

APPENDIX G

FOCUSED TRAFFIC ANALYSIS AND VEHICLE MILES TRAVELED SCREENING

- G-1: LAKE FOREST WAREHOUSES (UP 06-21-5437, 06-21-5438 & 07-21-5447) FOCUSED TRAFFIC ANALYSIS
- G-2: LAKE FOREST WAREHOUSE VEHICLE MILES TRAVELED SCREENING EVALUATION

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G-1: Lake Forest Warehouses (UP 06-21-5437, 06-21-5438 & 07-21-5447) Focused Traffic Analysis

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Lake Forest Warehouses (UP 06-21-5437, 06-21-5438 & 07- 21-5447)

**FOCUSED TRAFFIC ANALYSIS
CITY OF LAKE FOREST**

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LIST OF ABBREVIATED TERMS

[1]	Reference
ADT	Average Daily Traffic
cy	Cubic Yards
E+P	Existing plus Project
HCM	Highway Capacity Manual
ICU	Intersection Capacity Utilization
ITE	Institute of Transportation Engineers
LOS	Level of Service
OCFA	Orange County Fire Authority
OCTA	Orange County Transportation Authority
PCE	Passenger Car Equivalent
PHF	Peak Hour Factor
Project	Lake Forest Warehouses
SCAQMD	South Coast Air Quality Management District
TA	Transportation Analysis
V/C	Volume to Capacity
WP	With Project

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1 INTRODUCTION

This report presents the results of the operational analysis for the proposed Lake Forest Warehouses development (“Project”), which are located at 26200 Enterprise Way, 26110/26140/26160 Enterprise Way, and 26250 Enterprise Way in the City of Lake Forest. Exhibit 1-1 depicts the location of the proposed Project in relation to the surrounding existing roadway network.

The purpose of this focused traffic analysis (TA) is to evaluate the potential deficiencies to traffic and circulation associated with the development of the proposed Project, and to recommend improvements in order to meet the City’s applicable thresholds and demonstrate General Plan conformance. The study follows the City of Lake Forest CEQA Significant Thresholds Guide (revised July 21, 2020, **City’s Guidelines**). [1]

1.1 SUMMARY OF FINDINGS

The Project Applicant proposes to install various off-site improvements to enhance public safety and address concerns over pre-existing and future turning movements at five intersections within the City. The Project proposes to install these features as a community benefit at the following five intersections: Bake Parkway & Commercentre Drive, Dimension Drive & Commercentre Drive/Enterprise Way, Rancho Parkway & Lake Forest Drive, Bake Parkway & Dimension Drive, and Dimension Drive & Lake Forest Drive.

These improvements are discussed in detail in Section 1.5 *Recommendations*. With the addition of these Project design features, there are no deficiencies to the study area intersections under the “With Project” scenarios. As such, no additional off-site improvements have been identified.

1.2 PROJECT OVERVIEW

The proposed Project consists of the following (see Exhibit 1-2):

- 26200 Enterprise Way is currently occupied with 144,906 square feet of general office use within a single building and will be redeveloped with a 165,803 square foot warehouse building, which is comprised of 155,803 square feet of warehousing space, 5,000 square foot office (1st floor), and 5,000 square foot office (2nd floor). However, in an effort to conduct a conservative analysis we will evaluate this building assuming a manufacturing facility. The two existing points onto Enterprise Way and reciprocal access to the office parking lot in the northeast corner of the site will be maintained. Both driveways on Enterprise Way could both accommodate trucks.
- 26110, 26140, and 26160 Enterprise Way is currently occupied with three office buildings totaling 145,440 square feet. The site will be redeveloped with a single 153,000 square foot warehouse building, which is comprised of 138,000 square feet of warehouse space, 8,000 square foot office (1st floor), and 7,000 square foot office (2nd floor). Since the time this traffic study was prepared, the site plan square footage has been reduced. However, for the purposes of this traffic study and in order to provide flexibility in final site plan changes, the higher square footage has been analyzed to provide a more conservative analysis.

EXHIBIT 1-1: LOCATION MAP



EXHIBIT 1-2: PRELIMINARY SITE PLAN



- For the purposes of the analysis, this building has been evaluated assuming 81,400 square feet of warehousing use and 76,900 square feet of manufacturing use. A new right-in/right-out driveway is proposed along Bake Parkway at the eastern end of the property that will serve passenger cars only. The existing westerly driveway on Enterprise Way would remain but is proposed to be widened to accommodate the truck turns. A new driveway is proposed in the southeast corner of the site onto Enterprise Way.
- 26250 Enterprise Way is currently occupied with a 76,841 square foot general office use within a single building and will be redeveloped with a 77,000 square foot warehouse building, which is comprised of 69,000 square feet of warehousing space, 4,000 square foot office (1st floor), and 4,000 square foot office (2nd floor, mezzanine). For the purposes of the analysis, this building will be evaluated assuming 78,000 square feet of warehousing use only (no manufacturing use). The two existing access points onto Enterprise Court will remain in addition to the reciprocal access into the parking lot to the west of the building (southwest corner). The northerly driveway on Enterprise Court will serve trucks.

Additionally, the conceptual grading requirements for the Project site include cut quantities of 5,941 cubic yards (cy), fill quantities of 7,108 cy, and 1,167 cy of import required to raise the grade to meet the building height requirement. The net import/export quantity would be 1,167 cy. Quantity may vary as final grading plans are developed. The Project's conceptual grading plan provides 767 linear feet of retaining walls up to 8-feet tall (from top of wall to the top of footing) along the northerly and westerly property lines to accommodate the required cut and fill.

The Project is anticipated to be developed within a single phase with an anticipated opening year of 2024. Regional access to the Project site is available from the I-5 Freeway or SR-241.

Trips generated by the Project's proposed land uses have been estimated based on trip generation rates published by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation Manual, 11th Edition (2021). [2] The Project is anticipated to generate a total of 1,434 two-way trips per day on a typical weekday, with 190 AM peak hour trips and 205 PM peak hour trips (actual vehicles). The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following scenarios:

- Existing (2021)
- Existing plus Project (all 3 buildings)
- Opening Year Cumulative (2024) With Project (all 3 buildings)

1.3.1 EXISTING (2021) CONDITIONS

Information for Existing conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. As local schools were back in session as of August 16, 2021, we have conducted new traffic counts on Thursday, August 19, 2021, for the study area intersections and are proposing to not apply any adjustment factors to account for effects related

to the currently ongoing COVID-19 pandemic (some of which may be in effect for the foreseeable future). Information for Existing (2021) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared.

1.2.2 EXISTING PLUS PROJECT CONDITIONS

The Existing plus Project (E+P) conditions analyses determines the potential circulation system deficiencies based on a comparison of the E+P traffic conditions to Existing conditions. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. The Project for this analysis scenario includes traffic from all 3 sites located at 26200 Enterprise Way, 26110/26140/26160 Enterprise Way, and 26250 Enterprise Way. No additional background growth or cumulative project traffic has been included for this analysis scenario. The E+P analysis scenario is intended to identify project-related deficiencies associated with the development of the proposed Project based on the expected background growth within the study area.

1.3.3 OPENING YEAR CUMULATIVE (2024) CONDITIONS

The Opening Year Cumulative (2024) With Project traffic conditions analyses determine the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, an ambient growth factor of 6.12% (2.0 percent per year, compounded over 3 years from 2021 to 2024) or:

$$1.02^3 \text{ years which equals } 1.0612 \text{ or } 6.12\%$$

Conservatively, the TA estimates the area ambient traffic growth for 2024 conditions and then adds traffic generated by other known or probable related projects in conjunction with Project traffic as provided by City staff. These related projects are at least in part already accounted for in the assumed 2.0% of ambient growth; and some of these related projects would likely not be implemented and operational within the 2024 Opening Year time frame assumed for the Project. The Project for this analysis scenario includes traffic from all 3 sites located at 26200 Enterprise Way, 26110/26140/26160 Enterprise Way, and 26250 Enterprise Way.

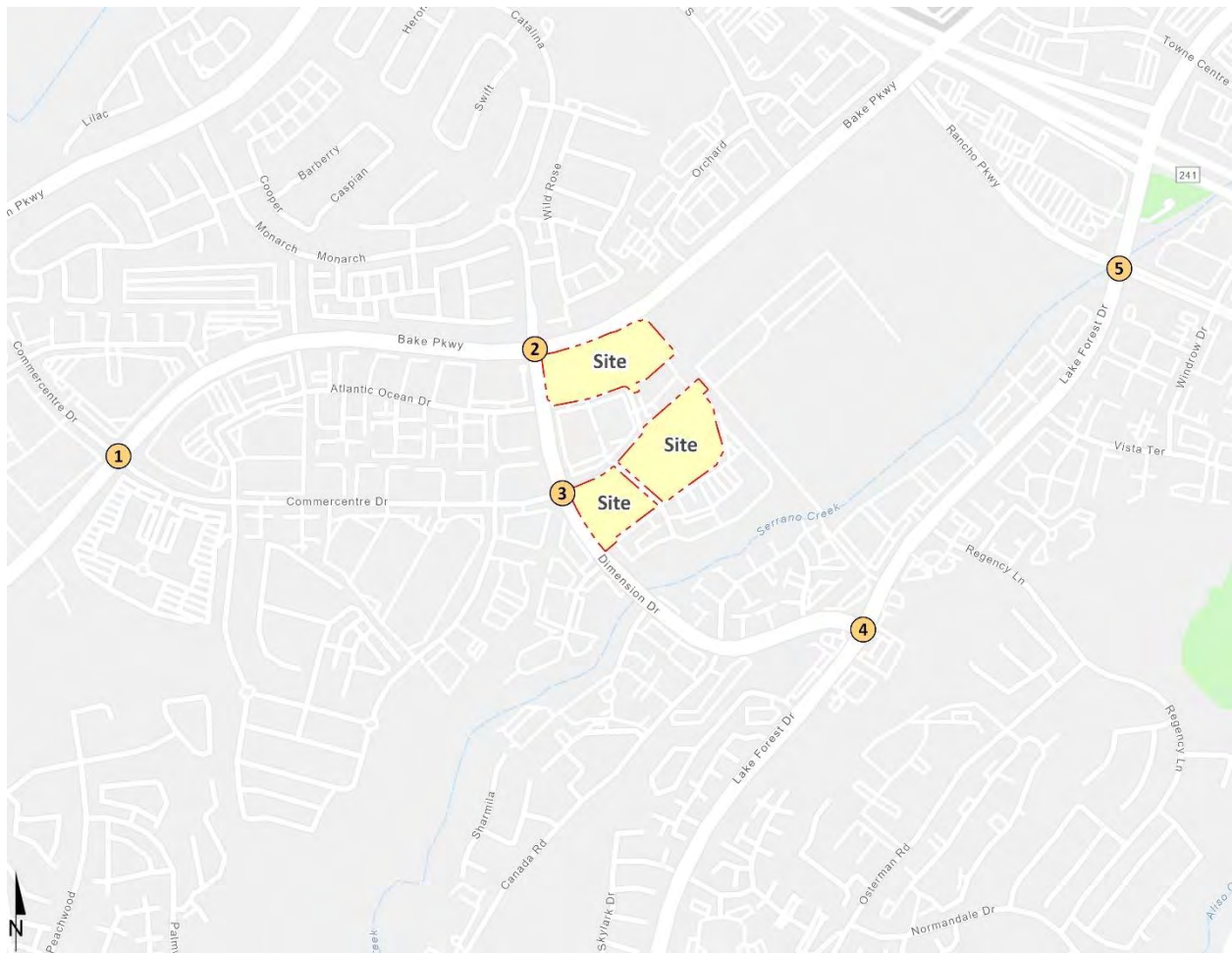
1.3 STUDY AREA

The study area was defined in conformance with the requirements of the City of Lake Forest Guidelines. A traffic study scoping agreement summarizing the study area, trip generation, trip distribution and analysis methodology was provided to the City of Lake Forest for review. The agreement approved by the City of Lake Forest is included in Appendix 1.1.

It should be noted that the approved scoping agreement identified 5 analysis locations. The study area intersection locations shown on Exhibit 1-3 and listed in Table 1-1 were selected for this TA based on an approved scoping agreement with the City of Lake Forest.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction
1	Bake Pkwy. & Commercentre Dr.	Lake Forest
2	Dimension Dr. & Bake Pkwy.	Lake Forest
3	Dimension Dr. & Commercentre Dr./Enterprise Wy.	Lake Forest
4	Lake Forest Dr. & Dimension Dr.	Lake Forest
5	Lake Forest Dr. & Rancho Pkwy.	Lake Forest

EXHIBIT 1-3: STUDY AREA

1.4 ANALYSIS FINDINGS

This section provides a summary of the analysis results for Existing and Opening Year Cumulative traffic conditions. For all study area intersections, analysis results are provided using the Highway Capacity Manual (HCM) and Intersection Capacity Utilization (ICU) methodologies.

Existing (2021) Conditions

A summary of level of service (LOS) results for Existing traffic conditions are presented in Table 1-2. As shown, the study area intersections meet the minimum guidelines recommended by the General Plan. There are currently queuing issues at the following locations:

- Dimension Dr. & Bake Pkwy. (#2) – Southbound left turn lane – AM peak hour only
- Lake Forest Dr. & Dimension Dr. (#4) – Eastbound left turn lane – PM peak hour only

TABLE 1-2: SUMMARY OF DEFICIENT INTERSECTIONS BY ANALYSIS SCENARIO

#	Intersection	Existing (2021)		E+P		2023 WP	
		AM	PM	AM	PM	AM	PM
1	Bake Pkwy. & Commercentre Dr.	●	●	●	●	●	●
2	Dimension Dr. & Bake Pkwy.	●	●	●	●	●	●
3	Dimension Dr. & Commercentre Dr./Enterprise Wy.	●	●	●	●	●	●
4	Lake Forest Dr. & Dimension Dr.	●	●	●	●	●	●
5	Lake Forest Dr. & Rancho Pkwy.	●	●	●	●	●	●

● = A - D ● = E ● = F

E+P Conditions

As shown on Table 1-2, the study area intersections are anticipated to continue to meet the minimum guidelines recommended by the General Plan with the addition of Project traffic (includes all 3 buildings). Although the overall intersections are anticipated to operate at acceptable LOS, there are queuing issues anticipated at the following location, consistent with Existing conditions:

- Dimension Dr. & Bake Pkwy. (#2) – Southbound left turn lane – AM peak hour only

Opening Year Cumulative (2024) With Project Conditions

As shown on Table 1-2, the study area intersections are anticipated to continue to meet the minimum guidelines recommended by the General Plan under Opening Year Cumulative (2024) With project traffic conditions (includes all 3 buildings). Although the overall intersections are anticipated to operate at acceptable LOS, there are queuing issues anticipated at the following locations:

- Dimension Dr. & Bake Pkwy. (#2) – Southbound left turn lane – AM peak hour only
- Lake Forest Dr. & Dimension Dr. (#4) – Eastbound left turn lane – PM peak hour only

1.5 PROJECT DESIGN FEATURES

Concept striping plans have been prepared for each analysis location reflecting project design features as it pertains to number of lanes, intersection control, turn pocket storage, and other physical improvements needed to accommodate truck turns and to support acceptable peak hour intersection operations. If applicable, concept plans have identified potential impacts to existing infrastructure and right-of-way constraints. The following intersection improvements are proposed:

- **Bake Pkwy. & Commercentre Dr. (#1):** The City has requested the elimination of the existing split-phase signal operation along Commercentre Dr. to change to traditional protected left-turn phasing. Lane geometrics for the westbound approach (Commercentre Dr.) would be dual left turn lanes and a shared through-right turn lane (preferred 20-foot width) in order to accommodate the proposed protected left turn phasing. These lane geometrics and signal phasing operation were also evaluated and also resulted in acceptable peak hour operations. Although not needed to maintain acceptable peak hour operations at the intersection, a northbound right turn lane on Bake Pkwy. Has been recommended due to the high volume of traffic (existing and future). The recommended storage for the northbound right turn lane is 200-feet. Exhibit 1-4 illustrates the proposed improvements for the intersection of Bake Parkway and Commercentre Drive.
- **Dimension Dr. & Bake Pkwy. (#2) –** It is recommended that the median be modified to accommodate a westbound left turn pocket with 430-feet of storage. Although there is also queuing in the southbound left turn lane during the morning peak hour, no additional storage has been recommended as this is likely due to morning peak commute traffic coinciding with the morning drop-offs for local schools. The intersection immediately to the north (Mahogany) is located approximately 570-feet to the north of Bake Pkwy., as such, there is sufficient stacking in the southbound approach to accommodate the morning peak hour queues without affecting the operations at the upstream intersection. Exhibit 1-5 illustrates the proposed improvements for the intersection of Dimension Drive and Bake Parkway.
- **Dimension Dr. & Commercentre Dr./Enterprise Wy. (#3):** The City has requested the intersections be evaluated with protected left-turn phasing along Enterprise Wy. (currently permissive). Dimension Dr. & Commercentre is anticipated to continue to operate at acceptable levels during the peak hours. The need for a northbound right turn lane was also assessed and the proposed Project (all 3 buildings) is anticipated to contribute 3 or fewer trucks during the peak hours to this movement and the existing/future traffic volume is low. As such, no northbound right turn lane was recommended.
- **Lake Forest Dr. & Dimension Dr. (#4):** Similarly, the need for a southbound right turn lane was also assessed and the proposed Project (all 3 buildings) is anticipated to contribute 2 or fewer trucks during the peak hours to this movement and the existing/future truck traffic volume is no more than 10 trucks. As such, no southbound right turn lane was recommended. However, the northbound left turn lane should be modified to accommodate 250-feet of storage and the eastbound left turn lane to accommodate 205-feet of storage. Exhibit 1-6 illustrates the proposed improvements for the intersection of Lake Forest Drive and Dimension Drive.

