veh		36.7			23.4			66.4			80.9	
Approach LOS		D			C			E			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.5	64.3		19.2	6.8	74.0		50.0				
Change Period (Y+Rc), s	4.5	6.0		6.0	4.5	6.0		7.0				
Max Green Setting (Gmax), s	16.4	32.1		35.0	4.1	44.4		43.0				
Max Q Clear Time (g_c+I1), s	11.8	34.5		12.5	3.8	34.1		45.0				
Green Ext Time (p_c), s	0.2	0.0		0.7	0.0	4.3		0.0				

Intersection Summary

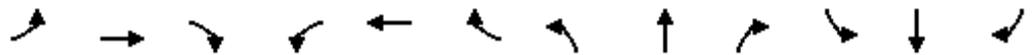
HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 38: El Toro Rd. & Bridger Rd./I-5 NB Ramps

2040 (Committed) PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	10	280	500	70	810	100	2860	900	0	2400	110
Future Volume (veh/h)	130	10	280	500	70	810	100	2860	900	0	2400	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	10	289	367	0	1041	103	2948	928	0	2474	113
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	112	205	511	0	909	124	3030	856	1	3289	150
Arrive On Green	0.06	0.06	0.06	0.29	0.00	0.29	0.07	0.54	0.54	0.00	0.58	0.58
Sat Flow, veh/h	1781	1870	1585	1781	0	3170	1781	5611	1585	1781	7525	344
Grp Volume(v), veh/h	134	10	289	367	0	1041	103	2948	928	0	1992	595
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	1781	1870	1585	1781	1515	1809
Q Serve(g_s), s	9.0	0.8	9.0	27.8	0.0	43.0	8.6	76.4	81.0	0.0	36.7	36.7
Cycle Q Clear(g_c), s	9.0	0.8	9.0	27.8	0.0	43.0	8.6	76.4	81.0	0.0	36.7	36.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	107	112	205	511	0	909	124	3030	856	1	2649	791
V/C Ratio(X)	1.25	0.09	1.41	0.72	0.00	1.15	0.83	0.97	1.08	0.00	0.75	0.75
Avail Cap(c_a), veh/h	107	112	205	511	0	909	190	3030	856	59	2649	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	0.00	0.67	0.67
Uniform Delay (d), s/veh	70.5	66.6	65.3	48.1	0.0	53.5	68.9	33.4	34.5	0.0	25.4	25.4
Incr Delay (d2), s/veh	170.1	0.1	209.8	4.2	0.0	78.5	1.0	1.7	40.2	0.0	1.4	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	0.4	19.8	13.0	0.0	27.0	4.0	34.2	39.8	0.0	12.3	15.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	240.6	66.8	275.1	52.3	0.0	132.0	69.9	35.1	74.7	0.0	26.7	29.8
LnGrp LOS	F	E	F	D	A	F	E	D	F	A	C	C
Approach Vol, veh/h		433			1408			3979			2587	
Approach Delay, s/veh		259.6			111.2			45.3			27.4	
Approach LOS		F			F			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	87.0		14.0	15.4	71.6		49.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	5.0	71.0		9.0	16.0	60.0		43.0				
Max Q Clear Time (g_c+I1), s	0.0	83.0		11.0	10.6	38.7		45.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	5.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	61.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Appendix 5: Cumulative (2040) Plus Plan (with Recommended Improvements) Intersection Level of Service Worksheets

Lake Forest GPU (2040 Improvements AM)

Vistro File: H:\...\2040_Constrained_AM-mit.vistro

Scenario: Base Scenario

Report File: H:\...\2040ImprovedAM.pdf

10/11/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1		Signalized	ICU 1	NWB Left	0.478	-	A
2		Signalized	ICU 1	SWB Left	0.478	-	A
3		Signalized	ICU 1	NWB Thru	0.561	-	A
4		Signalized	ICU 1	NB Thru	0.548	-	A
5		Signalized	ICU 1	NEB Thru	0.661	-	B
6		Signalized	ICU 1	NEB Left	0.673	-	B
7		Signalized	ICU 1	NB Thru	0.394	-	A
8		Signalized	ICU 1	NB Thru	0.465	-	A
9		Signalized	ICU 1	SWB Thru	0.629	-	B
10		Signalized	ICU 1	NWB Thru	0.726	-	C
11		Signalized	ICU 1	SWB Thru	0.897	-	D
12		Signalized	ICU 1	NB Thru	0.642	-	B
13		Signalized	ICU 1	WB Thru	0.779	-	C
14		Signalized	ICU 1	NEB Thru	0.738	-	C
15		Signalized	ICU 1	SWB Thru	0.714	-	C
16		Signalized	ICU 1	NWB Thru	0.599	-	A
17		Signalized	ICU 1	SWB Thru	0.681	-	B
18		Signalized	ICU 1	NEB Thru	0.865	-	D
19		Signalized	ICU 1	SWB Thru	0.658	-	B
20		Signalized	ICU 1	SWB Thru	0.601	-	B
21		Signalized	ICU 1	SWB Thru	0.576	-	A
22		Signalized	ICU 1	NEB Thru	0.925	-	E
23		Signalized	ICU 1	WB Thru	0.685	-	B
24		Signalized	ICU 1	NWB Thru	0.556	-	A
25		Signalized	ICU 1	SWB Thru	0.691	-	B
26		Signalized	ICU 1	SWB Thru	0.781	-	C
27		Signalized	ICU 1	SWB Thru	0.586	-	A
28		Signalized	ICU 1	NWB Thru	0.494	-	A
29		Signalized	ICU 1	SWB Thru	0.742	-	C
30		Signalized	ICU 1	SWB Thru	0.656	-	B
31		Signalized	ICU 1	SWB Thru	0.687	-	B
32		Signalized	ICU 1	SEB Thru	0.450	-	A
33		Signalized	ICU 1	SWB Thru	0.816	-	D
34		Signalized	ICU 1	SWB Thru	0.663	-	B
35		Signalized	ICU 1	EB Thru	0.518	-	A

36		Signalized	ICU 1	WB Thru	0.645	-	B
37		Signalized	ICU 1	SWB Thru	0.606	-	B
38		Signalized	ICU 1	SWB Thru	0.781	-	C
39		Signalized	ICU 1	SWB Thru	0.472	-	A
40		Signalized	ICU 1	NB Thru	0.650	-	B
41		Signalized	ICU 1	SWB Thru	0.607	-	B
42		Signalized	ICU 1	SWB Thru	0.667	-	B
51		Signalized	ICU 1	SWB Right	0.443	-	A
56		Signalized	ICU 1	SWB Thru	0.811	-	D
57		Signalized	ICU 1	NEB Left	0.576	-	A
60		Signalized	ICU 1	NWB Thru	0.590	-	A
101		Signalized	ICU 1	SWB Thru	0.650	-	B
102		Signalized	ICU 1	SWB Thru	0.490	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.478

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	175.00	100.00	100.00	150.00	100.00	55.00	315.00	100.00	245.00	170.00	100.00	585.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	130	30	480	240	280	20	520	260	140	20	380	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.31	3.33	2.08	2.08	2.14	0.00	1.92	1.92	2.14	0.00	2.11	2.11
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	30	120	240	280	5	520	260	35	20	380	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	8	30	60	70	1	130	65	9	5	95	12
Total Analysis Volume [veh/h]	130	30	120	240	280	5	520	260	35	20	380	47
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Permis	Protect	Permis	Unsign	Protect	Permis	Unsign
Signal Group	7	4	0	3	8	8	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.00	0.14	0.08	0.00	0.15	0.05	0.00	0.01	0.11	0.00
Intersection LOS	A											
Intersection V/C	0.478											

Intersection Level Of Service Report
Intersection 2:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.478

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	190.00	100.00	180.00	285.00	100.00	285.00	230.00	100.00	100.00	230.00	100.00	220.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	130	210	300	260	390	190	480	330	140	360	370	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.31	1.90	2.00	1.92	2.05	2.11	2.08	2.12	2.14	1.94	1.89	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	210	75	260	390	47	480	330	140	360	370	37
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	53	19	65	98	12	120	83	35	90	93	9
Total Analysis Volume [veh/h]	130	210	75	260	390	47	480	330	140	360	370	37
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.06	0.04	0.15	0.11	0.03	0.14	0.09	0.09	0.11	0.07	0.02
Intersection LOS	A											
Intersection V/C	0.478											

Intersection Level Of Service Report
Intersection 3:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.561

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	195.00	100.00	295.00	110.00	100.00	425.00	300.00	100.00	100.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	120	220	250	200	390	20	600	860	240	30	760	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.67	1.82	2.00	2.00	2.05	0.00	2.00	1.98	2.08	3.33	1.97	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	220	62	200	390	5	600	860	240	30	760	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	55	16	50	98	1	150	215	60	8	190	13
Total Analysis Volume [veh/h]	120	220	62	200	390	5	600	860	240	30	760	52
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.06	0.04	0.12	0.11	0.00	0.18	0.22	0.22	0.01	0.15	0.03
Intersection LOS	A											
Intersection V/C	0.561											

Intersection Level Of Service Report
Intersection 4:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.548

Intersection Setup

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Approach	Northbound			Westbound			Northeastbound			Southeastbound		
Lane Configuration	11111			11111			111			11111		
Turning Movement	Left	Thru	Right	Left2	Left	Thru	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	0	0	0	2	0	1
Pocket Length [ft]	200.00	100.00	100.00	215.00	100.00	345.00	100.00	100.00	100.00	515.00	100.00	185.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Base Volume Input [veh/h]	240	1250	700	710	120	870	90	50	120	220	840	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.08	2.00	2.00	1.97	1.67	1.95	2.22	2.00	1.67	1.82	2.02	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	1250	175	710	120	870	90	50	120	220	840	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	313	44	178	30	218	23	13	30	55	210	8
Total Analysis Volume [veh/h]	240	1250	175	710	120	870	90	50	120	220	840	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Protect	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	3	8	1	1	6	0	5	2	2	7	4	4
Auxiliary Signal Groups			1,8									
Lead / Lag	Lead	-	-	Lead	Lag	-	Lead	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.25	0.00	0.21	0.04	0.00	0.05	0.05	0.05	0.06	0.16	0.02
Intersection LOS	A											
Intersection V/C	0.548											

Intersection Level Of Service Report
Intersection 5:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.661

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	/ /			/ / /			/ /			/		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	0	0	2	0	0	1
Pocket Length [ft]	535.00	100.00	300.00	620.00	100.00	70.00	100.00	100.00	555.00	100.00	100.00	730.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	210	1060	390	430	1470	60	200	0	430	340	0	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.90	1.98	2.05	2.09	1.97	1.67	2.00	0.00	2.09	2.06	0.00	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	1060	97	430	1470	15	200	0	107	340	0	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	265	24	108	368	4	50	0	27	85	0	7
Total Analysis Volume [veh/h]	210	1060	97	430	1470	15	200	0	107	340	0	27
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	212
Lost time [s]	11.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.21	0.00	0.13	0.29	0.00	0.06	0.00	0.00	0.20	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.661											

Intersection Level Of Service Report
Intersection 6:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.673

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	2	1	0	1
Pocket Length [ft]	170.00	100.00	100.00	370.00	100.00	100.00	100.00	100.00	435.00	550.00	100.00	550.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	380	540	140	50	1100	840	150	0	100	460	0	760
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.11	2.04	2.14	2.00	2.00	2.02	2.00	0.00	2.00	1.96	0.00	1.97
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	380	540	35	50	1100	210	150	0	25	460	0	190
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	135	9	13	275	53	38	0	6	115	0	48
Total Analysis Volume [veh/h]	380	540	35	50	1100	210	150	0	25	460	0	190
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.11	0.00	0.03	0.22	0.00	0.04	0.00	0.00	0.14	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.673											

Intersection Level Of Service Report
Intersection 7:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.394

Intersection Setup

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Approach	Northbound		Eastbound		Southwestbound	
Lane Configuration	T T T				T T	
Turning Movement	Left	Thru	Left	Right	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	1
Pocket Length [ft]	355.00	100.00	100.00	100.00	100.00	395.00
Speed [mph]	30.00		0.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Base Volume Input [veh/h]	150	1170	0	0	860	630
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.97	0.00	0.00	1.98	2.06
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	1170	0	0	860	157
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	293	0	0	215	39
Total Analysis Volume [veh/h]	150	1170	0	0	860	157
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	0	0	6	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.34	0.00	0.00	0.25	0.09
Intersection LOS	A					
Intersection V/C	0.394					

Intersection Level Of Service Report
Intersection 8:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.465

Intersection Setup

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration	↑↑		↑↑		11f	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	1	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	655.00	365.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Base Volume Input [veh/h]	0	1010	930	0	400	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.98	2.04	0.00	2.00	1.76
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1010	930	0	400	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	253	233	0	100	11
Total Analysis Volume [veh/h]	0	1010	930	0	400	42
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	0	2	6	0	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.30	0.27	0.00	0.12	0.02
Intersection LOS	A					
Intersection V/C	0.465					

Intersection Level Of Service Report
Intersection 9:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Approach	Northeastbound		Southwestbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	1	0	1	1
Pocket Length [ft]	100.00	230.00	390.00	100.00	185.00	145.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Base Volume Input [veh/h]	750	310	200	1050	820	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.94	2.00	2.00	1.95	2.11
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	750	77	200	1050	820	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	188	19	50	263	205	12
Total Analysis Volume [veh/h]	750	77	200	1050	820	47
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.05	0.12	0.31	0.24	0.01
Intersection LOS	B					
Intersection V/C	0.629					

Intersection Level Of Service Report
Intersection 10:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	1	2	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	340.00	100.00	200.00	250.00	100.00	110.00	245.00	100.00	215.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Base Volume Input [veh/h]	260	710	150	70	720	260	280	900	150	80	280	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.92	1.97	2.00	1.43	1.94	1.92	2.14	2.00	2.00	2.50	2.14	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	710	37	70	720	65	280	900	37	80	280	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	178	9	18	180	16	70	225	9	20	70	3
Total Analysis Volume [veh/h]	260	710	37	70	720	65	280	900	37	80	280	12
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.21	0.02	0.04	0.21	0.04	0.08	0.26	0.02	0.05	0.08	0.01
Intersection LOS	C											
Intersection V/C	0.726											

Intersection Level Of Service Report
Intersection 11:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.897

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.						Rancho Pkwy. S.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	190.00	100.00	190.00	190.00	100.00	80.00	100.00	100.00	100.00	190.00	100.00	180.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.						Rancho Pkwy. S.		
Base Volume Input [veh/h]	460	890	390	170	1430	410	70	70	50	140	350	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.96	2.02	2.05	1.76	2.03	1.95	1.43	1.43	2.00	2.14	2.00	2.06
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	460	890	97	170	1430	102	70	70	50	140	350	340
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	223	24	43	358	26	18	18	13	35	88	85
Total Analysis Volume [veh/h]	460	890	97	170	1430	102	70	70	50	140	350	340
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.27	0.26	0.06	0.10	0.42	0.06	0.02	0.04	0.04	0.08	0.14	0.14
Intersection LOS	D											
Intersection V/C	0.897											

Intersection Level Of Service Report
Intersection 12:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.642

Intersection Setup

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Approach	Northbound			Southbound			Northeastbound			Southwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	1	1	0	2
Pocket Length [ft]	400.00	100.00	100.00	200.00	100.00	100.00	395.00	100.00	260.00	150.00	100.00	170.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Base Volume Input [veh/h]	410	1990	30	150	1010	320	420	210	440	20	650	570
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.95	2.01	3.33	2.00	1.98	1.88	1.90	1.90	2.05	0.00	2.00	1.93
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	410	1990	30	150	1010	80	420	210	110	20	650	142
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	103	498	8	38	253	20	105	53	28	5	163	36
Total Analysis Volume [veh/h]	410	1990	30	150	1010	80	420	210	110	20	650	142
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.30	0.30	0.04	0.20	0.05	0.12	0.04	0.06	0.01	0.13	0.04
Intersection LOS	B											
Intersection V/C	0.642											

Intersection Level Of Service Report
Intersection 13:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.779

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	1 1 1			1 1 1			1 1 1			1 1 1		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Thru	Right	Right2	Left2	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	1	0	0
Pocket Length [ft]	285.00	100.00	180.00	285.00	100.00	220.00	345.00	100.00	100.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Base Volume Input [veh/h]	30	1370	150	240	1140	650	380	230	20	160	360	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.33	1.97	2.00	2.08	2.02	2.00	2.11	2.17	0.00	1.88	1.94	1.85
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	1370	20	240	1140	162	380	230	20	160	360	270
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	343	5	60	285	41	95	58	5	40	90	68
Total Analysis Volume [veh/h]	30	1370	20	240	1140	162	380	230	20	160	360	270
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Protect	Permis	Protect	Permis	Permis
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.40	0.01	0.14	0.34	0.10	0.11	0.15	0.15	0.09	0.11	0.19
Intersection LOS	C											
Intersection V/C	0.779											

Intersection Level Of Service Report
Intersection 14:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.738

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	2	2	0	1
Pocket Length [ft]	305.00	100.00	155.00	305.00	100.00	150.00	305.00	100.00	225.00	275.00	100.00	275.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Base Volume Input [veh/h]	150	2290	110	110	1700	190	550	800	390	230	230	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.01	1.82	1.82	2.00	2.11	2.00	2.00	2.05	2.17	2.17	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	2290	27	110	1700	47	550	800	97	230	230	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	573	7	28	425	12	138	200	24	58	58	8
Total Analysis Volume [veh/h]	150	2290	27	110	1700	47	550	800	97	230	230	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.45	0.02	0.03	0.33	0.03	0.16	0.12	0.06	0.07	0.05	0.02
Intersection LOS	C											
Intersection V/C	0.738											

Intersection Level Of Service Report
Intersection 15:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.714

Intersection Setup

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Approach	Northbound			Northeastbound			Southwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	0	2	0	1
Pocket Length [ft]	210.00	100.00	280.00	275.00	100.00	405.00	160.00	100.00	100.00	175.00	100.00	225.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Base Volume Input [veh/h]	560	930	390	170	890	190	290	1470	260	190	560	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.96	2.04	2.05	1.76	2.02	2.11	2.07	1.97	1.92	2.11	1.96	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	560	930	97	170	890	47	290	1470	260	190	560	62
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	140	233	24	43	223	12	73	368	65	48	140	16
Total Analysis Volume [veh/h]	560	930	97	170	890	47	290	1470	260	190	560	62
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	5	2	2	1	6	6	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.18	0.06	0.05	0.17	0.03	0.09	0.34	0.34	0.06	0.11	0.04
Intersection LOS	C											
Intersection V/C	0.714											

**Intersection Level Of Service Report
Intersection 16:**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.599

Intersection Setup

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Approach	Southbound		Northeastbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	1	0
Pocket Length [ft]	100.00	200.00	100.00	100.00	190.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Base Volume Input [veh/h]	700	340	330	290	370	1580
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.06	2.12	2.07	1.89	2.03
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	700	122	330	35	370	1580
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	175	31	83	9	93	395
Total Analysis Volume [veh/h]	700	122	330	35	370	1580
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Protected	Permissive
Signal Group	4	4	2	2	3	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.07	0.19	0.02	0.22	0.31
Intersection LOS	A					
Intersection V/C	0.599					

Intersection Level Of Service Report
Intersection 17:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.681

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	360.00	100.00	305.00	165.00	100.00	175.00	225.00	100.00	230.00	205.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Base Volume Input [veh/h]	120	790	160	300	1680	630	300	910	240	300	480	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.67	2.03	1.88	2.00	2.02	2.06	2.00	1.98	2.08	2.00	2.08	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	790	40	300	1680	157	300	910	60	300	480	120
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	198	10	75	420	39	75	228	15	75	120	30
Total Analysis Volume [veh/h]	120	790	40	300	1680	157	300	910	60	300	480	120
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3			6,7						
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.15	0.00	0.09	0.33	0.00	0.09	0.18	0.04	0.09	0.12	0.12
Intersection LOS	B											
Intersection V/C	0.681											

Intersection Level Of Service Report
Intersection 18:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.865

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	180.00	100.00	205.00	205.00	100.00	225.00	285.00	100.00	100.00	205.00	100.00	110.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	320	2440	70	90	2270	160	270	450	120	50	60	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.88	2.01	1.43	2.22	1.98	1.88	1.85	2.00	1.67	2.00	1.67	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	2440	17	90	2270	40	270	450	120	50	60	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	610	4	23	568	10	68	113	30	13	15	4
Total Analysis Volume [veh/h]	320	2440	17	90	2270	40	270	450	120	50	60	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.19	0.48	0.01	0.05	0.45	0.02	0.16	0.17	0.17	0.01	0.02	0.01
Intersection LOS	D											
Intersection V/C	0.865											

Intersection Level Of Service Report
Intersection 19:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.658

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Approach	Eastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	185.00	180.00	100.00	200.00	155.00	100.00	100.00	135.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	160	1150	70	40	1890	150	160	400	50	20	130	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.88	2.00	1.43	2.50	2.01	2.00	1.88	2.00	2.00	0.00	2.31	2.14
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	1150	17	40	1890	37	160	400	50	20	130	35
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	288	4	10	473	9	40	100	13	5	33	9
Total Analysis Volume [veh/h]	160	1150	17	40	1890	37	160	400	50	20	130	35
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.23	0.01	0.02	0.37	0.02	0.09	0.13	0.13	0.01	0.05	0.05
Intersection LOS	B											
Intersection V/C	0.658											

Intersection Level Of Service Report
Intersection 20:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.601

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	175.00	100.00	100.00	200.00	100.00	100.00	110.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	90	380	210	170	600	220	320	210	40	40	170	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.22	2.11	1.90	1.76	2.00	1.82	1.88	1.90	2.50	2.50	1.76	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	380	210	170	600	220	320	210	40	40	170	60
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	95	53	43	150	55	80	53	10	10	43	15
Total Analysis Volume [veh/h]	90	380	210	170	600	220	320	210	40	40	170	60
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	157
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.17	0.17	0.10	0.24	0.24	0.19	0.07	0.07	0.02	0.07	0.07
Intersection LOS	B											
Intersection V/C	0.601											

Intersection Level Of Service Report
Intersection 21:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.576

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	250.00	100.00	250.00	210.00	100.00	1000.0	100.00	100.00	25.00	170.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	140	1040	30	20	1770	300	40	30	10	160	30	240
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	2.02	3.33	0.00	1.98	2.00	2.50	3.33	0.00	1.88	3.33	2.08
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	1040	7	20	1770	75	40	30	2	160	30	60
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	260	2	5	443	19	10	8	1	40	8	15
Total Analysis Volume [veh/h]	140	1040	7	20	1770	75	40	30	2	160	30	60
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.20	0.00	0.01	0.35	0.04	0.02	0.04	0.00	0.05	0.06	0.04
Intersection LOS	A											
Intersection V/C	0.576											

Intersection Level Of Service Report
Intersection 22:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: E
 Volume to Capacity (v/c): 0.925

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	350.00	100.00	190.00	285.00	100.00	200.00	255.00	100.00	100.00	150.00	100.00	80.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	440	2680	80	60	2500	170	400	530	150	10	70	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.05	2.01	2.50	1.67	2.00	1.76	2.00	2.08	2.00	0.00	1.43	2.31
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	440	2680	20	60	2500	42	400	530	150	10	70	32
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	670	5	15	625	11	100	133	38	3	18	8
Total Analysis Volume [veh/h]	440	2680	20	60	2500	42	400	530	150	10	70	32
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.53	0.01	0.04	0.49	0.02	0.24	0.20	0.20	0.00	0.02	0.02
Intersection LOS	E											
Intersection V/C	0.925											

Intersection Level Of Service Report
Intersection 23:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.685

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Pocket Length [ft]	195.00	100.00	300.00	255.00	100.00	275.00	240.00	100.00	100.00	190.00	100.00	195.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	270	1550	410	100	980	200	300	640	350	100	180	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.85	2.00	1.95	2.00	2.04	2.00	2.00	2.03	2.00	2.00	2.22	1.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	1550	102	100	980	50	300	640	87	100	180	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	388	26	25	245	13	75	160	22	25	45	4
Total Analysis Volume [veh/h]	270	1550	102	100	980	50	300	640	87	100	180	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.30	0.06	0.06	0.19	0.03	0.18	0.21	0.21	0.06	0.05	0.01
Intersection LOS	B											
Intersection V/C	0.685											

Intersection Level Of Service Report
Intersection 24:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.556

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	200.00	100.00	115.00	175.00	100.00	95.00	95.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	110	410	150	130	500	440	200	660	130	110	400	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	1.95	2.00	2.31	2.00	2.05	2.00	1.97	2.31	1.82	2.00	1.76
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	410	37	130	500	110	200	660	130	110	400	170
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	103	9	33	125	28	50	165	33	28	100	43
Total Analysis Volume [veh/h]	110	410	37	130	500	110	200	660	130	110	400	170
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	105
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.12	0.02	0.08	0.15	0.06	0.12	0.23	0.23	0.06	0.17	0.17
Intersection LOS	A											
Intersection V/C	0.556											

Intersection Level Of Service Report
Intersection 25:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.691

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	1	0	0
Pocket Length [ft]	195.00	100.00	125.00	360.00	100.00	575.00	155.00	100.00	145.00	180.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	80	890	310	340	1590	200	410	680	280	100	440	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.50	2.02	1.94	2.06	2.01	2.00	1.95	2.06	2.14	2.00	2.05	2.11
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	890	77	340	1590	50	410	680	70	100	440	190
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	223	19	85	398	13	103	170	18	25	110	48
Total Analysis Volume [veh/h]	80	890	77	340	1590	50	410	680	70	100	440	190
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3									
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.17	0.00	0.10	0.31	0.03	0.12	0.20	0.04	0.06	0.19	0.19
Intersection LOS	B											
Intersection V/C	0.691											

Intersection Level Of Service Report
Intersection 26:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.781

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	285.00	100.00	100.00	295.00	100.00	110.00	180.00	100.00	175.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	240	760	200	380	1540	250	280	650	130	180	700	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.08	1.97	2.00	2.11	2.01	2.00	2.14	2.00	2.31	2.22	2.00	2.06
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	760	50	380	1540	62	280	650	32	180	700	85
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	190	13	95	385	16	70	163	8	45	175	21
Total Analysis Volume [veh/h]	240	760	50	380	1540	62	280	650	32	180	700	85
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.15	0.03	0.22	0.30	0.04	0.08	0.19	0.02	0.05	0.21	0.05
Intersection LOS	C											
Intersection V/C	0.781											

Intersection Level Of Service Report
Intersection 27:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.586

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	295.00	100.00	285.00	235.00	100.00	290.00	245.00	100.00	210.00	185.00	100.00	255.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	70	970	290	80	1640	180	350	590	210	70	210	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.43	1.96	2.07	2.50	2.01	2.22	2.00	2.03	1.90	1.43	1.90	3.33
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	970	72	80	1640	45	350	590	52	70	210	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	243	18	20	410	11	88	148	13	18	53	2
Total Analysis Volume [veh/h]	70	970	72	80	1640	45	350	590	52	70	210	7
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Overla
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.19	0.04	0.02	0.32	0.03	0.10	0.17	0.03	0.02	0.06	0.00
Intersection LOS	A											
Intersection V/C	0.586											

Intersection Level Of Service Report
Intersection 28:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.494

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	185.00	100.00	190.00	175.00	100.00	200.00	180.00	100.00	95.00	300.00	100.00	125.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	110	320	90	190	340	350	80	630	150	90	430	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	1.88	2.22	2.11	2.06	2.00	2.50	2.06	2.00	2.22	2.09	1.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	320	22	190	340	87	80	630	37	90	430	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	80	6	48	85	22	20	158	9	23	108	4
Total Analysis Volume [veh/h]	110	320	22	190	340	87	80	630	37	90	430	17
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.09	0.01	0.11	0.10	0.05	0.05	0.19	0.02	0.05	0.13	0.01
Intersection LOS	A											
Intersection V/C	0.494											

Intersection Level Of Service Report
Intersection 29:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.742

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	245.00	100.00	100.00	150.00	100.00	345.00	215.00	100.00	120.00	170.00	100.00	295.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	160	910	220	190	1760	120	350	830	80	190	410	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.88	1.98	1.82	2.11	1.99	1.67	2.00	2.05	2.50	2.11	1.95	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	910	55	190	1760	30	350	830	20	190	410	65
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	228	14	48	440	8	88	208	5	48	103	16
Total Analysis Volume [veh/h]	160	910	55	190	1760	30	350	830	20	190	410	65
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.18	0.03	0.06	0.35	0.02	0.10	0.24	0.01	0.06	0.12	0.04
Intersection LOS	C											
Intersection V/C	0.742											

Intersection Level Of Service Report
Intersection 30:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.656

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	210.00	100.00	410.00	190.00	100.00	125.00	250.00	100.00	145.00	305.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	220	720	260	440	1230	450	230	450	200	180	580	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	1.94	1.92	2.05	2.03	2.00	2.17	2.00	2.00	2.22	2.07	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	720	65	440	1230	112	230	450	200	180	580	210
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	180	16	110	308	28	58	113	50	45	145	53
Total Analysis Volume [veh/h]	220	720	65	440	1230	112	230	450	200	180	580	210
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.14	0.04	0.13	0.24	0.07	0.07	0.13	0.12	0.05	0.23	0.23
Intersection LOS	B											
Intersection V/C	0.656											

Intersection Level Of Service Report
Intersection 31:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.687

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	2	0	1	2	0	1	2	0	2
Pocket Length [ft]	225.00	100.00	290.00	165.00	100.00	180.00	260.00	100.00	155.00	145.00	100.00	250.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	440	1250	390	380	1930	260	490	520	260	110	220	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.05	2.00	2.05	2.11	2.02	1.92	2.04	1.92	1.92	1.82	1.82	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	440	1250	97	380	1930	260	490	520	65	110	220	65
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	110	313	24	95	483	65	123	130	16	28	55	16
Total Analysis Volume [veh/h]	440	1250	97	380	1930	260	490	520	65	110	220	65
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Permis	Permis	Overla
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.13	0.25	0.06	0.11	0.32	0.32	0.14	0.15	0.04	0.03	0.06	0.00
Intersection LOS	B											
Intersection V/C	0.687											

Intersection Level Of Service Report
Intersection 32:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.450

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	155.00	100.00	100.00	100.00	170.00	100.00	100.00	255.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	60	80	40	110	40	240	40	600	80	70	660	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.67	2.50	2.50	1.82	2.50	2.08	2.50	2.00	2.50	1.43	1.97	3.33
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	80	10	110	40	240	40	600	80	70	660	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	20	3	28	10	60	10	150	20	18	165	8
Total Analysis Volume [veh/h]	60	80	10	110	40	240	40	600	80	70	660	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	149
Lost time [s]	7.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	5	5	6	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.05	0.01	0.06	0.11	0.11	0.02	0.20	0.20	0.04	0.20	0.20
Intersection LOS	A											
Intersection V/C	0.450											

Intersection Level Of Service Report
Intersection 33:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.816

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	2	0	1	2	0	1
Pocket Length [ft]	250.00	100.00	235.00	200.00	100.00	100.00	195.00	100.00	200.00	245.00	100.00	155.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	490	1090	220	250	2030	60	810	190	170	80	260	600
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.04	2.02	1.82	2.00	2.02	1.67	1.98	2.11	1.76	2.50	1.92	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	490	1090	55	250	2030	60	810	190	42	80	260	150
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	123	273	14	63	508	15	203	48	11	20	65	38
Total Analysis Volume [veh/h]	490	1090	55	250	2030	60	810	190	42	80	260	150
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Unsign
Signal Group	5	2	2	1	6	6	3	8	8	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.16	0.03	0.07	0.31	0.31	0.24	0.06	0.02	0.02	0.08	0.00
Intersection LOS	D											
Intersection V/C	0.816											

Intersection Level Of Service Report
Intersection 34:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.663

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	TTT			TTT			TT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	200.00	100.00	100.00	160.00	100.00	160.00	100.00	100.00	50.00	250.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	260	710	10	20	1080	490	10	50	40	360	10	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.92	1.97	0.00	0.00	2.04	2.04	0.00	2.00	2.50	1.94	0.00	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	710	10	20	1080	122	10	50	40	360	10	65
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	178	3	5	270	31	3	13	10	90	3	16
Total Analysis Volume [veh/h]	260	710	10	20	1080	122	10	50	40	360	10	65
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.21	0.21	0.01	0.32	0.07	0.01	0.03	0.03	0.11	0.11	0.04
Intersection LOS	B											
Intersection V/C	0.663											

Intersection Level Of Service Report
Intersection 35:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.518

Intersection Setup

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Approach	Northbound			Eastbound			Southwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	640.00	100.00	640.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Base Volume Input [veh/h]	690	0	630	0	1820	0	0	1360	1390	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.03	0.00	2.06	0.00	1.98	0.00	0.00	1.99	2.01	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	690	0	157	0	1820	0	0	1360	347	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	173	0	39	0	455	0	0	340	87	0	0	0
Total Analysis Volume [veh/h]	690	0	157	0	1820	0	0	1360	347	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Split	Split	Split	Permis								
Signal Group	8	0	8	0	2	0	0	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.00	0.05	0.00	0.27	0.00	0.00	0.27	0.20	0.00	0.00	0.00
Intersection LOS	A											
Intersection V/C	0.518											

Intersection Level Of Service Report
Intersection 36:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.645

Intersection Setup

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐						⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	0	0	0	1
Pocket Length [ft]	125.00	100.00	125.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	100.00	465.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	190	0	300	1070	290	660	0	1090	80	360	1530	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.11	0.00	2.00	1.96	2.07	1.97	0.00	2.02	2.50	1.94	2.03	1.91
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	0	300	1070	290	165	0	1090	80	360	1530	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	0	75	268	73	41	0	273	20	90	383	29
Total Analysis Volume [veh/h]	190	0	300	1070	290	165	0	1090	80	360	1530	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	8	0	8	4	4	4	0	2	2	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.00	0.09	0.21	0.09	0.10	0.00	0.17	0.17	0.11	0.30	0.07
Intersection LOS	B											
Intersection V/C	0.645											

Intersection Level Of Service Report
Intersection 37:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.606

Intersection Setup

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	☞☞☞			☞☞☞			☞☞☞			☞☞☞		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	2	1	0	1	2	0	1
Pocket Length [ft]	145.00	100.00	100.00	100.00	100.00	265.00	35.00	100.00	120.00	135.00	100.00	45.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	140	50	40	860	990	20	10	580	670	160	300	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	2.00	2.50	1.98	2.02	0.00	0.00	2.07	1.94	1.88	2.00	1.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	50	10	860	990	20	10	580	167	160	300	70
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	13	3	215	248	5	3	145	42	40	75	18
Total Analysis Volume [veh/h]	140	50	10	860	990	20	10	580	167	160	300	70
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permis	Permis	Overla	Split	Split	Split	Protect	Permis	Protect	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	8	1	6	6
Auxiliary Signal Groups			4,5									
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.03	0.00	0.25	0.30	0.30	0.01	0.17	0.10	0.05	0.09	0.04
Intersection LOS	B											
Intersection V/C	0.606											

Intersection Level Of Service Report
Intersection 38:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.781

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	↵ ↑ ↶			↵ ↑ ↑ ↑ ↑			↵ ↑ ↶			↵ ↶		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	1	1	0	1
Pocket Length [ft]	110.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	410.00	165.00	100.00	165.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Base Volume Input [veh/h]	100	1270	790	0	3840	90	400	70	450	50	10	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.97	2.03	0.00	2.01	2.22	2.00	1.43	2.00	2.00	0.00	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	1270	197	0	3840	90	400	70	450	50	10	210
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	318	49	0	960	23	100	18	113	13	3	53
Total Analysis Volume [veh/h]	100	1270	197	0	3840	90	400	70	450	50	10	210
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Permis	Permis	Overla
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.25	0.12	0.00	0.46	0.46	0.12	0.18	0.18	0.03	0.01	0.06
Intersection LOS	C											
Intersection V/C	0.781											

Intersection Level Of Service Report
Intersection 39:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.472

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T			RT			T			RT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	2	0	1	1	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	305.00	100.00	135.00	215.00	100.00	100.00	215.00	100.00	90.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	0	1160	20	130	1260	1070	40	200	410	890	260	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.98	0.00	2.31	1.98	1.96	2.50	2.00	1.95	2.02	1.92	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1160	20	130	1260	267	40	200	102	890	260	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	290	5	33	315	67	10	50	26	223	65	4
Total Analysis Volume [veh/h]	0	1160	20	130	1260	267	40	200	102	890	260	15
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Overla	Split	Split	Split
Signal Group	0	2	2	1	6	6	8	8	1	4	4	4
Auxiliary Signal Groups									1,8			
Lead / Lag	-	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.17	0.17	0.04	0.25	0.16	0.02	0.14	0.00	0.17	0.08	0.01
Intersection LOS	A											
Intersection V/C	0.472											

Intersection Level Of Service Report
Intersection 40:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.650

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	0	0	1	1	0	0
Pocket Length [ft]	295.00	100.00	195.00	135.00	100.00	100.00	100.00	100.00	95.00	165.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Base Volume Input [veh/h]	1100	1690	10	40	1030	330	10	30	30	120	60	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.01	0.00	2.50	2.04	2.12	0.00	3.33	3.33	1.67	1.67	1.91
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1100	1690	2	40	1030	82	10	30	7	120	60	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	275	423	1	10	258	21	3	8	2	30	15	29
Total Analysis Volume [veh/h]	1100	1690	2	40	1030	82	10	30	7	120	60	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	182
Lost time [s]	9.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Protect	Permis	Permis	Permis	Split	Split	Split
Signal Group	5	2	2	1	6	4	8	8	1	4	4	0
Auxiliary Signal Groups									1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.32	0.33	0.00	0.01	0.20	0.05	0.01	0.01	0.00	0.04	0.05	0.07
Intersection LOS	B											
Intersection V/C	0.650											

Intersection Level Of Service Report
Intersection 41:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.607

Intersection Setup

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Approach	Southbound			Northeastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	1	0	1
Pocket Length [ft]	200.00	100.00	205.00	225.00	100.00	230.00	260.00	100.00	155.00	245.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Base Volume Input [veh/h]	50	60	230	70	810	160	250	1660	70	260	70	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.67	2.17	1.43	1.98	1.88	2.00	1.99	1.43	1.92	1.43	2.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	50	60	57	70	810	40	250	1660	17	260	70	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	15	14	18	203	10	63	415	4	65	18	5
Total Analysis Volume [veh/h]	50	60	57	70	810	40	250	1660	17	260	70	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	111
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	7	4	4	5	2	2	1	6	6	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.02	0.03	0.04	0.16	0.02	0.07	0.33	0.01	0.15	0.02	0.01
Intersection LOS	B											
Intersection V/C	0.607											

Intersection Level Of Service Report
Intersection 42:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.667

Intersection Setup

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Approach	Eastbound		Southwestbound		Northwestbound	
Lane Configuration	YY		TYY		YYT	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	2	0
Pocket Length [ft]	100.00	100.00	305.00	100.00	260.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Base Volume Input [veh/h]	790	610	350	2030	450	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.03	1.97	2.00	2.02	2.00	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	790	610	350	2030	450	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	198	153	88	508	113	7
Total Analysis Volume [veh/h]	790	610	350	2030	450	27
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	8	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.27	0.27	0.21	0.40	0.13	0.02
Intersection LOS	B					
Intersection V/C	0.667					

**Intersection Level Of Service Report
Intersection 51:**

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.443

Intersection Setup

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Approach	Eastbound		Northeastbound		Southwestbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	255.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Base Volume Input [veh/h]	60	180	220	540	930	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.67	2.22	1.82	2.04	2.04	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	45	220	540	930	250
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	11	55	135	233	63
Total Analysis Volume [veh/h]	60	45	220	540	930	250
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	5	5	2	6	6
Auxiliary Signal Groups		5				
Lead / Lag	Lag	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.00	0.13	0.11	0.23	0.23
Intersection LOS	A					
Intersection V/C	0.443					

Intersection Level Of Service Report
Intersection 56:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.811

Intersection Setup

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Approach	Northbound			Southbound			Eastbound			Southwestbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	2	1	0	1	1	0	1
Pocket Length [ft]	170.00	100.00	170.00	100.00	100.00	165.00	290.00	100.00	225.00	295.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Base Volume Input [veh/h]	260	10	330	170	160	160	30	970	160	520	1320	100
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.92	0.00	2.12	1.76	1.88	1.88	3.33	1.96	1.88	1.92	1.97	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	10	82	170	160	40	30	970	40	520	1320	25
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	3	21	43	40	10	8	243	10	130	330	6
Total Analysis Volume [veh/h]	260	10	82	170	160	40	30	970	40	520	1320	25
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.05	0.10	0.09	0.02	0.02	0.29	0.02	0.31	0.39	0.01
Intersection LOS	D											
Intersection V/C	0.811											

Intersection Level Of Service Report
Intersection 57:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.576

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	140.00	100.00	175.00	105.00	100.00	200.00	100.00	100.00	35.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Base Volume Input [veh/h]	360	640	10	20	620	440	10	10	10	400	10	310
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.94	2.03	0.00	0.00	1.94	2.05	0.00	0.00	0.00	2.00	0.00	1.94
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	360	640	2	20	620	110	10	10	10	400	10	77
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	160	1	5	155	28	3	3	3	100	3	19
Total Analysis Volume [veh/h]	360	640	2	20	620	110	10	10	10	400	10	77
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.19	0.00	0.01	0.18	0.06	0.01	0.01	0.01	0.12	0.12	0.05
Intersection LOS	A											
Intersection V/C	0.576											

Intersection Level Of Service Report
Intersection 60:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.590

Intersection Setup

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Approach	Southbound			Eastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left2	Left	Right	Left2	Left	Thru	Left	Thru	Right	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	210.00	100.00	100.00	140.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Base Volume Input [veh/h]	40	250	70	90	170	270	10	10	10	620	560	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.50	2.00	1.43	2.22	1.76	1.85	0.00	0.00	0.00	1.94	1.96	1.85
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	250	17	90	170	270	10	10	10	620	560	270
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	63	4	23	43	68	3	3	3	155	140	68
Total Analysis Volume [veh/h]	40	250	17	90	170	270	10	10	10	620	560	270
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	129
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis								
Signal Group	1	6	6	4	4	4	8	8	8	5	2	2
Auxiliary Signal Groups												
Lead / Lag	Lead	Lag	-	Lag	Lag	-	Lag	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.07	0.08	0.05	0.10	0.16	0.01	0.01	0.01	0.36	0.24	0.24
Intersection LOS	A											
Intersection V/C	0.590											

Intersection Level Of Service Report
Intersection 101:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.650

Intersection Setup

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Approach	Eastbound			Westbound			Northeastbound			Southwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Pocket Length [ft]	65.00	100.00	100.00	60.00	100.00	100.00	150.00	100.00	190.00	155.00	100.00	195.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	20	20	40	440	20	100	10	760	220	140	900	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.50	2.05	0.00	2.00	0.00	1.97	1.82	2.14	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	20	40	440	20	100	10	760	55	140	900	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	5	10	110	5	25	3	190	14	35	225	1
Total Analysis Volume [veh/h]	20	20	40	440	20	100	10	760	55	140	900	2
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.04	0.04	0.26	0.07	0.07	0.01	0.22	0.03	0.08	0.26	0.00
Intersection LOS	B											
Intersection V/C	0.650											

Intersection Level Of Service Report
Intersection 102:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Approach	Northeastbound		Southwestbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	1	0
Pocket Length [ft]	240.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Base Volume Input [veh/h]	110	1040	1630	90	70	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	2.02	2.02	2.22	1.43	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	1040	1630	90	70	52
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	260	408	23	18	13
Total Analysis Volume [veh/h]	110	1040	1630	90	70	52
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	5	2	6	6	7	5
Auxiliary Signal Groups						5
Lead / Lag	Lead	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.20	0.34	0.34	0.04	0.00
Intersection LOS	A					
Intersection V/C	0.490					

Lake Forest GPU (2040 Improvements AM)

Vistro File: H:\...\2040_Constrained_AM-mit.vistro

Scenario: Base Scenario

Report File: H:\...\2040ImprovedAM.pdf

10/11/2019

Turning Movement Volume: Summary

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
1		130	30	480	240	280	20	520	260	140	20	380	190	2690

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
2		130	210	300	260	390	190	480	330	140	360	370	150	3310

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
3		120	220	250	200	390	20	600	860	240	30	760	210	3900

ID	Intersection Name	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume
		Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right	
4		240	1250	700	710	120	870	90	50	120	220	840	120	5330

ID	Intersection Name	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		210	1060	390	430	1470	60	200	430	340	110	4700

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		380	540	140	50	1100	840	150	100	460	760	4520

ID	Intersection Name	Northbound		Southwestbound		Total Volume
		Left	Thru	Thru	Right	
7		150	1170	860	630	2810

ID	Intersection Name	Northbound			Southbound			Southeastbound		Total Volume
		Thru	Left	Right	Thru	Left	Right	Left	Right	
8		1010			930			400	170	2510

ID	Intersection Name	Northeastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
9		750	310	200	1050	820	190	3320

ID	Intersection Name	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		260	710	150	70	720	260	280	900	150	80	280	50	3910

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
11		460	890	390	170	1430	410	70	70	50	140	350	340	4770

ID	Intersection Name	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		410	1990	30	150	1010	320	420	210	440	20	650	570	6220

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		30	1370	150	240	1140	650	380	230	20	160	360	270	5000

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
14		150	2290	110	110	1700	190	550	800	390	230	230	120	6870

ID	Intersection Name	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		560	930	390	170	890	190	290	1470	260	190	560	250	6150

ID	Intersection Name	Southbound		Northeastbound		Northwestbound		Total Volume
		Thru	Right	Left	Right	Left	Thru	
16		700	340	330	290	370	1580	3610

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
17		120	790	160	300	1680	630	300	910	240	300	480	120	6030

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
18		320	2440	70	90	2270	160	270	450	120	50	60	60	6360

ID	Intersection Name	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		160	1150	70	40	1890	150	160	400	50	20	130	140	4360

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
20		90	380	210	170	600	220	320	210	40	40	170	60	2510

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
21		140	1040	30	20	1770	300	40	30	10	160	30	240	3810

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
22		440	2680	80	60	2500	170	400	530	150	10	70	130	7220

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		270	1550	410	100	980	200	300	640	350	100	180	70	5150

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
24		110	410	150	130	500	440	200	660	130	110	400	170	3410

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
25		80	890	310	340	1590	200	410	680	280	100	440	190	5510

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
26		240	760	200	380	1540	250	280	650	130	180	700	340	5650

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
27		70	970	290	80	1640	180	350	590	210	70	210	30	4690

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
28		110	320	90	190	340	350	80	630	150	90	430	70	2850

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
29		160	910	220	190	1760	120	350	830	80	190	410	260	5480

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
30		220	720	260	440	1230	450	230	450	200	180	580	210	5170

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
31		440	1250	390	380	1930	260	490	520	260	110	220	260	6510

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
32		60	80	40	110	40	240	40	600	80	70	660	30	2050

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
33		490	1090	220	250	2030	60	810	190	170	80	260	600	6250

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		260	710	10	20	1080	490	10	50	40	360	10	260	3300

ID	Intersection Name	Northbound		Eastbound		Southwestbound		Total Volume
		Left	Right	Thru	Thru	Right		
35		690	630	1820	1360	1390	5890	

ID	Intersection Name	Northbound		Southbound			Eastbound		Westbound			Total Volume
		Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		190	300	1070	290	660	1090	80	360	1530	470	6040

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
37		140	50	40	860	990	20	10	580	670	160	300	70	3890

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
38		100	1270	790	0	3840	90	400	70	450	50	10	210	7280

ID	Intersection Name	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
		Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		1160	20	130	1260	1070	40	200	410	890	260	60	5500

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		1100	1690	10	40	1030	330	10	30	30	120	60	470	4920

ID	Intersection Name	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		50	60	230	70	810	160	250	1660	70	260	70	80	3770

ID	Intersection Name	Eastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
42		790	610	350	2030	450	110	4340

ID	Intersection Name	Eastbound		Northeastbound		Southwestbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
51		60	180	220	540	930	250	2180

ID	Intersection Name	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		260	10	330	170	160	160	30	970	160	520	1320	100	4190

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
57		360	640	10	20	620	440	10	10	10	400	10	310	2840

ID	Intersection Name	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
		2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		40	250	70	90	170	270	10	10	10	620	560	270	2370

ID	Intersection Name	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		20	20	40	440	20	100	10	760	220	140	900	10	2680

ID	Intersection Name	Northeastbound		Southwestbound		Southeastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
102		110	1040	1630	90	70	210	3150

Lake Forest GPU (2040 Improvements AM)

Vistro File: H:\...\2040_Constrained_AM-mit.vistro

Scenario: Base Scenario

Report File: H:\...\2040ImprovedAM.pdf

10/11/2019

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1		Final Base	130	30	480	240	280	20	520	260	140	20	380	190	2690
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	130	30	480	240	280	20	520	260	140	20	380	190	2690

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
2		Final Base	130	210	300	260	390	190	480	330	140	360	370	150	3310
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	130	210	300	260	390	190	480	330	140	360	370	150	3310

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3		Final Base	120	220	250	200	390	20	600	860	240	30	760	210	3900
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	120	220	250	200	390	20	600	860	240	30	760	210	3900

ID	Intersection Name	Volume Type	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume
			Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right	
4		Final Base	240	1250	700	710	120	870	90	50	120	220	840	120	5330
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	240	1250	700	710	120	870	90	50	120	220	840	120	5330

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		Final Base	210	1060	390	430	1470	60	200	430	340	110	4700
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	210	1060	390	430	1470	60	200	430	340	110	4700

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		Final Base	380	540	140	50	1100	840	150	100	460	760	4520
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	380	540	140	50	1100	840	150	100	460	760	4520

ID	Intersection Name	Volume Type	Northbound		Southwestbound		Total Volume
			Left	Thru	Thru	Right	
7		Final Base	150	1170	860	630	2810
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	150	1170	860	630	2810

ID	Intersection Name	Volume Type	Northbound	Southbound	Southeastbound		Total Volume
			Thru	Thru	Left	Right	
8		Final Base	1010	930	400	170	2510
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	1010	930	400	170	2510

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
9		Final Base	750	310	200	1050	820	190	3320
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	750	310	200	1050	820	190	3320

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		Final Base	260	710	150	70	720	260	280	900	150	80	280	50	3910
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	260	710	150	70	720	260	280	900	150	80	280	50	3910

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11		Final Base	460	890	390	170	1430	410	70	70	50	140	350	340	4770
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	460	890	390	170	1430	410	70	70	50	140	350	340	4770

ID	Intersection Name	Volume Type	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		Final Base	410	1990	30	150	1010	320	420	210	440	20	650	570	6220
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	410	1990	30	150	1010	320	420	210	440	20	650	570	6220

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		Final Base	30	1370	150	240	1140	650	380	230	20	160	360	270	5000
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	30	1370	150	240	1140	650	380	230	20	160	360	270	5000

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14		Final Base	150	2290	110	110	1700	190	550	800	390	230	230	120	6870
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	150	2290	110	110	1700	190	550	800	390	230	230	120	6870

ID	Intersection Name	Volume Type	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		Final Base	560	930	390	170	890	190	290	1470	260	190	560	250	6150
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	560	930	390	170	890	190	290	1470	260	190	560	250	6150

ID	Intersection Name	Volume Type	Southbound		Northeastbound		Northwestbound		Total Volume
			Thru	Right	Left	Right	Left	Thru	
16		Final Base	700	340	330	290	370	1580	3610
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	700	340	330	290	370	1580	3610

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17		Final Base	120	790	160	300	1680	630	300	910	240	300	480	120	6030
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	120	790	160	300	1680	630	300	910	240	300	480	120	6030

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18		Final Base	320	2440	70	90	2270	160	270	450	120	50	60	60	6360
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	320	2440	70	90	2270	160	270	450	120	50	60	60	6360

ID	Intersection Name	Volume Type	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		Final Base	160	1150	70	40	1890	150	160	400	50	20	130	140	4360
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	160	1150	70	40	1890	150	160	400	50	20	130	140	4360

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
20		Final Base	90	380	210	170	600	220	320	210	40	40	170	60	2510
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	90	380	210	170	600	220	320	210	40	40	170	60	2510

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21		Final Base	140	1040	30	20	1770	300	40	30	10	160	30	240	3810
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	140	1040	30	20	1770	300	40	30	10	160	30	240	3810

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22		Final Base	440	2680	80	60	2500	170	400	530	150	10	70	130	7220
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	440	2680	80	60	2500	170	400	530	150	10	70	130	7220

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		Final Base	270	1550	410	100	980	200	300	640	350	100	180	70	5150
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	270	1550	410	100	980	200	300	640	350	100	180	70	5150

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
24		Final Base	110	410	150	130	500	440	200	660	130	110	400	170	3410
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	110	410	150	130	500	440	200	660	130	110	400	170	3410

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
25		Final Base	80	890	310	340	1590	200	410	680	280	100	440	190	5510
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	80	890	310	340	1590	200	410	680	280	100	440	190	5510

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
26		Final Base	240	760	200	380	1540	250	280	650	130	180	700	340	5650
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	240	760	200	380	1540	250	280	650	130	180	700	340	5650

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27		Final Base	70	970	290	80	1640	180	350	590	210	70	210	30	4690
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	70	970	290	80	1640	180	350	590	210	70	210	30	4690

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28		Final Base	110	320	90	190	340	350	80	630	150	90	430	70	2850
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	110	320	90	190	340	350	80	630	150	90	430	70	2850

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
29		Final Base	160	910	220	190	1760	120	350	830	80	190	410	260	5480
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	160	910	220	190	1760	120	350	830	80	190	410	260	5480

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
30		Final Base	220	720	260	440	1230	450	230	450	200	180	580	210	5170
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	220	720	260	440	1230	450	230	450	200	180	580	210	5170

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31		Final Base	440	1250	390	380	1930	260	490	520	260	110	220	260	6510
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	440	1250	390	380	1930	260	490	520	260	110	220	260	6510

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
32		Final Base	60	80	40	110	40	240	40	600	80	70	660	30	2050
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	60	80	40	110	40	240	40	600	80	70	660	30	2050

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
33		Final Base	490	1090	220	250	2030	60	810	190	170	80	260	600	6250
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	490	1090	220	250	2030	60	810	190	170	80	260	600	6250

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		Final Base	260	710	10	20	1080	490	10	50	40	360	10	260	3300
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	260	710	10	20	1080	490	10	50	40	360	10	260	3300

ID	Intersection Name	Volume Type	Northbound		Eastbound	Southwestbound		Total Volume
			Left	Right	Thru	Thru	Right	
35		Final Base	690	630	1820	1360	1390	5890
		Growth Factor	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0
		Other	0	0	0	0	0	0
		Future Total	690	630	1820	1360	1390	5890

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound		Westbound			Total Volume
			Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		Final Base	190	300	1070	290	660	1090	80	360	1530	470	6040
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	190	300	1070	290	660	1090	80	360	1530	470	6040

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
37		Final Base	140	50	40	860	990	20	10	580	670	160	300	70	3890
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	140	50	40	860	990	20	10	580	670	160	300	70	3890

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
38		Final Base	100	1270	790	0	3840	90	400	70	450	50	10	210	7280
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	100	1270	790	0	3840	90	400	70	450	50	10	210	7280

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
			Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		Final Base	1160	20	130	1260	1070	40	200	410	890	260	60	5500
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	1160	20	130	1260	1070	40	200	410	890	260	60	5500

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		Final Base	1100	1690	10	40	1030	330	10	30	30	120	60	470	4920
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	1100	1690	10	40	1030	330	10	30	30	120	60	470	4920

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		Final Base	50	60	230	70	810	160	250	1660	70	260	70	80	3770
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	50	60	230	70	810	160	250	1660	70	260	70	80	3770

ID	Intersection Name	Volume Type	Eastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
42		Final Base	790	610	350	2030	450	110	4340
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	790	610	350	2030	450	110	4340

ID	Intersection Name	Volume Type	Eastbound		Northeastbound		Southwestbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
51		Final Base	60	180	220	540	930	250	2180
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	60	180	220	540	930	250	2180

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		Final Base	260	10	330	170	160	160	30	970	160	520	1320	100	4190
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	260	10	330	170	160	160	30	970	160	520	1320	100	4190

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
57		Final Base	360	640	10	20	620	440	10	10	10	400	10	310	2840
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	360	640	10	20	620	440	10	10	10	400	10	310	2840

ID	Intersection Name	Volume Type	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
			2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		Final Base	40	250	70	90	170	270	10	10	10	620	560	270	2370
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	40	250	70	90	170	270	10	10	10	620	560	270	2370

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		Final Base	20	20	40	440	20	100	10	760	220	140	900	10	2680
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	20	20	40	440	20	100	10	760	220	140	900	10	2680

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Southeastbound		Total Volume
			Left	Thru	Thru	Right	Left	Right	
102		Final Base	110	1040	1630	90	70	210	3150
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	110	1040	1630	90	70	210	3150

HCM 6th Signalized Intersection Summary
5: Portola Pkwy. & SR-241 Ramps

2040 (Improvements) AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 	 			 	  		 	  	
Traffic Volume (veh/h)	340	0	110	200	0	430	430	1470	60	210	1060	390
Future Volume (veh/h)	340	0	110	200	0	430	430	1470	60	210	1060	390
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	395	0	0	233	0	0	500	1709	0	244	1233	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	493	0		315	0		606	2788		314	2358	
Arrive On Green	0.14	0.00	0.00	0.09	0.00	0.00	0.18	0.55	0.00	0.09	0.46	0.00
Sat Flow, veh/h	3456	395		3456	233		3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	395	54.5		233	58.4		500	1709	0	244	1233	0
Grp Sat Flow(s),veh/h/ln	1728	D		1728	E		1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	13.6			8.1			17.1	28.0	0.0	8.5	21.0	0.0
Cycle Q Clear(g_c), s	13.6			8.1			17.1	28.0	0.0	8.5	21.0	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	493			315			606	2788		314	2358	
V/C Ratio(X)	0.80			0.74			0.83	0.61		0.78	0.52	
Avail Cap(c_a), veh/h	1959			1959			1254	3790		691	2957	
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.9			54.3			48.7	19.0	0.0	54.5	23.4	0.0
Incr Delay (d2), s/veh	3.7			4.1			3.5	0.4	0.0	4.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1			3.7			7.7	10.9	0.0	3.9	8.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.5			58.4			52.3	19.4	0.0	58.6	23.7	0.0
LnGrp LOS	D			E			D	B		E	C	
Approach Vol, veh/h								2209	A		1477	A
Approach Delay, s/veh								26.8			29.5	
Approach LOS								C			C	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	19.6	76.9	19.7		30.0	66.6	26.0					
Change Period (Y+Rc), s	8.5	10.0	8.5		8.5	10.0	8.5					
Max Green Setting (Gmax), s	24.5	91.0	69.5		44.5	71.0	69.5					
Max Q Clear Time (g_c+I1), s	10.5	30.0	10.1		19.1	23.0	15.6					
Green Ext Time (p_c), s	0.7	37.0	1.1		2.4	20.8	1.9					
Intersection Summary												
HCM 6th Ctrl Delay				32.0								
HCM 6th LOS				C								
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary
6: Alton Pkwy. & SR-241 Ramps

2040 (Improvements) AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 	 			 	  			  	
Traffic Volume (veh/h)	460	0	760	150	0	100	380	540	140	50	1100	840
Future Volume (veh/h)	460	0	760	150	0	100	380	540	140	50	1100	840
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	511	0	0	167	0	0	422	600	0	56	1222	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	574	0		574	0		503	2771		93	2294	
Arrive On Green	0.17	0.00	0.00	0.17	0.00	0.00	0.19	0.72	0.00	0.05	0.45	0.00
Sat Flow, veh/h	3456	511		3456	167		3456	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	511	58.6		167	40.4		422	600	0	56	1222	0
Grp Sat Flow(s),veh/h/ln	1728	E		1728	D		1728	1702	1585	1781	1702	1585
Q Serve(g_s), s	15.9			4.7			12.9	4.3	0.0	3.4	19.1	0.0
Cycle Q Clear(g_c), s	15.9			4.7			12.9	4.3	0.0	3.4	19.1	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	574			574			503	2771		93	2294	
V/C Ratio(X)	0.89			0.29			0.84	0.22		0.60	0.53	
Avail Cap(c_a), veh/h	625			625			1021	2771		146	2294	
HCM Platoon Ratio	1.00			1.00			1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			0.92	0.92	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.9			40.2			43.1	7.6	0.0	51.0	21.9	0.0
Incr Delay (d2), s/veh	13.8			0.2			2.7	0.2	0.0	2.3	0.9	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9			2.0			5.4	1.5	0.0	1.6	7.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6			40.4			45.8	7.8	0.0	53.3	22.8	0.0
LnGrp LOS	E			D			D	A		D	C	
Approach Vol, veh/h								1022	A		1278	A
Approach Delay, s/veh								23.5			24.2	
Approach LOS								C			C	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	24.5	58.7	26.8		14.2	69.0	26.8					
Change Period (Y+Rc), s	8.5	9.3	8.5		8.5	9.3	8.5					
Max Green Setting (Gmax), s	32.5	31.3	19.9		9.0	54.8	19.9					
Max Q Clear Time (g_c+I1), s	14.9	21.1	6.7		5.4	6.3	17.9					
Green Ext Time (p_c), s	1.1	7.0	0.3		0.0	6.9	0.4					
Intersection Summary												
HCM 6th Ctrl Delay			30.7									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary
7: Lake Forest Dr. & SR-241 NB Ramp

2040 (Improvements) AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↶↶	↷↷	↷↷	↶
Traffic Volume (veh/h)	0	0	150	1170	860	630
Future Volume (veh/h)	0	0	150	1170	860	630
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No	No		
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			172	1345	989	724
Peak Hour Factor			0.87	0.87	0.87	0.87
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			272	3216	2658	1186
Arrive On Green			0.16	1.00	0.75	0.75
Sat Flow, veh/h			3456	3647	3647	1585
Grp Volume(v), veh/h			172	1345	989	724
Grp Sat Flow(s),veh/h/ln			1728	1777	1777	1585
Q Serve(g_s), s			2.8	0.0	5.8	12.7
Cycle Q Clear(g_c), s			2.8	0.0	5.8	12.7
Prop In Lane			1.00			1.00
Lane Grp Cap(c), veh/h			272	3216	2658	1186
V/C Ratio(X)			0.63	0.42	0.37	0.61
Avail Cap(c_a), veh/h			420	3216	2658	1186
HCM Platoon Ratio			2.00	2.00	1.00	1.00
Upstream Filter(I)			0.79	0.79	0.70	0.70
Uniform Delay (d), s/veh			24.5	0.0	2.6	3.5
Incr Delay (d2), s/veh			0.7	0.3	0.3	1.7
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			1.1	0.1	1.0	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			25.2	0.3	2.9	5.2
LnGrp LOS			C	A	A	A
Approach Vol, veh/h				1517	1713	
Approach Delay, s/veh				3.1	3.9	
Approach LOS				A	A	
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		60.0			9.4	50.6
Change Period (Y+Rc), s		5.7			* 4.7	5.7
Max Green Setting (Gmax), s		54.3			* 7.3	42.3
Max Q Clear Time (g_c+I1), s		2.0			4.8	14.7
Green Ext Time (p_c), s		4.7			0.1	18.4
Intersection Summary						
HCM 6th Ctrl Delay			3.5			
HCM 6th LOS			A			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Summary
 8: Lake Forest Dr. & SR-241 SB Ramp