EXHIBIT 1-4: CONCEPT STRIPING FOR BAKE PARKWAY & COMMERCENTRE DRIVE

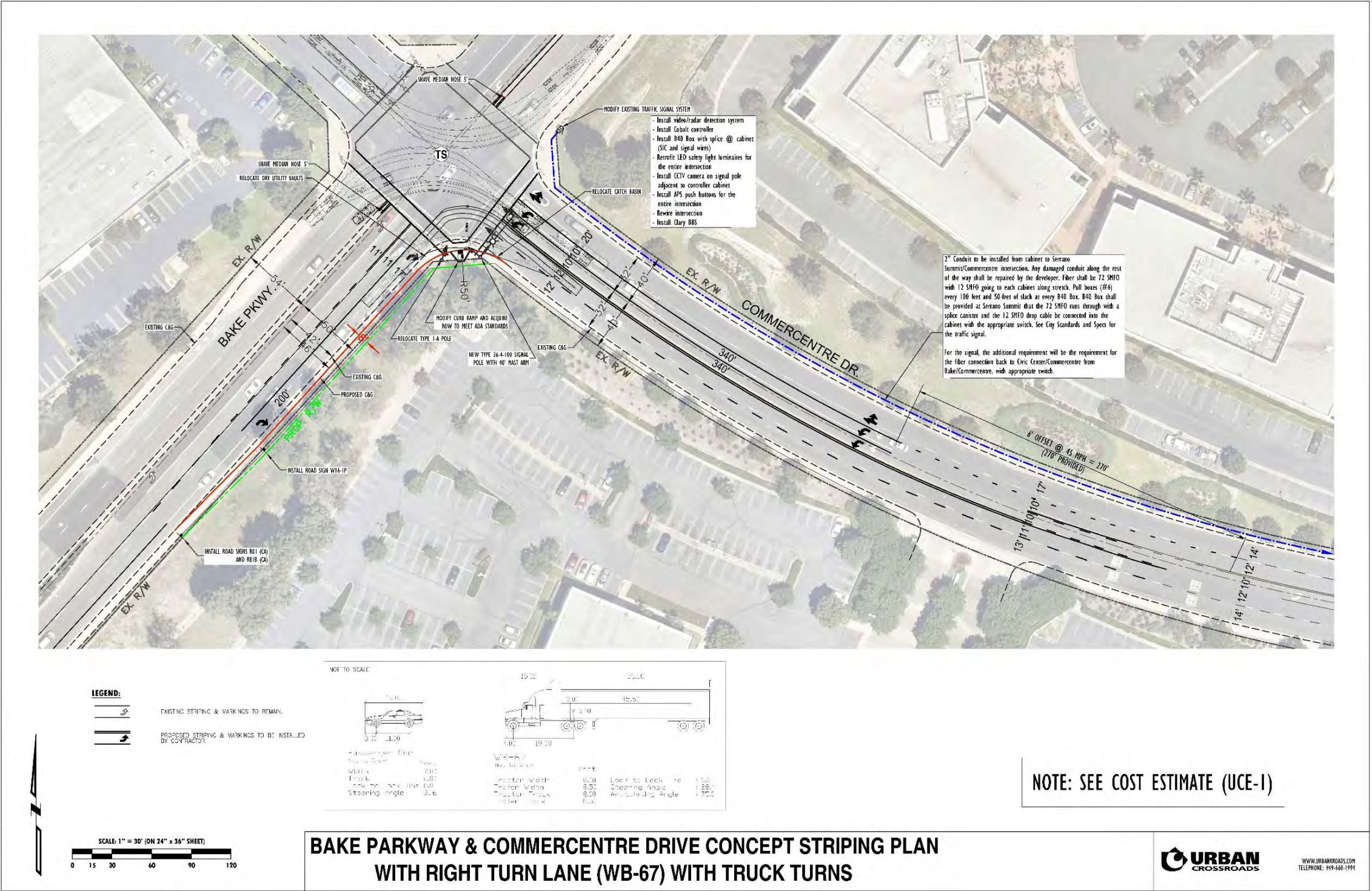


EXHIBIT 1-5: CONCEPT STRIPING FOR DIMENSION DRIVE & BAKE PARKWAY

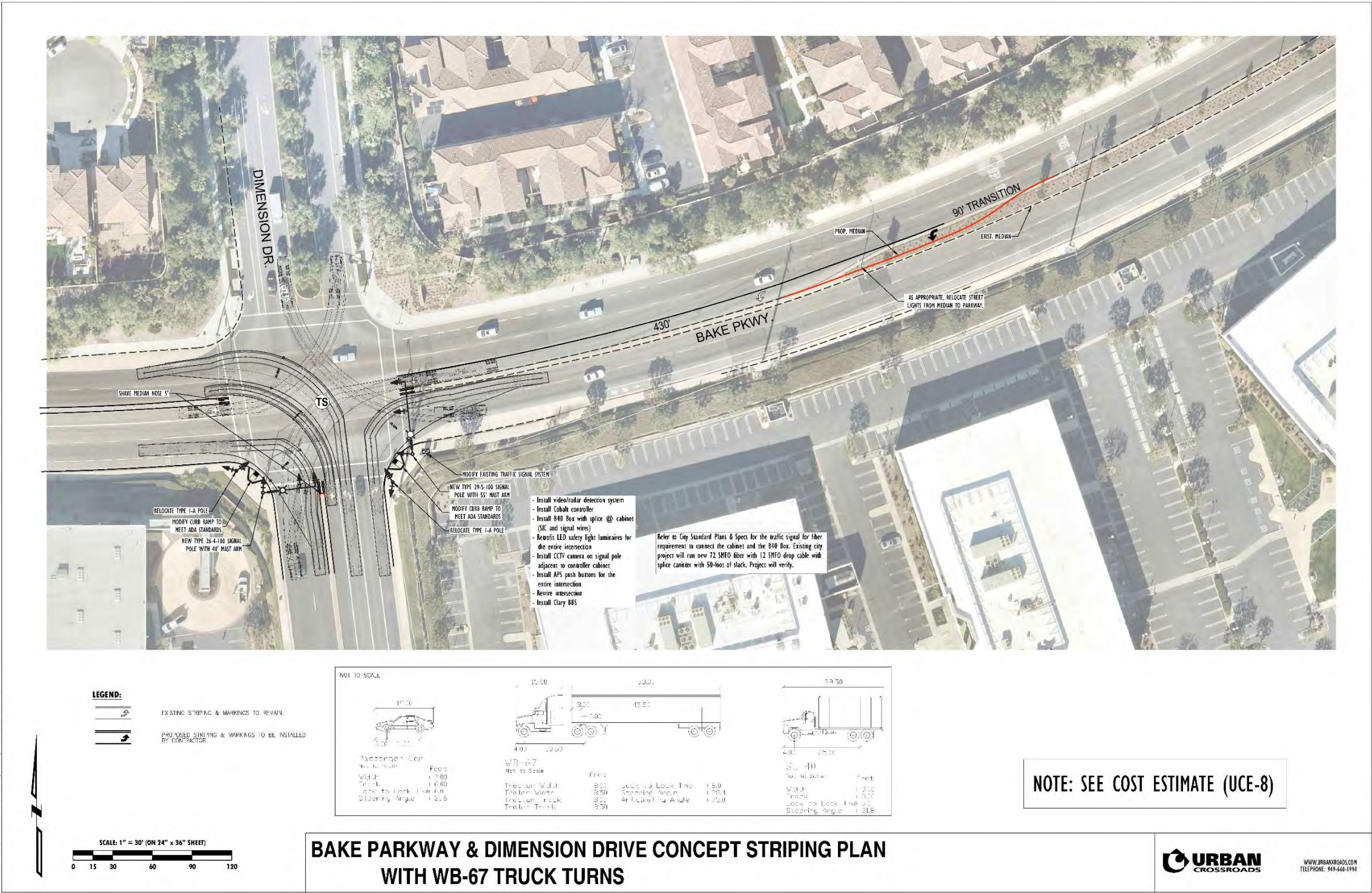


EXHIBIT 1-6: CONCEPT STRIPING FOR LAKE FOREST DRIVE & DIMENSION DRIVE

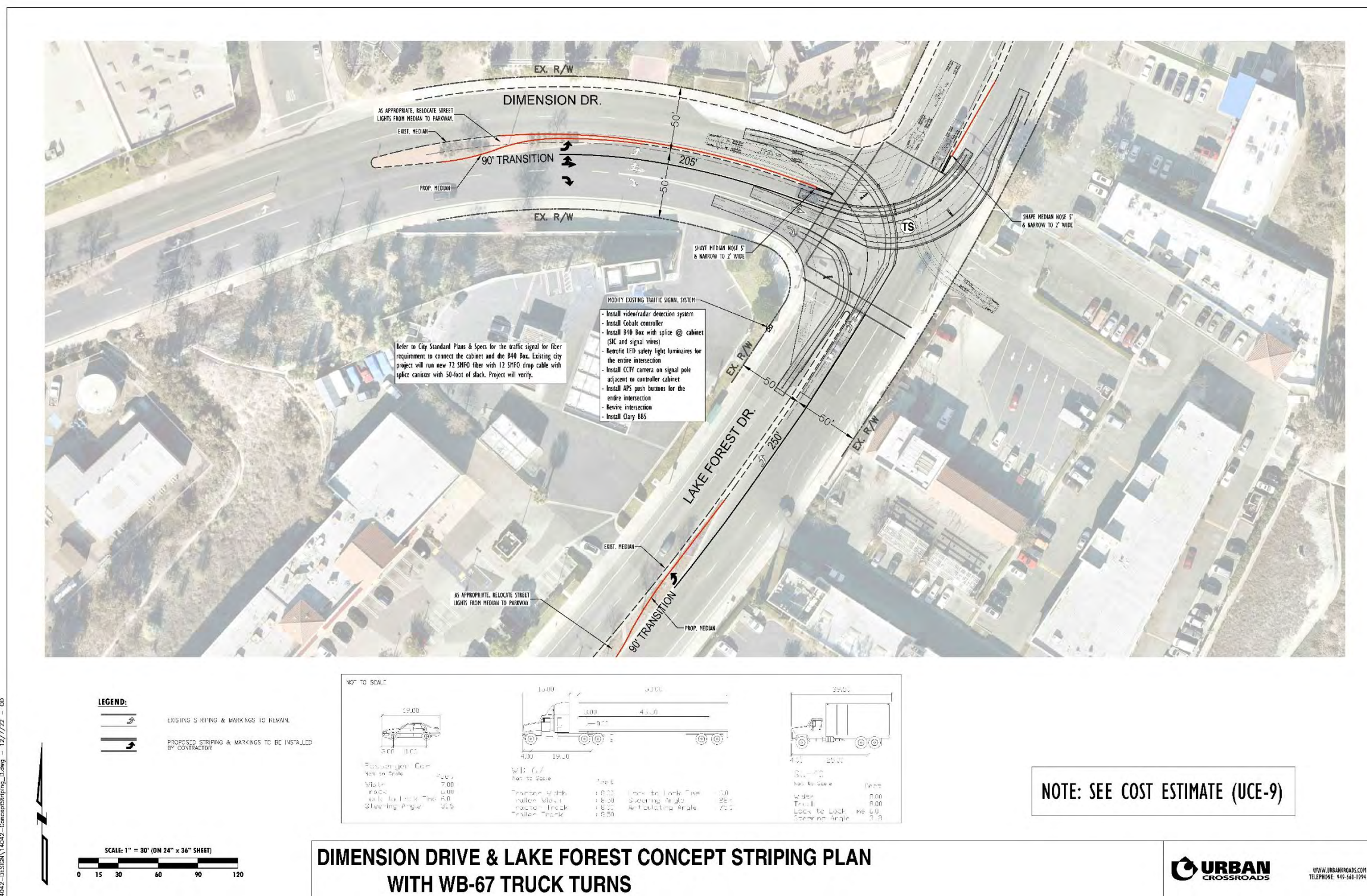


EXHIBIT 1-7: CONCEPT STRIPING FOR LAKE FOREST DRIVE & RANCHO PARKWAY

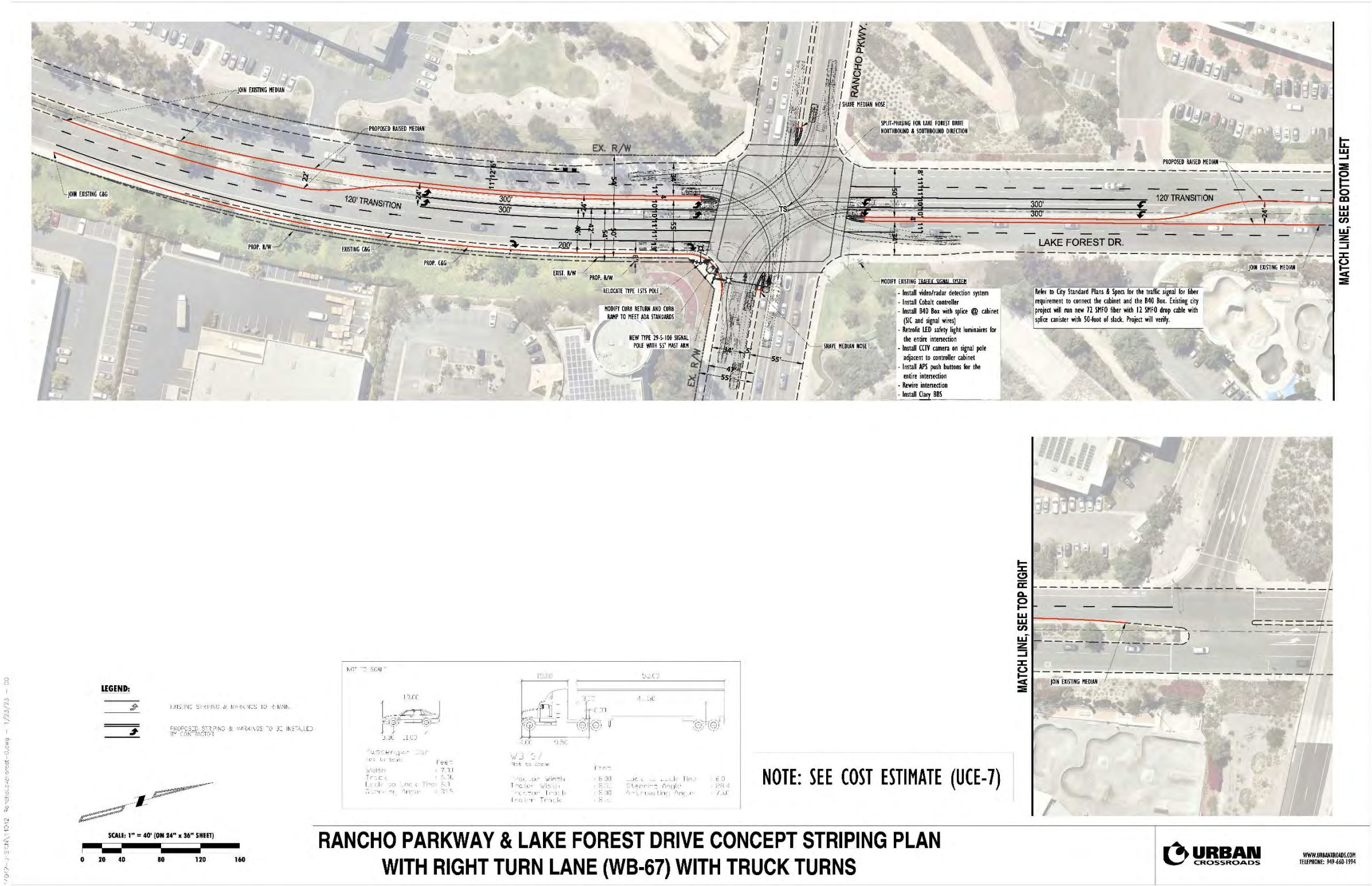
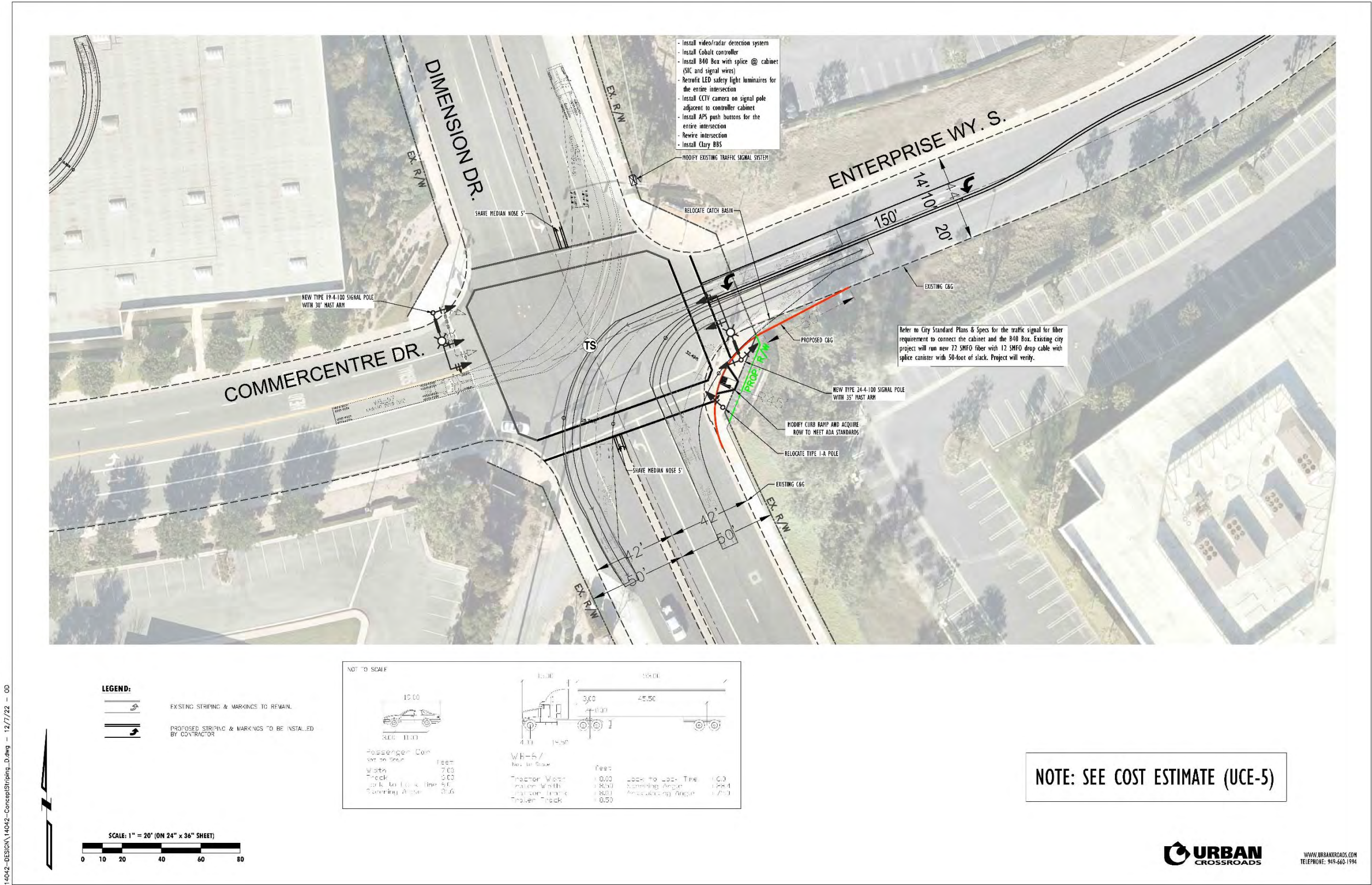


EXHIBIT 1-8: CONCEPT STRIPING FOR DIMENSION DRIVE & COMMERCECENTRE DRIVE/ENTERPRISE WAY



- Lake Forest Dr. & Rancho Pkwy. (#5): Although fewer than 10 total trucks in the northbound right turn lane, a 200-foot northbound right turn pocket is proposed to support the existing/future traffic being served by this movement. The northbound left turn lane should be modified to accommodate 470-feet of storage and 440-feet of storage for the southbound left turn lane. Exhibit 1-7 illustrates the proposed improvements for the intersection of Lake Forest Drive and Rancho Parkway.

For each of these intersection improvements, a minimum of 10-feet will be utilized for left turn lane widths, 11-feet for through lanes, 12-foot minimum adjacent to raised medians, and a minimum of 19-20-feet for shared through-right turn lanes (if feasible). 13-foot minimum widths will be utilized for right turn lanes and 6-foot minimum for bike lanes when located between a through lane and right turn lane. The summary of improvements is shown in Table 1-3. The improvements identified in Table 1-3 will be constructed by the Developer as a community benefit and completed prior to Certificate of Occupancy and are considered Project design features to enhance public safety and address concerns over pre-existing and future turning movements at five intersections within the City. These improvements have been included as part of the “With Project” analysis.

TABLE 1-3: SUMMARY OF IMPROVEMENTS BY ANALYSIS SCENARIO

#	Intersection Location	Jurisdiction	2023 With Improvements	Project Responsibility ¹
1	Bake Pkwy. & Commercentre Dr.	Lake Forest	Modify traffic signal to accommodate protected EB and WB left turn phasing (from split phase) Accommodate 2 WB lefts and shared through-right turn lane New NB right turn lane with 200-feet of storage	Construct
2	Dimension Dr. & Bake Pkwy.	Lake Forest	Modify to accommodate 430-foot WB left turn lane	Construct
3	Dimension Dr. & Enterprise Wy.	Lake Forest	Modify traffic signal to accommodate protected EB and WB left turn phasing (from permissive phasing)	Construct
4	Lake Forest Dr. & Dimension Dr.	Lake Forest	Modify to accommodate 250-foot NB left turn lane Modify to accommodate 205-foot EB left turn lane	Construct
5	Lake Forest Dr. & Rancho Pkwy.	Lake Forest	Modify to accommodate a new 200-foot NB right turn lane Modify to accommodate a 470-foot NB left turn lane Modify to accommodate a 440-foot SB left turn lane	Construct

1.6 FIRE ACCESS

Bake Parkway is designated as a Primary Arterial and currently accommodates two-lanes of travel in each direction separated by a raised and landscaped median. The proposed driveway on Bake Parkway will be restricted to right-in/right-out access only. Based on a review of the existing traffic count data collected at the intersection of Dimension Dr. & Bake Pkwy. (#2), the existing daily traffic volume on Bake Parkway east of Dimension Drive is 26,450 vehicles per day. This is a two-way volume reflecting the total volume of traffic in the eastbound and westbound directions along this segment of Bake Parkway (see Section 3.5 *Existing Traffic Counts* for a discussion on the existing traffic volumes).

Per Orange County Fire Authority (OCFA), access may be taken from an on-site fire apparatus access road or from a public road with an average daily trip (ADT) count below 30,000 unless a recorded access easement agreement is in effect to obtain access from adjacent properties (CFC 503.1.1, 503.1.2.).

Bake Parkway carries a daily volume of less than 30,000 vehicles per day and therefore, access for the Project could be taken from Bake Parkway. It should be noted that since Bake Parkway is a divided facility with a raised median, the existing volume considered should be approximately half of the two-way volume to reflect the one-way traffic that would be in direct conflict with the proposed access (approximately 13,225 vehicles per day, which is well below 30,000 vehicles per day).

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2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with the City of Lake Forest traffic study requirements. [1]

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. LOS analysis was conducted to determine existing traffic conditions using the Highway Capacity Manual (HCM) (6th Edition) and Intersection Capacity utilization (ICU) methodologies. The HCM (6th Edition) methodology expresses the LOS at an intersection in terms of average control delay time for the various intersection approaches. [3] The HCM uses different procedures depending on the type of intersection control. The ICU methodology compares the peak hour traffic volumes to intersection capacity to determine a volume to capacity (V/C) ratio.