2040 (Improvements) AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔	↔		↑↑	↑↑	
Traffic Volume (veh/h)	400	170	0	1010	930	0
Future Volume (veh/h)	400	170	0	1010	930	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	0
Adj Flow Rate, veh/h	471	200	0	1188	1094	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	0	2	2	0
Cap, veh/h	611	280	0	2321	2321	0
Arrive On Green	0.18	0.18	0.00	0.65	1.00	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	471	200	0	1188	1094	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	7.8	7.1	0.0	10.5	0.0	0.0
Cycle Q Clear(g_c), s	7.8	7.1	0.0	10.5	0.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	611	280	0	2321	2321	0
V/C Ratio(X)	0.77	0.71	0.00	0.51	0.47	0.00
Avail Cap(c_a), veh/h	893	409	0	2321	2321	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.59	0.94	0.00
Uniform Delay (d), s/veh	23.5	23.3	0.0	5.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	1.3	0.0	0.5	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	2.6	0.0	2.7	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.8	24.5	0.0	5.9	0.6	0.0
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	671			1188	1094	
Approach Delay, s/veh	24.7			5.9	0.6	
Approach LOS	C			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		44.9		15.1		44.9
Change Period (Y+Rc), s		5.7		4.5		5.7
Max Green Setting (Gmax), s		34.3		15.5		34.3
Max Q Clear Time (g_c+I1), s		12.5		9.8		2.0
Green Ext Time (p_c), s		12.9		0.8		14.8
Intersection Summary						
HCM 6th Ctrl Delay			8.2			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 35: Lake Forest Dr. & I-5 NB Ramps

2040 (Improvements) AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	690	0	630	0	1820	0	0	1360	1390
Future Volume (veh/h)	0	0	0	690	0	630	0	1820	0	0	1360	1390
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	0	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				704	0	643	0	1857	0	0	1388	0
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	2	0	2	0	0	2	2
Cap, veh/h				997	0	805	0	3707	0	0	2155	
Arrive On Green				0.29	0.00	0.29	0.00	0.58	0.00	0.00	0.58	0.00
Sat Flow, veh/h				3456	0	2790	0	6958	0	0	3741	3170
Grp Volume(v), veh/h				704	0	643	0	1857	0	0	1388	0
Grp Sat Flow(s),veh/h/ln				1728	0	1395	0	1609	0	0	1870	1585
Q Serve(g_s), s				15.5	0.0	18.1	0.0	14.6	0.0	0.0	21.2	0.0
Cycle Q Clear(g_c), s				15.5	0.0	18.1	0.0	14.6	0.0	0.0	21.2	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				997	0	805	0	3707	0	0	2155	
V/C Ratio(X)				0.71	0.00	0.80	0.00	0.50	0.00	0.00	0.64	
Avail Cap(c_a), veh/h				1685	0	1360	0	5577	0	0	3242	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				27.0	0.0	27.9	0.0	10.7	0.0	0.0	12.1	0.0
Incr Delay (d2), s/veh				0.7	0.0	1.4	0.0	0.1	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.2	0.0	6.0	0.0	4.7	0.0	0.0	8.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.7	0.0	29.3	0.0	10.9	0.0	0.0	12.6	0.0
LnGrp LOS				C	A	C	A	B	A	A	B	
Approach Vol, veh/h					1347			1857			1388	A
Approach Delay, s/veh					28.5			10.9			12.6	
Approach LOS					C			B			B	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		54.8				54.8		30.1				
Change Period (Y+Rc), s		5.9				5.9		5.6				
Max Green Setting (Gmax), s		73.6				73.6		41.4				
Max Q Clear Time (g_c+I1), s		16.6				23.2		20.1				
Green Ext Time (p_c), s		32.3				20.8		4.4				

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 36: Lake Forest Dr. & I-5 SB Ramps/Avenida De La Carlota

2040 (Improvements) AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↑↑	↗	↔↔		↗↗		↑↑↑		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	1070	290	660	190	0	300	0	1090	80	360	1530	470
Future Volume (veh/h)	1070	290	660	190	0	300	0	1090	80	360	1530	470
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1103	299	680	196	0	309	0	1124	82	371	1577	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	2
Cap, veh/h	2291	1621	723	0	0	0	0	1513	110	441	2310	
Arrive On Green	0.46	0.46	0.46	0.00	0.00	0.00	0.00	0.25	0.25	0.12	0.41	0.00
Sat Flow, veh/h	5023	3554	1585		0		0	6429	448	3563	5611	1585
Grp Volume(v), veh/h	1103	299	680		0.0		0	878	328	371	1577	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585				0	1609	1790	1781	1870	1585
Q Serve(g_s), s	15.2	4.9	40.5				0.0	16.6	16.8	10.1	22.8	0.0
Cycle Q Clear(g_c), s	15.2	4.9	40.5				0.0	16.6	16.8	10.1	22.8	0.0
Prop In Lane	1.00		1.00				0.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	2291	1621	723				0	1184	439	441	2310	
V/C Ratio(X)	0.48	0.18	0.94				0.00	0.74	0.75	0.84	0.68	
Avail Cap(c_a), veh/h	2647	1872	835				0	1403	520	547	2730	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.8	16.0	25.7				0.0	34.5	34.5	42.4	23.9	0.0
Incr Delay (d2), s/veh	0.1	0.0	16.2				0.0	1.8	4.9	7.9	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	2.0	17.6				0.0	6.6	7.8	4.9	9.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	16.0	41.8				0.0	36.3	39.4	50.3	24.4	0.0
LnGrp LOS	B	B	D				A	D	D	D	C	
Approach Vol, veh/h		2082						1206			1948	A
Approach Delay, s/veh		25.9						37.1			29.4	
Approach LOS		C						D			C	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.5	30.6		52.0		47.1						
Change Period (Y+Rc), s	* 4.2	6.3		6.8		6.3						
Max Green Setting (Gmax), s	* 15	28.8		52.2		48.2						
Max Q Clear Time (g_c+I1), s	12.1	18.8		42.5		24.8						
Green Ext Time (p_c), s	0.2	5.5		2.7		13.0						

Intersection Summary

HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 37: Paseo De La Valencia/I-5 SB Ramps & Avenida De La Carlota

2040 (Improvements) AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑	↖	↖↗	↑	↖	↖↗	↖↗	
Traffic Volume (veh/h)	160	300	70	10	580	670	140	50	40	860	990	20
Future Volume (veh/h)	160	300	70	10	580	670	140	50	40	860	990	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	316	74	11	611	705	147	53	42	905	1042	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	1581	800	18	1424	1138	206	112	110	1131	1160	23
Arrive On Green	0.05	0.44	0.44	0.01	0.40	0.40	0.06	0.06	0.06	0.32	0.32	0.32
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	3563	3654	74
Grp Volume(v), veh/h	168	316	74	11	611	705	147	53	42	905	533	530
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1781	1870	1857
Q Serve(g_s), s	6.8	7.6	3.4	0.9	17.4	31.6	5.8	3.8	3.5	32.5	38.1	38.1
Cycle Q Clear(g_c), s	6.8	7.6	3.4	0.9	17.4	31.6	5.8	3.8	3.5	32.5	38.1	38.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	188	1581	800	18	1424	1138	206	112	110	1131	594	590
V/C Ratio(X)	0.90	0.20	0.09	0.62	0.43	0.62	0.71	0.47	0.38	0.80	0.90	0.90
Avail Cap(c_a), veh/h	188	1581	800	52	1424	1138	864	468	412	1221	641	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.17	0.17	0.17	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.8	23.7	18.0	69.0	30.4	10.0	64.6	63.7	62.2	43.7	45.6	45.6
Incr Delay (d2), s/veh	37.1	0.3	0.2	2.2	0.2	0.4	1.7	1.2	0.8	3.2	14.1	14.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	3.3	1.5	0.4	7.6	25.5	2.6	1.9	1.5	14.9	20.0	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.9	24.0	18.3	71.3	30.5	10.4	66.4	64.9	63.0	46.9	59.7	59.8
LnGrp LOS	F	C	B	E	C	B	E	E	E	D	E	E
Approach Vol, veh/h		558			1327			242			1968	
Approach Delay, s/veh		47.0			20.2			65.5			53.8	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.1	62.1		14.4	5.9	68.3		51.5				
Change Period (Y+Rc), s	4.5	6.0		6.0	4.5	6.0		7.0				
Max Green Setting (Gmax), s	7.6	25.9		35.0	4.1	29.4		48.0				
Max Q Clear Time (g_c+I1), s	8.8	33.6		7.8	2.9	9.6		40.1				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.0	1.4		4.3				

Intersection Summary

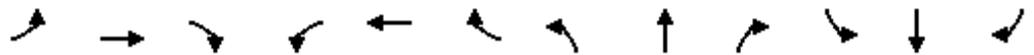
HCM 6th Ctrl Delay	42.7
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 38: El Toro Rd. & Bridger Rd./I-5 NB Ramps

2040 (Improvements) AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	10	210	400	70	450	100	1270	790	0	3840	90
Future Volume (veh/h)	50	10	210	400	70	450	100	1270	790	0	3840	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	11	221	305	0	647	105	1181	936	0	4042	95
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	120	170	386	0	686	76	2236	1895	1	4007	94
Arrive On Green	0.06	0.06	0.06	0.22	0.00	0.22	0.04	0.60	0.60	0.00	1.00	1.00
Sat Flow, veh/h	1781	1870	1585	1781	0	3170	1781	3741	3170	1781	7718	180
Grp Volume(v), veh/h	53	11	221	305	0	647	105	1181	936	0	3168	969
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	1781	1870	1585	1781	1515	1838
Q Serve(g_s), s	4.0	0.8	9.0	22.7	0.0	28.1	6.0	26.0	23.6	0.0	0.0	72.7
Cycle Q Clear(g_c), s	4.0	0.8	9.0	22.7	0.0	28.1	6.0	26.0	23.6	0.0	0.0	72.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	115	120	170	386	0	686	76	2236	1895	1	3146	954
V/C Ratio(X)	0.46	0.09	1.30	0.79	0.00	0.94	1.38	0.53	0.49	0.00	1.01	1.02
Avail Cap(c_a), veh/h	115	120	170	509	0	906	76	2236	1895	64	3146	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.69	0.69	0.69	0.00	0.32	0.32
Uniform Delay (d), s/veh	63.2	61.7	62.5	51.9	0.0	54.0	67.0	16.5	16.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.1	171.7	4.4	0.0	13.5	215.6	0.6	0.6	0.0	10.8	20.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.4	14.2	10.6	0.0	12.5	7.3	11.2	8.6	0.0	2.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	61.8	234.2	56.3	0.0	67.4	282.6	17.2	16.7	0.0	10.8	20.4
LnGrp LOS	E	E	F	E	A	E	F	B	B	A	F	F
Approach Vol, veh/h		285			952			2222			4137	
Approach Delay, s/veh		196.0			63.9			29.5			13.0	
Approach LOS		F			E			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	89.7		14.0	11.0	78.7		36.3				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	5.0	64.0		9.0	6.0	63.0		40.0				
Max Q Clear Time (g_c+I1), s	0.0	28.0		11.0	8.0	74.7		30.1				
Green Ext Time (p_c), s	0.0	2.1		0.0	0.0	0.0		0.2				

Intersection Summary

HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Lake Forest GPU (2040 Improvements PM)

Vistro File: H:\...\2040_Constrained_PM-mit.vistro

Scenario: Base Scenario

Report File: H:\...\2040ImprovedAM.pdf

10/11/2019

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1		Signalized	ICU 1	NWB Left	0.431	-	A
2		Signalized	ICU 1	SWB Left	0.617	-	B
3		Signalized	ICU 1	NWB Right	0.605	-	B
4		Signalized	ICU 1	SEB Thru	0.615	-	B
5		Signalized	ICU 1	SB Thru	0.767	-	C
6		Signalized	ICU 1	NEB Left	0.685	-	B
7		Signalized	ICU 1	NB Thru	0.462	-	A
8		Signalized	ICU 1	NB Thru	0.571	-	A
9		Signalized	ICU 1	NEB Thru	0.763	-	C
10		Signalized	ICU 1	SEB Thru	0.888	-	D
11		Signalized	ICU 1	NEB Thru	0.854	-	D
12		Signalized	ICU 1	SB Thru	0.762	-	C
13		Signalized	ICU 1	NEB Thru	0.677	-	B
14		Signalized	ICU 1	SWB Thru	0.780	-	C
15		Signalized	ICU 1	NEB Thru	0.713	-	C
16		Signalized	ICU 1	SB Thru	0.607	-	B
17		Signalized	ICU 1	SEB Thru	0.694	-	B
18		Signalized	ICU 1	NEB Thru	0.823	-	D
19		Signalized	ICU 1	EB Thru	0.690	-	B
20		Signalized	ICU 1	SEB Right	0.404	-	A
21		Signalized	ICU 1	NEB Thru	0.532	-	A
22		Signalized	ICU 1	SWB Thru	0.887	-	D
23		Signalized	ICU 1	NEB Thru	0.860	-	D
24		Signalized	ICU 1	SEB Thru	0.588	-	A
25		Signalized	ICU 1	SEB Thru	0.853	-	D
26		Signalized	ICU 1	NEB Thru	0.737	-	C
27		Signalized	ICU 1	NEB Thru	0.789	-	C
28		Signalized	ICU 1	SEB Thru	0.594	-	A
29		Signalized	ICU 1	NEB Thru	0.805	-	D
30		Signalized	ICU 1	SEB Thru	0.658	-	B
31		Signalized	ICU 1	NEB Thru	0.880	-	D
32		Signalized	ICU 1	SEB Right	0.730	-	C
33		Signalized	ICU 1	NEB Thru	0.731	-	C
34		Signalized	ICU 1	NB Thru	0.592	-	A
35		Signalized	ICU 1	EB Thru	0.618	-	B

36		Signalized	ICU 1	EB Thru	0.901	-	E
37		Signalized	ICU 1	SEB Thru	0.621	-	B
38		Signalized	ICU 1	NEB Thru	0.821	-	D
39		Signalized	ICU 1	NEB Thru	0.780	-	C
40		Signalized	ICU 1	SWB Thru	0.813	-	D
41		Signalized	ICU 1	NEB Thru	0.535	-	A
42		Signalized	ICU 1	EB Right	0.816	-	D
51		Signalized	ICU 1	EB Left	0.463	-	A
56		Signalized	ICU 1	EB Thru	0.883	-	D
57		Signalized	ICU 1	NEB Thru	0.700	-	B
60		Signalized	ICU 1	EB Thru	0.885	-	D
101		Signalized	ICU 1	NEB Thru	0.509	-	A
102		Signalized	ICU 1	NEB Thru	0.388	-	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.431

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	175.00	100.00	100.00	150.00	100.00	55.00	315.00	100.00	245.00	170.00	100.00	585.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	200	270	630	150	110	30	470	190	240	10	240	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.85	2.06	2.00	1.82	3.33	1.91	2.11	2.08	0.00	2.08	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	270	157	150	110	7	470	190	60	10	240	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	68	39	38	28	2	118	48	15	3	60	11
Total Analysis Volume [veh/h]	200	270	157	150	110	7	470	190	60	10	240	45
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Permis	Protect	Permis	Unsign	Protect	Permis	Unsign
Signal Group	7	4	0	3	8	8	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.08	0.00	0.09	0.03	0.00	0.14	0.04	0.00	0.00	0.07	0.00
Intersection LOS	A											
Intersection V/C	0.431											

Intersection Level Of Service Report
Intersection 2:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.617

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	190.00	100.00	180.00	285.00	100.00	285.00	230.00	100.00	100.00	230.00	100.00	220.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	230	350	350	360	250	110	410	760	100	230	650	150
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.17	2.00	2.00	1.94	2.00	1.82	1.95	1.97	2.00	2.17	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	350	87	360	250	27	410	760	100	230	650	37
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	88	22	90	63	7	103	190	25	58	163	9
Total Analysis Volume [veh/h]	230	350	87	360	250	27	410	760	100	230	650	37
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.14	0.10	0.05	0.21	0.07	0.02	0.12	0.17	0.17	0.07	0.13	0.02
Intersection LOS	B											
Intersection V/C	0.617											

Intersection Level Of Service Report
Intersection 3:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	2	0	1
Pocket Length [ft]	195.00	100.00	295.00	110.00	100.00	425.00	300.00	100.00	100.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Portola Pkwy.			Portola Pkwy.		
Base Volume Input [veh/h]	270	310	460	130	290	30	320	1030	180	10	1110	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.85	1.94	1.96	2.31	2.07	3.33	1.88	2.04	2.22	0.00	1.98	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	310	115	130	290	7	320	1030	180	10	1110	55
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	78	29	33	73	2	80	258	45	3	278	14
Total Analysis Volume [veh/h]	270	310	115	130	290	7	320	1030	180	10	1110	55
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	122
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.16	0.09	0.07	0.08	0.09	0.00	0.09	0.24	0.24	0.00	0.22	0.03
Intersection LOS	B											
Intersection V/C	0.605											

Intersection Level Of Service Report
Intersection 4:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.615

Intersection Setup

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Approach	Northbound			Westbound			Northeastbound			Southeastbound		
Lane Configuration	11111			11111			111			11111		
Turning Movement	Left	Thru	Right	Left2	Left	Thru	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	0	0	0	2	0	1
Pocket Length [ft]	200.00	100.00	100.00	215.00	100.00	345.00	100.00	100.00	100.00	515.00	100.00	185.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Glenn Ranch Rd.			Glenn Ranch Rd.			Portola Pkwy.		
Base Volume Input [veh/h]	110	920	880	650	80	400	130	80	180	900	1450	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	1.96	2.05	2.00	2.50	2.00	2.31	2.50	2.22	2.00	2.00	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	920	220	650	80	400	130	80	180	900	1450	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	230	55	163	20	100	33	20	45	225	363	8
Total Analysis Volume [veh/h]	110	920	220	650	80	400	130	80	180	900	1450	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	120
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Protect	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	3	8	1	1	6	0	5	2	2	7	4	4
Auxiliary Signal Groups			1,8									
Lead / Lag	Lead	-	-	Lead	Lag	-	Lead	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.18	0.00	0.19	0.02	0.00	0.08	0.08	0.08	0.26	0.28	0.02
Intersection LOS	B											
Intersection V/C	0.615											

Intersection Level Of Service Report
Intersection 5:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.767

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	/			/ /			/			/		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	0	0	2	0	0	1
Pocket Length [ft]	535.00	100.00	300.00	620.00	100.00	70.00	100.00	100.00	555.00	100.00	100.00	730.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	520	1610	300	80	1200	170	130	0	200	490	0	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.92	1.99	2.00	2.50	2.00	1.76	2.31	0.00	2.00	2.04	0.00	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	520	1610	75	80	1200	42	130	0	50	490	0	65
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	130	403	19	20	300	11	33	0	13	123	0	16
Total Analysis Volume [veh/h]	520	1610	75	80	1200	42	130	0	50	490	0	65
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	212
Lost time [s]	11.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.32	0.00	0.02	0.24	0.00	0.04	0.00	0.00	0.29	0.00	0.00
Intersection LOS	C											
Intersection V/C	0.767											

Intersection Level Of Service Report
Intersection 6:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.685

Intersection Setup

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	2	1	0	1
Pocket Length [ft]	170.00	100.00	100.00	370.00	100.00	100.00	100.00	100.00	435.00	550.00	100.00	550.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	Alton Pkwy.			Alton Pkwy.			SR-241 Ramps			SR-241 Ramps		
Base Volume Input [veh/h]	460	1080	60	100	680	570	50	0	60	720	0	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.96	2.04	1.67	2.00	2.06	1.93	2.00	0.00	1.67	1.94	0.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	460	1080	15	100	680	142	50	0	15	720	0	87
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	115	270	4	25	170	36	13	0	4	180	0	22
Total Analysis Volume [veh/h]	460	1080	15	100	680	142	50	0	15	720	0	87
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Unsign	Protect	Permis	Unsign	Permis	Permis	Unsign	Permis	Permis	Unsign
Signal Group	1	6	0	5	2	0	8	0	0	4	0	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.27	0.21	0.00	0.06	0.13	0.00	0.01	0.00	0.00	0.21	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.685											

Intersection Level Of Service Report
Intersection 7:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.462

Intersection Setup

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Approach	Northbound		Eastbound		Southwestbound	
Lane Configuration	T T T				T T	
Turning Movement	Left	Thru	Left	Right	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	1
Pocket Length [ft]	355.00	100.00	100.00	100.00	100.00	395.00
Speed [mph]	30.00		0.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lake Forest Dr.		SR-241 NB Ramp		Lake Forest Dr.	
Base Volume Input [veh/h]	230	1400	0	0	1010	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.17	2.00	0.00	0.00	1.98	1.91
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	1400	0	0	1010	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	350	0	0	253	29
Total Analysis Volume [veh/h]	230	1400	0	0	1010	117
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	5	2	0	0	6	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.41	0.00	0.00	0.30	0.07
Intersection LOS	A					
Intersection V/C	0.462					

Intersection Level Of Service Report
Intersection 8:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Approach	Northbound		Southbound		Southeastbound	
Lane Configuration	↑↑		↑↑		11f	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	1	1
Pocket Length [ft]	100.00	100.00	100.00	100.00	655.00	365.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Lake Forest Dr.		Lake Forest Dr.		SR-241 SB Ramp	
Base Volume Input [veh/h]	0	1380	1070	0	390	190
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.03	1.96	0.00	2.05	2.11
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1380	1070	0	390	47
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	345	268	0	98	12
Total Analysis Volume [veh/h]	0	1380	1070	0	390	47
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	60
Lost time [s]	3.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	0	2	6	0	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.41	0.31	0.00	0.11	0.03
Intersection LOS	A					
Intersection V/C	0.571					

Intersection Level Of Service Report
Intersection 9:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.763

Intersection Setup

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Approach	Northeastbound		Southwestbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	1	0	1	1
Pocket Length [ft]	100.00	230.00	390.00	100.00	185.00	145.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Bake Pkwy.		Bake Pkwy.		Rancho Pkwy.	
Base Volume Input [veh/h]	1130	900	420	810	440	350
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.04	2.00	1.90	1.98	2.05	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1130	225	420	810	440	87
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	283	56	105	203	110	22
Total Analysis Volume [veh/h]	1130	225	420	810	440	87
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	4	4
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.33	0.13	0.25	0.24	0.13	0.03
Intersection LOS	C					
Intersection V/C	0.763					

Intersection Level Of Service Report
Intersection 10:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.888

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Approach	Southbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	1	0	1	2	0	1	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	340.00	100.00	200.00	250.00	100.00	110.00	245.00	100.00	215.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rancho Pkwy.			Rancho Pkwy.		
Base Volume Input [veh/h]	310	780	200	150	920	320	270	530	170	240	1040	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.94	2.05	2.00	2.00	1.96	1.88	1.85	2.08	1.76	2.08	2.02	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	310	780	50	150	920	80	270	530	42	240	1040	22
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	195	13	38	230	20	68	133	11	60	260	6
Total Analysis Volume [veh/h]	310	780	50	150	920	80	270	530	42	240	1040	22
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.18	0.23	0.03	0.09	0.27	0.05	0.08	0.16	0.02	0.14	0.31	0.01
Intersection LOS	D											
Intersection V/C	0.888											

Intersection Level Of Service Report
Intersection 11:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.854

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.						Rancho Pkwy. S.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⇌⇌⇌			⇌⇌⇌		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	190.00	100.00	190.00	190.00	100.00	80.00	100.00	100.00	100.00	190.00	100.00	180.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.						Rancho Pkwy. S.		
Base Volume Input [veh/h]	400	1690	120	80	1090	180	300	260	150	420	40	490
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.01	1.67	2.50	2.02	2.22	2.00	1.92	2.00	1.90	2.50	2.04
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	400	1690	30	80	1090	45	300	260	150	420	40	490
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	100	423	8	20	273	11	75	65	38	105	10	123
Total Analysis Volume [veh/h]	400	1690	30	80	1090	45	300	260	150	420	40	490
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.24	0.50	0.02	0.05	0.32	0.03	0.09	0.12	0.12	0.12	0.16	0.16
Intersection LOS	D											
Intersection V/C	0.854											

Intersection Level Of Service Report
Intersection 12:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.762

Intersection Setup

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Approach	Northbound			Southbound			Northeastbound			Southwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	0	2	0	1	1	0	2
Pocket Length [ft]	400.00	100.00	100.00	200.00	100.00	100.00	395.00	100.00	260.00	150.00	100.00	170.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Santa Margarita Pkwy.			Portola Pkwy.			El Toro Rd.			El Toro Rd.		
Base Volume Input [veh/h]	330	1160	50	460	2140	690	510	550	480	10	210	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.12	1.98	2.00	1.96	2.01	2.03	1.96	2.00	2.08	0.00	1.90	2.17
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	330	1160	50	460	2140	172	510	550	120	10	210	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	290	13	115	535	43	128	138	30	3	53	14
Total Analysis Volume [veh/h]	330	1160	50	460	2140	172	510	550	120	10	210	57
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.18	0.18	0.14	0.42	0.10	0.15	0.11	0.07	0.01	0.04	0.02
Intersection LOS	C											
Intersection V/C	0.762											

Intersection Level Of Service Report
Intersection 13:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.677

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration	1 1 1			1 1 1			1 1 1			1 1 1		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Thru	Right	Right2	Left2	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	0	1	0	0
Pocket Length [ft]	285.00	100.00	180.00	285.00	100.00	220.00	345.00	100.00	100.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Commercentre Dr.			Commercentre Dr.		
Base Volume Input [veh/h]	10	1150	270	230	1620	400	590	400	30	160	260	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	1.85	2.17	1.98	2.00	2.03	2.00	3.33	1.88	1.92	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	1150	67	230	1620	100	590	400	30	160	260	220
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	288	17	58	405	25	148	100	8	40	65	55
Total Analysis Volume [veh/h]	10	1150	67	230	1620	100	590	400	30	160	260	220
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	131
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Permis	Protect	Permis	Protect	Permis	Permis
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	Lead	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.34	0.04	0.14	0.48	0.06	0.17	0.25	0.25	0.09	0.08	0.14
Intersection LOS	B											
Intersection V/C	0.677											

Intersection Level Of Service Report
Intersection 14:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.780

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	2	2	0	1
Pocket Length [ft]	305.00	100.00	155.00	305.00	100.00	150.00	305.00	100.00	225.00	275.00	100.00	275.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Trabuco Rd.			Irvine Blvd.		
Base Volume Input [veh/h]	130	2000	700	410	2010	200	300	340	200	290	640	250
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.31	2.00	2.00	1.95	1.99	2.00	2.00	2.06	2.00	2.07	2.03	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	130	2000	175	410	2010	50	300	340	12	290	640	100
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	500	44	103	503	13	75	85	3	73	160	25
Total Analysis Volume [veh/h]	130	2000	175	410	2010	50	300	340	12	290	640	100
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.39	0.10	0.12	0.39	0.03	0.09	0.05	0.01	0.09	0.13	0.06
Intersection LOS	C											
Intersection V/C	0.780											

Intersection Level Of Service Report
Intersection 15:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.713

Intersection Setup

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Approach	Northbound			Northeastbound			Southwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	0	2	0	1
Pocket Length [ft]	210.00	100.00	280.00	275.00	100.00	405.00	160.00	100.00	100.00	175.00	100.00	225.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Trabuco Rd.			Lake Forest Dr.			Lake Forest Dr.			Trabuco Rd.		
Base Volume Input [veh/h]	280	560	350	280	1340	520	380	1140	190	480	1050	170
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	1.96	2.00	2.14	2.01	1.92	2.11	2.02	2.11	2.08	2.00	1.76
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	280	560	87	280	1340	130	380	1140	190	480	1050	42
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	70	140	22	70	335	33	95	285	48	120	263	11
Total Analysis Volume [veh/h]	280	560	87	280	1340	130	380	1140	190	480	1050	42
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	5	2	2	1	6	6	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.11	0.05	0.08	0.26	0.08	0.11	0.26	0.26	0.14	0.21	0.02
Intersection LOS	C											
Intersection V/C	0.713											

Intersection Level Of Service Report
Intersection 16:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.607

Intersection Setup

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Approach	Southbound		Northeastbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	1	0	0	1	0
Pocket Length [ft]	100.00	200.00	100.00	100.00	190.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Trabuco Rd.		Ridge Route Dr.		Trabuco Rd.	
Base Volume Input [veh/h]	1730	280	210	380	160	940
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.02	2.14	1.90	2.11	1.88	2.02
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1730	70	210	95	160	940
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	433	18	53	24	40	235
Total Analysis Volume [veh/h]	1730	70	210	95	160	940
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Split	Split	Protected	Permissive
Signal Group	4	4	2	2	3	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lag	-	Lead	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.34	0.04	0.12	0.06	0.09	0.18
Intersection LOS	B					
Intersection V/C	0.607					

Intersection Level Of Service Report
Intersection 17:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.694

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	360.00	100.00	305.00	165.00	100.00	175.00	225.00	100.00	230.00	205.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Trabuco Rd.			Trabuco Rd.		
Base Volume Input [veh/h]	300	1250	340	310	1020	280	120	490	260	470	1090	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.06	1.94	1.96	2.14	1.67	2.04	1.92	1.91	2.02	2.14
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	300	1250	85	310	1020	70	120	490	65	470	1090	280
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	75	313	21	78	255	18	30	123	16	118	273	70
Total Analysis Volume [veh/h]	300	1250	85	310	1020	70	120	490	65	470	1090	280
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3			6,7						
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.25	0.01	0.09	0.20	0.00	0.04	0.10	0.04	0.14	0.27	0.27
Intersection LOS	B											
Intersection V/C	0.694											

Intersection Level Of Service Report
Intersection 18:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.823

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	180.00	100.00	205.00	205.00	100.00	225.00	285.00	100.00	100.00	205.00	100.00	110.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	110	2500	430	110	2490	30	60	110	100	230	610	360
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	2.00	2.09	1.82	2.01	3.33	1.67	1.82	2.00	2.17	1.97	1.94
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	2500	107	110	2490	7	60	110	100	230	610	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	625	27	28	623	2	15	28	25	58	153	23
Total Analysis Volume [veh/h]	110	2500	107	110	2490	7	60	110	100	230	610	90
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.49	0.06	0.06	0.49	0.00	0.04	0.06	0.06	0.07	0.18	0.05
Intersection LOS	D											
Intersection V/C	0.823											

Intersection Level Of Service Report
Intersection 19:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.690