The City of Lake Forest requires signalized intersection operations analysis based on the methodology described in the HCM. [4] Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1.

The traffic modeling and signal timing optimization software package Synchro (Version 11) has been utilized to analyze signalized intersections within the City of Lake Forest. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F	F

Source: HCM, 6th Edition

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., $PHF = [Hourly Volume] / [4 \times Peak\ 15\text{-minute Flow Rate}]$). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. [4]

Signalized intersections are also to be evaluated using the ICU methodology. Lane capacities of 1,600 vehicles per hour of green time have been assumed for the ICU calculations, with 0.10 lost time factor (clearance) and inherent vehicle delay between cycles with an assumed signal cycle of 100 seconds. The ICU LOS definitions based on V/C are presented in Table 2-2. The Traffix software package has been utilized to evaluate the signalized intersections using the ICU methodology with the analysis parameters discussed above.

TABLE 2-2 INTERSECTION CAPACITY UTILIZATION (ICU) LOS DEFINITIONS

Level of Service	Critical Volume to Capacity Ratio
A	0.00 - 0.60
B	0.61 - 0.70
C	0.71 - 0.80
D	0.81 - 0.90
E	0.91 - 1.00
F	>1.00

2.3 QUEUING ANALYSIS

The 95th percentile queuing of vehicles has been assessed turning movements at the study area intersections to determine potential queuing deficiencies. Specifically, the queuing analysis is utilized to identify any potential queuing and “spill back” into adjacent through lanes, therefore, necessitating additional turn pocket storage. The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. The footnote from the Synchro output sheets indicates if the 95th percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95th percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The 95th percentile queue is not necessarily ever observed it is simply based on statistical calculations. Queuing analysis has been performed for each study area intersection for each analysis scenario.

2.4 LOS CRITERIA

The City of Lake Forest has established LOS D as the minimum level of service for its intersections. Therefore, any intersection operating at LOS E or F will be considered deficient for the purposes of this analysis. [5]

2.5 LOS DEFICIENCY

Below are the traffic deficiency criteria:

- When existing traffic conditions exceed the General Plan target LOS (e.g., LOS D or better).
- When project traffic, added to existing traffic, will deteriorate the LOS to below the target LOS, and deficiencies cannot be improved through project conditions of approval.
- When cumulative traffic exceeds the target LOS, and deficiencies cannot be improved through a pre-existing funding mechanism, project conditions of approval, or other implementation mechanism.

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3 AREA CONDITIONS

This section provides a summary of the existing circulation network, City's Circulation Element Network, and a review of existing peak hour intersection operations and queuing analyses.

3.1 EXISTING CIRCULATION NETWORK

The study area includes a total of 5 existing and future intersections as shown previously on Exhibit 1-2. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF LAKE FOREST CIRCULATION NETWORK

As previously noted, the Project site is located within the City of Lake Forest. Exhibit 3-2 shows street classification network, as identified in the City's Circulation Element. [5]

Primary Arterials typically have 4 lanes of travel with channelized medians, and access control/limitations on intersecting streets. The following study area roadways are designated as a Primary Arterial:

- Bake Parkway
- Lake Forest Drive
- Rancho Parkway

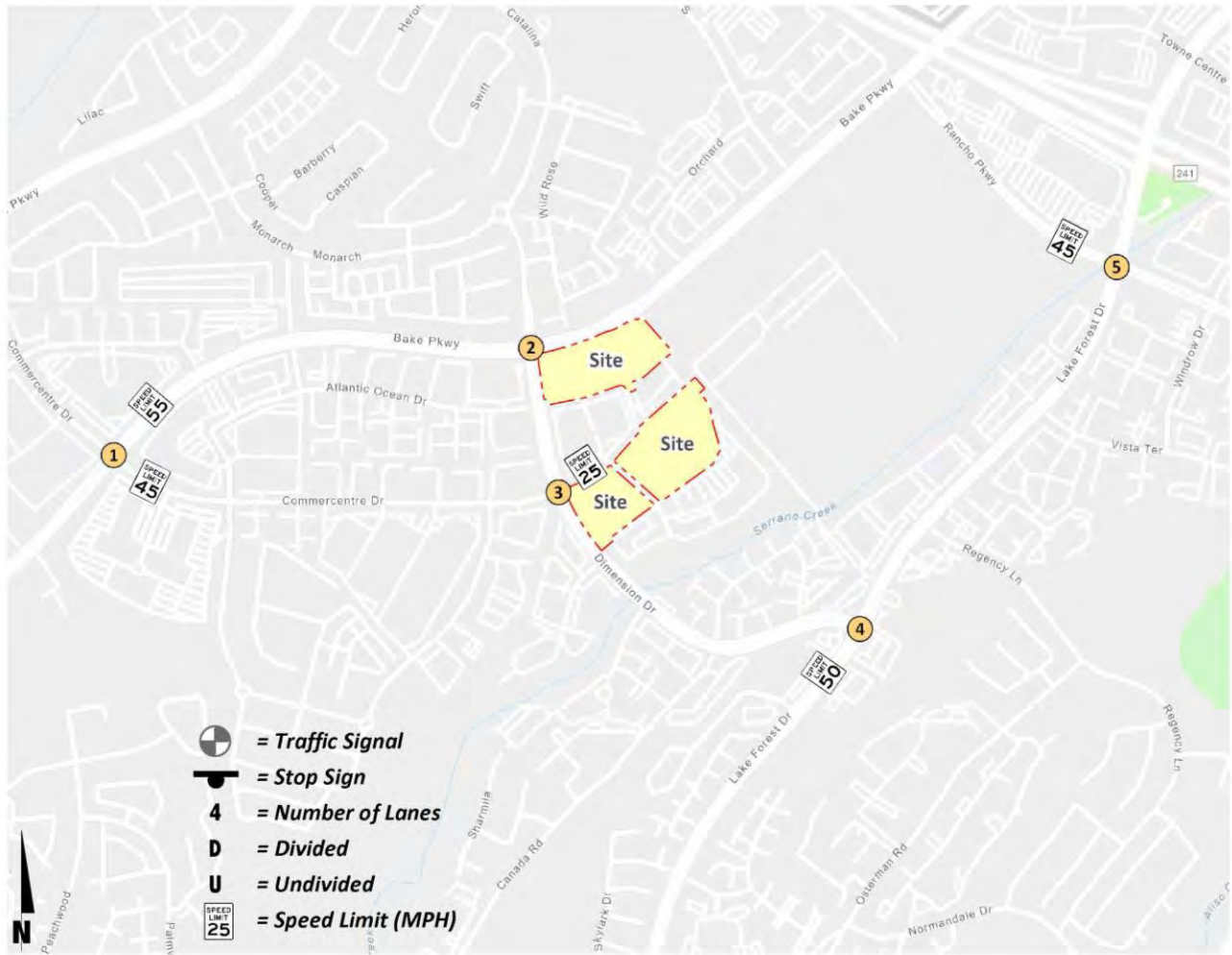
Secondary Arterials are less heavily traveled than Primary Arterials and act as oversized collector roads that are intended to remove heavier traffic from local streets. Secondary Arterials generally have 4 lanes of travel. The following study area roadway is designated as a Secondary Arterial:

- Commercentre Drive from Alton Parkway to Dimension Drive

3.3 TRANSIT SERVICE

The study area is currently served by Orange County Transportation Authority (OCTA). Existing transit routes in the study area are shown on Exhibit 3-3. The existing OCTA Line 177 is a community route and runs along Lake Forest Drive between Portola Parkway and terminating at the Laguna Hills Transportation Center. OCTA Line 480 would likely serve the proposed Project as it runs along Dimension Drive and Commercentre Drive with existing bus stops at the intersection of Dimension Drive and Commercentre Drive. The transit frequency at these stops are approximately every 15 minutes. OCTA Line 480 is a Metrolink Stationlink Route which only runs during the weekday rush hour only. It runs along Lake Forest Drive, Dimension Drive, Commercentre Drive, and Bake Parkway. The line terminates at Irvine Metrolink Station.

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



1 Baker Pkwy. & Commerce Centre Dr.	2 Dimension Dr. & Baker Pkwy.	3 Dimension Dr. & Commerce Centre Dr./Enterprise Wy.	4 Lake Forest Dr. & Dimension Dr.	5 Lake Forest Dr. & Rancho Pkwy.

EXHIBIT 3-2: CITY OF LAKE FOREST GENERAL PLAN CIRCULATION ELEMENT

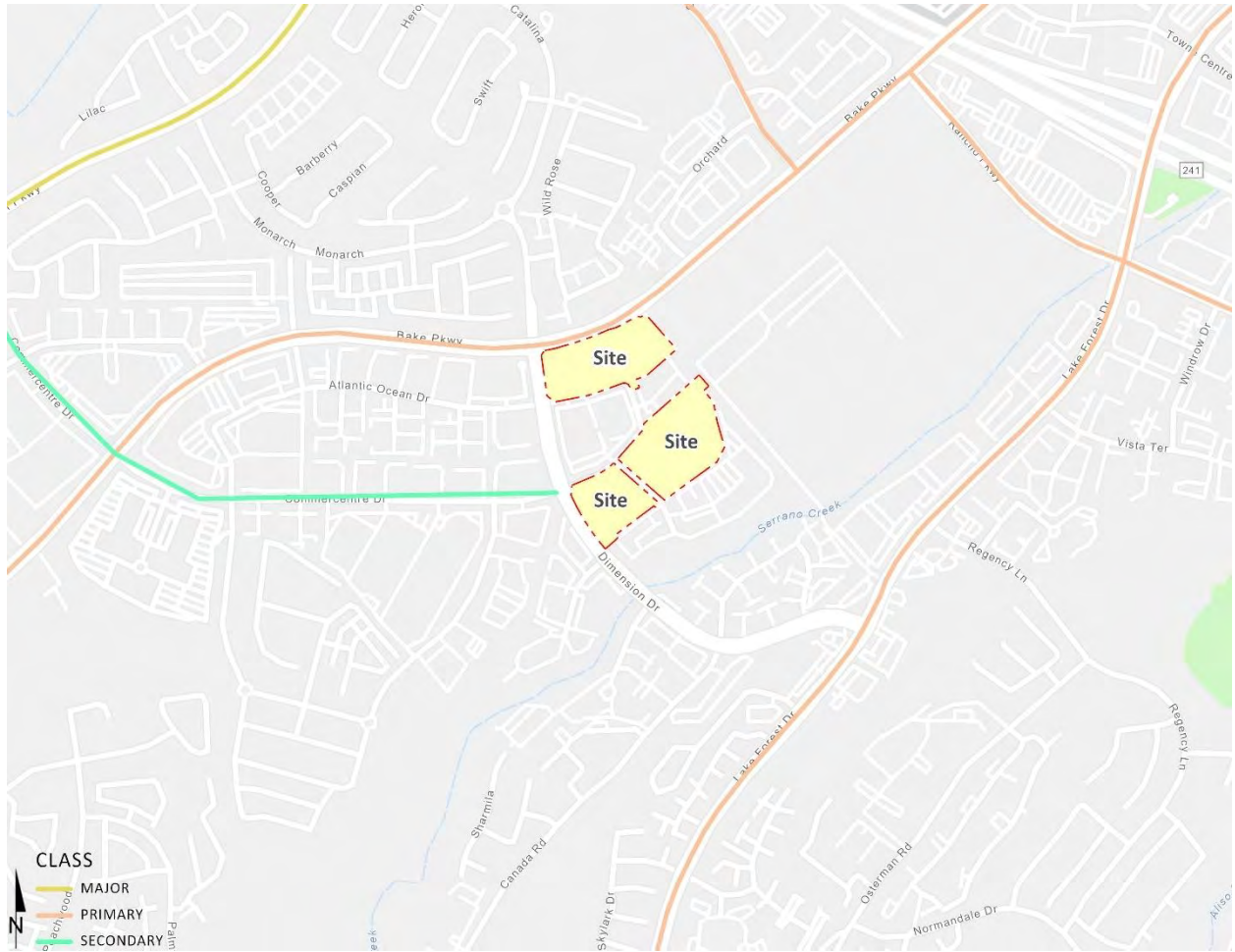
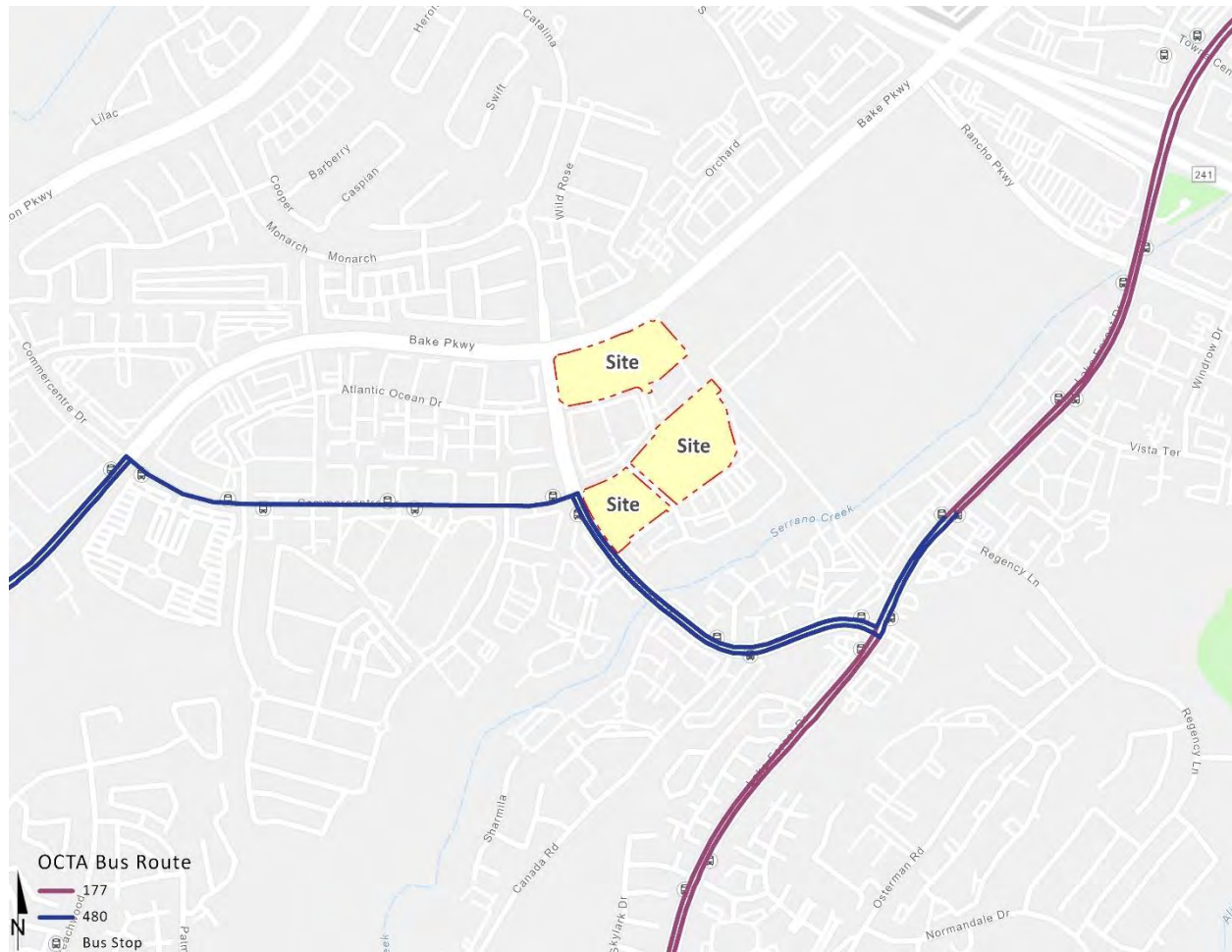


EXHIBIT 3-3: EXISTING TRANSIT ROUTES



3.4 BICYCLE & PEDESTRIAN FACILITIES

The City's bike network is shown on Exhibit 3-4. Class II bikeways are on-road, striped bike lanes. Bake Parkway, Rancho Parkway, and Lake Forest Drive are study area roadways with Class II bike lanes. Existing pedestrian facilities (sidewalks and crosswalks) within the study area are shown on Exhibit 3-5. As shown, there are sidewalks adjacent to all study area intersections with crosswalks at all signalized intersections.

3.5 EXISTING TRAFFIC COUNTS

As local schools were back in session as of August 16, 2021, we have conducted new traffic counts on Thursday, August 19, 2021, for the study area intersections and are proposing to not apply any adjustment factors to account for effects related to the currently ongoing COVID-19 pandemic (some of which may be in effect for the foreseeable future). The weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. Traffic counts on these dates were collected when near-by schools were in session and operating on normal schedules. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

The traffic counts include the following vehicle classifications: Passenger Cars, 2-Axle Trucks, 3-Axle Trucks, and 4 or More Axle Trucks. To represent the effects large trucks, buses and recreational vehicles have on traffic flow; all trucks were converted into passenger car equivalent (PCE). By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For the purpose of this analysis, a PCE factor of 1.5 has been applied to 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks to estimate each turning movement. These factors are consistent with the values recommended for use in the City's Guidelines.

The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1. Existing weekday ADT volumes on arterial highways throughout the study area are shown on Exhibit 3-6. Existing weekday AM and weekday PM peak hour intersection volumes are also shown on Exhibit 3-6. Daily traffic is reported in actual vehicles but peak hour turning volumes are reflected in PCE.