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Approach	Eastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	185.00	180.00	100.00	200.00	155.00	100.00	100.00	135.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	140	1930	180	40	1280	30	70	70	20	140	530	140
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	2.02	2.22	2.50	2.03	3.33	1.43	1.43	0.00	2.14	2.08	2.14
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	1930	45	40	1280	7	70	70	20	140	530	140
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	483	11	10	320	2	18	18	5	35	133	35
Total Analysis Volume [veh/h]	140	1930	45	40	1280	7	70	70	20	140	530	140
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.38	0.03	0.02	0.25	0.00	0.04	0.03	0.03	0.08	0.20	0.20
Intersection LOS	B											
Intersection V/C	0.690											

Intersection Level Of Service Report
Intersection 20:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.404

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	↵↵↵			↵↵↵			↵↵↵			↵↵↵		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	175.00	100.00	100.00	200.00	100.00	100.00	110.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	30	380	50	90	350	30	50	110	50	130	460	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.33	2.11	2.00	2.22	2.00	3.33	2.00	1.82	2.00	2.31	1.96	3.33
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	380	50	90	350	30	50	110	50	130	460	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	95	13	23	88	8	13	28	13	33	115	8
Total Analysis Volume [veh/h]	30	380	50	90	350	30	50	110	50	130	460	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	157
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.13	0.13	0.05	0.11	0.11	0.03	0.05	0.05	0.08	0.14	0.14
Intersection LOS	A											
Intersection V/C	0.404											

Intersection Level Of Service Report
Intersection 21:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.532

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	250.00	100.00	250.00	210.00	100.00	1000.0	100.00	100.00	25.00	170.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Toledo Way			Toledo Way		
Base Volume Input [veh/h]	90	1690	30	20	1170	90	10	20	20	320	80	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.22	2.01	3.33	0.00	1.97	2.22	0.00	0.00	0.00	1.88	2.50	1.88
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	1690	7	20	1170	22	10	20	5	320	80	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	423	2	5	293	6	3	5	1	80	20	10
Total Analysis Volume [veh/h]	90	1690	7	20	1170	22	10	20	5	320	80	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.33	0.00	0.01	0.23	0.01	0.01	0.02	0.00	0.09	0.12	0.02
Intersection LOS	A											
Intersection V/C	0.532											

Intersection Level Of Service Report
Intersection 22:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.887

Intersection Setup

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	1	0	1	1	0	0	2	0	1
Pocket Length [ft]	350.00	100.00	190.00	285.00	100.00	200.00	255.00	100.00	100.00	150.00	100.00	80.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Bake Pkwy.			Bake Pkwy.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	40	2720	550	210	2720	50	140	140	90	220	530	450
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.50	1.99	2.00	1.90	1.99	2.00	2.14	2.14	2.22	1.82	2.08	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	40	2720	137	210	2720	12	140	140	90	220	530	112
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	680	34	53	680	3	35	35	23	55	133	28
Total Analysis Volume [veh/h]	40	2720	137	210	2720	12	140	140	90	220	530	112
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	131
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.53	0.08	0.06	0.53	0.01	0.08	0.07	0.07	0.06	0.16	0.07
Intersection LOS	D											
Intersection V/C	0.887											

Intersection Level Of Service Report
Intersection 23:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.860

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Westbound			Northeastbound			Northwestbound			Southeastbound		
Lane Configuration				/ / /			/			/ /		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Pocket Length [ft]	195.00	100.00	300.00	255.00	100.00	275.00	240.00	100.00	100.00	190.00	100.00	195.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	180	1210	130	110	1910	300	110	270	90	350	900	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.22	1.98	2.31	1.82	1.99	2.00	1.82	1.85	2.22	2.00	2.00	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	180	1210	32	110	1910	75	110	270	90	350	900	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	303	8	28	478	19	28	68	23	88	225	8
Total Analysis Volume [veh/h]	180	1210	32	110	1910	75	110	270	90	350	900	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	1	6	6	5	2	2	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.24	0.02	0.06	0.37	0.04	0.06	0.11	0.11	0.21	0.26	0.02
Intersection LOS	D											
Intersection V/C	0.860											

Intersection Level Of Service Report
Intersection 24:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.588

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Pocket Length [ft]	200.00	100.00	115.00	175.00	100.00	95.00	95.00	100.00	100.00	150.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	60	370	40	130	310	20	60	400	50	100	990	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.67	1.89	2.50	2.31	1.94	0.00	1.67	2.00	2.00	2.00	2.02	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	370	10	130	310	5	60	400	50	100	990	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	93	3	33	78	1	15	100	13	25	248	23
Total Analysis Volume [veh/h]	60	370	10	130	310	5	60	400	50	100	990	90
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	141
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.11	0.01	0.08	0.09	0.00	0.04	0.13	0.13	0.06	0.32	0.32
Intersection LOS	A											
Intersection V/C	0.588											

Intersection Level Of Service Report
Intersection 25:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.853

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	1	0	0
Pocket Length [ft]	195.00	100.00	125.00	360.00	100.00	575.00	155.00	100.00	145.00	180.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	140	1620	440	210	980	30	340	420	210	30	980	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	1.98	2.05	1.90	2.04	3.33	2.06	1.90	1.90	3.33	2.04	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	1620	110	210	980	7	340	420	52	30	980	110
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	405	28	53	245	2	85	105	13	8	245	28
Total Analysis Volume [veh/h]	140	1620	110	210	980	7	340	420	52	30	980	110
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Overla	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups			2,3									
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.32	0.00	0.06	0.19	0.00	0.10	0.12	0.03	0.02	0.32	0.32
Intersection LOS	D											
Intersection V/C	0.853											

Intersection Level Of Service Report
Intersection 26:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.737

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	2	0	1
Pocket Length [ft]	285.00	100.00	100.00	295.00	100.00	110.00	180.00	100.00	175.00	200.00	100.00	200.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Jeronimo Rd.			Jeronimo Rd.		
Base Volume Input [veh/h]	260	1280	340	190	640	170	360	500	190	420	730	270
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.92	2.03	2.06	2.11	2.03	1.76	1.94	2.00	2.11	1.90	2.05	1.85
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	1280	85	190	640	42	360	500	47	420	730	67
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	320	21	48	160	11	90	125	12	105	183	17
Total Analysis Volume [veh/h]	260	1280	85	190	640	42	360	500	47	420	730	67
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.25	0.05	0.11	0.13	0.02	0.11	0.15	0.03	0.12	0.21	0.04
Intersection LOS	C											
Intersection V/C	0.737											

Intersection Level Of Service Report
Intersection 27:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.789

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	295.00	100.00	285.00	235.00	100.00	290.00	245.00	100.00	210.00	185.00	100.00	255.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	10	1850	540	240	1210	50	210	240	180	280	830	120
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	2.00	2.04	2.08	1.98	2.00	1.90	2.08	2.22	2.14	2.05	1.67
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	1850	135	240	1210	12	210	240	45	280	830	30
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	463	34	60	303	3	53	60	11	70	208	8
Total Analysis Volume [veh/h]	10	1850	135	240	1210	12	210	240	45	280	830	30
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Overla
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.36	0.08	0.07	0.24	0.01	0.06	0.07	0.03	0.08	0.24	0.01
Intersection LOS	C											
Intersection V/C	0.789											

Intersection Level Of Service Report
Intersection 28:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.594

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Pocket Length [ft]	185.00	100.00	190.00	175.00	100.00	200.00	180.00	100.00	95.00	300.00	100.00	125.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	140	230	160	210	220	100	40	430	170	170	1120	110
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.14	2.17	1.88	1.90	1.82	2.00	2.50	2.09	1.76	1.76	1.96	1.82
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	230	40	210	220	25	40	430	42	170	1120	27
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	58	10	53	55	6	10	108	11	43	280	7
Total Analysis Volume [veh/h]	140	230	40	210	220	25	40	430	42	170	1120	27
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.07	0.02	0.12	0.06	0.01	0.02	0.13	0.02	0.10	0.33	0.02
Intersection LOS	A											
Intersection V/C	0.594											

Intersection Level Of Service Report
Intersection 29:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.805

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	2	0	1	2	0	1	2	0	1
Pocket Length [ft]	245.00	100.00	100.00	150.00	100.00	345.00	215.00	100.00	120.00	170.00	100.00	295.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	270	1810	360	80	1160	110	310	330	200	190	960	420
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.85	1.99	1.94	2.50	1.98	1.82	1.94	2.12	2.00	2.11	1.98	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	270	1810	90	80	1160	27	310	330	50	190	960	105
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	453	23	20	290	7	78	83	13	48	240	26
Total Analysis Volume [veh/h]	270	1810	90	80	1160	27	310	330	50	190	960	105
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.35	0.05	0.02	0.23	0.02	0.09	0.10	0.03	0.06	0.28	0.06
Intersection LOS	D											
Intersection V/C	0.805											

Intersection Level Of Service Report
Intersection 30:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.658

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	1	2	0	1	2	0	0
Pocket Length [ft]	210.00	100.00	410.00	190.00	100.00	125.00	250.00	100.00	145.00	305.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Muirlands Blvd.			Muirlands Blvd.		
Base Volume Input [veh/h]	150	1250	270	270	770	170	100	480	220	410	640	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	1.85	1.85	1.95	1.76	2.00	2.08	1.82	1.95	2.03	1.90
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	150	1250	67	270	770	42	100	480	220	410	640	210
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	313	17	68	193	11	25	120	55	103	160	53
Total Analysis Volume [veh/h]	150	1250	67	270	770	42	100	480	220	410	640	210
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	5	2	2	1	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.25	0.04	0.08	0.15	0.02	0.03	0.14	0.13	0.12	0.25	0.25
Intersection LOS	B											
Intersection V/C	0.658											

Intersection Level Of Service Report
Intersection 31:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.880

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	2	0	1	2	0	1	2	0	2
Pocket Length [ft]	225.00	100.00	290.00	165.00	100.00	180.00	260.00	100.00	155.00	145.00	100.00	250.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	410	2370	680	380	1440	220	390	330	320	430	460	510
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.95	1.98	2.06	2.11	2.01	1.82	2.05	2.12	1.88	2.09	1.96	1.96
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	410	2370	170	380	1440	220	390	330	320	430	460	127
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	103	593	43	95	360	55	98	83	80	108	115	32
Total Analysis Volume [veh/h]	410	2370	170	380	1440	220	390	330	320	430	460	127
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	140
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Permis	Permis	Overla
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.46	0.10	0.11	0.24	0.24	0.11	0.13	0.13	0.13	0.14	0.00
Intersection LOS	D											
Intersection V/C	0.880											

Intersection Level Of Service Report
Intersection 32:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.730

Intersection Setup

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	155.00	100.00	100.00	100.00	170.00	100.00	100.00	255.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	Ridge Route Dr.			Ridge Route Dr.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	70	60	50	120	70	160	50	570	140	550	1310	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.43	1.67	2.00	1.67	1.43	1.88	2.00	1.93	2.14	2.00	1.98	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	70	60	12	120	70	160	50	570	140	550	1310	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	15	3	30	18	40	13	143	35	138	328	23
Total Analysis Volume [veh/h]	70	60	12	120	70	160	50	570	140	550	1310	90
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	5	5	5	6	6	6	3	8	8	7	4	4
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.04	0.01	0.07	0.10	0.10	0.03	0.21	0.21	0.32	0.41	0.41
Intersection LOS	C											
Intersection V/C	0.730											

Intersection Level Of Service Report
Intersection 33:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.731

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	↔↔↔↔↔			↔↔↔↔↔			↔↔↔↔			↔↔↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	2	0	1	2	0	1
Pocket Length [ft]	250.00	100.00	235.00	200.00	100.00	100.00	195.00	100.00	200.00	245.00	100.00	155.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	740	2280	630	260	1420	70	530	200	130	110	290	470
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.03	2.02	2.06	1.92	1.97	1.43	2.08	2.00	2.31	1.82	2.07	1.91
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	740	2280	157	260	1420	70	530	200	32	110	290	117
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	185	570	39	65	355	18	133	50	8	28	73	29
Total Analysis Volume [veh/h]	740	2280	157	260	1420	70	530	200	32	110	290	117
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Unsign
Signal Group	5	2	2	1	6	6	3	8	8	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.34	0.09	0.08	0.22	0.22	0.16	0.06	0.02	0.03	0.09	0.00
Intersection LOS	C											
Intersection V/C	0.731											

Intersection Level Of Service Report
Intersection 34:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.592

Intersection Setup

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	TTT			TTT			TT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	200.00	100.00	100.00	160.00	100.00	160.00	100.00	100.00	50.00	250.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Los Alisos Blvd.			Los Alisos Blvd.			Rockfield Blvd.			Rockfield Blvd.		
Base Volume Input [veh/h]	250	1040	10	20	690	250	10	30	20	550	30	260
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.02	0.00	0.00	2.03	2.00	0.00	3.33	0.00	2.00	3.33	1.92
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	250	1040	10	20	690	62	10	30	20	550	30	65
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	63	260	3	5	173	16	3	8	5	138	8	16
Total Analysis Volume [veh/h]	250	1040	10	20	690	62	10	30	20	550	30	65
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	130
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.31	0.31	0.01	0.20	0.04	0.01	0.02	0.02	0.16	0.17	0.04
Intersection LOS	A											
Intersection V/C	0.592											

Intersection Level Of Service Report
Intersection 35:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.618

Intersection Setup

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Approach	Northbound			Eastbound			Southwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T					
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	640.00	100.00	640.00	190.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			0.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	I-5 NB Ramps			Lake Forest Dr.			Lake Forest Dr.			I-5 NB Ramps		
Base Volume Input [veh/h]	360	0	780	0	3160	0	0	1290	1090	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.94	0.00	2.05	0.00	1.99	0.00	0.00	2.02	2.02	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	360	0	195	0	3160	0	0	1290	272	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	0	49	0	790	0	0	323	68	0	0	0
Total Analysis Volume [veh/h]	360	0	195	0	3160	0	0	1290	272	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Split	Split	Split	Permis								
Signal Group	8	0	8	0	2	0	0	6	0	0	0	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	-	-	-	-	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.06	0.00	0.46	0.00	0.00	0.25	0.16	0.00	0.00	0.00
Intersection LOS	B											
Intersection V/C	0.618											

Intersection Level Of Service Report
Intersection 36:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: E
 Volume to Capacity (v/c): 0.901

Intersection Setup

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTT			TTT			TTT			TTT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	1	0	0	1	0	0	1
Pocket Length [ft]	125.00	100.00	125.00	100.00	100.00	250.00	100.00	100.00	100.00	100.00	100.00	465.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Avenida De La Carlota			I-5 SB Ramps			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	170	0	460	1990	470	610	0	2500	170	350	870	620
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.76	0.00	1.96	2.01	1.91	1.97	0.00	2.00	1.76	2.00	1.95	1.94
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	170	0	460	1990	470	152	0	2500	42	350	870	155
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	0	115	498	118	38	0	625	11	88	218	39
Total Analysis Volume [veh/h]	170	0	460	1990	470	152	0	2500	42	350	870	155
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	127
Lost time [s]	6.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permis	Permis	Permis	Protect	Permis	Permis
Signal Group	8	0	8	4	4	4	0	2	2	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.00	0.09	0.29	0.28	0.09	0.00	0.37	0.02	0.10	0.17	0.09
Intersection LOS	E											
Intersection V/C	0.901											

Intersection Level Of Service Report
Intersection 37:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.621

Intersection Setup

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T T T			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	0	0	0	2	1	0	1	2	0	1
Pocket Length [ft]	145.00	100.00	100.00	100.00	100.00	265.00	35.00	100.00	120.00	135.00	100.00	45.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Paseo De La Valencia			I-5 SB Ramps			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	80	100	110	1240	430	30	20	480	610	220	960	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.50	2.00	1.82	2.02	2.09	3.33	0.00	2.08	1.97	1.82	1.98	2.06
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	100	27	1240	430	30	20	480	152	220	960	340
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	25	7	310	108	8	5	120	38	55	240	85
Total Analysis Volume [veh/h]	80	100	27	1240	430	30	20	480	152	220	960	340
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Permis	Permis	Overla	Split	Split	Split	Protect	Permis	Protect	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	8	1	6	6
Auxiliary Signal Groups			4,5									
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.06	0.00	0.24	0.25	0.25	0.01	0.14	0.09	0.06	0.28	0.20
Intersection LOS	B											
Intersection V/C	0.621											

Intersection Level Of Service Report
Intersection 38:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.821

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right									
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	1	1	0	1
Pocket Length [ft]	110.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	410.00	165.00	100.00	165.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			I-5 NB Ramps			Bridger Rd.		
Base Volume Input [veh/h]	100	2860	900	0	2400	110	500	70	810	130	10	280
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	1.99	2.00	0.00	2.00	1.82	2.00	1.43	1.98	2.31	0.00	2.14
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	2860	225	0	2400	110	500	70	810	130	10	280
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	715	56	0	600	28	125	18	203	33	3	70
Total Analysis Volume [veh/h]	100	2860	225	0	2400	110	500	70	810	130	10	280
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	150
Lost time [s]	8.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Permis	Permis	Overla
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.42	0.13	0.00	0.30	0.30	0.15	0.27	0.27	0.08	0.01	0.11
Intersection LOS	D											
Intersection V/C	0.821											

Intersection Level Of Service Report
Intersection 39:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: C
 Volume to Capacity (v/c): 0.780

Intersection Setup

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration	T			RT			T			RT		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	2	0	1	1	0	0	1	0	1
Pocket Length [ft]	100.00	100.00	100.00	305.00	100.00	135.00	215.00	100.00	100.00	215.00	100.00	90.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	El Toro Rd.			El Toro Rd.			Avenida De La Carlota			Avenida De La Carlota		
Base Volume Input [veh/h]	0	2310	50	290	1180	870	60	180	580	1520	740	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	1.99	2.00	2.07	2.03	1.95	1.67	2.22	2.07	1.97	2.03	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2310	50	290	1180	217	60	180	145	1520	740	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	578	13	73	295	54	15	45	36	380	185	1
Total Analysis Volume [veh/h]	0	2310	50	290	1180	217	60	180	145	1520	740	5
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Protect	Permis	Permis	Permis	Permis	Overla	Split	Split	Split
Signal Group	0	2	2	1	6	6	8	8	1	4	4	4
Auxiliary Signal Groups									1,8			
Lead / Lag	-	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.35	0.35	0.09	0.23	0.13	0.04	0.14	0.00	0.30	0.22	0.00
Intersection LOS	C											
Intersection V/C	0.780											

Intersection Level Of Service Report
Intersection 40:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.813

Intersection Setup

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	2	0	1	2	0	0	0	0	1	1	0	0
Pocket Length [ft]	295.00	100.00	195.00	135.00	100.00	100.00	100.00	100.00	95.00	165.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Portola Pkwy.			Portola Pkwy.			Purpose Dr.			Rancho Pkwy.		
Base Volume Input [veh/h]	720	1120	10	30	1640	220	20	30	30	350	60	1530
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.94	1.96	0.00	3.33	2.01	1.82	0.00	3.33	3.33	2.00	1.67	2.03
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	720	1120	2	30	1640	55	20	30	7	350	60	382
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	180	280	1	8	410	14	5	8	2	88	15	96
Total Analysis Volume [veh/h]	720	1120	2	30	1640	55	20	30	7	350	60	382
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	182
Lost time [s]	9.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Protect	Permis	Permis	Permis	Split	Split	Split
Signal Group	5	2	2	1	6	4	8	8	1	4	4	0
Auxiliary Signal Groups									1,8			
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.22	0.00	0.01	0.32	0.03	0.01	0.01	0.00	0.10	0.12	0.22
Intersection LOS	D											
Intersection V/C	0.813											

Intersection Level Of Service Report
Intersection 41:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.535

Intersection Setup

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Approach	Southbound			Northeastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	2	0	1	1	0	1
Pocket Length [ft]	200.00	100.00	205.00	225.00	100.00	230.00	260.00	100.00	155.00	245.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Towne Centre Dr.			Alton Pkwy.			Alton Pkwy.			Rancho Pkwy. S.		
Base Volume Input [veh/h]	30	80	150	150	1540	160	50	870	50	240	70	180
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.33	2.50	2.00	2.00	2.01	1.88	2.00	1.95	2.00	2.08	1.43	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	80	37	150	1540	40	50	870	12	240	70	45
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	20	9	38	385	10	13	218	3	60	18	11
Total Analysis Volume [veh/h]	30	80	37	150	1540	40	50	870	12	240	70	45
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	111
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	7	4	4	5	2	2	1	6	6	3	8	8
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.02	0.02	0.09	0.30	0.02	0.01	0.17	0.01	0.14	0.02	0.03
Intersection LOS	A											
Intersection V/C	0.535											

Intersection Level Of Service Report
Intersection 42:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.816

Intersection Setup

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Approach	Eastbound		Southwestbound		Northwestbound	
Lane Configuration	YY		TYY		YYR	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	2	0
Pocket Length [ft]	100.00	100.00	305.00	100.00	260.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		Yes		Yes	

Volumes

Name	Alton Pkwy.		Alton Pkwy.		Commercentre Dr.	
Base Volume Input [veh/h]	1710	480	100	1070	930	340
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.99	2.08	2.00	1.96	2.04	2.06
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1710	480	100	1070	930	85
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	428	120	25	268	233	21
Total Analysis Volume [veh/h]	1710	480	100	1070	930	85
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	110
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal Group	2	2	1	6	8	8
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.43	0.43	0.06	0.21	0.27	0.05
Intersection LOS	D					
Intersection V/C	0.816					

Intersection Level Of Service Report
Intersection 51:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.463

Intersection Setup

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Approach	Eastbound		Northeastbound		Southwestbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [ft]	100.00	100.00	255.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name	Glenn Ranch Rd.		El Toro Rd.		El Toro Rd.	
Base Volume Input [veh/h]	360	140	130	870	560	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.94	2.14	2.31	1.95	1.96	2.22
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	360	35	130	870	560	90
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	9	33	218	140	23
Total Analysis Volume [veh/h]	360	35	130	870	560	90
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Permissive	Overlap	Protected	Permissive	Permissive	Permissive
Signal Group	7	5	5	2	6	6
Auxiliary Signal Groups		5				
Lead / Lag	Lag	-	Lead	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.21	0.00	0.08	0.17	0.13	0.13
Intersection LOS	A					
Intersection V/C	0.463					

Intersection Level Of Service Report
Intersection 56:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.883

Intersection Setup

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Approach	Northbound			Southbound			Eastbound			Southwestbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	2	1	0	1	1	0	1
Pocket Length [ft]	170.00	100.00	170.00	100.00	100.00	165.00	290.00	100.00	225.00	295.00	100.00	205.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Dimension Dr.			Bake Pkwy.			Bake Pkwy.		
Base Volume Input [veh/h]	220	200	410	30	70	50	190	1520	160	420	1060	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	2.00	1.95	3.33	1.43	2.00	2.11	1.97	1.88	1.90	1.98	1.88
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	220	200	102	30	70	12	190	1520	40	420	1060	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	50	26	8	18	3	48	380	10	105	265	10
Total Analysis Volume [veh/h]	220	200	102	30	70	12	190	1520	40	420	1060	40
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	131
Lost time [s]	7.00

Phasing & Timing

Control Type	Protect	Permis	Permis									
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-									

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.12	0.06	0.02	0.04	0.01	0.11	0.45	0.02	0.25	0.31	0.02
Intersection LOS	D											
Intersection V/C	0.883											

Intersection Level Of Service Report
Intersection 57:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: B
 Volume to Capacity (v/c): 0.700

Intersection Setup

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	0	0	1	1	0	0
Pocket Length [ft]	140.00	100.00	175.00	105.00	100.00	200.00	100.00	100.00	35.00	160.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			Yes		

Volumes

Name	Lake Forest Dr.			Lake Forest Dr.			Dimension Dr.			Dimension Dr.		
Base Volume Input [veh/h]	340	870	30	60	770	420	30	10	20	680	20	330
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.06	1.95	3.33	1.67	1.95	1.90	3.33	0.00	0.00	2.06	0.00	2.12
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	340	870	7	60	770	105	30	10	20	680	20	82
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	218	2	15	193	26	8	3	5	170	5	21
Total Analysis Volume [veh/h]	340	870	7	60	770	105	30	10	20	680	20	82
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Split	Split	Split	Split	Split	Split
Signal Group	5	2	2	1	6	6	8	8	8	4	4	4
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lag	-	-	Lag	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.26	0.00	0.04	0.23	0.06	0.02	0.02	0.02	0.20	0.21	0.05
Intersection LOS	B											
Intersection V/C	0.700											

Intersection Level Of Service Report
Intersection 60:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: D
 Volume to Capacity (v/c): 0.885

Intersection Setup

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Approach	Southbound			Eastbound			Southwestbound			Northwestbound		
Lane Configuration												
Turning Movement	Left2	Left	Right	Left2	Left	Thru	Left	Thru	Right	Thru	Right	Right2
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Pocket Length [ft]	210.00	100.00	100.00	210.00	100.00	100.00	140.00	100.00	100.00	210.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Dimension Dr.			Commercentre Dr.			Enterprise Way			Dimension Dr.		
Base Volume Input [veh/h]	30	660	110	160	10	740	300	220	40	290	390	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.33	1.97	1.82	1.88	0.00	2.03	2.00	1.82	2.50	2.07	2.05	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	660	110	160	10	740	300	220	40	290	390	20
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	165	28	40	3	185	75	55	10	73	98	5
Total Analysis Volume [veh/h]	30	660	110	160	10	740	300	220	40	290	390	20
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	129
Lost time [s]	6.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis								
Signal Group	1	6	6	4	4	4	8	8	8	5	2	2
Auxiliary Signal Groups												
Lead / Lag	Lead	Lag	-	Lag	Lag	-	Lag	-	-	-	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.19	0.23	0.09	0.01	0.44	0.18	0.15	0.15	0.17	0.12	0.12
Intersection LOS	D											
Intersection V/C	0.885											

Intersection Level Of Service Report
Intersection 101:

Control Type: Signalized
 Analysis Method: ICU 1
 Analysis Period: 15 minutes

Delay (sec / veh): -
 Level Of Service: A
 Volume to Capacity (v/c): 0.509

Intersection Setup

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Approach	Eastbound			Westbound			Northeastbound			Southwestbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	1	0	1	1	0	1
Pocket Length [ft]	65.00	100.00	100.00	60.00	100.00	100.00	150.00	100.00	190.00	155.00	100.00	195.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Pittsford			Pittsford			Lake Forest Dr.			Lake Forest Dr.		
Base Volume Input [veh/h]	20	10	10	100	20	110	30	1100	400	80	970	30
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	0.00	1.82	3.33	2.00	2.00	2.50	1.96	3.33
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	10	10	100	20	110	30	1100	100	80	970	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	3	3	25	5	28	8	275	25	20	243	2
Total Analysis Volume [veh/h]	20	10	10	100	20	110	30	1100	100	80	970	7
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	4	4	4	8	8	8	5	2	2	1	6	6
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.01	0.06	0.08	0.08	0.02	0.32	0.06	0.05	0.29	0.00
Intersection LOS	A											
Intersection V/C	0.509											

Intersection Level Of Service Report
Intersection 102:

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Approach	Northeastbound		Southwestbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	0	1	0
Pocket Length [ft]	240.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	El Toro Rd.		El Toro Rd.		Northcrest Dr.	
Base Volume Input [veh/h]	110	1620	1130	40	40	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.82	1.98	2.04	2.50	2.50	1.43
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	110	1620	1130	40	40	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	405	283	10	10	4
Total Analysis Volume [veh/h]	110	1620	1130	40	40	17
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Cycle Length [s]	128
Lost time [s]	6.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Overlap
Signal Group	5	2	6	6	7	5
Auxiliary Signal Groups						5
Lead / Lag	Lead	-	-	-	Lag	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.32	0.23	0.23	0.02	0.00
Intersection LOS	A					
Intersection V/C	0.388					

Lake Forest GPU (2040 Improvements PM)

Vistro File: H:\...\2040_Constrained_PM-mit.vistro

Scenario: Base Scenario

Report File: H:\...\2040ImprovedAM.pdf

10/11/2019

Turning Movement Volume: Summary

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
1		200	270	630	150	110	30	470	190	240	10	240	180	2720

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
2		230	350	350	360	250	110	410	760	100	230	650	150	3950

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
3		270	310	460	130	290	30	320	1030	180	10	1110	220	4360

ID	Intersection Name	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume
		Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right	
4		110	920	880	650	80	400	130	80	180	900	1450	120	5900

ID	Intersection Name	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		520	1610	300	80	1200	170	130	200	490	260	4960

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		460	1080	60	100	680	570	50	60	720	350	4130

ID	Intersection Name	Northbound		Southwestbound		Total Volume
		Left	Thru	Thru	Right	
7		230	1400	1010	470	3110

ID	Intersection Name	Northbound			Southbound			Southeastbound		Total Volume
		Thru	Left	Right	Thru	Left	Right	Left	Right	
8		1380			1070			390	190	3030

ID	Intersection Name	Northeastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
9		1130	900	420	810	440	350	4050

ID	Intersection Name	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		310	780	200	150	920	320	270	530	170	240	1040	90	5020

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
11		400	1690	120	80	1090	180	300	260	150	420	40	490	5220

ID	Intersection Name	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		330	1160	50	460	2140	690	510	550	480	10	210	230	6820

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		10	1150	270	230	1620	400	590	400	30	160	260	220	5340

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
14		130	2000	700	410	2010	200	300	340	200	290	640	250	7470

ID	Intersection Name	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		280	560	350	280	1340	520	380	1140	190	480	1050	170	6740

ID	Intersection Name	Southbound		Northeastbound		Northwestbound		Total Volume
		Thru	Right	Left	Right	Left	Thru	
16		1730	280	210	380	160	940	3700

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
17		300	1250	340	310	1020	280	120	490	260	470	1090	280	6210

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
18		110	2500	430	110	2490	30	60	110	100	230	610	360	7140

ID	Intersection Name	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		140	1930	180	40	1280	30	70	70	20	140	530	140	4570

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
20		30	380	50	90	350	30	50	110	50	130	460	30	1760

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
21		90	1690	30	20	1170	90	10	20	20	320	80	160	3700

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
22		40	2720	550	210	2720	50	140	140	90	220	530	450	7860

ID	Intersection Name	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		180	1210	130	110	1910	300	110	270	90	350	900	120	5680

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
24		60	370	40	130	310	20	60	400	50	100	990	90	2620

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
25		140	1620	440	210	980	30	340	420	210	30	980	110	5510

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
26		260	1280	340	190	640	170	360	500	190	420	730	270	5350

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
27		10	1850	540	240	1210	50	210	240	180	280	830	120	5760

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
28		140	230	160	210	220	100	40	430	170	170	1120	110	3100

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
29		270	1810	360	80	1160	110	310	330	200	190	960	420	6200

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
30		150	1250	270	270	770	170	100	480	220	410	640	210	4940

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
31		410	2370	680	380	1440	220	390	330	320	430	460	510	7940

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
32		70	60	50	120	70	160	50	570	140	550	1310	90	3240

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
33		740	2280	630	260	1420	70	530	200	130	110	290	470	7130

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		250	1040	10	20	690	250	10	30	20	550	30	260	3160

ID	Intersection Name	Northbound		Eastbound	Southwestbound		Total Volume
		Left	Right	Thru	Thru	Right	
35		360	780	3160	1290	1090	6680

ID	Intersection Name	Northbound		Southbound			Eastbound		Westbound			Total Volume
		Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		170	460	1990	470	610	2500	170	350	870	620	8210

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
37		80	100	110	1240	430	30	20	480	610	220	960	340	4620

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
38		100	2860	900	0	2400	110	500	70	810	130	10	280	8170