EXHIBIT 3-4: CITY OF LAKE FOREST BIKEWAYS

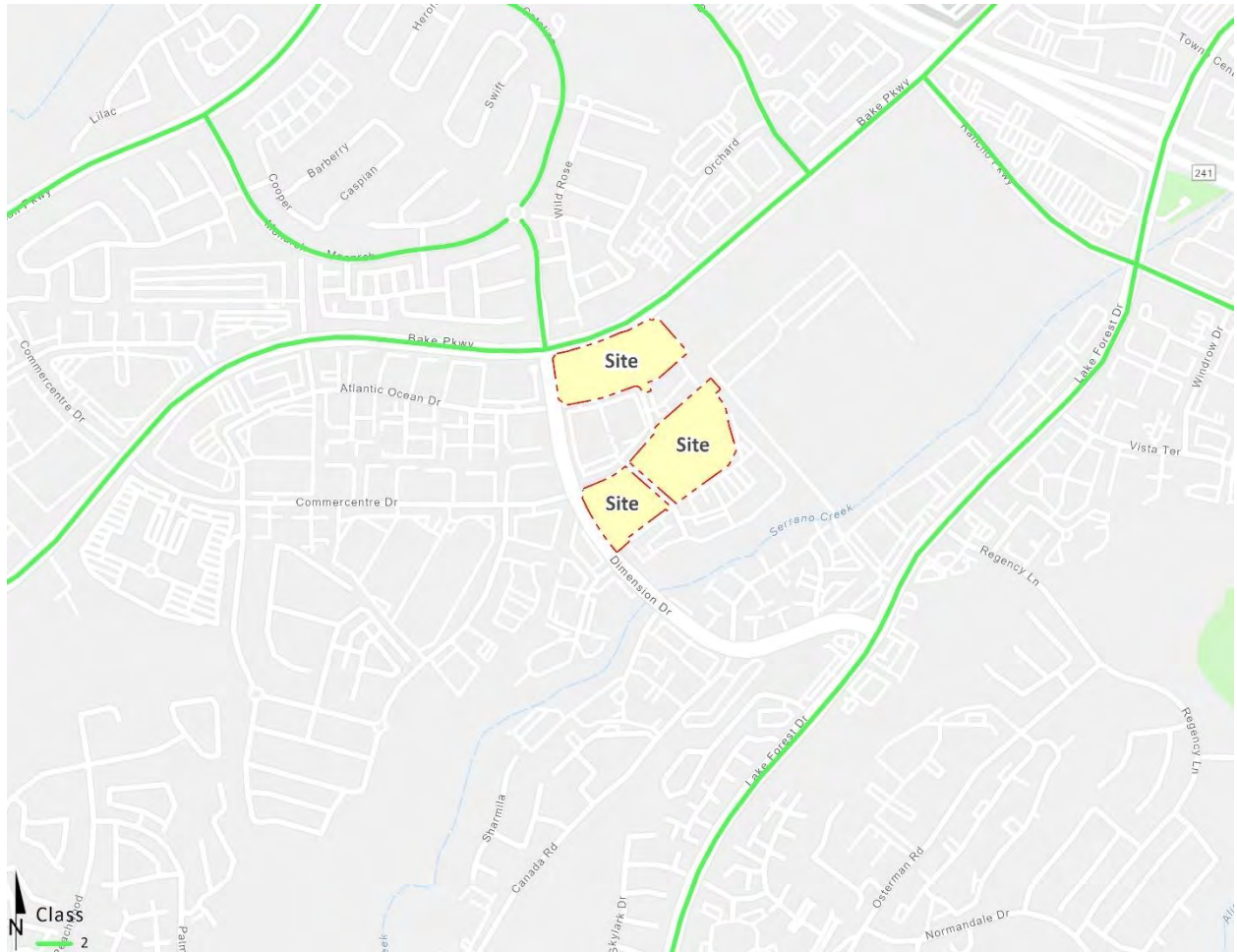


EXHIBIT 3-5: EXISTING PEDESTRIAN FACILITIES

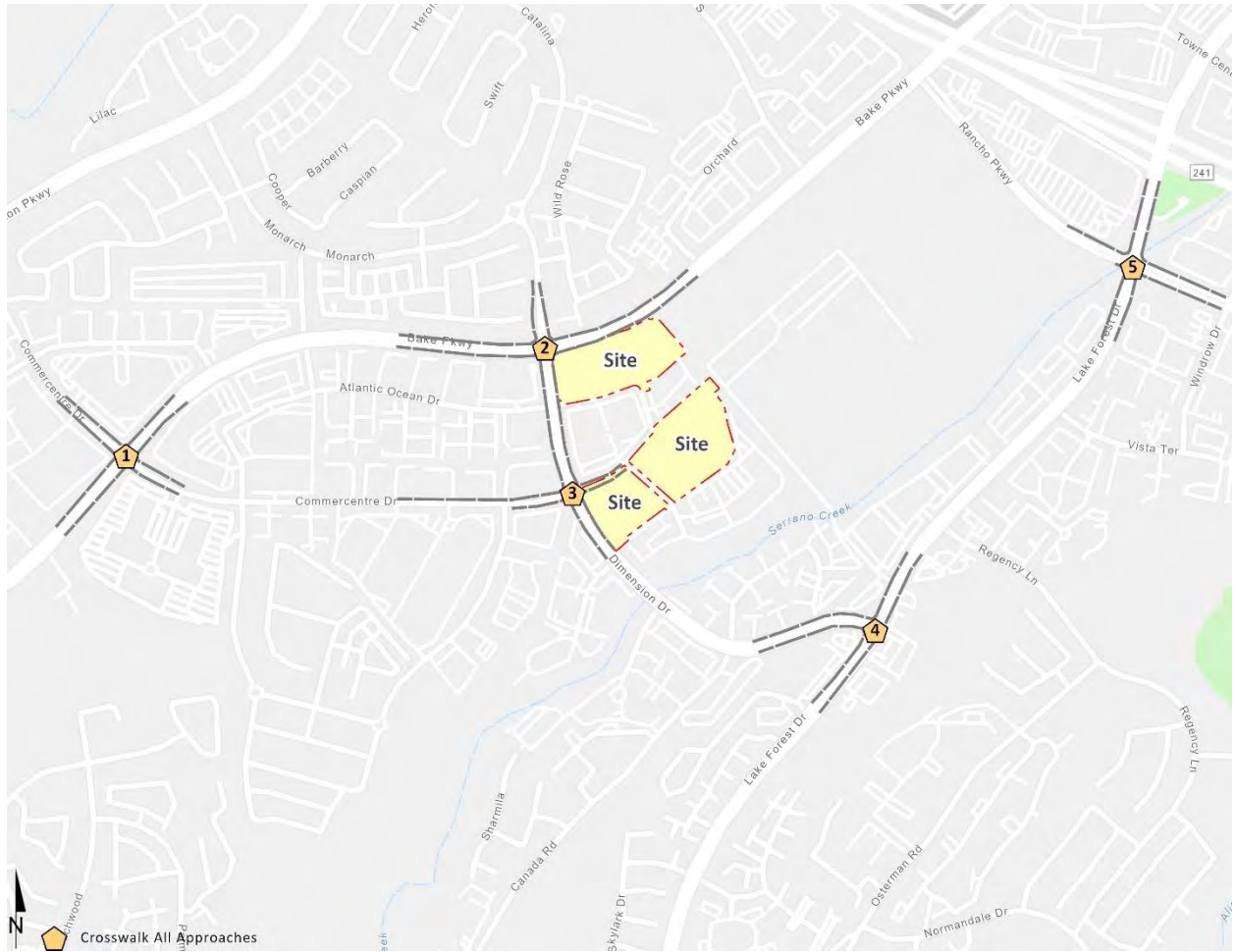


EXHIBIT 3-6: EXISTING (2021) TRAFFIC VOLUMES (PCE)

1 Baker Pkwy. & Commercentre Dr.		2 Dimension Dr. & Baker Pkwy.		3 Dimension Dr. & Commercentre	
23,400	8,950	5,200	26,450	5,900	2,350
74(94)	↑ 8(12)	104(43)	↑ 118(85)	35(21)	↑ 4(16)
731(820)	← 79(215)	117(57)	← 792(841)	166(224)	← 8(63)
16(11)	↖ 113(300)	124(54)	↖ 150(155)	21(18)	↖ 13(60)
70(87)	↗ 78(78)	31(76)	↗ 61(70)	18(29)	↗ 218(113)
145(90)	→ 784(858)	792(953)	→ 70(99)	44(10)	→ 150(167)
70(77)	↘ 292(104)	56(48)	↘ 100(39)	132(256)	↘ 64(20)
7,900	27,800	25,250	5,750	6,050	10,450
4 Lake Forest Dr. & Dimension Dr.		5 Lake Forest Dr. & Rancho Pkwy.		###(###) AM(PM) Peak Hour Intersection Volumes ## Average Daily Trips	
22,850	1,350	15,350	18,000		
214(165)	↑ 4(15)	53(56)	↑ 27(68)		
442(650)	← 4(1)	369(454)	← 373(341)		
16(41)	↖ 3(18)	106(118)	↖ 178(148)		
161(304)	↗ 164(112)	28(33)	↗ 102(153)		
11(12)	→ 635(655)	222(502)	→ 411(505)		
76(92)	↘ 11(22)	47(103)	↘ 160(261)		
8,500	19,400	14,900	20,300		

3.6 EXISTING CONDITIONS INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1, which show that all intersections are currently operating at acceptable LOS based on both HCM and ICU methodologies. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2021) CONDITIONS

#	Intersection	Traffic Control ¹	HCM Delay ² (secs.)		Level of Service		ICU ³ (v/c)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Bake Pkwy. & Commercentre Dr.	TS	26.4	32.5	C	C	0.46	0.51	A	A
2	Dimension Dr. & Bake Pkwy.	TS	30.3	26.6	C	C	0.51	0.51	A	A
3	Dimension Dr. & Commercentre Dr./Enterprise Wy.	TS	12.9	12.7	B	B	0.32	0.37	A	A
4	Lake Forest Dr. & Dimension Dr.	TS	20.3	23.1	C	C	0.40	0.46	A	A
5	Lake Forest Dr. & Rancho Pkwy.	TS	32.5	36.2	C	D	0.41	0.57	A	A

¹ TS = Traffic Signal

² Per the Highway Capacity Manual (HCM) (6th Edition), overall average intersection delay and level of service are shown for unsignalized intersections. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ Intersection capacity utilization (ICU) methodology results are presented as a volume-to-capacity ratio.

3.7 QUEUING ANALYSIS

A queuing analysis was conducted for the study area intersections for Existing (2021) traffic conditions to determine the 95th percentile queues. The analysis was conducted for the weekday AM and weekday PM peak hours to determine whether the existing turn pocket storage lengths could accommodate the peak hour queues. The traffic modeling and signal timing optimization software package Synchro/SimTraffic (Version 11) has been utilized to assess queues at the Project access points. SimTraffic simulations have been recorded 5 times, during the weekday AM and weekday PM peak hours, and has been seeded for 15-minute periods with 60-minute recording intervals. Queuing results are provided in Appendix 3.3 and are summarized in Table 3-2. Based on the 95th percentile queues under Existing (2021) traffic conditions, the following movements are currently experiencing peak hour queuing deficiencies:

- Dimension Dr. & Bake Pkwy. (#2) – Southbound left turn lane – AM peak hour only
- Lake Forest Dr. & Dimension Dr. (#4) – Eastbound left turn lane – PM peak hour only

It should be noted, the queuing in the southbound left turn lane at the intersection of Dimension Drive & Bake Parkway (#2) during the morning peak hour is likely due to morning peak commute traffic coinciding with the morning drop-offs for local schools. The intersection immediately to the north (Mahogany) is located approximately 570-feet to the north of Bake Pkwy., as such, there is sufficient stacking in the southbound approach to accommodate the morning peak hour queues without affecting the operations at the upstream intersection.

TABLE 3-2: QUEUING ANALYSIS FOR EXISTING (2021) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
1: Bake Pkwy. & Commercentre Dr.	NBL	290	115	143	Yes	Yes
	SBL	290	43	33	Yes	Yes
	EBL	160	113	134	Yes	Yes
	WBL	350	125	225	Yes	Yes
2: Dimension Dr. & Bake Pkwy.	NBL	170	78	77	Yes	Yes
	NBR	1040	73	47	Yes	Yes
	SBL	165	179	91	No	Yes
	SBR	165	60	43	Yes	Yes
	EBL	290	77	125	Yes	Yes
	WBL	300	197	190	Yes	Yes
3: Dimension Dr. & Commercentre Dr./Enterprise Wy.	NBL	200	118	94	Yes	Yes
	SBL	200	39	33	Yes	Yes
	EBL	200	26	36	Yes	Yes
	EBR	440	38	67	Yes	Yes
	WBL	140	28	52	Yes	Yes
4: Lake Forest Dr. & Dimension Dr.	NBL	140	158	123	Yes	Yes
	SBL	110	42	107	Yes	Yes
	EBL	160	94	206	Yes	No
	EBR	380	47	53	Yes	Yes
	WBL	50	19	49	Yes	Yes
5: Lake Forest Dr. & Rancho Pkwy.	NBL	330	115	179	Yes	Yes
	SBL	330	138	142	Yes	Yes
	EBL	250	57	62	Yes	Yes
	WBL	260	178	155	Yes	Yes
	WBR	100	16	23	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 20 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. For purposes of this TA, the proposed Project consists of the following:

- 26200 Enterprise Way is currently occupied with 144,906 square feet of general office use within a single building and will be redeveloped with a 165,803 square foot warehouse building. However, in an effort to conduct a conservative analysis we will evaluate this building assuming a manufacturing facility. The two existing points onto Enterprise Way and reciprocal access to the office parking lot in the northeast corner of the site will be maintained. Both driveways on Enterprise Way could both accommodate trucks.
- 26110, 26140, and 26160 Enterprise Way is currently occupied with three office buildings totaling 145,440 square feet. The site will be redeveloped with a single 153,000 square foot warehouse building. Since the time this traffic study was prepared, the site plan square footage has been reduced. However, for the purposes of this traffic study and in order to provide flexibility in final site plan changes, the higher square footage has been analyzed to provide a more conservative analysis. For the purposes of the analysis, this building has been evaluated assuming 81,400 square feet of warehousing use and 76,900 square feet of manufacturing use. A new right-in/right-out driveway is proposed along Bake Parkway at the eastern end of the property that will serve passenger cars only. The existing westerly driveway on Enterprise Way would remain but is proposed to be widened to accommodate the truck turns. A new driveway is proposed in the southeast corner of the site onto Enterprise Way.
- 26250 Enterprise Way is currently occupied with a 76,841 square foot general office use within a single building and will be redeveloped with a 77,000 square foot warehouse building. For the purposes of the analysis, this building will be evaluated assuming 77,000 square feet of warehousing use only (no manufacturing use). The two existing access points onto Enterprise Court will remain in addition to the reciprocal access into the parking lot to the west of the building (southwest corner). The northerly driveway on Enterprise Court will serve trucks.

The Project is anticipated to be developed within a single phase with an anticipated opening year of 2024. Regional access to the Project site is available from the I-5 Freeway via Bake Parkway or Lake Forest Drive and the SR-241 Freeway via the Lake Forest Drive and Portola Parkway interchanges.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development. The ITE Trip Generation Manual (11th Edition, 2021) is a nationally recognized source for estimating site-specific trip generation. [2] Trip generation rates are shown on Table 4-1. For purposes of the Traffic Impact Analysis, the following ITE land use codes and vehicle mixes will be utilized for the existing and proposed uses:

- ITE land use code 710 (General Office) has been used to derive site specific trip generation calculations for the existing office uses.
- ITE land use code 140 (Manufacturing) has been used to derive site specific trip generation calculations for 26200, 26110, 26140, and 26160 Enterprise Way. A manufacturing facility is an area where the primary activity is the conversion of raw materials or parts into finished products. Size and type of activity may vary substantially from one facility to another. In addition to the actual production of goods, manufacturing facilities generally also have office, warehouse, research, and associated functions. The vehicle mix has also been obtained from the ITE's Trip Generation Manual. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE land use code 150 (Warehousing) has been used to derive site specific trip generation calculations for 26110, 26140, 26160, and 26250 Enterprise Way. A warehouse is primarily devoted to the storage of materials but may also include office and maintenance areas. The vehicle mix has also been obtained from the ITE's Trip Generation Manual. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

TABLE 4-1: TRIP GENERATION RATES

Land Use ¹	ITE LU Code	Units ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicles:									
Manufacturing ³	140	TSF	0.517	0.163	0.680	0.229	0.511	0.740	4.750
Passenger Cars:			0.494	0.156	0.650	0.220	0.490	0.710	4.300
2-Axle Trucks:			0.003	0.002	0.005	0.002	0.003	0.005	0.075
3-Axle Trucks:			0.003	0.003	0.006	0.003	0.004	0.006	0.093
4+-Axle Trucks:			0.011	0.008	0.019	0.008	0.011	0.019	0.282
Warehousing ³	150	TSF	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars:			0.116	0.034	0.150	0.042	0.108	0.150	1.110
2-Axle Trucks:			0.002	0.001	0.003	0.003	0.002	0.005	0.100
3-Axle Trucks:			0.002	0.002	0.004	0.003	0.003	0.006	0.124
4+-Axle Trucks:			0.007	0.006	0.013	0.010	0.009	0.019	0.376
General Office	710	TSF	1.338	0.182	1.520	0.245	1.195	1.440	10.840
Passenger Car Equivalent (PCE):⁴									
Manufacturing ³	140	TSF	0.517	0.163	0.680	0.229	0.511	0.740	4.750
Passenger Cars:			0.494	0.156	0.650	0.220	0.490	0.710	4.300
2-Axle Trucks (PCE = 1.5):			0.005	0.003	0.008	0.003	0.004	0.007	0.113
3-Axle Trucks (PCE = 2.0):			0.006	0.006	0.012	0.005	0.007	0.012	0.186
4+-Axle Trucks (PCE = 3.0):			0.033	0.023	0.056	0.023	0.033	0.056	0.845
Warehousing ³	150	TSF	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars:			0.116	0.034	0.150	0.042	0.108	0.150	1.110
2-Axle Trucks (PCE = 1.5):			0.003	0.002	0.005	0.005	0.003	0.008	0.150
3-Axle Trucks (PCE = 2.0):			0.004	0.004	0.008	0.006	0.006	0.012	0.248
4+-Axle Trucks (PCE = 3.0):			0.021	0.017	0.038	0.030	0.026	0.056	1.127

¹ Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

Warehousing:

Weekday AM Vehicle Mix: 95.6% passenger cars, 0.7% 2-axle trucks, 0.9% 3-axle trucks, and 2.8% 4+-axle trucks

Weekday PM Vehicle Mix: 96.0% passenger cars, 0.7% 2-axle trucks, 0.8% 3-axle trucks, and 2.5% 4+-axle trucks

Weekday Daily Vehicle Mix: 90.5% passenger cars, 1.6% 2-axle trucks, 2.0% 3-axle trucks, and 5.9% 4+-axle trucks

Manufacturing:

Weekday AM Vehicle Mix: 88.2% passenger cars, 2.0% 2-axle trucks, 2.4% 3-axle trucks, and 7.4% 4+-axle trucks

Weekday PM Vehicle Mix: 83.3% passenger cars, 2.8% 2-axle trucks, 3.5% 3-axle trucks, and 10.4% 4+-axle trucks

Weekday Daily Vehicle Mix: 64.9% passenger cars, 5.9% 2-axle trucks, 7.2% 3-axle trucks, and 22.0% 4+-axle trucks

² TSF = Thousand Square Feet

³ Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

SCAQMD Source: *Warehouse Truck Trip Study Data Results and Usage*.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

⁴ PCE rates: 1.5 for 2-axle, 2.0 for 3-axle, and 3.0 for 4+-axle.

4.1.1 EXISTING USE

The existing sites are currently occupied by office buildings as follows:

- 26200 Enterprise Way = 144,906 square feet of general office use
- 26110, 26140, and 26160 Enterprise Way = 3 buildings totaling 145,440 square feet of general office use
- 26250 Enterprise Way = 76,841 square feet of general office use

The trip generation for the existing use is summarized on Table 4-2 for each existing site. As shown in Table 4-2, the existing office uses (if occupied) would generate 3,984 two-way trips per day, with 559 trips generated during the AM peak hour and 529 trips generated during the PM peak hour.

TABLE 4-2: EXISTING TRIP GENERATION SUMMARY

Existing Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
General Office:								
26200 Enterprise Way	144.906 TSF	194	26	220	35	173	208	1,572
26110, 26140, 26160 Enterprise Way	145.440 TSF	195	27	222	36	174	210	1,578
26250 Enterprise Way	76.841 TSF	103	14	117	19	92	111	834
Total	367.187 TSF	492	67	559	90	439	529	3,984

¹ TSF = thousand square feet

4.1.2 PROPOSED PROJECT

The following summarizes the development proposed on each site:

- 26200 Enterprise Way = 165,803 square feet of manufacturing use
- 26110, 26140, and 26160 Enterprise Way = 76,900 square feet of manufacturing use and 81,400 square feet of warehousing use
- 26250 Enterprise Way = 77,000 square feet of warehousing use

The trip generation for 26200 Enterprise Way has been calculated and shown on Table 4-3. As the proposed manufacturing use is a truck intensive use, the trip generation has been provided in both actual vehicles and PCE based on the trip generation rates presented previously in Table 4-1. As shown in Table 4-3, the proposed Project located at 26200 Enterprise Way is anticipated to generate 792 two-way trips per day with 112 AM peak hour trips and 121 PM peak hour trips (actual vehicles).

TABLE 4-3: PROJECT TRIP GENERATION SUMMARY (26200 ENTERPRISE WAY)

Proposed Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Manufacturing	165.803 TSF							
Passenger Cars:		82	26	108	36	81	117	714
2-Axle Trucks:		0	0	0	0	0	0	14
3-Axle Trucks:		0	1	1	0	1	1	16
4+-Axle Trucks:		2	1	3	1	2	3	48
Total Truck Trips		2	2	4	1	3	4	78
Total Trips (Actual Vehicles)²		84	28	112	37	84	121	792
Passenger Car Equivalent (PCE):								
Manufacturing	165.803 TSF							
Passenger Cars:		82	26	108	36	81	117	714
2-Axle Trucks:		1	0	1	0	1	1	20
3-Axle Trucks:		1	1	2	1	1	2	32
4+-Axle Trucks:		5	4	9	4	5	9	142
Total Truck Trips		7	5	12	5	7	12	194
Total Trips (PCE)²		89	31	120	41	88	129	908

¹ TSF = thousand square feet² Total Trips = Passenger Cars + Truck Trips.

The trip generation for 26110, 26140, and 26160 Enterprise Way has been calculated and shown on Table 4-4. The trip generation has been provided in both actual vehicles and PCE based on the trip generation rates presented previously in Table 4-1. As shown in Table 4-4, the proposed Project located at 26110, 26140, and 26160 Enterprise Way is anticipated to generate 508 two-way trips per day with 65 AM peak hour trips and 71 PM peak hour trips (actual vehicles).

TABLE 4-4: PROJECT TRIP GENERATION SUMMARY (26110, 26140 & 26160 ENTERPRISE WAY)

Proposed Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Manufacturing	76.900 TSF							
Passenger Cars:		38	12	50	17	38	55	332
2-Axle Trucks:		0	0	0	0	0	0	6
3-Axle Trucks:		0	0	0	0	0	0	8
4+-Axle Trucks:		1	1	2	1	1	2	22
Total Truck Trips		1	1	2	1	1	2	36
Warehousing	81.400 TSF							
Passenger Cars:		9	3	12	3	9	12	90
2-Axle Trucks:		0	0	0	0	0	0	8
3-Axle Trucks:		0	0	0	0	0	0	10
4+-Axle Trucks:		1	0	1	1	1	2	32
Total Truck Trips		1	0	1	1	1	2	50
Total Trips (Actual Vehicles)²		49	16	65	22	49	71	508
Passenger Car Equivalent (PCE):								
Manufacturing	76.900 TSF							
Passenger Cars:		38	12	50	17	38	55	332
2-Axle Trucks:		0	0	0	0	0	0	10
3-Axle Trucks:		0	0	0	0	1	1	16
4+-Axle Trucks:		3	2	5	2	3	5	66
Total Truck Trips		3	2	5	2	4	6	92
Warehousing	81.400 TSF							
Passenger Cars:		9	3	12	3	9	12	90
2-Axle Trucks:		0	0	0	0	0	0	12
3-Axle Trucks:		0	0	0	0	0	0	20
4+-Axle Trucks:		2	1	3	2	2	4	92
Total Truck Trips		2	1	3	2	2	4	124
Total Trips (PCE)²		52	18	70	24	53	77	638

¹ TSF = thousand square feet² Total Trips = Passenger Cars + Truck Trips.

The trip generation for 26250 Enterprise Way has been calculated and shown on Table 4-5. The trip generation has been provided in both actual vehicles and PCE based on the trip generation rates presented previously in Table 4-1. As shown in Table 4-5, the proposed Project located at 26250 Enterprise Way is anticipated to generate 134 two-way trips per day with 15 AM peak hour trips and 15 PM peak hour trips (actual vehicles).

TABLE 4-5: PROJECT TRIP GENERATION SUMMARY (26250 ENTERPRISE WAY)

Proposed Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Warehousing	77.000 TSF							
Passenger Cars:		9	3	12	3	8	11	86
2-Axle Trucks:		0	0	0	0	0	0	8
3-Axle Trucks:		0	0	0	0	0	0	10
4+-Axle Trucks:		1	0	1	1	1	2	30
Total Truck Trips		1	0	1	1	1	2	48
Total Trips (Actual Vehicles)²		10	3	13	4	9	13	134
Passenger Car Equivalent (PCE):								
Warehousing	77.000 TSF							
Passenger Cars:		9	3	12	3	8	11	86
2-Axle Trucks:		0	0	0	0	0	0	12
3-Axle Trucks:		0	0	0	0	0	0	20
4+-Axle Trucks:		2	1	3	2	2	4	87
Total Truck Trips		2	1	3	2	2	4	119
Total Trips (PCE)²		11	4	15	5	10	15	205

¹ TSF = thousand square feet² Total Trips = Passenger Cars + Truck Trips.

A summary of the total Project trip generation is shown on Table 4-6. As shown in Table 4-5, the proposed Project is anticipated to generate 1,434 two-way trips per day (actual vehicles) with 205 PCE AM peak hour trips and 221 PCE PM peak hour trips.

TABLE 4-6: PROJECT TRIP GENERATION SUMMARY

Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
26200 Enterprise Way							
Passenger Cars	82	26	108	36	81	117	714
Trucks (PCE)	7	5	12	5	7	12	78
Total	89	31	120	41	88	129	792
26110, 26140 & 26160 Enterprise Way							
Passenger Cars	47	15	62	20	47	67	422
Trucks (PCE)	5	3	8	4	6	10	86
Total	52	18	70	24	53	77	508
26250 Enterprise Way							
Passenger Cars	9	3	12	3	8	11	86
Trucks (PCE)	2	1	3	2	2	4	48
Total	11	4	15	5	10	15	134
Project Total (PCE)	152	53	205	70	151	221	1,434

4.1.3 TRIP GENERATION COMPARISON

In an effort to conduct a conservative trip generation estimate, the PCE-based trip generation for the proposed warehouses uses has been compared to the existing office trip generation for each applicable site. As shown in Table 4-6, the development of the proposed Project is anticipated to generate fewer trips than the existing office uses for each site. However, for the purposes of this TA, the Project trip generation summary identified on Table 4-6 was utilized for the applicable buildings (100% of the Project with no credit for the existing use as the buildings were vacant at the time of the preparation of the TA).

TABLE 4-7: TRIP GENERATION COMPARISON

Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
26200 Enterprise Way							
Existing Use (General Office)	194	26	220	35	173	208	1572
Proposed Project (Manufacturing in PCE)	88	31	119	41	88	129	900
Variance	-106	5	-101	6	-85	-79	-672
26110, 26140 & 26160 Enterprise Way							
Existing Use (General Office)	195	27	222	36	174	210	1,578
Proposed Project (Warehousing/Manufacturing in PCE)	52	18	70	24	53	77	638
Variance	-143	-9	-152	-12	-121	-133	-940
26250 Enterprise Way							
Existing Use (General Office)	103	14	117	19	92	111	834
Proposed Project (Warehousing in PCE)	11	4	15	5	10	15	205
Variance	-92	-10	-102	-14	-82	-96	-629

4.2 PROJECT TRIP DISTRIBUTION

Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land use and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. The Project trip distribution was developed based on anticipated travel patterns to and from the Project site. The existing roadway network and location of regional destinations have been reviewed to develop the Project trip distribution pattern. Exhibit 4-1 illustrates the Project trip distribution patterns for the passenger cars and on Exhibit 4-1 for the trucks.

4.3 MODAL SPLIT

The traffic reducing potential of public transit, walking, or bicycling have not been considered in this TA. Essentially, the traffic projections are "conservative" in that these alternative travel modes might be able to reduce the forecasted traffic volumes.

EXHIBIT 4-1: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION

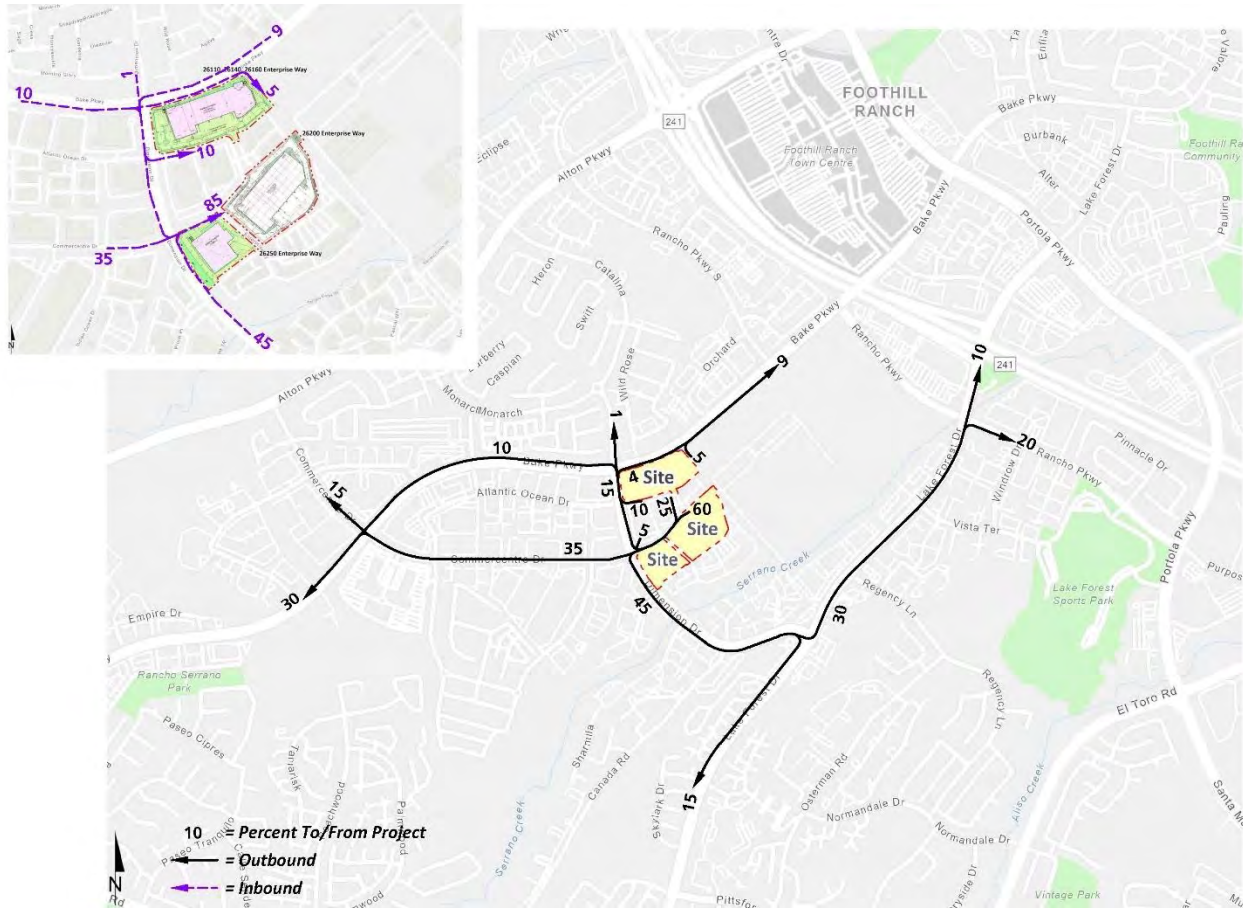
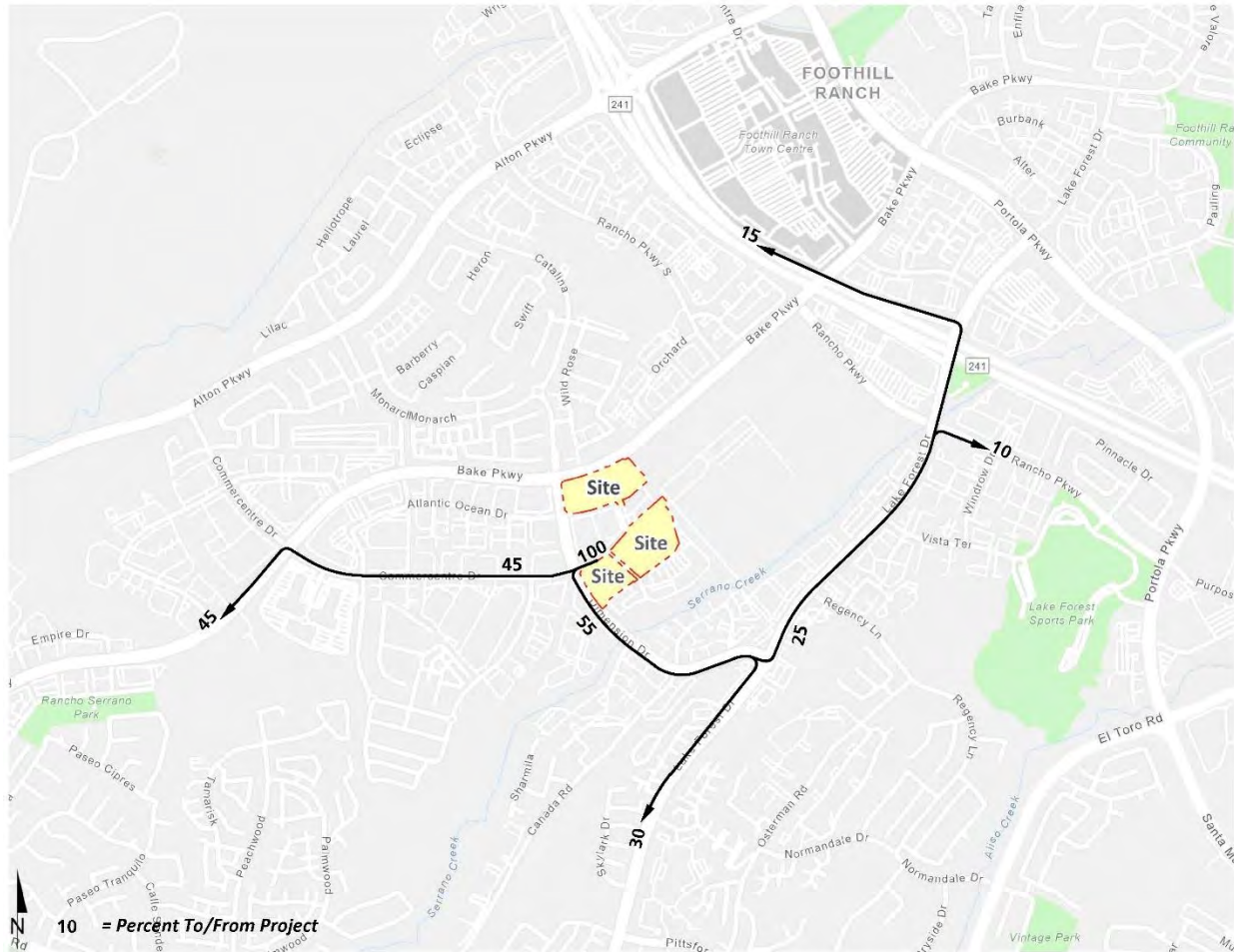


EXHIBIT 4-2: PROJECT (TRUCK) TRIP DISTRIBUTION



4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project AM and PM peak hour traffic volumes are shown on Exhibit 4-3 (peak hour volumes in PCE).

4.5 BACKGROUND TRAFFIC

The Opening Year Cumulative (2024) With Project traffic conditions analyses determine the Project's contribution to near-term traffic deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth from Existing (2021) conditions of 6.12% (2.0% per year over three years) is included for Opening Year Cumulative (2024) traffic conditions, as well as traffic generated by cumulative development projects that could affect the study intersections.