ID	Intersection Name	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
		Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		2310	50	290	1180	870	60	180	580	1520	740	20	7800

ID	Intersection Name	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		720	1120	10	30	1640	220	20	30	30	350	60	1530	5760

ID	Intersection Name	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		30	80	150	150	1540	160	50	870	50	240	70	180	3570

ID	Intersection Name	Eastbound		Southwestbound		Northwestbound		Total Volume
		Thru	Right	Left	Thru	Left	Right	
42		1710	480	100	1070	930	340	4630

ID	Intersection Name	Eastbound		Northeastbound		Southwestbound		Total Volume
		Left	Right	Left	Thru	Thru	Right	
51		360	140	130	870	560	90	2150

ID	Intersection Name	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		220	200	410	30	70	50	190	1520	160	420	1060	160	4490

ID	Intersection Name	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
		Left	Thru	Right										
57		340	870	30	60	770	420	30	10	20	680	20	330	3580

ID	Intersection Name	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
		2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		30	660	110	160	10	740	300	220	40	290	390	20	2970

ID	Intersection Name	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		20	10	10	100	20	110	30	1100	400	80	970	30	2880

ID	Intersection Name	Northeastbound		Southwestbound		Southeastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
102		110	1620	1130	40	40	70	3010

Lake Forest GPU (2040 Improvements PM)

Vistro File: H:\...\2040_Constrained_PM-mit.vistro

Scenario: Base Scenario

Report File: H:\...\2040ImprovedAM.pdf

10/11/2019

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1		Final Base	200	270	630	150	110	30	470	190	240	10	240	180	2720
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	200	270	630	150	110	30	470	190	240	10	240	180	2720

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
2		Final Base	230	350	350	360	250	110	410	760	100	230	650	150	3950
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	230	350	350	360	250	110	410	760	100	230	650	150	3950

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3		Final Base	270	310	460	130	290	30	320	1030	180	10	1110	220	4360
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	270	310	460	130	290	30	320	1030	180	10	1110	220	4360

ID	Intersection Name	Volume Type	Northbound			Westbound			Northeastbound			Southeastbound			Total Volume
			Left	Thru	Right	2	Left	Thru	Left	Thru	Right	Left	Thru	Right	
4		Final Base	110	920	880	650	80	400	130	80	180	900	1450	120	5900
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	110	920	880	650	80	400	130	80	180	900	1450	120	5900

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
5		Final Base	520	1610	300	80	1200	170	130	200	490	260	4960
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	520	1610	300	80	1200	170	130	200	490	260	4960

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound		Southeastbound		Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Right	Left	Right	
6		Final Base	460	1080	60	100	680	570	50	60	720	350	4130
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	460	1080	60	100	680	570	50	60	720	350	4130

ID	Intersection Name	Volume Type	Northbound		Southwestbound		Total Volume
			Left	Thru	Thru	Right	
7		Final Base	230	1400	1010	470	3110
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	230	1400	1010	470	3110

ID	Intersection Name	Volume Type	Northbound		Southbound		Southeastbound		Total Volume
			Thru		Thru		Left	Right	
8		Final Base	1380		1070		390	190	3030
		Growth Factor	1.00		1.00		1.00	1.00	-
		In Process	0		0		0	0	0
		Net New Trips	0		0		0	0	0
		Other	0		0		0	0	0
		Future Total	1380		1070		390	190	3030

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
9		Final Base	1130	900	420	810	440	350	4050
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	1130	900	420	810	440	350	4050

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
10		Final Base	310	780	200	150	920	320	270	530	170	240	1040	90	5020
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	310	780	200	150	920	320	270	530	170	240	1040	90	5020

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11		Final Base	400	1690	120	80	1090	180	300	260	150	420	40	490	5220
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	400	1690	120	80	1090	180	300	260	150	420	40	490	5220

ID	Intersection Name	Volume Type	Northbound			Southbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
12		Final Base	330	1160	50	460	2140	690	510	550	480	10	210	230	6820
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	330	1160	50	460	2140	690	510	550	480	10	210	230	6820

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Thru	Right	2	2	Left	Right	
13		Final Base	10	1150	270	230	1620	400	590	400	30	160	260	220	5340
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	10	1150	270	230	1620	400	590	400	30	160	260	220	5340

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
14		Final Base	130	2000	700	410	2010	200	300	340	200	290	640	250	7470
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	130	2000	700	410	2010	200	300	340	200	290	640	250	7470

ID	Intersection Name	Volume Type	Northbound			Northeastbound			Southwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15		Final Base	280	560	350	280	1340	520	380	1140	190	480	1050	170	6740
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	280	560	350	280	1340	520	380	1140	190	480	1050	170	6740

ID	Intersection Name	Volume Type	Southbound		Northeastbound		Northwestbound		Total Volume
			Thru	Right	Left	Right	Left	Thru	
16		Final Base	1730	280	210	380	160	940	3700
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	1730	280	210	380	160	940	3700

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
17		Final Base	300	1250	340	310	1020	280	120	490	260	470	1090	280	6210
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	300	1250	340	310	1020	280	120	490	260	470	1090	280	6210

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
18		Final Base	110	2500	430	110	2490	30	60	110	100	230	610	360	7140
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	110	2500	430	110	2490	30	60	110	100	230	610	360	7140

ID	Intersection Name	Volume Type	Eastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
19		Final Base	140	1930	180	40	1280	30	70	70	20	140	530	140	4570
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	140	1930	180	40	1280	30	70	70	20	140	530	140	4570

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
20		Final Base	30	380	50	90	350	30	50	110	50	130	460	30	1760
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	30	380	50	90	350	30	50	110	50	130	460	30	1760

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
21		Final Base	90	1690	30	20	1170	90	10	20	20	320	80	160	3700
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	90	1690	30	20	1170	90	10	20	20	320	80	160	3700

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
22		Final Base	40	2720	550	210	2720	50	140	140	90	220	530	450	7860
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	40	2720	550	210	2720	50	140	140	90	220	530	450	7860

ID	Intersection Name	Volume Type	Westbound			Northeastbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
23		Final Base	180	1210	130	110	1910	300	110	270	90	350	900	120	5680
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	180	1210	130	110	1910	300	110	270	90	350	900	120	5680

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right										
24		Final Base	60	370	40	130	310	20	60	400	50	100	990	90	2620
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	60	370	40	130	310	20	60	400	50	100	990	90	2620

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
25		Final Base	140	1620	440	210	980	30	340	420	210	30	980	110	5510
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	140	1620	440	210	980	30	340	420	210	30	980	110	5510

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
26		Final Base	260	1280	340	190	640	170	360	500	190	420	730	270	5350
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	260	1280	340	190	640	170	360	500	190	420	730	270	5350

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27		Final Base	10	1850	540	240	1210	50	210	240	180	280	830	120	5760
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	10	1850	540	240	1210	50	210	240	180	280	830	120	5760

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
28		Final Base	140	230	160	210	220	100	40	430	170	170	1120	110	3100
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	140	230	160	210	220	100	40	430	170	170	1120	110	3100

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
29		Final Base	270	1810	360	80	1160	110	310	330	200	190	960	420	6200
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	270	1810	360	80	1160	110	310	330	200	190	960	420	6200

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
30		Final Base	150	1250	270	270	770	170	100	480	220	410	640	210	4940
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	150	1250	270	270	770	170	100	480	220	410	640	210	4940

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
31		Final Base	410	2370	680	380	1440	220	390	330	320	430	460	510	7940
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	410	2370	680	380	1440	220	390	330	320	430	460	510	7940

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
32		Final Base	70	60	50	120	70	160	50	570	140	550	1310	90	3240
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	70	60	50	120	70	160	50	570	140	550	1310	90	3240

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
33		Final Base	740	2280	630	260	1420	70	530	200	130	110	290	470	7130
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	740	2280	630	260	1420	70	530	200	130	110	290	470	7130

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
34		Final Base	250	1040	10	20	690	250	10	30	20	550	30	260	3160
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	250	1040	10	20	690	250	10	30	20	550	30	260	3160

ID	Intersection Name	Volume Type	Northbound		Eastbound	Southwestbound		Total Volume
			Left	Right	Thru	Thru	Right	
35		Final Base	360	780	3160	1290	1090	6680
		Growth Factor	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0
		Other	0	0	0	0	0	0
		Future Total	360	780	3160	1290	1090	6680

ID	Intersection Name	Volume Type	Northbound		Southbound			Eastbound		Westbound			Total Volume
			Left	Right	Left	Thru	Right	Thru	Right	Left	Thru	Right	
36		Final Base	170	460	1990	470	610	2500	170	350	870	620	8210
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0
		Future Total	170	460	1990	470	610	2500	170	350	870	620	8210

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
37		Final Base	80	100	110	1240	430	30	20	480	610	220	960	340	4620
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	80	100	110	1240	430	30	20	480	610	220	960	340	4620

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
38		Final Base	100	2860	900	0	2400	110	500	70	810	130	10	280	8170
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	100	2860	900	0	2400	110	500	70	810	130	10	280	8170

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound			Northwestbound			Southeastbound			Total Volume
			Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
39		Final Base	2310	50	290	1180	870	60	180	580	1520	740	20	7800
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	2310	50	290	1180	870	60	180	580	1520	740	20	7800

ID	Intersection Name	Volume Type	Northbound			Southwestbound			Northwestbound			Southeastbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
40		Final Base	720	1120	10	30	1640	220	20	30	30	350	60	1530	5760
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	720	1120	10	30	1640	220	20	30	30	350	60	1530	5760

ID	Intersection Name	Volume Type	Southbound			Northeastbound			Southwestbound			Northwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
41		Final Base	30	80	150	150	1540	160	50	870	50	240	70	180	3570
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	30	80	150	150	1540	160	50	870	50	240	70	180	3570

ID	Intersection Name	Volume Type	Eastbound		Southwestbound		Northwestbound		Total Volume
			Thru	Right	Left	Thru	Left	Right	
42		Final Base	1710	480	100	1070	930	340	4630
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	1710	480	100	1070	930	340	4630

ID	Intersection Name	Volume Type	Eastbound		Northeastbound		Southwestbound		Total Volume
			Left	Right	Left	Thru	Thru	Right	
51		Final Base	360	140	130	870	560	90	2150
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	360	140	130	870	560	90	2150

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
56		Final Base	220	200	410	30	70	50	190	1520	160	420	1060	160	4490
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	220	200	410	30	70	50	190	1520	160	420	1060	160	4490

ID	Intersection Name	Volume Type	Northeastbound			Southwestbound			Northwestbound			Southeastbound			Total Volume	
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
57		Final Base	340	870	30	60	770	420	30	10	20	680	20	330	3580	
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	340	870	30	60	770	420	30	10	20	680	20	330	3580	

ID	Intersection Name	Volume Type	Southbound			Eastbound			Southwestbound			Northwestbound			Total Volume
			2	Left	Right	2	Left	Thru	Left	Thru	Right	Thru	Right	2	
60		Final Base	30	660	110	160	10	740	300	220	40	290	390	20	2970
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	30	660	110	160	10	740	300	220	40	290	390	20	2970

ID	Intersection Name	Volume Type	Eastbound			Westbound			Northeastbound			Southwestbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
101		Final Base	20	10	10	100	20	110	30	1100	400	80	970	30	2880
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	20	10	10	100	20	110	30	1100	400	80	970	30	2880

ID	Intersection Name	Volume Type	Northeastbound		Southwestbound		Southeastbound		Total Volume
			Left	Thru	Thru	Right	Left	Right	
102		Final Base	110	1620	1130	40	40	70	3010
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0
		Future Total	110	1620	1130	40	40	70	3010

HCM 6th Signalized Intersection Summary
5: Portola Pkwy. & SR-241 Ramps

2040 (Improvements) PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 	 			 	  	 	  	  	
Traffic Volume (veh/h)	490	0	260	130	0	200	80	1200	170	520	1610	300
Future Volume (veh/h)	490	0	260	130	0	200	80	1200	170	520	1610	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	516	0	0	137	0	0	84	1263	0	547	1695	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	624	0		206	0		208	2146		639	2784	
Arrive On Green	0.18	0.00	0.00	0.06	0.00	0.00	0.06	0.42	0.00	0.19	0.55	0.00
Sat Flow, veh/h	3456	516		3456	137		3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	516	53.2		137	62.4		84	1263	0	547	1695	0
Grp Sat Flow(s),veh/h/ln	1728	D		1728	E		1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	18.1			4.9			3.0	24.0	0.0	19.3	28.5	0.0
Cycle Q Clear(g_c), s	18.1			4.9			3.0	24.0	0.0	19.3	28.5	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	624			206			208	2146		639	2784	
V/C Ratio(X)	0.83			0.66			0.40	0.59		0.86	0.61	
Avail Cap(c_a), veh/h	2152			2152			271	2552		1193	3913	
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.8			58.0			57.1	28.1	0.0	49.7	19.5	0.0
Incr Delay (d2), s/veh	3.5			4.4			1.5	0.4	0.0	3.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1			2.3			1.3	9.8	0.0	8.6	11.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2			62.4			58.6	28.6	0.0	53.1	19.9	0.0
LnGrp LOS	D			E			E	C		D	B	
Approach Vol, veh/h								1347	A		2242	A
Approach Delay, s/veh								30.5			28.0	
Approach LOS								C			C	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	31.8	63.0	16.0		16.1	78.7	31.2					
Change Period (Y+Rc), s	8.5	10.0	8.5		8.5	10.0	8.5					
Max Green Setting (Gmax), s	43.5	63.0	78.5		9.9	96.6	78.5					
Max Q Clear Time (g_c+I1), s	21.3	26.0	6.9		5.0	30.5	20.1					
Green Ext Time (p_c), s	2.0	19.0	0.6		0.1	38.2	2.6					
Intersection Summary												
HCM 6th Ctrl Delay			33.0									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary
6: Alton Pkwy. & SR-241 Ramps

2040 (Improvements) PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 	 		 	 	   	 	 	   	 
Traffic Volume (veh/h)	720	0	350	50	0	60	460	1080	60	100	680	570
Future Volume (veh/h)	720	0	350	50	0	60	460	1080	60	100	680	570
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870	1870	0	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	800	0	0	56	0	0	511	1200	0	111	756	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	0	2	2	0	2	2	2	2	2	2	2
Cap, veh/h	853	0		853	0		527	2231		138	1114	
Arrive On Green	0.25	0.00	0.00	0.25	0.00	0.00	0.59	0.87	0.00	0.08	0.22	0.00
Sat Flow, veh/h	3456	800		3456	56		1781	5106	1585	1781	5106	1585
Grp Volume(v), veh/h	800	57.9		56	31.7		511	1200	0	111	756	0
Grp Sat Flow(s),veh/h/ln	1728	E		1728	C		1781	1702	1585	1781	1702	1585
Q Serve(g_s), s	25.0			1.4			30.2	6.2	0.0	6.7	14.9	0.0
Cycle Q Clear(g_c), s	25.0			1.4			30.2	6.2	0.0	6.7	14.9	0.0
Prop In Lane	1.00			1.00			1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	853			853			527	2231		138	1114	
V/C Ratio(X)	0.94			0.07			0.97	0.54		0.81	0.68	
Avail Cap(c_a), veh/h	864			864			559	2231		217	1114	
HCM Platoon Ratio	1.00			1.00			2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00			0.77	0.77	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.6			31.7			22.0	4.3	0.0	49.9	39.5	0.0
Incr Delay (d2), s/veh	17.3			0.0			25.1	0.7	0.0	5.2	3.3	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5			0.6			11.7	1.5	0.0	3.2	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9			31.7			47.1	5.0	0.0	55.2	42.8	0.0
LnGrp LOS	E			C			D	A		E	D	
Approach Vol, veh/h								1711	A		867	A
Approach Delay, s/veh								17.6			44.4	
Approach LOS								B			D	
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	41.1	33.3	35.6		17.0	57.4	35.6					
Change Period (Y+Rc), s	8.5	9.3	8.5		8.5	9.3	8.5					
Max Green Setting (Gmax), s	34.5	21.7	27.5		13.4	42.8	27.5					
Max Q Clear Time (g_c+I1), s	32.2	16.9	3.4		8.7	8.2	27.0					
Green Ext Time (p_c), s	0.4	2.6	0.1		0.0	15.2	0.2					
Intersection Summary												
HCM 6th Ctrl Delay			34.0									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary
 7: Lake Forest Dr. & SR-241 NB Ramp

2040 (Improvements) PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations			↖ ↗	↑ ↑	↑ ↑	↘ ↗
Traffic Volume (veh/h)	0	0	230	1400	1010	470
Future Volume (veh/h)	0	0	230	1400	1010	470
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			250	1522	1098	511
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			353	3216	2575	1148
Arrive On Green			0.20	1.00	0.72	0.72
Sat Flow, veh/h			3456	3647	3647	1585
Grp Volume(v), veh/h			250	1522	1098	511
Grp Sat Flow(s),veh/h/ln			1728	1777	1777	1585
Q Serve(g_s), s			4.0	0.0	7.4	7.9
Cycle Q Clear(g_c), s			4.0	0.0	7.4	7.9
Prop In Lane			1.00			1.00
Lane Grp Cap(c), veh/h			353	3216	2575	1148
V/C Ratio(X)			0.71	0.47	0.43	0.44
Avail Cap(c_a), veh/h			651	3216	2575	1148
HCM Platoon Ratio			2.00	2.00	1.00	1.00
Upstream Filter(I)			0.73	0.73	0.83	0.83
Uniform Delay (d), s/veh			23.0	0.0	3.3	3.4
Incr Delay (d2), s/veh			0.7	0.4	0.4	1.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			1.5	0.2	1.5	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			23.8	0.4	3.7	4.4
LnGrp LOS			C	A	A	A
Approach Vol, veh/h				1772	1609	
Approach Delay, s/veh				3.7	3.9	
Approach LOS				A	A	
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		60.0			10.8	49.2
Change Period (Y+Rc), s		5.7			* 4.7	5.7
Max Green Setting (Gmax), s		54.3			* 11	38.3
Max Q Clear Time (g_c+I1), s		2.0			6.0	9.9
Green Ext Time (p_c), s		5.7			0.2	18.1
Intersection Summary						
HCM 6th Ctrl Delay			3.8			
HCM 6th LOS			A			
Notes						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th Signalized Intersection Summary
8: Lake Forest Dr. & SR-241 SB Ramp

2040 (Improvements) PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔	↔		↑↑	↑↑	
Traffic Volume (veh/h)	390	190	0	1380	1070	0
Future Volume (veh/h)	390	190	0	1380	1070	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	0
Adj Flow Rate, veh/h	406	198	0	1438	1115	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	0	2	2	0
Cap, veh/h	563	258	0	2371	2371	0
Arrive On Green	0.16	0.16	0.00	0.67	1.00	0.00
Sat Flow, veh/h	3456	1585	0	3741	3741	0
Grp Volume(v), veh/h	406	198	0	1438	1115	0
Grp Sat Flow(s),veh/h/ln	1728	1585	0	1777	1777	0
Q Serve(g_s), s	6.7	7.2	0.0	13.6	0.0	0.0
Cycle Q Clear(g_c), s	6.7	7.2	0.0	13.6	0.0	0.0
Prop In Lane	1.00	1.00	0.00			0.00
Lane Grp Cap(c), veh/h	563	258	0	2371	2371	0
V/C Ratio(X)	0.72	0.77	0.00	0.61	0.47	0.00
Avail Cap(c_a), veh/h	778	357	0	2371	2371	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.19	0.89	0.00
Uniform Delay (d), s/veh	23.8	24.0	0.0	5.6	0.0	0.0
Incr Delay (d2), s/veh	1.0	4.0	0.0	0.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.8	0.0	3.3	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.8	28.0	0.0	5.8	0.6	0.0
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	604			1438	1115	
Approach Delay, s/veh	25.9			5.8	0.6	
Approach LOS	C			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		45.7		14.3		45.7
Change Period (Y+Rc), s		5.7		4.5		5.7
Max Green Setting (Gmax), s		36.3		13.5		36.3
Max Q Clear Time (g_c+I1), s		15.6		9.2		2.0
Green Ext Time (p_c), s		14.9		0.6		15.5
Intersection Summary						
HCM 6th Ctrl Delay			7.8			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Summary
 35: Lake Forest Dr. & I-5 NB Ramps

2040 (Improvements) PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	360	0	780	0	3160	0	0	1290	1090
Future Volume (veh/h)	0	0	0	360	0	780	0	3160	0	0	1290	1090
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	0	1870	0	1870	0	0	1870	1870
Adj Flow Rate, veh/h				379	0	821	0	3326	0	0	1358	0
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	0	2	0	2	0	0	2	2
Cap, veh/h				1090	0	880	0	3808	0	0	2214	
Arrive On Green				0.32	0.00	0.32	0.00	0.59	0.00	0.00	0.59	0.00
Sat Flow, veh/h				3456	0	2790	0	6958	0	0	3741	3170
Grp Volume(v), veh/h				379	0	821	0	3326	0	0	1358	0
Grp Sat Flow(s),veh/h/ln				1728	0	1395	0	1609	0	0	1870	1585
Q Serve(g_s), s				10.5	0.0	35.4	0.0	54.2	0.0	0.0	28.9	0.0
Cycle Q Clear(g_c), s				10.5	0.0	35.4	0.0	54.2	0.0	0.0	28.9	0.0
Prop In Lane				1.00		1.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1090	0	880	0	3808	0	0	2214	
V/C Ratio(X)				0.35	0.00	0.93	0.00	0.87	0.00	0.00	0.61	
Avail Cap(c_a), veh/h				1153	0	931	0	3817	0	0	2219	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				32.6	0.0	41.2	0.0	21.4	0.0	0.0	16.2	0.0
Incr Delay (d2), s/veh				0.1	0.0	15.2	0.0	2.5	0.0	0.0	0.6	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	13.9	0.0	19.9	0.0	0.0	12.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				32.8	0.0	56.4	0.0	23.9	0.0	0.0	16.8	0.0
LnGrp LOS				C	A	E	A	C	A	A	B	
Approach Vol, veh/h					1200			3326			1358	A
Approach Delay, s/veh					48.9			23.9			16.8	
Approach LOS					D			C			B	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		79.3				79.3		44.7				
Change Period (Y+Rc), s		5.9				5.9		5.6				
Max Green Setting (Gmax), s		73.6				73.6		41.4				
Max Q Clear Time (g_c+I1), s		56.2				30.9		37.4				
Green Ext Time (p_c), s		17.2				18.9		1.7				

Intersection Summary

HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 36: Lake Forest Dr. & I-5 SB Ramps/Avenida De La Carlota

2040 (Improvements) PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	TTTT	↑	TT	TT		TT		TTT	T	TTT	↑↑↑	T
Traffic Volume (veh/h)	1990	470	610	170	0	460	0	2500	170	350	870	620
Future Volume (veh/h)	1990	470	610	170	0	460	0	2500	170	350	870	620
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2073	490	635	177	0	479	0	2604	177	365	862	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	2
Cap, veh/h	2287	660	984	0	0	0	0	2862	606	474	1923	
Arrive On Green	0.35	0.35	0.35	0.00	0.00	0.00	0.00	0.38	0.38	0.09	0.51	0.00
Sat Flow, veh/h	6484	1870	2790		0		0	7481	1585	5344	3741	3170
Grp Volume(v), veh/h	2073	490	635		0.0		0	2604	177	365	862	0
Grp Sat Flow(s),veh/h/ln	1621	1870	1395				0	1870	1585	1781	1870	1585
Q Serve(g_s), s	29.9	22.6	18.7				0.0	32.4	7.6	6.6	14.3	0.0
Cycle Q Clear(g_c), s	29.9	22.6	18.7				0.0	32.4	7.6	6.6	14.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2287	660	984				0	2862	606	474	1923	
V/C Ratio(X)	0.91	0.74	0.65				0.00	0.91	0.29	0.77	0.45	
Avail Cap(c_a), veh/h	2388	689	1028				0	2870	608	587	2006	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.3	27.9	26.7				0.0	28.7	21.1	43.8	15.1	0.0
Incr Delay (d2), s/veh	5.2	3.6	1.0				0.0	4.8	0.3	3.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	10.5	6.2				0.0	14.9	2.8	3.0	5.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	31.5	27.6				0.0	33.6	21.3	47.5	15.2	0.0
LnGrp LOS	D	C	C				A	C	C	D	B	
Approach Vol, veh/h		3198						2781			1227	A
Approach Delay, s/veh		33.3						32.8			24.8	
Approach LOS		C						C			C	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	12.9	43.9		41.5		56.8						
Change Period (Y+Rc), s	* 4.2	6.3		6.8		6.3						
Max Green Setting (Gmax), s	* 11	37.7		36.2		52.7						
Max Q Clear Time (g_c+I1), s	8.6	34.4		31.9		16.3						
Green Ext Time (p_c), s	0.2	3.2		2.8		7.3						

Intersection Summary

HCM 6th Ctrl Delay	31.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 37: Paseo De La Valencia/I-5 SB Ramps & Avenida De La Carlota

2040 (Improvements) PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑	↖	↖↗	↑	↖	↖↗↘	↖	
Traffic Volume (veh/h)	220	960	340	20	480	610	80	100	110	1240	430	30
Future Volume (veh/h)	220	960	340	20	480	610	80	100	110	1240	430	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	1000	354	21	500	635	83	104	115	1292	448	31
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	278	1577	841	28	1346	1071	301	163	163	1492	514	36
Arrive On Green	0.08	0.44	0.44	0.02	0.38	0.38	0.09	0.09	0.09	0.30	0.30	0.30
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	1870	1585	5023	1729	120
Grp Volume(v), veh/h	229	1000	354	21	500	635	83	104	115	1292	0	479
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1870	1585	1674	0	1849
Q Serve(g_s), s	9.8	32.7	20.2	1.8	15.3	32.5	3.4	8.1	10.5	36.5	0.0	36.9
Cycle Q Clear(g_c), s	9.8	32.7	20.2	1.8	15.3	32.5	3.4	8.1	10.5	36.5	0.0	36.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	278	1577	841	28	1346	1071	301	163	163	1492	0	549
V/C Ratio(X)	0.82	0.63	0.42	0.76	0.37	0.59	0.28	0.64	0.71	0.87	0.00	0.87
Avail Cap(c_a), veh/h	495	1577	841	49	1346	1071	532	288	269	2244	0	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.36	0.36	0.36	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.9	32.3	21.3	73.6	33.7	13.2	64.0	66.2	65.1	49.9	0.0	50.0
Incr Delay (d2), s/veh	2.3	2.0	1.5	5.6	0.3	0.9	0.2	1.6	2.1	1.7	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	14.6	9.6	0.9	6.7	24.7	1.5	3.9	4.4	15.5	0.0	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.2	34.3	22.8	79.1	34.0	14.0	64.2	67.7	67.2	51.6	0.0	54.7
LnGrp LOS	E	C	C	E	C	B	E	E	E	D	A	D
Approach Vol, veh/h		1583			1156			302			1771	
Approach Delay, s/veh		36.9			23.8			66.6			52.4	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.6	62.8		19.1	6.8	72.5		51.6				
Change Period (Y+Rc), s	4.5	6.0		6.0	4.5	6.0		7.0				
Max Green Setting (Gmax), s	21.5	14.9		23.1	4.1	32.3		67.0				
Max Q Clear Time (g_c+I1), s	11.8	34.5		12.5	3.8	34.7		38.9				
Green Ext Time (p_c), s	0.3	0.0		0.5	0.0	0.0		5.7				

Intersection Summary

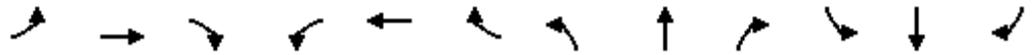
HCM 6th Ctrl Delay	41.3
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 38: El Toro Rd. & Bridger Rd./I-5 NB Ramps

2040 (Improvements) PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	10	280	500	70	810	100	2860	900	0	2400	110
Future Volume (veh/h)	130	10	280	500	70	810	100	2860	900	0	2400	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	134	10	289	399	0	1008	103	3177	775	0	2474	113
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	137	226	420	0	1122	124	4319	915	1	3570	163
Arrive On Green	0.07	0.07	0.07	0.24	0.00	0.24	0.07	0.58	0.58	0.00	0.63	0.63
Sat Flow, veh/h	1781	1870	1585	1781	0	4755	1781	7481	1585	1781	7525	344
Grp Volume(v), veh/h	134	10	289	399	0	1008	103	3177	775	0	1992	595
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1585	1781	1870	1585	1781	1515	1809
Q Serve(g_s), s	11.0	0.7	11.0	33.1	0.0	30.8	8.6	46.8	60.7	0.0	32.3	32.3
Cycle Q Clear(g_c), s	11.0	0.7	11.0	33.1	0.0	30.8	8.6	46.8	60.7	0.0	32.3	32.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	131	137	226	420	0	1122	124	4319	915	1	2875	858
V/C Ratio(X)	1.03	0.07	1.28	0.95	0.00	0.90	0.83	0.74	0.85	0.00	0.69	0.69
Avail Cap(c_a), veh/h	131	137	226	475	0	1268	178	4319	915	59	2875	858
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	0.00	0.67	0.67
Uniform Delay (d), s/veh	69.5	64.7	64.3	56.4	0.0	55.6	68.9	23.3	26.2	0.0	20.5	20.5
Incr Delay (d2), s/veh	85.8	0.1	154.0	26.3	0.0	7.6	1.4	0.1	1.0	0.0	0.9	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.4	18.4	17.9	0.0	13.1	4.0	20.4	22.6	0.0	10.4	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	155.3	64.8	218.2	82.7	0.0	63.1	70.3	23.4	27.2	0.0	21.4	23.6
LnGrp LOS	F	E	F	F	A	E	E	C	C	A	C	C
Approach Vol, veh/h		433			1407			4055			2587	
Approach Delay, s/veh		195.2			68.7			25.3			21.9	
Approach LOS		F			E			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	92.6		16.0	15.4	77.2		41.4				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	5.0	72.0		11.0	15.0	62.0		40.0				
Max Q Clear Time (g_c+I1), s	0.0	62.7		13.0	10.6	34.3		35.1				
Green Ext Time (p_c), s	0.0	5.8		0.0	0.0	5.3		0.3				

Intersection Summary

HCM 6th Ctrl Delay	40.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Appendix G

Background Report for Infrastructure Analysis

TECHNICAL MEMORANDUM

DATE: June 27, 2018 Project No.: 487-12-18-15
SENT VIA: EMAIL

TO: Amanda Tropiano, De Novo Planning Group

FROM: Anne Girtz, EIT
AJ Connell, EIT

REVIEWED BY: Jon Wells, PE, RCE # C 67782

SUBJECT: Background Report for Infrastructure Analysis for the City of Lake Forest
General Plan Update

This Technical Memorandum (TM) presents background information on the water, wastewater, and storm water systems in the City of Lake Forest (City) for the update of the City's General Plan. This update is being performed by De Novo Planning Group. The purpose of this document is to describe the existing conditions of the water, wastewater, and storm water infrastructure within the City; identify and summarize major infrastructure issues or upgrades; and present the past and anticipated future water demands and wastewater flows. This TM is organized into the following sections:

- General Overview
- Water Distribution System
- Sewer Collection System and Wastewater Treatment
- Storm Water and Flood Control

1.0 GENERAL OVERVIEW

The City of Lake Forest does not directly provide water service, wastewater collection, or wastewater treatment to its residents. Rather, three (3) separate, independent utility districts provide these services to residents within the City. The utility district boundaries can be seen overlaid with the City's boundary on Figure 1. The majority of residents are provided water, wastewater collection, and wastewater treatment by the Irvine Ranch Water District (IRWD), whose boundaries cover 8,300 acres in the City, or approximately 83 percent of the total area of the City. Residents along the southwest edge of the City are provided these utility services by El Toro Water District (ETWD). ETWD serves approximately 1,421 acres or 13 percent of the total area of the City. Finally, a small portion of residents in the northeastern section of the City are serviced by Trabuco Canyon Water District (TCWD). As detailed below, the most recent versions of the three utility districts' Master Plans were reviewed to evaluate how the water and wastewater

utility services are provided within the City. IRWD's latest update to its Sewer Collection System Master Plan occurred in 2016, with its Water Resources Master Plan updated in 2017; ETWD's Water and Sewer Master Plan was most recently updated in 2004; and TCWD's latest Water, Wastewater and Reclaimed Water Master Plan was most recently updated in 1999. The most recent versions of ETWD and IRWD's Urban Water Management Plan (UWMP) and Sewer System Management Plan (SSMP) were also reviewed to more accurately determine projected water demands and supply and projected sewer flows and treatment capacity of each utility district.