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

Exhibit 4-4 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown in Table 4-8. The list of cumulative projects has been developed based on information provided by the City. Cumulative development volumes are shown on Exhibit 4-5.

EXHIBIT 4-3: PROJECT ONLY TRAFFIC VOLUMES (PCE)

1 Baker Pkwy. & Commercentre Dr.		2 Dimension Dr. & Baker Pkwy.		3 Dimension Dr. & Commercentre	
100	650		100	250	1,250
← 4(14)	← 7(20)	← 1(1)	← 12(5)	← 18(8)	← 6(18)
↖ 21(9)	↖ 18(42)	↖ 14(6)	↖ 4(14)	↖ 62(32)	↖ 24(62)
↗ 14(6)	↗ 41(23)	↗ 0(1)	↗ 3(10)	↗ 21(9)	↗ 20(61)
↘ 41(18)	↘ 21(9)	↘ 4(14)	↘ 9(27)	↘ 41(18)	↘ 41(18)
200	600	100	250	650	550
4 Lake Forest Dr. & Dimension Dr.		5 Lake Forest Dr. & Rancho Pkwy.		###(###) AM(PM) Peak Hour Intersection Volumes ## Average Daily Trips	
350		100	250		
← 41(18)	← 13(41)	← 14(6)	← 27(12)		
↖ 7(20)	↖ 21(9)	↖ 4(14)	↖ 9(27)		
550	200		350		

###(###) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP

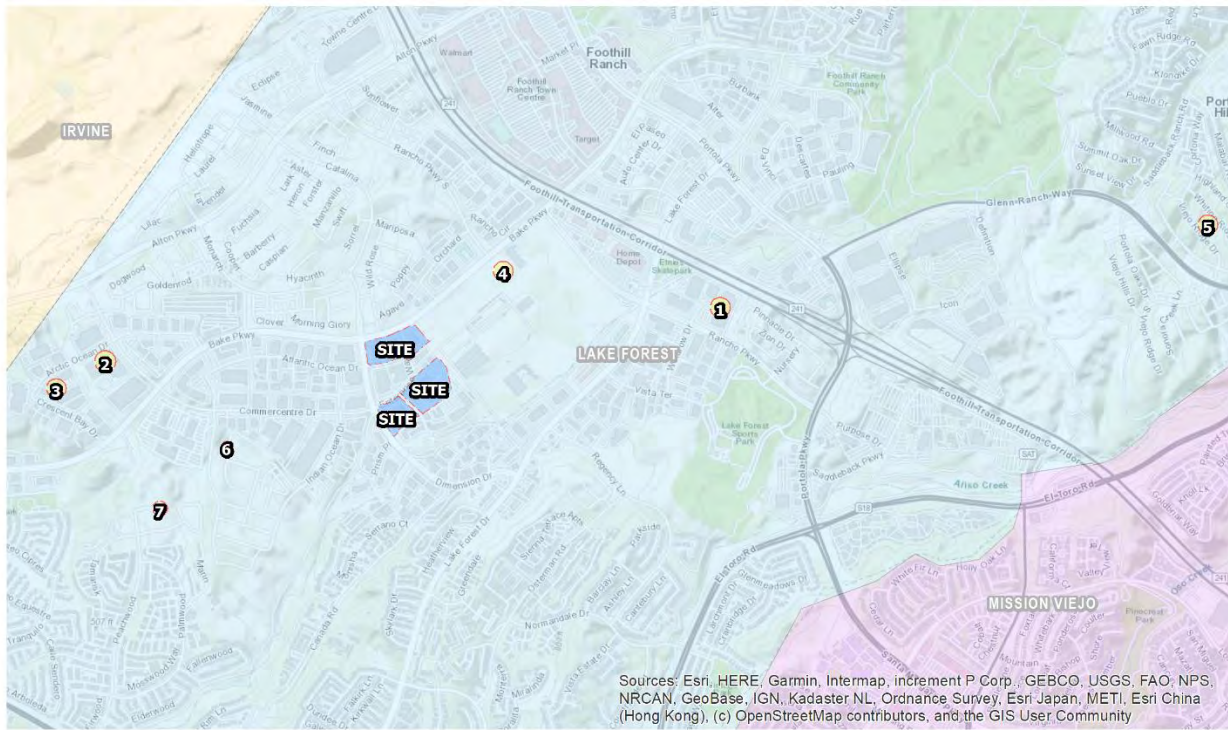


EXHIBIT 4-5: CUMULATIVE ONLY TRAFFIC VOLUMES (PCE)

1 Bake Pkwy. & Commercentre Dr.		2 Dimension Dr. & Bake Pkwy.		3 Dimension Dr. & Commercentre	
2,350 5(4) 141(87) 3(4) 1(5) 28(40) 2(5) 3(4) 59(77) 3(3) 83(131) 54(75)		2,400 3(4) 31(41) 59(77) 3(3) 83(131) 54(75)		3,750 70(20) 63(20) 149(95) 41(47) 87(140) 34(54)	
950		2,350		1,000	
4 Lake Forest Dr. & Dimension Dr.		5 Lake Forest Dr. & Rancho Pkwy.			
1,550 30(35) 51(53) 33(36) 26(34) 24(33) 48(51)		1,300 69(49) 12(25) 10(5) 82(37) 113(61) 70(14) 56(54) 21(19) 19(16)		1,950 3(10) 70(94) 11(21) 3(10) 70(94) 11(21)	
1,400		3,350		1,600	

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

TABLE 4-8: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

ID	Project Name/Location	Land Use	Quantity ¹	AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1	Applied Medical	Manufacturing	107.990 TSF	51	15	66	22	50	72	422
2	Arctic Ocean Storage	Mini Warehouse	107.990 TSF	6	4	10	9	10	19	164
3	Arctic Ocean Warehouse	Warehouse	12.500 TSF	5	1	6	2	5	7	54
4	Nakase Meadows	Single Family Detached	675 DU	129	372	501	418	250	668	6,372
		Senior Adult Housing - Attached	101 DU	7	13	20	14	12	26	374
		Elementary School	1,000 STU	360	310	670	80	90	170	1,890
		Neighborhood Park	6.2 Acres	7	4	11	9	6	15	154
			Total	503	699	1,202	521	358	879	8,790
5	Portola Center (45% Complete)	Single Family Detached	613 DU	115	345	460	396	223	619	5,866
		Second Units	18 DU	3	9	12	8	6	14	148
		Multifamily Homes	260 DU	44	130	174	118	85	203	2,120
		Multifamily Homes (Affordable)	57 DU	10	28	38	26	18	44	466
		Commercial	10.000 TSF	22	14	36	63	69	132	1,520
		Neighborhood Parks	5.6 Acres	0	0	0	0	0	0	10
		Active Public Park	5.0 Acres	0	0	0	17	21	38	270
	Total (55%)	107	289	396	345	232	578	5,720		
6	Serrano Summit (49% Complete)	Single Family Detached	150 DU	29	84	113	98	54	152	1,436
		Multifamily Homes	458 DU	78	230	308	206	151	357	3,732
		Recreation/Civic Center	21.500 TSF	17	3	20	49	53	102	978
		Government Facility	94.000 TSF	185	23	208	83	185	268	2,624
			Total (51%)	158	173	331	222	226	448	4,474
7	Teresina (67% Complete)	Single Family Detached	150 DU	16	48	64	54	31	85	814
			Total (33%)	5	16	21	18	10	28	270
Total				834	1,198	2,032	1,139	892	2,031	19,894

¹ TSF = Thousand Square Feet; DU = Dwelling Unit; STU = Students

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5 EXISTING PLUS PROJECT TRAFFIC CONDITIONS

This section discusses the traffic forecasts for E+P conditions and the resulting intersection operations and queuing analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for E+P conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

5.2 TRAFFIC VOLUME FORECASTS

This scenario includes adjusted Existing (2021) traffic volumes plus the proposed Project (all 3 buildings). The weekday AM and PM peak hour volumes which can be expected for E+P traffic conditions are shown on Exhibit 5-1. Daily traffic is reflected in actual vehicles and peak hour turning volumes are reflected in PCE.

5.3 INTERSECTION OPERATIONS ANALYSIS

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TIA. The intersection analysis results are summarized in Table 5-1, which shows the intersections are anticipated to continue to operate at acceptable LOS with the addition of Project traffic and with the addition of the Project design features as discussed in Section 1.5 *Recommendations*. The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1 of this TA.

TABLE 5-1: INTERSECTION ANALYSIS FOR E+P CONDITIONS

#	Intersection	Traffic Control ¹	HCM Delay ² (secs.)		Level of Service		ICU ³ (v/c)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Bake Pkwy. & Commercentre Dr.	TS	25.6	24.0	C	C	0.44	0.57	A	A
2	Dimension Dr. & Bake Pkwy.	TS	30.9	29.3	C	C	0.53	0.53	A	A
3	Dimension Dr. & Commercentre Dr./Enterprise Wy.	TS	18.2	18.3	B	B	0.33	0.41	A	A
4	Lake Forest Dr. & Dimension Dr.	TS	22.4	20.3	C	C	0.42	0.48	A	A
5	Lake Forest Dr. & Rancho Pkwy.	TS	34.0	32.1	C	C	0.38	0.51	A	A

¹ TS = Traffic Signal

² Per the Highway Capacity Manual (HCM) (6th Edition), overall average intersection delay and level of service are shown for unsignalized intersections. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ Intersection capacity utilization (ICU) methodology results are presented as a volume-to-capacity ratio.

EXHIBIT 5-1: E+P TRAFFIC VOLUMES (PCE)

1 Baker Pkwy. & Commercentre Dr.		2 Dimension Dr. & Baker Pkwy.		3 Dimension Dr. & Commercentre	
23,500	9,550	5,200	26,550	6,150	3,600
74(94) ↓	↑ 8(12) ↑ 86(235) ↑ 131(342)	104(43) ↓	↑ 118(85) ↑ 792(841) ↑ 162(160)	35(21) ↓	↑ 10(34) ↑ 32(125) ↑ 33(121)
70(87) ↓	↑ 78(78) ↑ 798(864) ↑ 333(127)	31(76) ↓	↑ 65(84) ↑ 70(100) ↑ 103(49)	18(29) ↓	↑ 218(113) ↑ 171(176) ↑ 105(38)
166(99) ↓		792(953) ↓		106(42) ↓	
70(77) ↓		70(54) ↓		132(256) ↓	
8,050	28,400	25,400	6,000	6,700	11,000
4 Lake Forest Dr. & Dimension Dr.		5 Lake Forest Dr. & Rancho Pkwy.			
23,200	1,350	15,500	18,250		
255(183) ↓	↑ 4(15) ↑ 4(1) ↑ 3(18)	53(56) ↓	↑ 27(68) ↑ 373(341) ↑ 205(160)		
174(345) ↓	↑ 185(121) ↑ 635(655) ↑ 11(22)	28(33) ↓	↑ 102(153) ↑ 415(519) ↑ 169(288)		
11(12) ↓		222(502) ↓			
83(112) ↓		47(103) ↓			
9,050	19,600	14,900	20,700		

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

5.4 QUEUING ANALYSIS

A queuing analysis was conducted for the study area intersections for E+P traffic conditions to determine the 95th percentile queues. The analysis was conducted for the weekday AM and weekday PM peak hours to determine whether the existing turn pocket storage lengths could accommodate the peak hour queues. The traffic modeling and signal timing optimization software package Synchro/SimTraffic (Version 11) has been utilized to assess queues at the Project access points. SimTraffic simulations have been recorded 5 times, during the weekday AM and weekday PM peak hours, and has been seeded for 15-minute periods with 60-minute recording intervals. Queuing results are provided in Appendix 5.2 and are summarized in Table 5-2. Based on the 95th percentile queues under E+P traffic conditions, the following movement is anticipated to experience peak hour queuing deficiencies, consistent with Existing conditions:

- Dimension Dr. & Bake Pkwy. (#2) – Southbound left turn lane – AM peak hour only

It should be noted, the queuing in the southbound left turn lane at the intersection of Dimension Drive & Bake Parkway (#2) during the morning peak hour is likely due to morning peak commute traffic coinciding with the morning drop-offs for local schools. The intersection immediately to the north (Mahogany) is located approximately 570-feet to the north of Bake Pkwy., as such, there is sufficient stacking in the southbound approach to accommodate the morning peak hour queues without affecting the operations at the upstream intersection.

5.5 DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

5.5.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

As shown on Table 5-1, the study area intersections are anticipated to operate at an acceptable LOS with the addition of Project traffic and with the addition of the Project design features as discussed in Section 1.5 *Recommendations*. As such, no lane improvements have been recommended.

5.5.2 RECOMMENDED IMPROVEMENTS TO ADDRESS QUEUING DEFICIENCIES

As shown on Table 5-2, there is a peak hour queuing issue at the intersection of Dimension Drive & Bake Parkway (#2) during the morning peak hour, likely due to morning peak commute traffic coinciding with the morning drop-offs for local schools. As discussed in Section 5.4 *Queuing Analysis*, the intersection immediately to the north (Mahogany) is located approximately 570-feet to the north of Bake Pkwy., as such, there is sufficient stacking in the southbound approach to accommodate the morning peak hour queues without affecting the operations at the upstream intersection. As such, no additional improvements have been recommended.

TABLE 5-2: QUEUING ANALYSIS FOR E+P CONDITIONS

Intersection	Movement ²	Available Stacking Distance (Feet) ³	95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
1: Bake Pkwy. & Commercentre Dr.	NBL	290	134	141	Yes	Yes
	NBR	200	85	170	Yes	Yes
	SBL	290	52	39	Yes	Yes
	EBL	160	112	131	Yes	Yes
	WBL	350	184	237	Yes	Yes
2: Dimension Dr. & Bake Pkwy.	NBL	170	76	65	Yes	Yes
	NBR	1040	85	77	Yes	Yes
	SBL	165	252	106	No	Yes
	SBR	165	69	48	Yes	Yes
	EBL	290	75	187	Yes	Yes
	WBL	430	255	259	Yes	Yes
3: Dimension Dr. & Commercentre Dr./Enterprise Wy.	NBL	200	172	162	Yes	Yes
	SBL	200	51	51	Yes	Yes
	EBL	200	60	81	Yes	Yes
	EBR	440	56	95	Yes	Yes
	WBL	140	50	114	Yes	Yes
4: Lake Forest Dr. & Dimension Dr.	NBL	250	210	164	Yes	Yes
	SBL	110	56	105	Yes	Yes
	EBL	205	136	102	Yes	Yes
	EBR	380	55	80	Yes	Yes
	WBL	50	16	49	Yes	Yes
5: Lake Forest Dr. & Rancho Pkwy.	NBL	470	195	433	Yes	Yes
	NBR	200	70	114	Yes	Yes
	SBL	440	138	151	Yes	Yes
	EBL	250	154	102	Yes	Yes
	WBL	260	219	178	Yes	Yes
	WBR	100	12	25	Yes	Yes

BOLD = 95th percentile queue exceeds the available storage.

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 20 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² **NBR** = Improvement

³ **200** = Improvement

6 OPENING YEAR CUMUATIVE (2024) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Opening Year Cumulative (2024) With Project conditions and the resulting intersection operations and queuing analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (2024) With Project conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative (2024) With Project conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

6.2 TRAFFIC VOLUME FORECASTS

This scenario includes adjusted Existing (2021) traffic volumes plus an ambient growth factor of 6.12% and other known cumulative development projects in the study area for Opening Year Cumulative (2024) traffic conditions in conjunction with traffic associated with the proposed Project (all 3 buildings). The weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2024) With Project traffic conditions are shown on Exhibit 6-1. Daily traffic is reflected in actual vehicles and peak hour turning volumes are reflected in PCE.