Flood control facilities and maintenance are provided by the City of Lake Forest.

2.0 WATER DISTRIBUTION SYSTEM

Water distribution to the City of Lake Forest is described below. The water utility infrastructure that serves the City, broken down by utility district, can be found on Figure 2.

2.1 Water System Description by Utility District

The water systems and water services provided by each utility district are summarized below.

2.1.1 Irvine Ranch Water District

The majority of the City is provided water service by IRWD. Prior to 2001, water service was provided by Los Alisos Water District (LAWD). In 2001, IRWD annexed LAWD's service area inside the City's boundaries. IRWD is one of the largest water districts in Orange County, serving the entire City of Irvine and portions of Tustin, Santa Ana, Costa Mesa, Newport Beach, and Lake Forest; an area of approximately 132 square miles. IRWD is a member agency of the Municipal Water District of Orange County (MWDOC), which is a wholesale importer and member agency of the Metropolitan Water District (MWD). As such, MWDOC is entitled to receive water from the available sources of MWD. IRWD receives its imported water supplies through MWDOC.

A small portion of the City, the Portola Hills community, is located within the TCWD service area boundary, yet is provided water by IRWD. For this area, TCWD reads the meters and bills the residents, then IRWD bills TCWD for the total amount of water consumed by residents within the TCWD boundary.

2.1.1.1 *Water Infrastructure*

IRWD's potable water supply inside the borders of Lake Forest consists of almost 250 miles of potable water lines. Due to the major elevation changes within the district, IRWD uses 15 pressure zones to deliver water to customers within a reasonable pressure. Five (5) of these pressure zones fall within the borders of Lake Forest; Lake Forest Zones 4, 5, and 6, Foothill Ranch Zone, and Portola Hills Zone.

2.1.1.2 *Potable Water Supply*

According to the most recent IRWD Water Master Plan update, groundwater makes up about 53 percent of the total water supply, recycled water makes up 24 percent, imported (treated and untreated) makes up 20 percent, and native surface water makes up around 3 percent. In the FY 2014/2015, about 20 percent of IRWD's potable water needs were met through water purchased

and supplied by MWD through MWDOC. The majority of IRWD's potable water is a blend of Colorado River water and State Water Project water that is treated at the MWD Diemer Filtration Plant (DFP) located north of Yorba Linda. Two (2) major transmission lines deliver water from the DFP to IRWD, the Allen McColloch Pipeline (AMP) and East Orange County Feeder No. 2 (EOCF#2). IRWD owns 64.7 cfs capacity in the AMP and 41.4 cfs capacity in the EOCF#2.

Groundwater currently makes up about 78 percent of the potable water supply in the district, and approximately 53 percent of all water supplies including non-potable. Water is pumped from the Orange County Groundwater Basin through seven (7) potable production wells. The Orange County Groundwater Basin is managed by Orange County Water District (OCWD) who has the authority to impose replenishment assessments and basin equity assessments on production. The primary mechanism used by OCWD to manage pumping from the basin is the Basin Production Percentage (BPP). The BPP is the percentage of each Producer's water supply that is allowed from groundwater pumped from the basin without incurring a financial penalty. The BPP is set on an annual basis and is uniform for all producers within the groundwater basin's watershed. Groundwater pumping above the BPP is assessed an additional charge that creates a disincentive for over-producing. Currently, and for the foreseeable future, the BPP will be limited to 75 percent. The 2014 IRWD Water Resources Master Plan Update states IRWD is looking to expand groundwater production in the future to max out their groundwater production to the max BPP of 75 percent.

2.1.1.3 Non-potable Water Supply

Non-potable water meets a large portion of the landscape irrigation demands within IRWD's service area. The non-potable supply consists primarily of recycled water that has been treated at IRWD's Michelson Water Recycling Plan (MWRP) and Los Alisos Water Recycling Plan (LAWRP). Untreated water supplements the recycled water supply through native runoff and the untreated imported water purchased and delivered to Irvine Lake.

Only the section of the City northeast of Trabuco Road and southwest of Highway 241 are currently served with non-potable water. The area of City south of Trabuco Road and the area north of Highway 241 are currently being provided a potable water supply for demands that could be served by non-potable water.

2.1.1.4 El Toro Water District

ETWD provides service to residents in the Southeast corner of the City. The district area is almost entirely built out with residential communities and serves the entire City of Laguna Woods as well as portions of Aliso Viejo, Laguna Hills, Laguna Woods, Lake Forest, and Mission Viejo. The Lake Forest and Mission Viejo sections of ETWD, which are the only sections east of the I-5 freeway, contain the highest elevations in the district and require pump stations to deliver water.

Like IRWD, ETWD is a member agency of the Municipal Water District of Orange County (MWDOC). ETWD receives all its imported water supply through MWDOC.

2.1.1.5 Water Infrastructure

ETWD supplies water through approximately 50 miles of potable water lines within the City boundary. ETWD has a total of 13 pressure zones, however only four (4) of these zones serve the City: Shenandoah Zone, Cherry Zone, R-6 Zone, and Gravity Zone. The Shenandoah, Cherry, and R-6 Zones exclusively serve the City and are referred to by ETWD as the “Panhandle”. These zones are the highest zones in elevation in the district and require pump stations to serve them directly. Gravity Zone is ETWD’s largest pressure zone by area, serving parts of Lake Forest, Mission Viejo, Laguna Hills, Laguna Woods, and Aliso Viejo.

2.1.1.6 Potable Water Supply

ETWD relies completely on imported treated water from MWDOC to meet 100 percent of potable water demands. In general, imported water from MWDOC fills the District’s 275 million gallon El Toro Reservoir (R-6), located just outside of ETWD in Mission Viejo, or directly feeds the distribution system. The majority of imported water is delivered to ETWD through the MWDOC owned Allen-McColloch Pipeline (AMP) where ETWD owns the right to 26.3cfs of capacity.

ETWD also owns 2.0 cfs (1.29 mgd) capacity in the Joint Regional Water Supply System (JRWSS), which transports MWD treated water as well. The JRWSS is a take-off from MWD’s EOCF#2. The JRWSS is managed, operated and maintained by the South Coast Water District (SCWD). Both the AMP and EOCF#2 originate at MWD’s DFP located in Yorba Linda.

ETWD has an emergency supply source available to them through the Aufdenkamp Connection Transmission Main (ATCM), which is owned and operated by the Santa Margarita Water District (SMWD). ETWD does not own any capacity in the ATCM but may receive permission from SMWD to take water from the pipeline in an emergency situation.

2.1.1.7 Non-Potable Water Supply

At the time the ETWD master plan was completed, the District was recycling approximately 10 percent of the wastewater treated at the ETWD Water Recycling Plant, which amounts to approximately 0.5 mgd. The recycled water is primarily used for irrigation of the Leisure World Golf Course, which is located in the City of Laguna Woods. None of the recycled water is used in the City of Lake Forest.

2.1.2 Trabuco Canyon Water District

A portion of the City of Lake Forest’s Portola Hills community is the only area that lies within TCWD boundaries. However, under terms of an agreement with IRWD, IRWD supplies water to the 532 connections. TCWD reads the meters and bills the customers for water service then IRWD bills TCWD for the water supplied to these customers. The evaluation of water demands indicates these customers have an average demand of 0.24 mgd and a maximum day demand of 0.48 mgd.

2.2 Projected Potable Water Demands and Supply

For this section, the ETWD and IRWD 2015 UWMPs were reviewed to determine how the projected demand compared to the projected available supply for each utility district.

2.2.1 Irvine Ranch Water District

The 2015 UWMP developed future water demand projections and future water supply projections for the entire utility district. These projections were used to analyze if IRWD had enough supply to meet the projected water demand. The projections can be found in Table 1. As shown, IRWD is projected to have significantly more supply than demand in 2035.

2.2.2 El Toro Water District

Since ETWD is mostly built out, increases in future water demand would be through redevelopment of existing land uses. The 2004 ETWD Master Plan identifies four (4) areas of possible development within the City of Lake Forest that will impact water demand. The Arbor/El Toro Road redevelopment project will increase the landscaped area resulting in an increased irrigation demand. An existing light industrial area along El Toro Road is proposed to be redeveloped with a rail station, commercial property and multi-family residential. An additional 244 units is proposed to be added to the Saddleback Ranch Apartment located on Los Alisos Boulevard. The City also anticipates redeveloping the mobile home parks, approximately 120 acres, into master planned communities in the future. It is estimated that these projects will increase the average day domestic water demand by 239 gpm, or 0.344 mgd, or 0.532 cfs.

The 2004 ETWD Master Plan states that the District’s capacity in the AMP is equivalent to the maximum day demand, therefore the current supply is deemed adequate. Estimated future demands increase only slightly, therefore additional turnout capacity is not anticipated.

Projected potable water demand and supply values from the 2015 ETWD UMWP are presented in Table 1. Since ETWD relies completely on imported water from MWDOC, the available supply presented is equal to the demand.

2.2.3 Trabuco Canyon Water District

As stated in Section 2.1.2, customers within the Portola Hills community are served potable water by IRWD. The community has an average day demand of 0.24 mgd and a maximum day demand of 0.48 mgd. The community is already built out and no redevelopment has been planned. Therefore, future flows are expected to remain the same. These demand values are included in the projected demand for IRWD in Table 1.

Table 1. Projected Potable Water Demand vs. Supply, AF		
Utility District	Projected 2035 Demand	Projected 2035 Supply
IRWD	81,996	111,277
ETWD	7,315	7,315

Note: Water demands generated by the Portola Hills Community are included in the IRWD demands. IRWD demands and supply based on 2015 IRWD UMWP. ETWD demands and supply based on 2015 ETWD UMWP.

2.3 Water System Issues and Opportunities

Issues with the infrastructure that arise from increase in the projected demand are summarized below.

2.3.1 Irvine Ranch Water District

The latest IRWD potable and non-potable water system analysis was developed and run for the 1999 IRWD Master Plan. Most of the Lake Forest service area belonged to LAWD at the time and was not included in the analysis. The only parts of the City that were included in the potable system analysis were the Foothill Ranch community and the Portola Hills community, northeast of Freeway 241. No section of Lake Forest was included in the non-potable system analysis.

The potable water system analysis included using a hydraulic model to evaluate the system at average day, maximum day plus fire flow, and peak hour demand conditions for existing, intermediate and ultimate build-out. Deficiencies in the model located within Lake Forest for ultimate built out conditions are listed below.

- For maximum day plus fire flow demand, model results for the Portola Hills community reflect the zone's inability to provide fire flow demand to the fire node at the minimum residual pressure of 20 psi. The Master Plan recommended a parallel pipeline to remedy these inadequacies. It is unclear if the recommended improvements have been made.
- Under peak hour demand, approximately ten (10) pipes in the system operate at a velocity greater than 8 fps under peak conditions (8-11 fps). Around three (3) of these pipes are within the borders of Lake Forest, however, all ten (10) pipes operate at approximately 1 fps under average day demands. According to the Master Plan, "these minor violations of the established velocity criteria (8 fps) are not considered critical; no recommendations are made for improvements to this system."

IRWD relies on Sub-Area Master Plans (SAMPs) to determine infrastructure needs throughout its service area. A SAMP provides a focused evaluation of infrastructure requirements in a specific area of the IRWD service area, based upon the general evaluations performed for the master plan. It is likely that a SAMP would be developed in response to land use changes proposed by the City of Lake Forest General Plan Update.

2.3.2 El Toro Water District

For the 2004 ETWD Master Plan, a hydraulic model of the ETWD Water Distribution System was developed to identify any deficiencies in the system. The system was analyzed under the maximum day extended period simulation scenario for existing and anticipated future flows to identify deficiencies in the system like areas that exceed either the high or low-pressure criteria, areas that cannot provide fire flows, or pipes with velocities that exceed the criteria.

The only deficiencies identified by the model within the Lake Forest city boundary involved several areas in the R-6 Zone that could not provide adequate fire flows of 1,500 gpm at 20 psi. These areas are located near the intersection of Brookhaven and Alderwood or on Fallbrook (just across Trabuco). However, the model was used to verify that in an emergency situation, the nearby pressure reducing valve PR-20, which provides back-up supply from the Cherry Zone to the R-6 Zone, will open to assist in meeting fire flow demands.

2.3.3 Trabuco Canyon Water District

As discussed in Section 2.1.3, IRWD provides water to residents in the Lake Forest Portola Hills community who are within the TCWD boundaries. Hydraulic analysis of the Portola Hills community was included in the IRWD hydraulic Analysis. There are no discrepancies in the Portola Hills community.

3.0 SEWER COLLECTION SYSTEM AND WASTEWATER TREATMENT

Sewer collection and wastewater treatment for the City of Lake Forest are described below.

3.1 Wastewater System Description by Utility District

As with the water system, the City's sewer services are divided up by three (3) utility districts, Irvine Ranch Water District, El Toro Water District, and Trabuco Canyon Water District. Among the three (3) agencies, there are approximately 215 miles of sewer main within the borders of Lake Forest. The wastewater infrastructure that serves the City is laid out in Figure 3.

3.1.1 Irvine Ranch Water District

IRWD wastewater collection and treatment facilities are discussed below.

3.1.1.1 Sewer Collection System Infrastructure

IRWD provides wastewater collection and wastewater treatment to the majority of residents in the City. IRWD maintains approximately 175 miles of sewer mains within the City of Lake Forest. Flow originating within Lake Forest northeast of Highway 241 flows across the IRWD collection system to the MWRP. All other flow originating in Lake Forest is directed to the LAWRP. Recycled water is produced at both plants, and recycled water makes up about 20 percent of IRWD's current water supply.

The 2014 IRWD Master Plan Update identifies five (5) sewer sheds for the City of Lake Forest including Alton-Bake, Bake, El Toro; Muirlands Cherry, Lake Forest, and Portola. The Alton-Bake shed, located northeast of Highway 241 flows to MWRP, while the Bake, El Toro; Muirlands Cherry, and Lake Forest sheds flow to LAWRP. The Portola shed flows into the sewer system owned by TCWD.

3.1.1.2 Wastewater Treatment Capacity

The MWRP is located on Riparian Way south of Michelson Drive, on the northwest side of the San Diego Creek in the City of Irvine. As of 2008, the MWRP had a plant capacity of 18 mgd but it was recently expanded to a capacity of 28 mgd.

The LAWRP is located on the corner of Muirlands Boulevard and Aspen Street in the City of Lake Forest. As of 2014, the LAWRP had a plant capacity of 7.5 mgd but only approximately 3.43 mgd was being conveyed to the LAWRP for treatment.

3.1.2 El Toro Water District

ETWD wastewater collection and treatment facilities are discussed below.

3.1.2.1 Sewer Collection System Infrastructure

The southeast portion of the City is served by El Toro Water District. ETWD's most recent Water and Sewer Master Plan was published in 2004. ETWD maintains approximately 34 miles of sewer mains within the City of Lake Forest. The majority of the flow in the City's ETWD area is conveyed by gravity and eventually flows across the I-5 highway via an 18-inch trunk main southwest into Laguna Woods where the ETWD Water Recycling Plant (WRP) is located.

Flow originating from the community located just south of Ralph A. Gates Elementary School flows across the I-5 highway and into Laguna Woods south of the 18-inch trunk main. The flow then is directed to the Aliso Viejo Pump Station where it is pumped to the ETWD WRP. Wastewater from a few small residential streets at the far south end of the City flows southeast into Mission Viejo to Freeway Lift Station where it joins flow from Mission Viejo and is pumped to the ETWD collection system west of the I-5 highway.

3.1.2.2 Wastewater Treatment Capacity

The current ETWD WRP has an average flow capacity of 5.4 mgd but has the ability to accommodate up to 6 mgd during max month conditions. The ETWD WRP recycles about 10 percent of the water it treats.

3.1.3 Trabuco Canyon Water District

TCWD wastewater collection and treatment facilities are discussed below.

3.1.3.1 Sewer Collection System Infrastructure

Residents who live in part of the Portola Hills community in the northeast section of the City are serviced by Trabuco Canyon Water District. TCWD's most recent Master Plan was created in 1999. TCWD's collection system consists of three (3) zones that are served by gravity sewers and lift stations; Robinson Ranch Zone, Dove Canyon Zone, and El Toro Road Zone. The Portola Hills community falls within the El Toro Road Zone and consists of approximately 8 miles of sewer mains. Flow from this community is directed into the El Toro Road Sewage Collection System, which is jointly-owned by TCWD, IRWD, and Santa Margarita Water District (SMWD). All flow from the El Toro Road Sewage Collection System is pumped into SMWD's wastewater collection system and is eventually treated at the Chiquita Water Reclamation Plant then disposed of.

3.1.3.2 Wastewater Treatment Capacity

As discussed above, the only section of Lake Forest which TCWD provides wastewater services for is a portion of the Portola Hills community. The amount of flow capacity available to the Portola Hills Community is limited by the total capacity that TCWD owns in SMWD's wastewater collection system and the Chiquita Water Reclamation Plant. The District owns 0.558 mgd of capacity in SMWD's wastewater collection system and Chiquita Water Reclamation Plant. 0.428

mgd is reserved specifically for TCWD's El Toro Road Zone. Of the 0.428 mgd reserved for the El Toro Road Zone, 0.158 mgd is reserved for its Portola Hills customers.

3.2 Projected Wastewater Flows

Projected wastewater flows for the three districts serving the City are discussed below.

3.2.1 Irvine Ranch Water District

To analyze the existing system, wastewater generation factors were developed from data acquired during flow monitoring conducted in 2015 as part of the IRWD Sewer Collection System Master Plan Update. Sewer flow monitoring data, SCADA data at sewage lift stations and the treatment plants, non-irrigation water billing data, and land use information were all collectively utilized in developing these wastewater generation factors.

The projected future wastewater flows for each wastewater treatment facility are presented in Table 2 along with the treatment capacity discussed above. It should be noted that IRWD is currently performing a treatment master plan to evaluate alternatives for supplying adequate treatment capacity for its service area in the future.

3.2.2 El Toro Water District

The ETWD 2004 Master Plan identified yearly average flow through the WRP for years 2001-2003 based on monthly influent flow data. The results show a slight decrease in average influent flow for this period. Average daily flow was 5.29 mgd in 2001, 4.82 mgd in 2002, and 4.94 mgd in 2003. The Master Plan does not break down the existing flow for wastewater generated inside the City of Lake Forest, however it does break down increased projected flow specifically for the City of Lake Forest.

The ETWD 2004 Master Plan identified four (4) possible areas of redevelopment within the borders of Lake Forest that will impact wastewater generation. The Arbor/El Toro Road redevelopment project is a landscape project and will not generate any additional sewage. An existing light industrial area along El Toro Road is proposed to be redeveloped with a rail station, commercial property and multi-family residential. An additional 244 units are proposed to be added to the Saddleback Ranch Apartments located on Los Alisos Boulevard. The City also anticipates redeveloping the mobile home parks, approximately 120 acres, into master planned communities in the future. It is estimated that these projects will increase the average daily wastewater generation by 146.6 gpm, or 0.211 mgd.

The projected wastewater flows that are directed to the ETWD WRP are presented in Table 2 along with the treatment capacity.

3.2.3 Trabuco Canyon Water District

The 1999 TCWD Master Plan does not specifically identify any possible development inside the borders of Lake Forest. It is assumed the projected flows for the Portola Hills Community will stay below 0.158 mgd. The Portola Hills community is not included in Table 2.

Due to the age of the Master Plan provided by TCWD, it is worth noting that capacity agreements between TCWD and SMWD for the SMWD wastewater collection system and the Chiquita Water Reclamation Plant may have changed.

Table 2. Projected Sewer Flow vs. Treatment Capacity, mgd		
Utility District	Projected Build-out Flow	Current Total Treatment Capacity
IRWD MWRP	32.6	28.0
IRWD LAW RP	5.0	7.5
ETWD WRP	6.9	6.0

3.3 Sewer Collection System and Wastewater Treatment Issues and Opportunities

Collection system and treatment issues and opportunities are discussed below

3.3.1 Irvine Ranch Water District

For the Existing System Analysis completed as part of the IRWD Master Plan, a model of the system was constructed in 1999 using Innovyze’s InfoSWMM. This model was updated in 2014. The hydraulic analysis indicates that the trunk main in the Alton Parkway, which conveys flows from portions of the City, has future potential capacity deficiencies.

IRWD relies on Sub-Area Master Plans (SAMPs) to determine infrastructure needs throughout its service area. A SAMP provides a focused evaluation of infrastructure requirements in a specific area of the IRWD service area, based upon the general evaluations performed for the master plan. It is likely that a SAMP would be developed in response to land use changes proposed by the City of Lake Forest General Plan Update.

3.3.2 El Toro Water District

As of the 2004 El Toro Water District Master Plan, there were no deficient pipes in the existing collection system according to the model. The 2004 El Toro Water District Master Plan identified possible development in four (4) areas within their system inside the borders of Lake Forest. The projects were estimated to increase average daily wastewater generation created by the City of Lake Forest by 146 gpm. The model was run again with the projected increased wastewater generation values from the four (4) possible development areas along with a 20 percent increase due to inflow and infiltration (I&I). The results were analyzed for the WRP and the existing sewer mains and are summarized by West Yost below.

The ETWD WRP was analyzed to determine if it had sufficient capacity to accommodate the projected development. The WRP was completely reconstructed in 1998 to accommodate the increased demands from heavy commercial and residential development during the 1990’s and now has a capacity under an average flow condition of 5.4 mgd. The WRP also has the ability to accommodate maximum month flows up to 6 mgd. After a capacity analysis was completed, it was found that the WRP capacity was adequate to treat flows after construction of all proposed developments within the entire ETWD identified in the Master Plan.

Pipelines were analyzed to determine if there would be any deficiencies as wastewater flow increased due to the proposed developments. After the model was run under the future loading condition with I&I, a total of 56 pipes exceeded the criteria for d/D (flow depth/pipe diameter) of 75 percent, with 40 of those pipes having a d/D value of 100 percent (indicating surcharging). Many of the deficient pipes identified are within the City of Lake Forest's borders.

3.3.3 Trabuco Canyon Water District

There are currently no deficient pipes in the Portola Hills community, the only community in the City that is being serviced by TCWD. As stated above, the amount of flow capacity is limited by the total capacity that TCWD owns in SMWD's wastewater collection system and the Chiquita Water Reclamation Plant. However, due to its small area of influence inside the City of Lake Forest, TCWD is not expected to have any significant issues in terms of capacity in the City and development in the future will not be an issue.

4.0 STORMWATER AND FLOOD CONTROL

The storm water management and flood control systems are described below.

4.1 General Description and Summary of the Storm Drain System

The City's stormwater control systems are currently owned and operated by the City of Lake Forest. Until recently, the Orange County Flood Control District owned and operated the stormwater control system within the City. The City took over control of all facilities recently and is currently in the process of tracking, mapping, and analyzing the facilities.

4.2 Description of Infrastructure

As stated above, control of the stormwater facilities was recently assumed by the City of Lake Forest. At this time, the City does not have its own mapping of the stormwater facilities; however, the Orange County Flood Control District has extensive mapping of all storm facilities available on their website. The Drainage Facilities Basemap Index and the maps specific to Lake Forest that describe the existing stormwater structures are included in Appendix A of this report. These maps have dates ranging from 2000 to 2007.

4.3 Floodplain Mapping

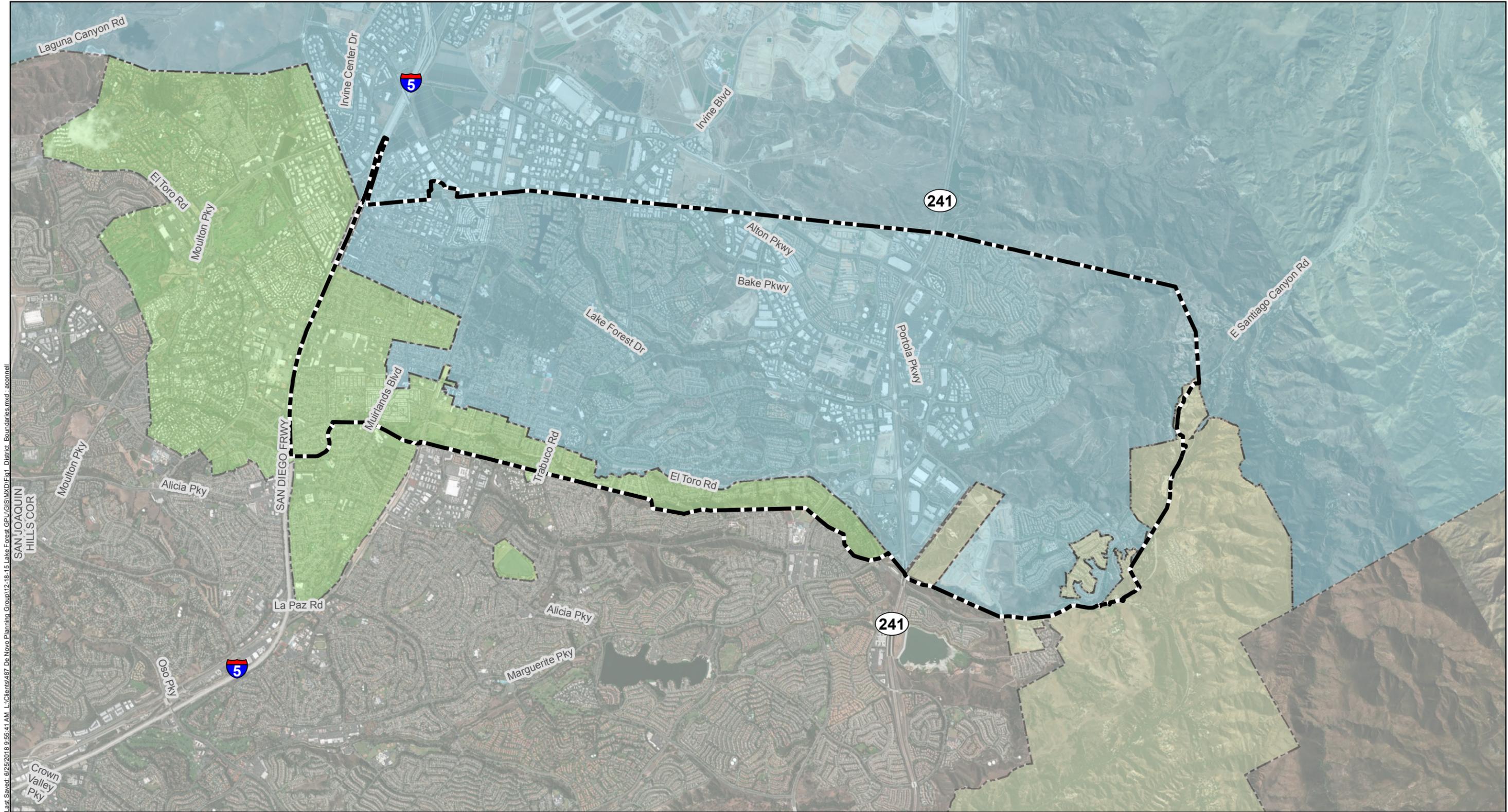
Figure 4 illustrates the local watersheds along with the 100-year flood zones. The flood zone data used is the National Flood Hazard Layer (NFHL) downloaded on the June 25, 2018 from the Federal Emergency Management Agency (FEMA) Flood Map Service Center for Orange County. The most recent Letter of Map Revision (LOMR) effective date is March 20, 2017 and the latest study effective date is December 3, 2009.

4.4 Stormwater and Flood Control Issues

As stated above the City is currently evaluating the stormwater facilities. After evaluation, the City will determine any deficiencies within the system.

5.0 REFERENCES

- Irvine Ranch Water District, 2017. *Water Resources Master Plan*. Prepared in 1999, updated in 2017. Received March 15, 2018.
- Irvine Ranch Water District, 2016. *Sewer Collection System Master Plan*. Prepared in 2006, updated in 2016. Received March 15, 2018.
- Irvine Ranch Water District, 2015. *Urban Water Management Plan*. Prepared in 2015. Received as appendix to Master Plan March 15, 2018.
- Irvine Ranch Water District, 2013. *Sewer System Management Plan*. Prepared in 2013. Received March 15, 2018.
- Irvine Ranch Water District. Water and Wastewater Geographical Information System files received from Irvine Ranch Water District. Water Files Received 2018, Wastewater files received 2016.
- El Toro Water District, 2004. *Water and Sewer Master Plan*. Prepared in 2004, received March 2018.
- El Toro Water District. Geographical Information System files received from El Toro Water District. Received March 5, 2018.
- Trabuco Canyon Water District, 1999. *Water Wastewater and Reclaimed Water Master Plan*. Prepared in 1999. Received February 5, 2018.
- Trabuco Canyon Water District, 2017. Geographical Information System files received from Trabuco Canyon Water District. Received March 9, 2018.



Last Saved: 6/25/2018 9:55:41 AM L:\Clients\487 De Novo Planning Group\12-18-15 Lake Forest.GPJ\GIS\MXD\Fig1 District Boundaries.mxd - aconnell

- Symbology**
-  Lake Forest City Boundary
 -  Trabuco Canyon WD Boundary
 -  El Toro Water District Boundary
 -  Irvine Ranch WD Boundary

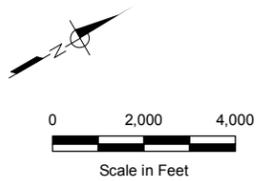
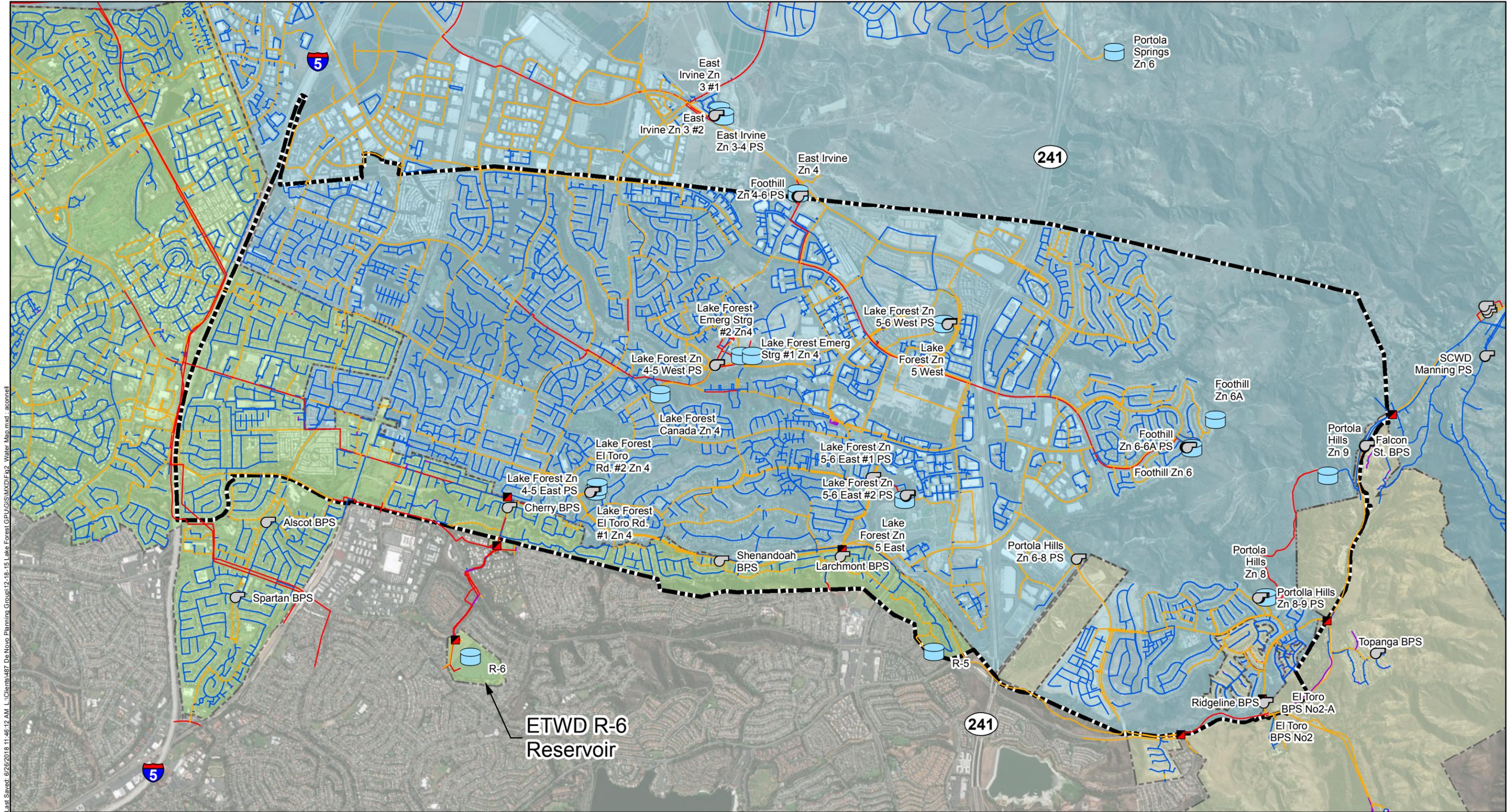


Figure 1
City of Lake Forest
Utility District Boundaries
 City of Lake Forest
 General Plan Update



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Symbology	
	Pump Station
	Interconnection
	Reservoir
Water Main Diameter	
	No Diameter Data
	2-8 in
	10-20 in
	21+ in
	LAKE FOREST
	El Toro Water District Boundary
	Irvine Ranch WD Boundary
	Trabuco Canyon WD Boundary

ETWD R-6
Reservoir

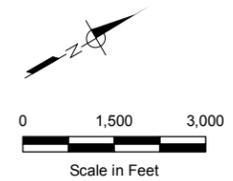
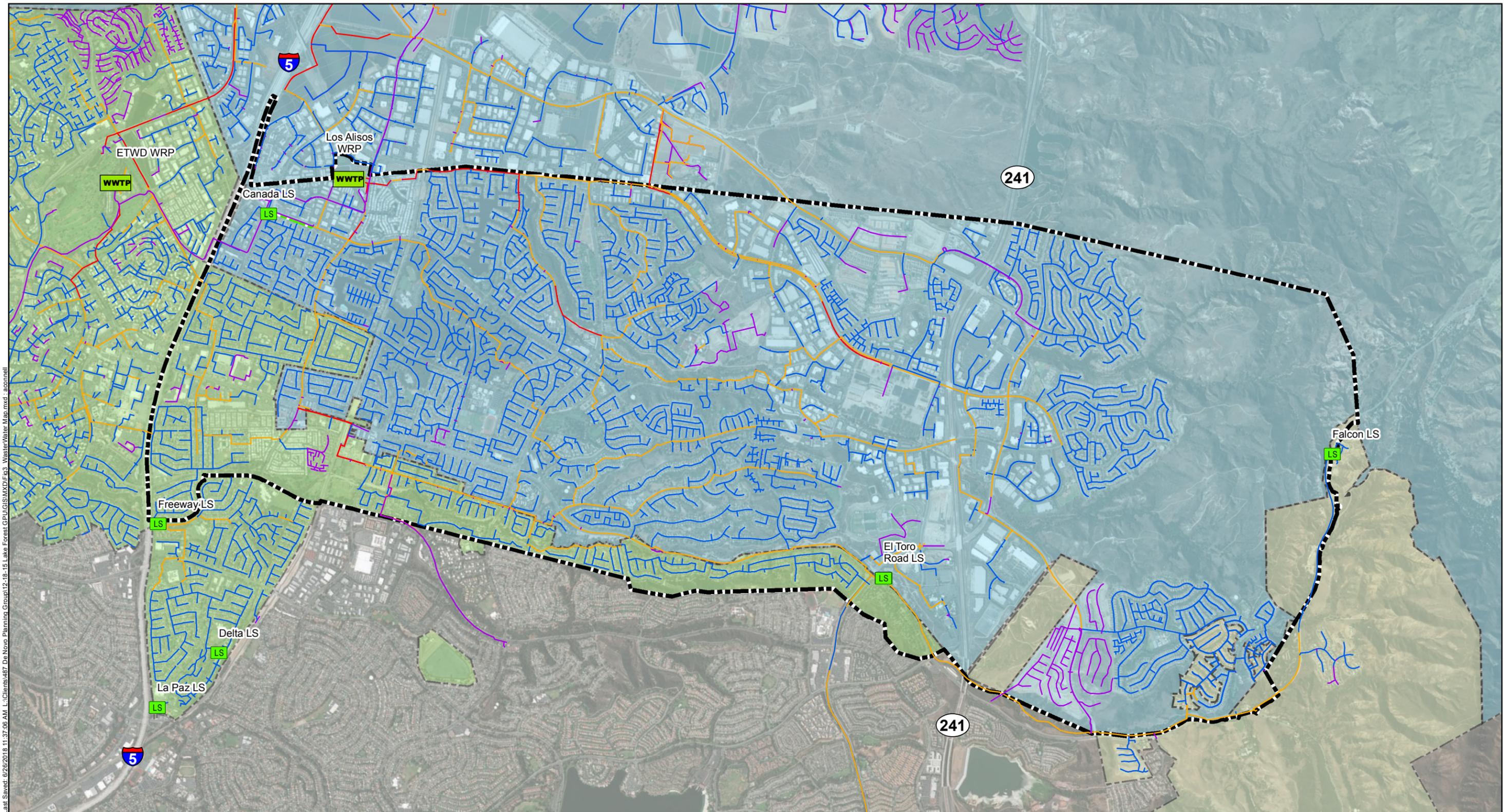


Figure 2
City of Lake Forest
Water Mains
City of Lake Forest
General Plan Update



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Symbology

LS Sewer Lift Station

WWTP Wastewater Treatment Plant

Sewer Main Diameter

No Diameter Data

2-8 in

10-18 in

20+ in

LAKE FOREST

El Toro Water District Boundary

Irvine Ranch WD Boundary

Trabuco Canyon WD Boundary

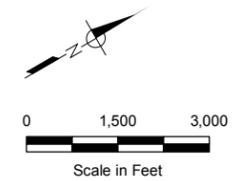
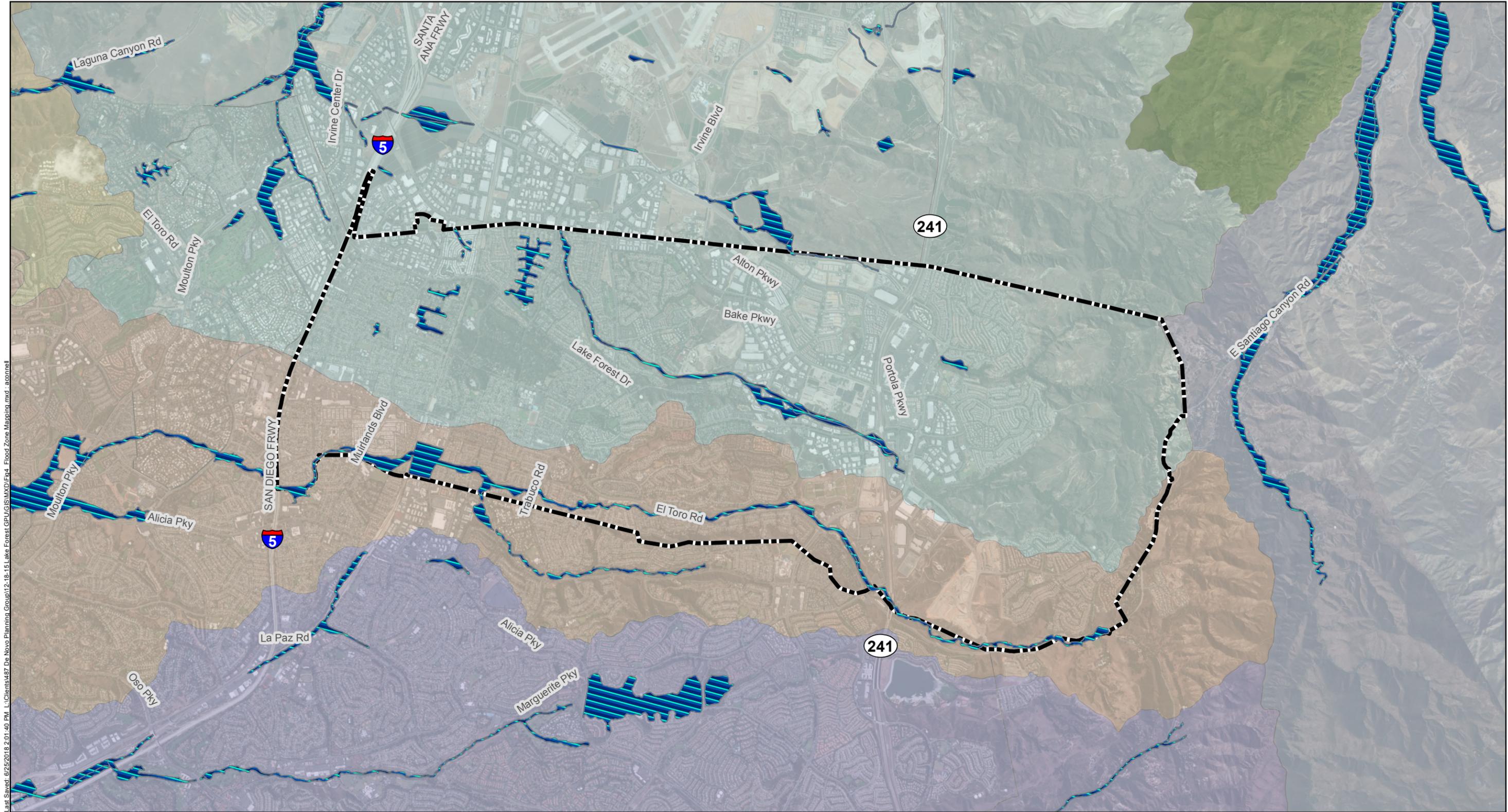


Figure 3
City of Lake Forest
Wastewater Sewer Mains

City of Lake Forest
General Plan Update



Last Saved: 6/25/2018 2:01:40 PM L:\Clients\487 De Novo Planning Group\12-18-15 Lake Forest G\GIS\MXD\Fig4 Flood Zone Mapping.mxd - acornml

Symbology

 100 Year Flood Zone	Watersheds	 Salt Creek-Frontal Gulf of Santa Catalina
 City of Lake Forest Boundary	 Upper San Diego Creek	 Lower Santiago Creek
	 Aliso Creek	 Upper Santiago Creek
	 Arroyo Trabuco	

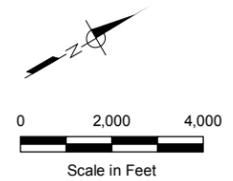
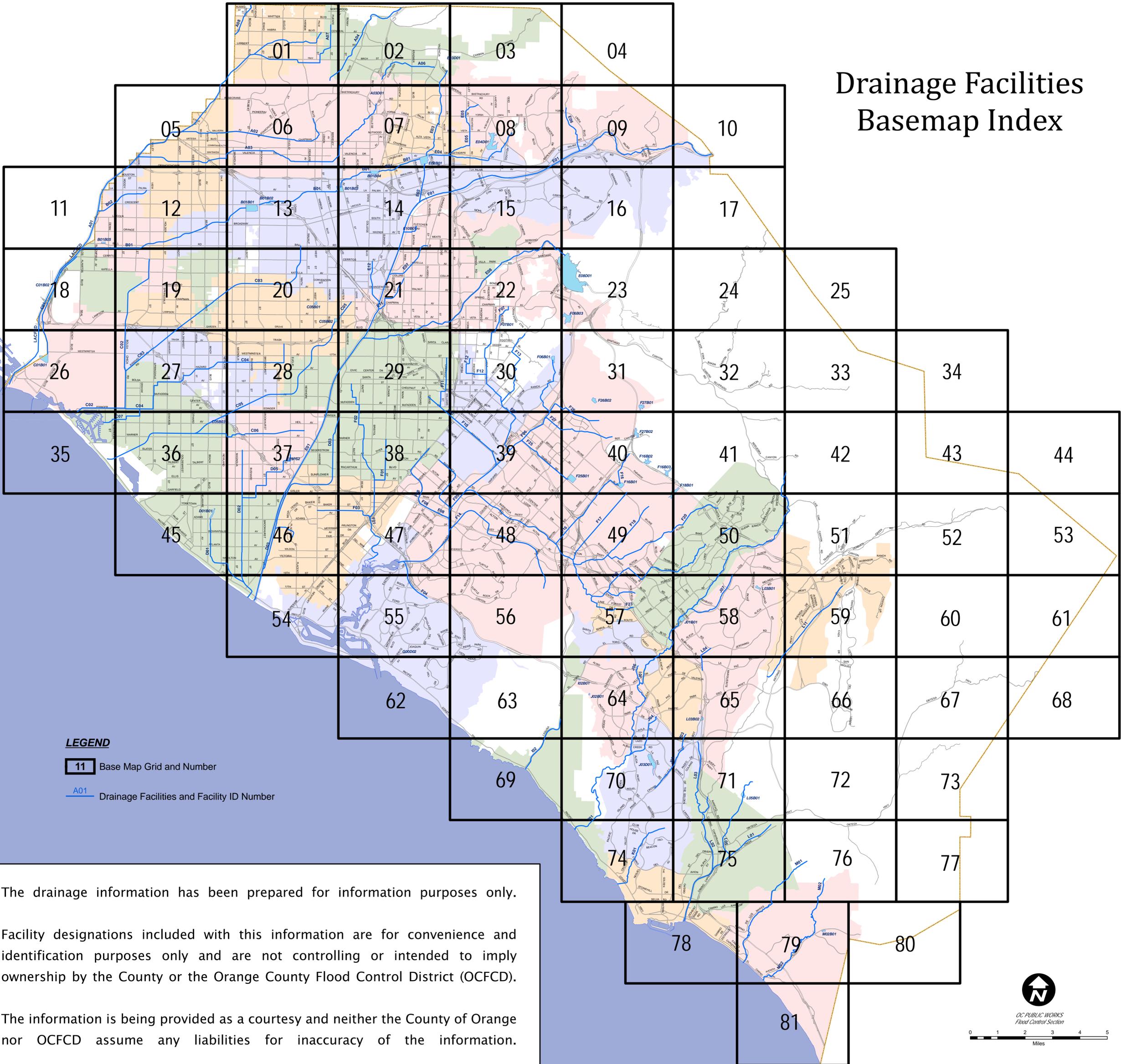


Figure 4
City of Lake Forest
Flood Zone Mapping
 City of Lake Forest
 General Plan Update

APPENDIX A

Existing Stormwater Infrastructure

Drainage Facilities Basemap Index



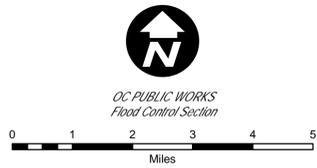
LEGEND

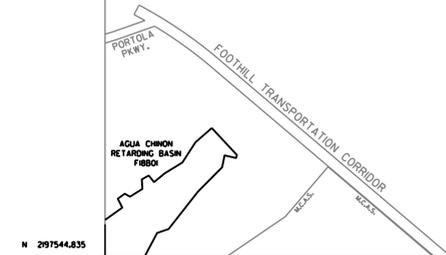
- 11 Base Map Grid and Number
- A01 Drainage Facilities and Facility ID Number

The drainage information has been prepared for information purposes only.

Facility designations included with this information are for convenience and identification purposes only and are not controlling or intended to imply ownership by the County or the Orange County Flood Control District (OCFCD).

The information is being provided as a courtesy and neither the County of Orange nor OCFCD assume any liabilities for inaccuracy of the information.





NOTICE
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 Call: Alan Yu at (714) 834-5986 to notify Public Facility and Resources Department (PFRD) of additions or corrections.

ORANGE COUNTY FLOOD CONTROL DISTRICT			
BASEMAP OF DRAINAGE FACILITIES IN ORANGE COUNTY			
REVISION	DATE	SHEET NO.	DWG. NO.
AVY	JAN. 12 / 2000	41	MAPS-113-3

<ul style="list-style-type: none"> Channel Drainage Area Boundary Major Sub-Area Drainage Boundary Minor Sub-Area Drainage Boundary Existing O.C.F.C.D. Facility Existing Local Facility Existing Retaining Basin or Reservoir Natural Watercourse City Limits 	<ul style="list-style-type: none"> P.S. G Pump Station P.S. C Catch Basin (length in feet) o Drop Inlet or Other Entry P Private S State F Federal 	<table border="1"> <tr> <th>Existing O.C.F.C.D.</th> <th>Existing LOCAL</th> </tr> <tr> <td></td> <td></td> </tr> </table>	Existing O.C.F.C.D.	Existing LOCAL													<ul style="list-style-type: none"> Earth Trapezoidal Channel (base width by height in feet) Reinforced Concrete Trapezoidal Channel (base width by height in feet) Reinforced Concrete Rectangular Channel (base width by height in feet) Reinforced Concrete Box (RCB) (number of barrels-span by height in feet) Reinforced Concrete Pipe (RCP) (diameter in inches) Corrugated Metal Pipe (CMP) (diameter in inches) Concrete Pipe (diameter in inches) Concrete Oval Pipe (width by height in inches) Steel Pipe (diameter in inches) Reinforced Concrete Arch (base span by height in inches) Corrugated Metal Arch (base span by height in inches)
Existing O.C.F.C.D.	Existing LOCAL																

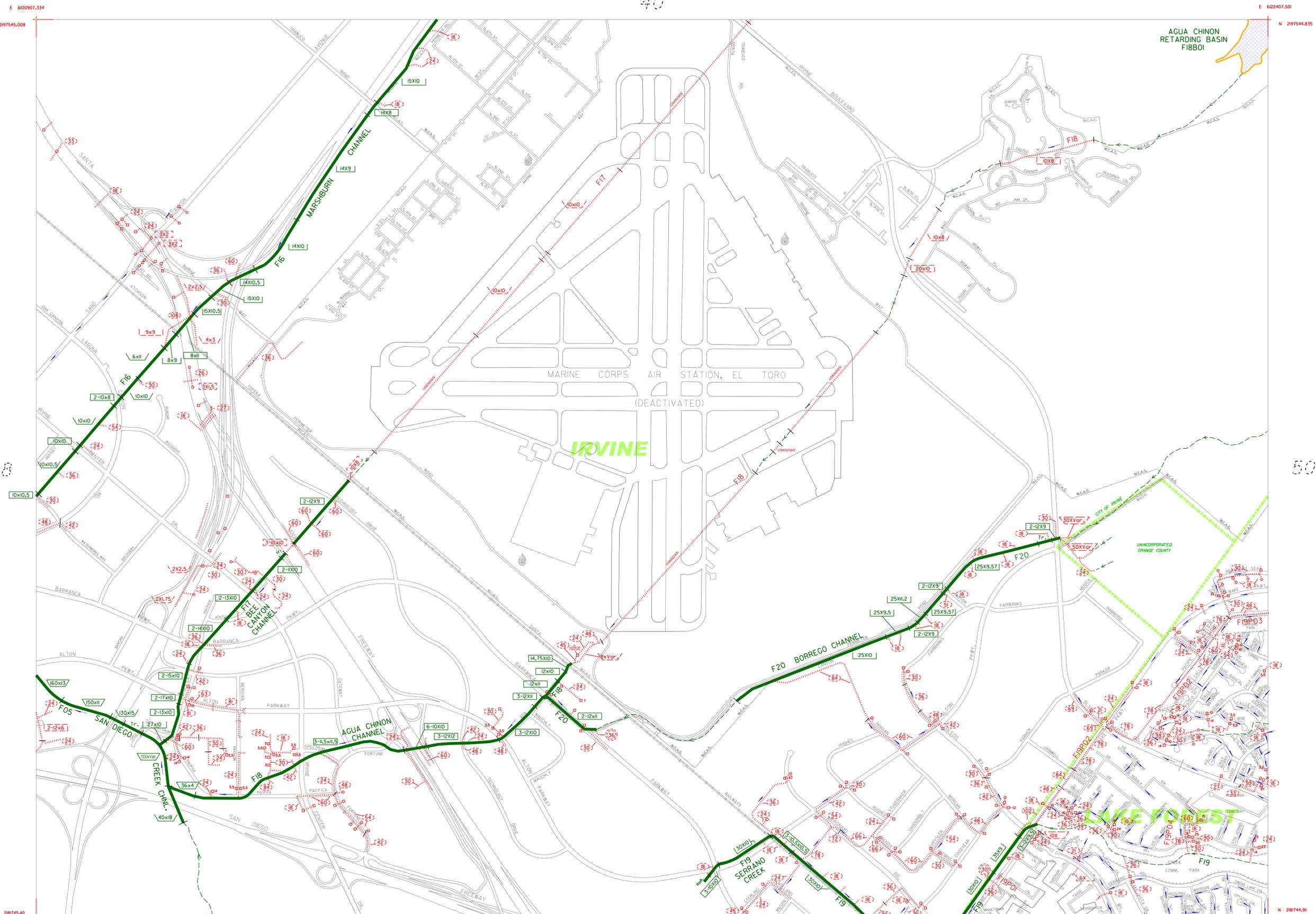
AGUA CHINON
RETARDING BASIN
F18B01

MARINE CORPS AIR STATION, EL TORO
(DEACTIVATED)

IRVINE

F20 BORRERO CHANNEL

LAKE FOREST



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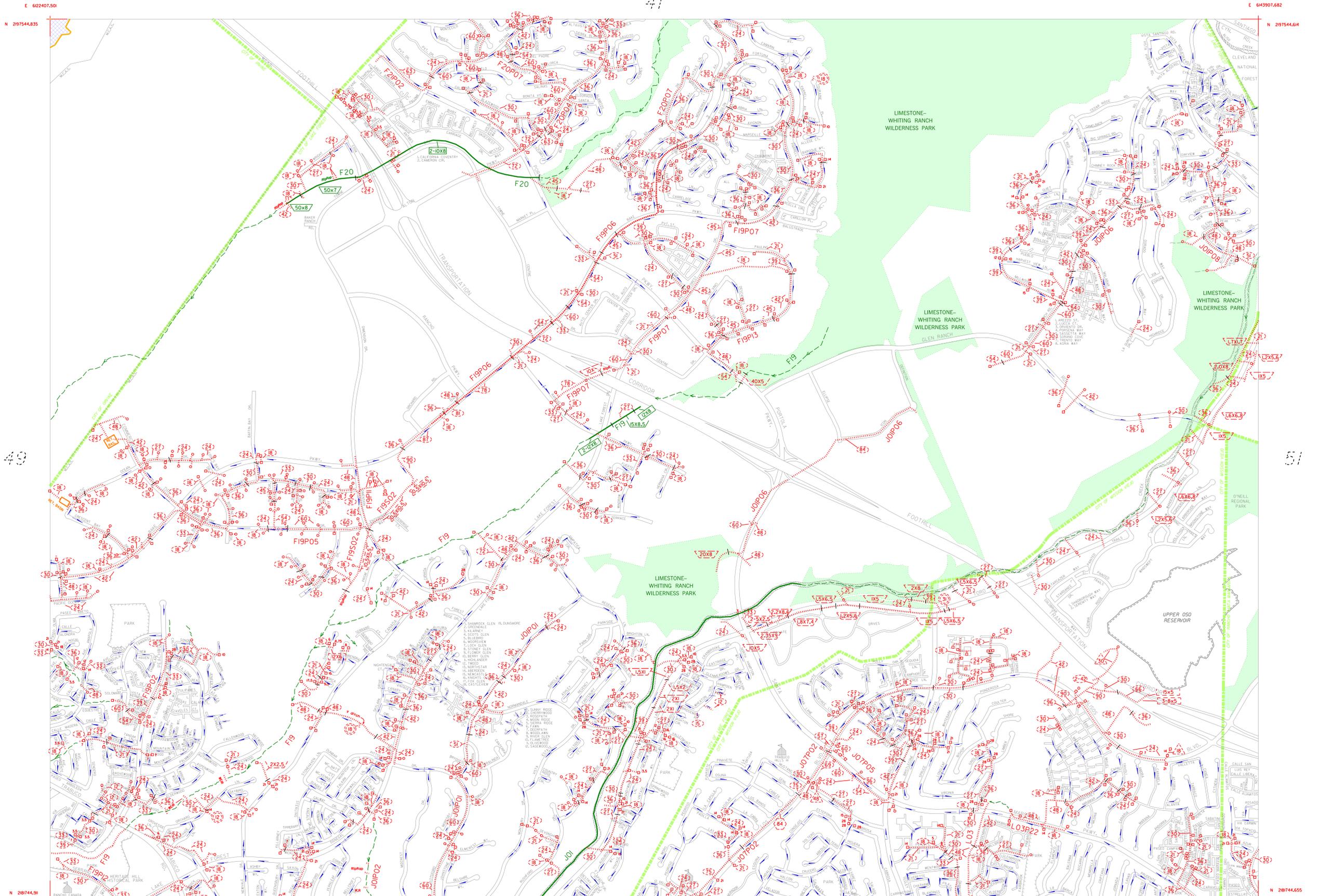
ORANGE COUNTY FLOOD CONTROL DISTRICT

BASE MAP OF DRAINAGE FACILITIES IN ORANGE COUNTY

REVISION	DATE	SHEET NO.	DWG. NO.
S. GUTIERREZ	OCT 1, 2008	49	MAPS-113-3

<ul style="list-style-type: none"> Channel Drainage Area Boundary Major Sub-Area Drainage Boundary Minor Sub-Area Drainage Boundary Existing O.C.F.C.D. Facility Existing Local Facility Existing Retarding Basin or Reservoir Natural Watercourse City Limits Greenbelt Pump Station Catch Basin (length in feet) Drop Inlet or Other Entry OCFCD Basins or Reservoirs 	<ul style="list-style-type: none"> Ownership (if other than City or County): Private = P State = S Federal = F 	<p>EXISTING FACILITIES</p> <p>O.C.F.C.D. LOCAL</p> <ul style="list-style-type: none"> Earth Trapezoidal Channel (base width by height in feet) Reinforced Concrete Trapezoidal Channel (base width by height in feet) Reinforced Concrete Rectangular Channel (base width by height in feet) Reinforced Concrete Box (RCB) (number of barrels-span by height in feet) Reinforced Concrete Pipe (RCP) (diameter in inches) Metal Sheet Channel (MSC) (base width by pile height in feet/Sheet pile total length) Corrugated Metal Pipe (CMP) (diameter in inches) Concrete Pipe (diameter in inches) Concrete Oval Pipe (width by height in inches) Steel Pipe (diameter in inches) Reinforced Concrete Arch (base span by height in inches) Corrugated Metal Arch (base span by height in inches)
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ORANGE COUNTY FLOOD CONTROL DISTRICT

**BASE MAP
OF DRAINAGE FACILITIES
IN ORANGE COUNTY**

REVISION	DATE	SHEET NO.	DWS. NO.
S. GUTIERREZ	MAR 12/2007	50	MAPS-113-3

Channel Drainage Area Boundary
 Major Sub-Area Drainage Boundary
 Minor Sub-Area Drainage Boundary
 Existing O.C.F.C.D. Facility
 Existing Local Facility
 Existing Retarding Basin or Reservoir
 Natural Watercourse
 City Limits
 Greenbelt
 Pump Station
 Catch Basin (length in feet)
 Drop Inlet or Other Entry
 OCFCD Basins or Reservoirs

Ownership: (If other than City or County), Private = P State = S Federal = F

EXISTING FACILITIES

O.C.F.C.D.	LOCAL	Description
		Earth Trapezoidal Channel (base width by height in feet)
		Reinforced Concrete Trapezoidal Channel (base width by height in feet) Reinforced Concrete Rectangular Channel (base width by height in feet)
		Reinforced Concrete Box (RCB) (number of barrels-span by height in feet) Reinforced Concrete Pipe (RCP) (diameter in inches) Metal Sheet Channel (MSC) (base width by pile height in feet/Sheet pile total length)
		Corrugated Metal Pipe (CMP) (diameter in inches) Concrete Pipe (diameter in inches)
		Concrete Oval Pipe (width by height in inches)
		Steel Pipe (diameter in inches)
		Reinforced Concrete Arch (base span by height in inches)
		Corrugated Metal Arch (base span by height in inches)



50

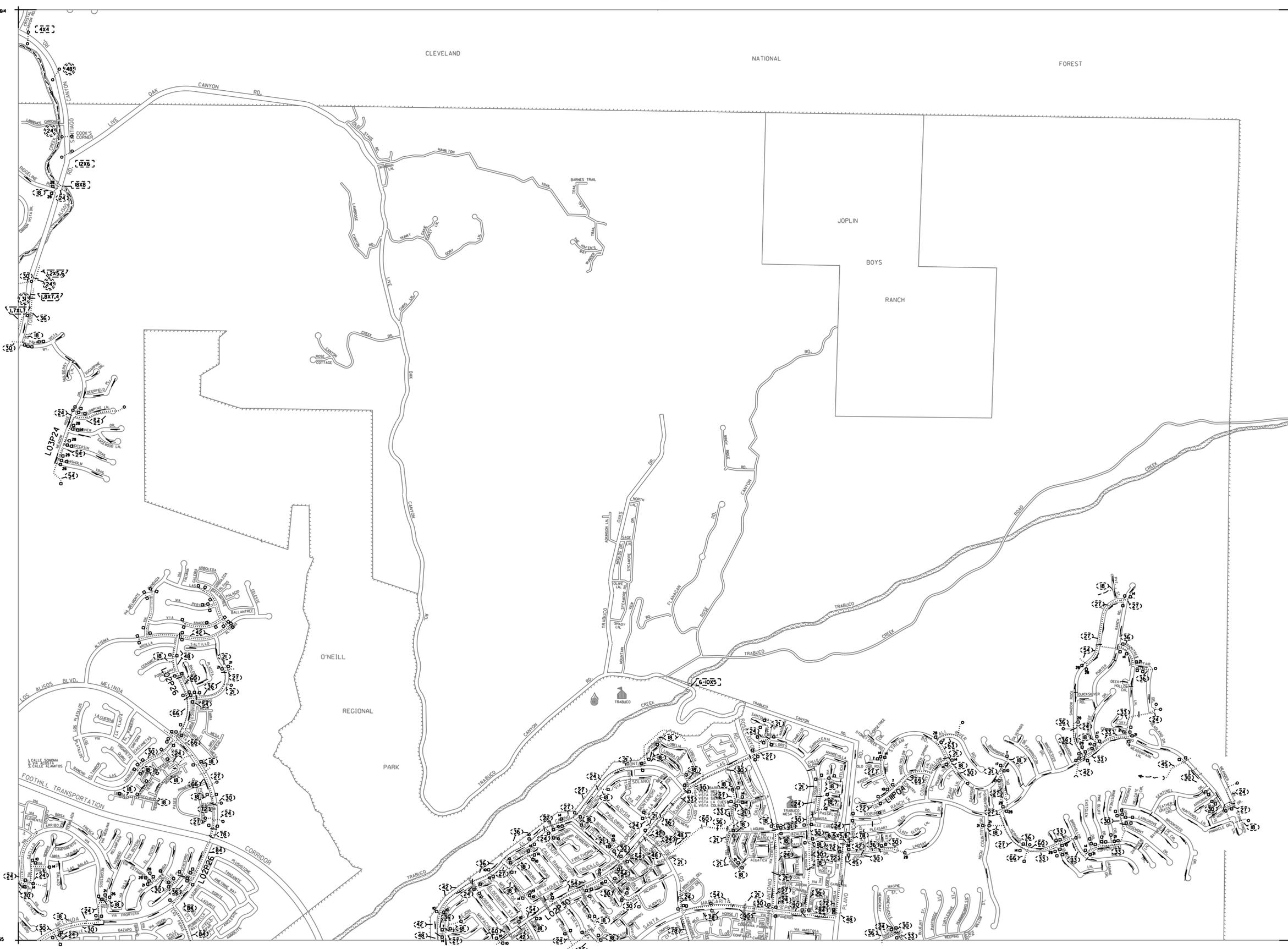
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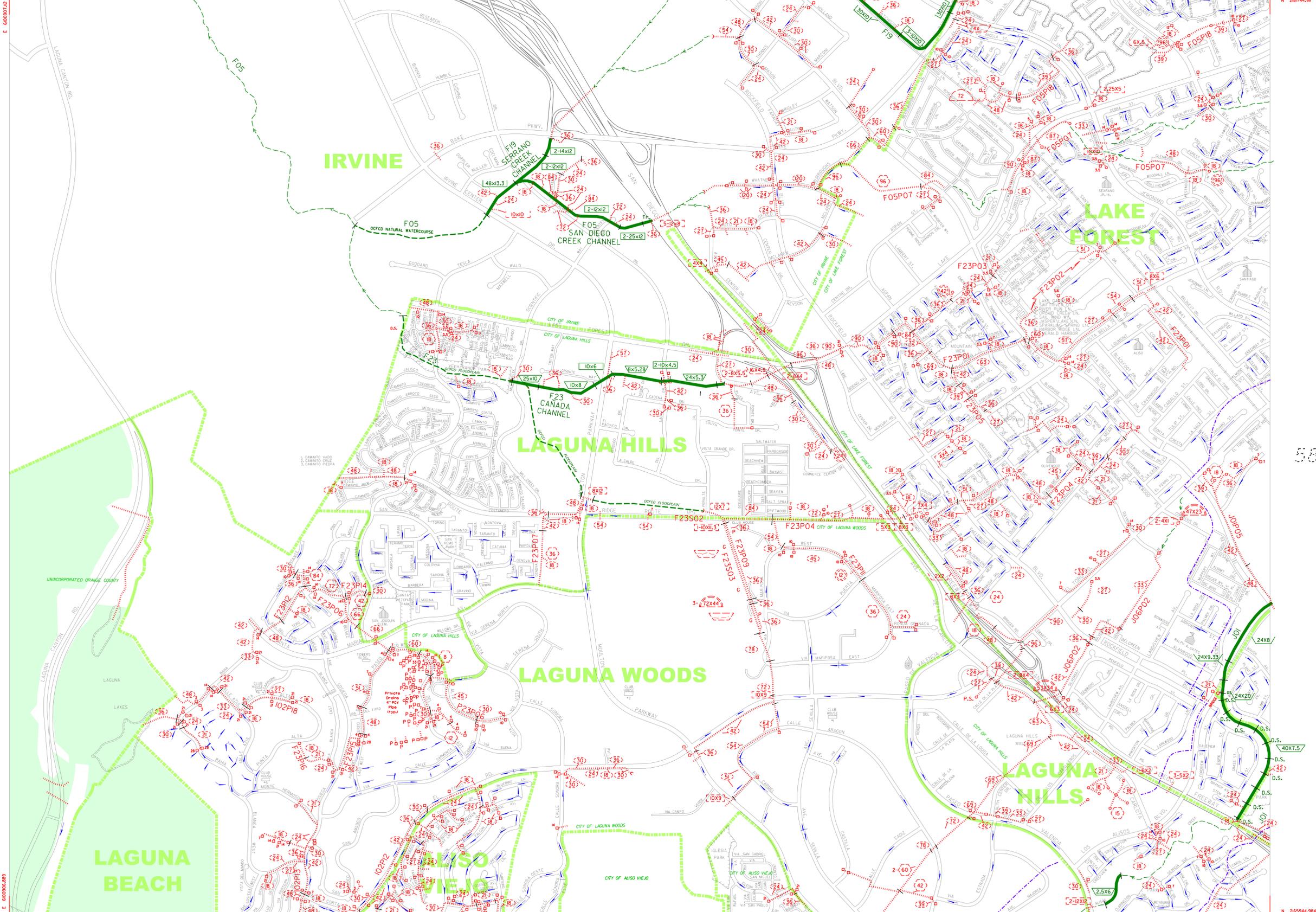
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ORANGE COUNTY FLOOD CONTROL DISTRICT			
BASEMAP OF DRAINAGE FACILITIES IN ORANGE COUNTY			
REVISION	DATE	SHEET NO.	DWG. NO.
AU1	JANUARY 2000	51	MAPS-113-3

<ul style="list-style-type: none"> Channel Drainage Area Boundary Major Sub-Area Drainage Boundary Minor Sub-Area Drainage Boundary Existing O.C.F.C.D. Facility Existing Local Facility Existing Retarding Basin or Reservoir Natural Watercourse City Limits Greenbelt Pump Station Catch Basin (length in feet) Drop Inlet or Other Entry Ownership (if other than city or county) Private State Federal 	<p>Existing O.C.F.C.D. Existing LOCAL</p>
---	---



56

58

NOTICE

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ORANGE COUNTY FLOOD CONTROL DISTRICT

BASE MAP OF DRAINAGE FACILITIES IN ORANGE COUNTY

REVISION	DATE	SHEET NO.	DWG. NO.
S. GUTIERREZ	OCT 1, 2008	57	MAPS-113-3

EXISTING FACILITIES

O.C.F.C.D. LOCAL

- Channel Drainage Area Boundary
- Major Sub-Area Drainage Boundary
- Minor Sub-Area Drainage Boundary
- Existing O.C.F.C.D. Facility
- Existing Local Facility
- Existing Retarding Basin or Reservoir
- Natural Watercourse
- City Limits
- Greenbelt
- Pump Station
- Catch Basin (length in feet)
- Drop Inlet or Other Entry
- OCFCD Basins or Reservoirs

Ownership: (If other than City or County): Private = P State = S Federal = F

- Earth Trapezoidal Channel (base width by height in feet)
- Reinforced Concrete Trapezoidal Channel (base width by height in feet)
- Reinforced Concrete Retarding Channel (base width by height in feet)
- Reinforced Concrete Box (RCB) (number of barrels-span by height in feet)
- Reinforced Concrete Pipe (RCP) (diameter in inches)
- Metal Sheet Channel (MSC) (base width by pile height in feet-Sheet pile total length)
- Corrugated Metal Pipe (CMP) (diameter in inches)
- Concrete Pipe (diameter in inches)
- Concrete Oval Pipe (width by height in inches)
- Steel Pipe (diameter in inches)
- Reinforced Concrete Arch (base span by height in inches)
- Corrugated Metal Arch (base span by height in inches)



57

57



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ORANGE COUNTY FLOOD CONTROL DISTRICT
**BASEMAP
 OF DRAINAGE FACILITIES
 IN ORANGE COUNTY**
 REVISION: AVU DATE: JAN. 12, 2000 SHEET NO.: 58 DWG. NO.: MAPS-113-3

	Channel Drainage Area Boundary		Existing O.C.F.C.D.		Existing LOCAL
	Major Sub-Area Drainage Boundary		Earth Trapezoidal Channel (base width by height in feet)		Reinforced Concrete Rectangular Channel (base width by height in feet)
	Minor Sub-Area Drainage Boundary		Reinforced Concrete Box (RCB) (number of bays by span by height in feet)		Reinforced Concrete Pipe (RCP) (diameter in inches)
	Existing Local Facility		Corrugated Metal Pipe (CMP) (diameter in inches)		Concrete Pipe (diameter in inches)
	Existing Retarding Basin or Reservoir		Concrete Oval Pipe (width by height in inches)		Steel Pipe (diameter in inches)
	City Limits		Reinforced Concrete Arch (base span by height in inches)		Corrugated Metal Arch (base span by height in inches)
	Pump Station				
	Catch Basin (length in feet)				
	Drop Inlet or Other Entry				
	Ownership (if other than city or county)				
	Private				
	State				
	Federal				

PORTOLA CENTER AREA PLAN

CHAPTER FIVE

INFRASTRUCTURE, COMMUNITY FACILITIES, & SERVICES

5.1 SUMMARY OF PROJECT FACILITIES & SERVICES

5.2 WATER DISTRIBUTION SYSTEM

5.3 WASTEWATER SYSTEM

5.4 STORM WATER DETENTION, TREATMENT AND DRAINAGE SYSTEM

5.5 ELECTRIC, GAS, AND COMMUNICATION SERVICES

5.6 POLICE, FIRE, AND EMERGENCY MEDICAL SERVICES

5.7 SCHOOLS

5.1 SUMMARY OF PROJECT FACILITIES AND SERVICES

This Chapter describes the water, waste water, storm water facilities, electric, gas, and communications facilities, police and fire services, and school services necessary to support for the Project.

As part of this Area Plan, the Portola Center Project includes a Public Facilities Financing & Phasing Plan that describes the major public and backbone improvements in the Project, outlines the financing options for construction and maintenance of the Project's major facilities and improvements, and lays out the major phases of grading and development. Further discussion of the timing of these facilities and services can be found in the PFFP Plan.

5.2 WATER DISTRIBUTION SYSTEM

Domestic water service and reclaimed water service are provided by the Irvine Ranch Water District (IRWD). Portola Center is within the Glenn Ranch Road Sub-area Master Plan for water facilities and Water Improvement District No. 188 which will be utilized to provide service to the new development. Existing 10", 12" and 16" water mains are located in Glenn Ranch Road and 10" and 16" water mains exist in Saddleback Ranch Road. These existing water mains will be utilized to provide domestic water service to the project's internal water distribution system. The Project's existing and proposed water distribution system is shown in Exhibit 5-1: Portola Center Water Distribution System below.

Reclaimed water facilities are not currently available to the Project site. The Project will include reclaimed water backbone infrastructure to HOA-maintained landscape areas and parks facilities such that those areas can be irrigated with reclaimed water should services become available to the Project site in the future.

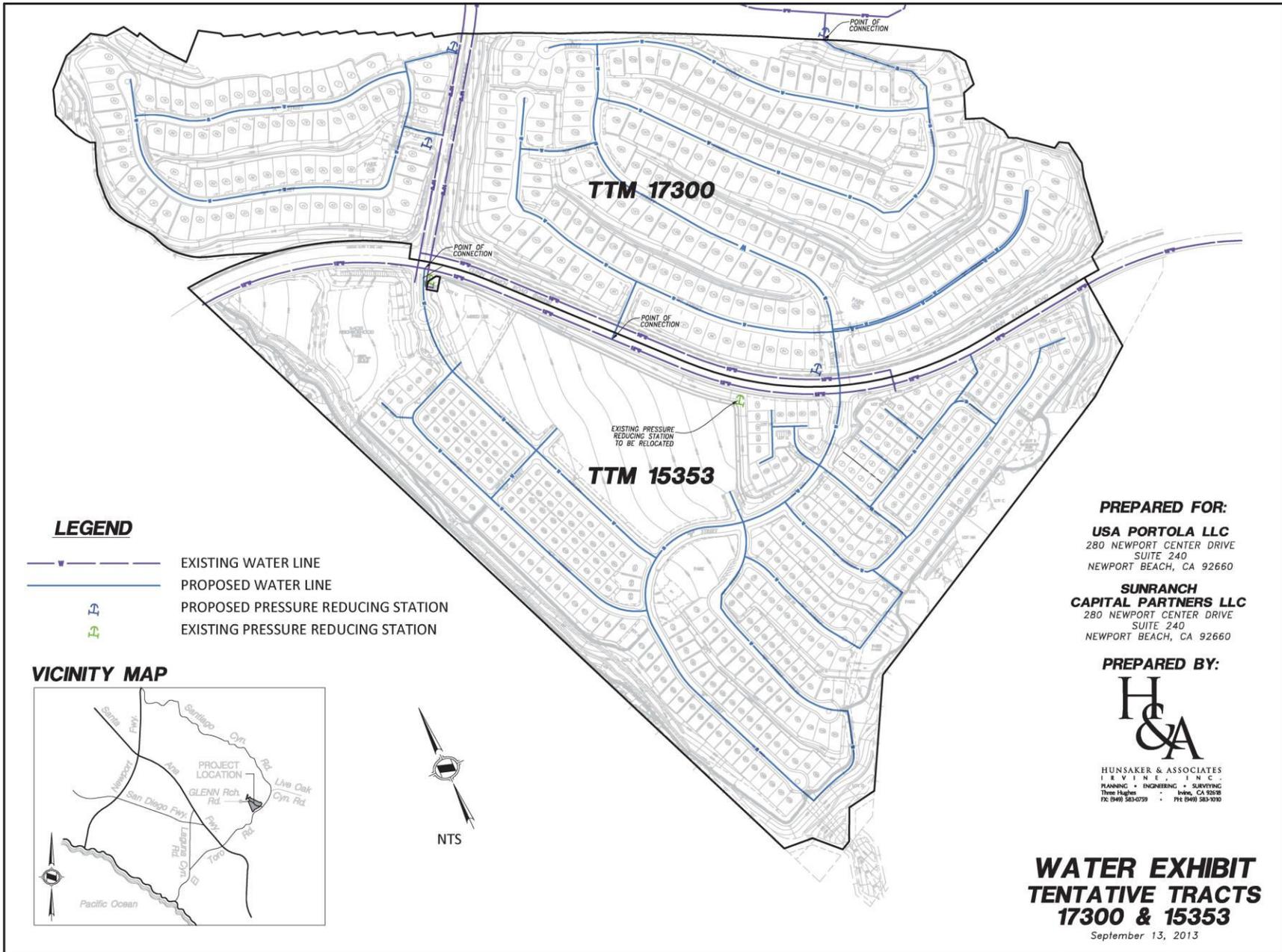
5.3 WASTEWATER SYSTEM

Sewage collection and treatment is provided by the Irvine Ranch Water District and the Santa Margarita Water District. The plan area is within the Glenn Ranch Sub-area Master Plan for sewer facilities and Sewer Improvement District No. 288 which will be utilized to provide service to the new development. A new 12-inch sewer line between Portola Parkway and Saddleback Ranch Road will provide service to the existing Portola Hills Community as well as the majority of the Portola Center Project. Approximately 125 homes within the southeastern portions of the Portola South Planning Area will sewer out to El Toro Road. The Project's existing and proposed wastewater system is shown in Exhibit 5-2: Portola Center Wastewater System below. This system will provide a gravity connection to the El Toro Trunk Sewer exiting out the southwest corner of the site and a gravity connection to the new 12-inch sewer line in Glenn Ranch Road exiting out the western corner of the site.

5.4 STORM WATER DETENTION, TREATMENT, AND DRAINAGE SYSTEM

The Project falls inside the edge of the San Diego Regional Water Quality Control Board (RWQCB) Basin Plan and, therefore, the Project must meet the applicable hydromodification and water quality treatment requirements of the San Diego RWQCB (reference specific regulations). The Project also must meet the Orange County Flood Control requirements to avoid downstream flooding impacts on existing properties or facilities. To meet these requirements, the Project incorporates a combination of hydromodification detention facilities, water quality treatment facilities, and flood control facilities. Where possible, the Project has optimized the design of these facilities by combining hydromodification and flood control functions and incorporating pre- and post-detention treatment facilities into the hydromodification and flood control facilities.

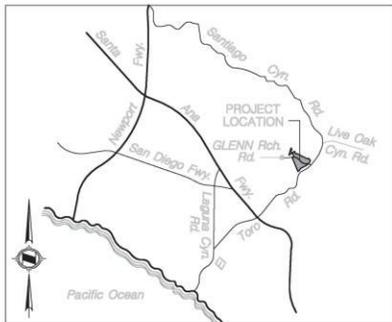
The Project will construct and maintain its own storm water facilities, including storm drain inlets and catch basins, underground storm drains, underground storm water detention and treatment facilities, and storm drain outfalls. The Project's storm drain system is depicted in Exhibit 5-3 below. Existing runoff from Portola Hills will flow into the underground detention chamber prior to controlled discharge into the natural drainage system offsite. All of the Portola Center Project's detention and treatment facilities are located in the Portola South Planning Area, and the Project's facilities are sized to accommodate storm water runoff from the Portola Northwest and Northeast Planning Areas as well as runoff from the South.



LEGEND

-  EXISTING WATER LINE
-  PROPOSED WATER LINE
-  PROPOSED PRESSURE REDUCING STATION
-  EXISTING PRESSURE REDUCING STATION

VICINITY MAP



PREPARED FOR:

USA PORTOLA LLC
 280 NEWPORT CENTER DRIVE
 SUITE 240
 NEWPORT BEACH, CA 92660

**SUNRANCH
 CAPITAL PARTNERS LLC**

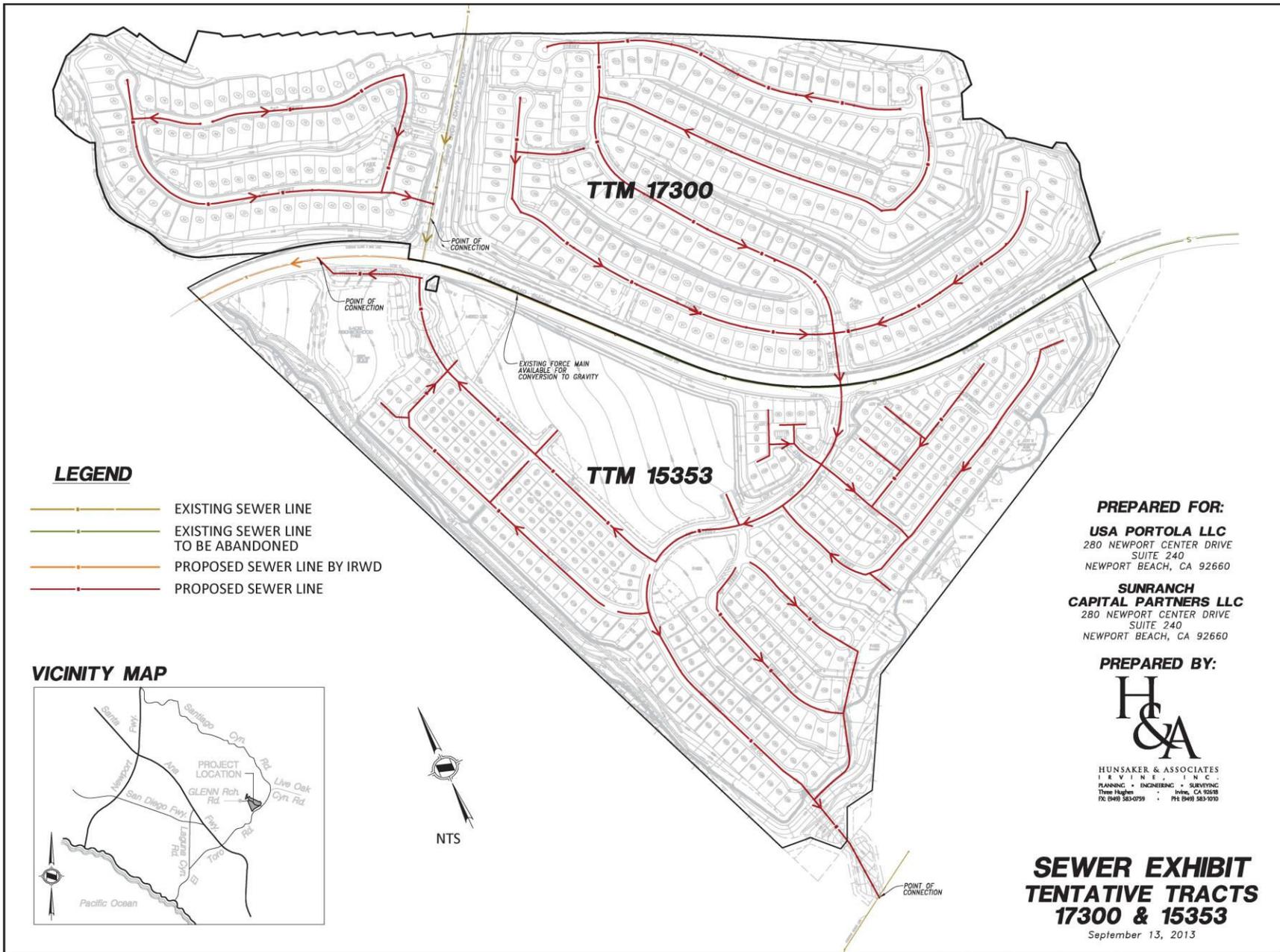
280 NEWPORT CENTER DRIVE
 SUITE 240
 NEWPORT BEACH, CA 92660

PREPARED BY:



**HUNSAKER & ASSOCIATES
 IRVINE, INC.**
 PLANNING • ENGINEERING • SURVEYING
 Three Hughes Irvine, CA 92618
 FX: (949) 583-0759 P: (949) 583-9100

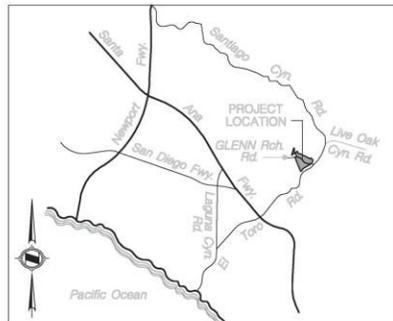
**WATER EXHIBIT
 TENTATIVE TRACTS
 17300 & 15353**
 September 13, 2013



LEGEND

-  EXISTING SEWER LINE
-  EXISTING SEWER LINE TO BE ABANDONED
-  PROPOSED SEWER LINE BY IRWD
-  PROPOSED SEWER LINE

VICINITY MAP



TTM 17300

TTM 15353

PREPARED FOR:
USA PORTOLA LLC
 280 NEWPORT CENTER DRIVE
 SUITE 240
 NEWPORT BEACH, CA 92660

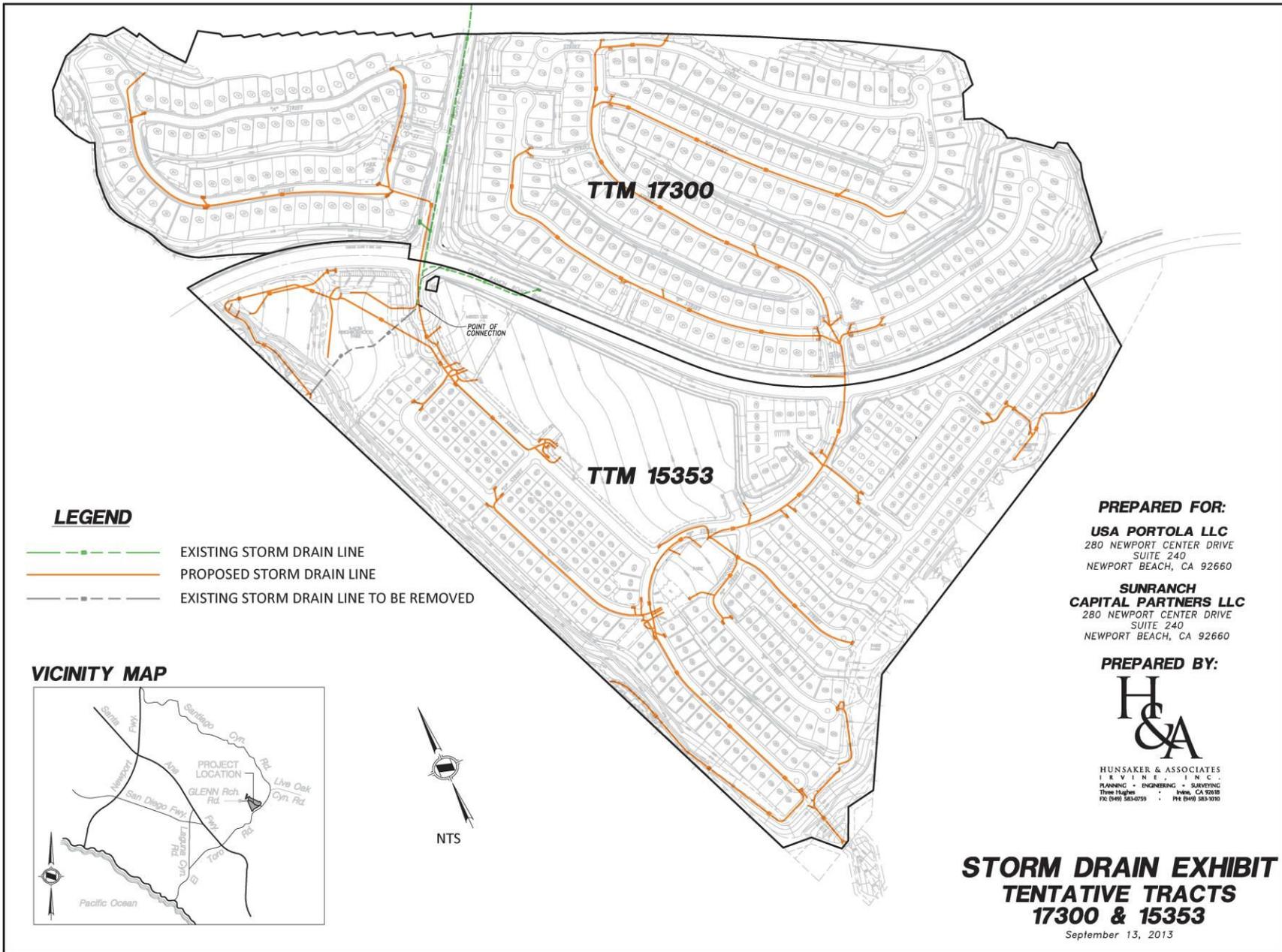
**SUNRANCH
 CAPITAL PARTNERS LLC**
 280 NEWPORT CENTER DRIVE
 SUITE 240
 NEWPORT BEACH, CA 92660

PREPARED BY:



**HUNSAKER & ASSOCIATES
 IRVINE INC.**
 PLANNING • ENGINEERING • SURVEYING
 Three Hughes Irvine, CA 92618
 PO (949) 583-0759 FAX (949) 583-1010

**SEWER EXHIBIT
 TENTATIVE TRACTS
 17300 & 15353**
 September 13, 2013



**Exhibit 5-3
 Portola Center Storm Drain System**

5.5 ELECTRIC, GAS, AND COMMUNICATION SERVICES

The Project's dry utilities include electrical and natural gas services, and communication services (telephone, cable and internet). Southern California Edison (SCE) and Southern California Gas Company provide electric and gas services, respectively, to the Project and the surrounding area. Electrical transmission service to the Project area is provided via a transmission line extending along Santiago Canyon Road and natural gas transmission service is provided via a 6-inch main within El Toro Road. Electric and gas distribution services are extended through Glenn Ranch Road and Saddleback Ranch Road to which the Project will connect. The developer will be responsible for constructing connections to these distribution facilities and the backbone distribution systems for the Project.

Telephone, Cable, and Internet services also exist in Glenn Ranch Road and Saddleback Ranch Road and these services will be extended into the Project at the Project's four entrances. Internal to the Project, the Project Developer will be responsible for constructing backbone utility infrastructure and providing extensions to the various neighborhoods in the Project. The dedication and construction of utility infrastructure within individual neighborhoods will be the responsibility of the builder(s) with each subdivision map for that neighborhood. Transformer and cable box locations shall be carefully planned and coordinated with the utility company, the landscape architect, and the builder to be unobtrusive and screened from public view where possible.

5.6 POLICE, FIRE, AND EMERGENCY MEDICAL SERVICES

The City of Lake Forest contracts with the Orange County Sheriff-Coroner's Department for law enforcement and protection. The community is served by the Aliso Viejo Sheriff's Station located in Aliso Viejo, approximately 10 miles south of the site. Service levels and response times to the Portola Center Planned Community are considered sufficient to meet current law enforcement needs and no additional on-site facilities are required to serve the planned development.

The City of Lake Forest contracts with the Orange County Fire Authority (OCFA) for fire and emergency medical services. The Fire Authority provides fire suppression, fire prevention (construction and maintenance inspections), and paramedic services. First responding units to the Planning Area would be from OCFA Station #42 located at 19150 Ridgeline Road approximately 0.6 miles northeast of the plan area, within the Portola Hills Planned Community. OCFA Station #42 employs three captains, three engineers and three firefighters and houses two engines. Current personnel and equipment at the fire station are adequate for life and property protection within the project site, thus, no additional on-site facilities will be required. OCFA also has automatic aid agreements with adjoining jurisdictions, as well as mutual aid agreements for brush fire response.

As a requirement of all new residential development in California, all homes within the Project will be constructed with internal fire sprinkler systems. All of the structures in the Project will be constructed to meet all applicable California Building Code and Fire Code standards and OCFA regulations for fire safe project design and building construction. Fire hydrants and connections shall be located and designed at the direction of the Orange County Fire Authority and shall be placed in plain sight and in locations that allow for quick and unobstructed access by fire personnel. The Project is surrounded on three sides by natural vegetation and, therefore, will include permanently irrigated Fuel Modification Zones around these three sides of the Project as well as vegetation management on the Project's interior slopes to protect structures and homes from the threat posed by wildland fires. More information on the layout and details of the Fuel Modification Zones is contained in Chapter Eight of this Area Plan.

5.7 SCHOOLS

The project is located within the jurisdiction of the Saddleback Valley Unified School District (SVUSD). Portola Hills Elementary School is located within the Portola Hills Planned Community within one half mile of the Project site along Saddleback Ranch Road. The Portola Center Project will result in the generation of additional school-age children who are expected to largely attend schools within the Saddleback Valley Unified School District, including Portola Hills Elementary. As part of the Portola Center Development Agreement, the Portola Center property owners entered into a School Mitigation Agreement with SVUSD. The School Mitigation Agreement requires the project to contribute approximately \$2.9 million to the School District which is required to be used for modernization of the Portola Hills Elementary School. In addition, the Project Developer will pay a per unit fee of \$8,415 for every home built in Portola Center to the school district for a total contribution of more than \$10.7 million to the School District.