EXHIBIT 6-1: OPENING YEAR CUMULATIVE (2024) WITH PROJECT TRAFFIC VOLUMES (PCE)



1 Baker Pkwy. & Commercentre Dr.		2 Dimension Dr. & Baker Pkwy.		3 Dimension Dr. & Commercentre	
2,350	2,400	450	3,750	1,000	
5(4) 141(87) 3(4) 1(5) 28(40) 2(5) 3(4) 31(41) 59(77) 3(3) 83(131) 54(75)	3(4) 31(41) 59(77) 3(3) 83(131) 54(75)	70(20) 87(140) 63(20) 149(95) 41(47) 34(54)	63(20) 149(95) 41(47) 34(54)	41(47) 34(54) 52(68) 47(67)	41(47) 34(54) 52(68) 47(67)
950	3,750	2,350	1,000	2,350	1,350
4 Lake Forest Dr. & Dimension Dr.		5 Lake Forest Dr. & Rancho Pkwy.			
1,550		1,300	1,950		
30(35) 51(53) 33(36) 26(34) 24(33) 48(51)	30(35) 51(53) 33(36) 26(34) 24(33) 48(51)	69(49) 12(25) 10(5) 82(37) 113(61) 70(14) 56(54) 21(19) 19(16)	69(49) 12(25) 10(5) 82(37) 113(61) 70(14) 56(54) 21(19) 19(16)		
1,400	1,500	3,350	1,600		

##(##) AM(PM) Peak Hour Intersection Volumes
Average Daily Trips

##(##) AM(PM) Peak Hour Intersection Volumes
Average Daily Trips

6.3 INTERSECTION OPERATIONS ANALYSIS

Opening Year Cumulative (2024) With Project peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TIA. The intersection analysis results are summarized in Table 6-1 which shows that all study area intersections are anticipated to continue to operate at an acceptable LOS. The intersection operations analysis worksheets for Opening Year Cumulative (2024) With Project traffic conditions are included in Appendix 6.1 of this TA.

TABLE 6-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2024) CONDITIONS

#	Intersection	Traffic Control ¹	HCM Delay ² (secs.)		Level of Service		ICU ³ (v/c)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	Bake Pkwy. & Commercentre Dr.	TS	28.0	37.8	C	D	0.56	0.68	A	B
2	Dimension Dr. & Bake Pkwy.	TS	38.9	32.7	D	C	0.68	0.65	B	B
3	Dimension Dr. & Commercentre Dr./Enterprise Wy.	TS	18.7	21.0	B	C	0.44	0.54	A	A
4	Lake Forest Dr. & Dimension Dr.	TS	26.8	28.4	C	C	0.51	0.58	A	A
5	Lake Forest Dr. & Rancho Pkwy.	TS	50.2	48.6	D	D	0.53	0.65	A	B

¹ TS = Traffic Signal

² Per the Highway Capacity Manual (HCM) (6th Edition), overall average intersection delay and level of service are shown for unsignalized intersections. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ Intersection capacity utilization (ICU) methodology results are presented as a volume-to-capacity ratio.

6.4 QUEUING ANALYSIS

A queuing analysis was conducted for the study area intersections for Opening Year Cumulative (2024) With Project traffic conditions to determine the 95th percentile queues. The analysis was conducted for the weekday AM and weekday PM peak hours to determine whether the existing turn pocket storage lengths could accommodate the peak hour queues. The traffic modeling and signal timing optimization software package Synchro/SimTraffic (Version 11) has been utilized to assess queues at the Project access points. SimTraffic simulations have been recorded 5 times, during the weekday AM and weekday PM peak hours, and has been seeded for 15-minute periods with 60-minute recording intervals. Queuing results are provided in Appendix 6.2 and are summarized in Table 6-2. Based on the 95th percentile queues under Opening Year Cumulative (2024) With Project traffic conditions, the following movements are anticipated to experience peak hour queuing deficiencies:

- Dimension Dr. & Bake Pkwy. (#2) – Southbound left turn lane – AM peak hour only
- Lake Forest Dr. & Dimension Dr. (#4) – Eastbound left turn lane – PM peak hour only

TABLE 6-2: QUEUING ANALYSIS FOR OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS

Intersection	Movement ²	Available Stacking Distance (Feet) ³	95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
1: Bake Pkwy. & Commercentre Dr.	NBL	290	138	137	Yes	Yes
	NBR	200	111	169	Yes	Yes
	SBL	290	47	42	Yes	Yes
	EBL	160	119	130	Yes	Yes
	WBL	350	160	237	Yes	Yes
2: Dimension Dr. & Bake Pkwy.	NBL	170	72	85	Yes	Yes
	NBR	1040	90	79	Yes	Yes
	SBL	165	256	106	No	Yes
	SBR	165	66	47	Yes	Yes
	EBL	290	81	185	Yes	Yes
	WBL	430	247	256	Yes	Yes
3: Dimension Dr. & Commercentre Dr./Enterprise Wy.	NBL	200	194	167	Yes	Yes
	SBL	200	66	56	Yes	Yes
	EBL	200	62	87	Yes	Yes
	EBR	440	46	84	Yes	Yes
	WBL	140	53	108	Yes	Yes
4: Lake Forest Dr. & Dimension Dr.	NBL	250	218	170	Yes	Yes
	SBL	110	48	110	Yes	Yes
	EBL	205	144	253	Yes	No
	EBR	380	53	81	Yes	Yes
	WBL	50	16	49	Yes	Yes
5: Lake Forest Dr. & Rancho Pkwy.	NBL	470	178	444	Yes	Yes
	NBR	200	65	122	Yes	Yes
	SBL	440	158	159	Yes	Yes
	EBL	250	194	109	Yes	Yes
	WBL	260	218	187	Yes	Yes
	WBR	100	14	29	Yes	Yes

BOLD = 95th percentile queue exceeds the available storage.

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 20 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² **NBR** = Improvement

³ **200** = Improvement

6.5 DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

6.5.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

As shown on Table 6-1, the study area intersections are anticipated to operate at an acceptable LOS with the addition of Project traffic and with the addition of the Project design features as discussed in Section 1.5 *Recommendations*. As such, no lane improvements have been recommended.

6.5.2 RECOMMENDED IMPROVEMENTS TO ADDRESS QUEUING DEFICIENCIES

As shown on Table 6-2, there are peak hour queuing issues at two of the study area intersections for Opening Year Cumulative (2024) traffic conditions. The peak hour queuing issue at the intersection of Dimension Drive & Bake Parkway (#2) during the morning peak hour is likely due to morning peak commute traffic coinciding with the morning drop-offs for local schools. As discussed in Section 5.4 *Queuing Analysis*, the intersection immediately to the north (Mahogany) is located approximately 570-feet to the north of Bake Pkwy., as such, there is sufficient stacking in the southbound approach to accommodate the morning peak hour queues without affecting the operations at the upstream intersection. As such, no additional improvements have been identified.

There is a peak hour queuing issue at the intersection of Lake Forest Drive & Dimension Drive (#4) during the PM peak hour for the eastbound left turn movement. However, there is sufficient stacking distance in the adjacent shared left-through lane. As such, additional improvements to this intersection have not been identified.

At the request of the City of Lake Forest, queuing has been evaluated for informational purposes only, assuming alternative improvements at the following intersections:

- Dimension Dr. & Bake Pkwy. (#2) – Dual westbound left turn lanes
- Lake Forest Dr. & Rancho Viejo Pkwy. (#5) – Dual northbound and southbound left turn lanes

The results of this alternative analysis are provided in Table 6-3. As shown in Table 6-3, the queues are anticipated to improve assuming dual left turn lanes at the movements identified above. However, dual left turn lanes do not fit within the existing right-of-way for each of the movements identified above on Lake Forest Dr. or Bake Pkwy. As such, they have not been identified for improvements. Worksheets for Opening Year Cumulative (2024) With Project conditions, with alternative improvements, queuing analysis worksheets are provided in Appendix 6.3.

7 References

- [1] City of Lake Forest, "CEQA Significance Thresholds Guide," City of Lake Forest, Revised July 21, 2020.
- [2] Institute of Transportation Engineers, Trip Generation Manual, 11th Edition ed., 2021.
- [3] Transportation Research Board, Highway Capacity Manual (HCM), 6th Edition ed., Washington, D.C.: National Academy of Sciences, 2016.
- [4] Transportation Research Board, Highway Capacity Manual (HCM), 6th Edition ed., National Academy of Sciences, 2016.
- [5] De Novo Planning Group & Kittelson & Associates, "Lake Forest 2040 General Plan," City of Lake Forest, Adopted June 2020.

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APPENDIX 1.1:

APPROVED SCOPING AGREEMENT

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MEMORANDUM

DATE: OCTOBER 15, 2021

TO: MARIE LUNA, SENIOR PLANNER
RON SANTOS, SENIOR PLANNER
JENNIFER MANSUR, ASSOCIATE PLANNER

CC: TRAN TRAN, TRAFFIC ENGINEERING MANAGER
DENNIS JUE, DEPUTY CITY ENGINEER
TERRY KELLEY, ARDURRA PLAN CHECK ENGINEER

FROM: SCOTT MA, TRAFFIC ENGINEERING CONSULTANT

SUBJECT: REVIEW OF LAKE FOREST WAREHOUSES TRAFFIC
STUDY SCOPING AGREEMENT FOR UP 06-21-5437
(26200 ENTERPRISE WAY), UP 06-21-5438 (26110, 26140
AND 26160 ENTERPRISE WAY), AND UP 07-21-5447
(26250 ENTERPRISE WAY)

Traffic Engineering has reviewed the proposed Lake Forest Warehouses Traffic Study Scoping Agreement dated October 15, 2021 for Use Permit (UP) 06-21-5437 (26200 Enterprise Way), UP 06-21-5438 (26110, 26140 and 26160 Enterprise Way) and UP 06-21-5447 (26250 Enterprise Way). We have no more comments.

Please contact me if you have any questions.



Date: October 15, 2021

Mr. Tran Tran
City of Lake Forest
100 Civic Center Drive
Lake Forest, CA 92630

SUBJECT: LAKE FOREST WAREHOUSES TRAFFIC STUDY SCOPING AGREEMENT

Dear Mr. Tran Tran:

The firm of Urban Crossroads, Inc. is pleased to submit this Scoping Agreement for the proposed Lake Forest Warehouses development (referred to as Project), which is located at 26200 Enterprise Way, 26110 Enterprise Way, 26140 Enterprise Way, 26160 Enterprise Way, and 26250 Enterprise Way in the City of Lake Forest. Exhibit 1 depicts the location of the proposed Project in relation to the existing roadway network. For purposes of the traffic analysis, it is anticipated that the Project will be developed in a single phase with an anticipated Opening Year of 2023. Exhibit 2 shows the preliminary plans and location of each building.

- 26200 Enterprise Way is currently occupied with 144,906 square feet of general office use within a single building and will be redeveloped with a 168,467 square foot warehouse building. However, in an effort to conduct a conservative analysis we will evaluate this building assuming a manufacturing facility. The two existing points onto Enterprise Way and reciprocal access to the office parking lot in the northeast corner of the site will be maintained. Both driveways on Enterprise Way could both accommodate trucks.
- 26110, 26140, and 26160 Enterprise Way is currently occupied with three office buildings totaling 145,440 square feet. The site will be redeveloped with a single 163,300 square foot warehouse building. For the purposes of the analysis, this building will be evaluated assuming 124,300 square feet of warehousing use and 39,000 square feet of manufacturing use. A new right-in/right-out driveway is proposed along Bake Parkway at the eastern end of the property that will serve passenger cars only. The existing westerly driveway on Enterprise Way would remain but is proposed to be widened to accommodate the truck turns. A new driveway is proposed in the southeast corner of the site onto Enterprise Way.
- 26250 Enterprise Way is currently occupied with a 76,841 square foot general office use within a single building and will be redeveloped with a 78,000 square foot warehouse building. For the purposes of the analysis, this building will be evaluated assuming 78,000 square feet of warehousing use only (no manufacturing use). The two existing access points onto Enterprise Court will remain in addition to the reciprocal access into the parking lot to the west of the building (southwest corner). The northerly driveway on Enterprise Court will serve trucks.

Our goal is to obtain comments from City of Lake Forest staff, to ensure that the traffic study fully addresses the potential deficiencies of the proposed Project. The remainder of this letter describes the draft proposed analysis methodology, project trip generation, trip distribution, and project traffic assignment/project trips on the surrounding roadway network, which have been used to establish the draft proposed project study area and analysis locations.

EXHIBIT 1: LOCATION MAP

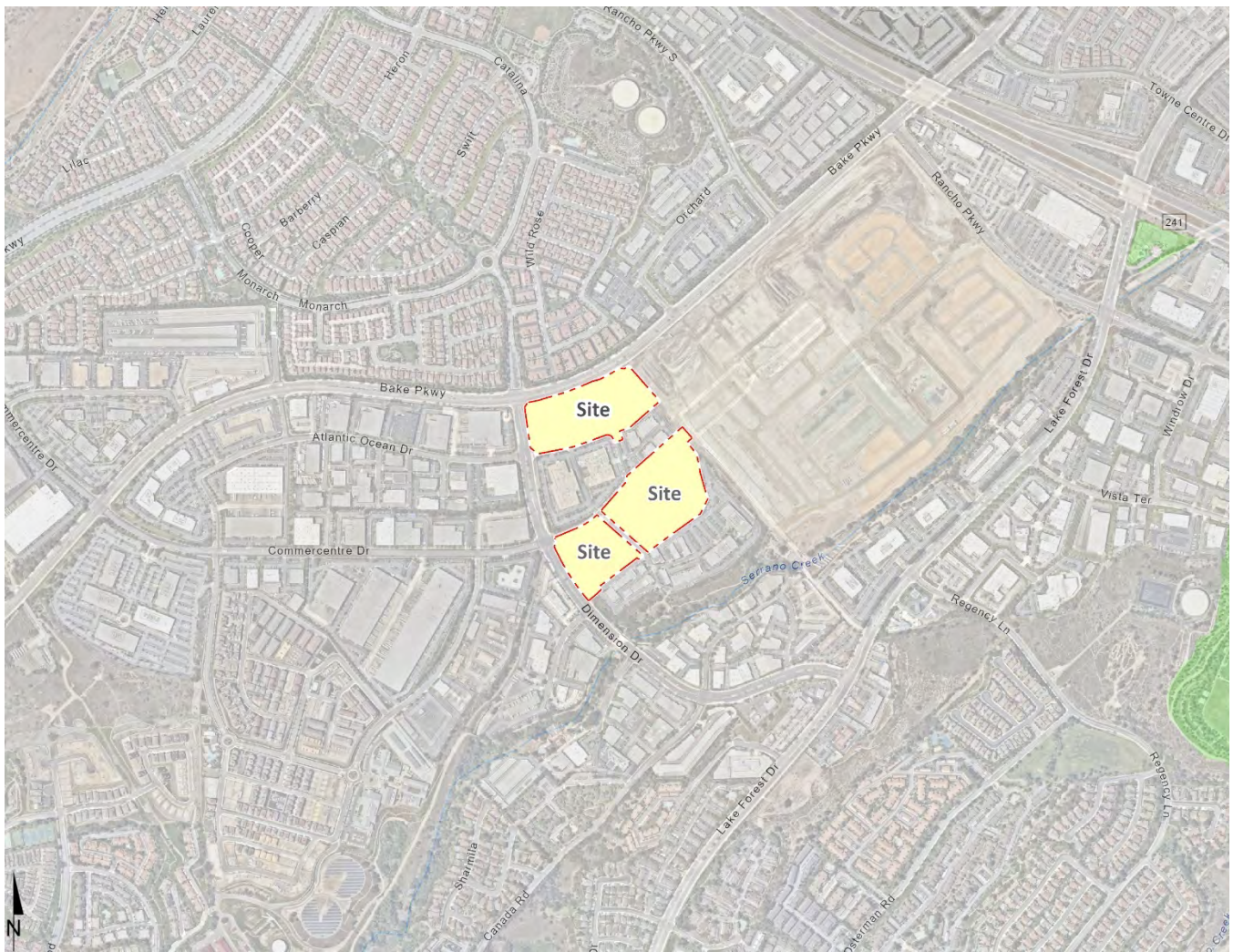


EXHIBIT 2: PRELIMINARY SITE PLAN



STUDY AREA

Although the net change in traffic between the proposed use as compared to the existing office use is anticipated to result in a reduction in traffic, the study area intersection identified in Exhibit 3 will be evaluated at the request of City staff.

EXHIBIT 3: STUDY AREA

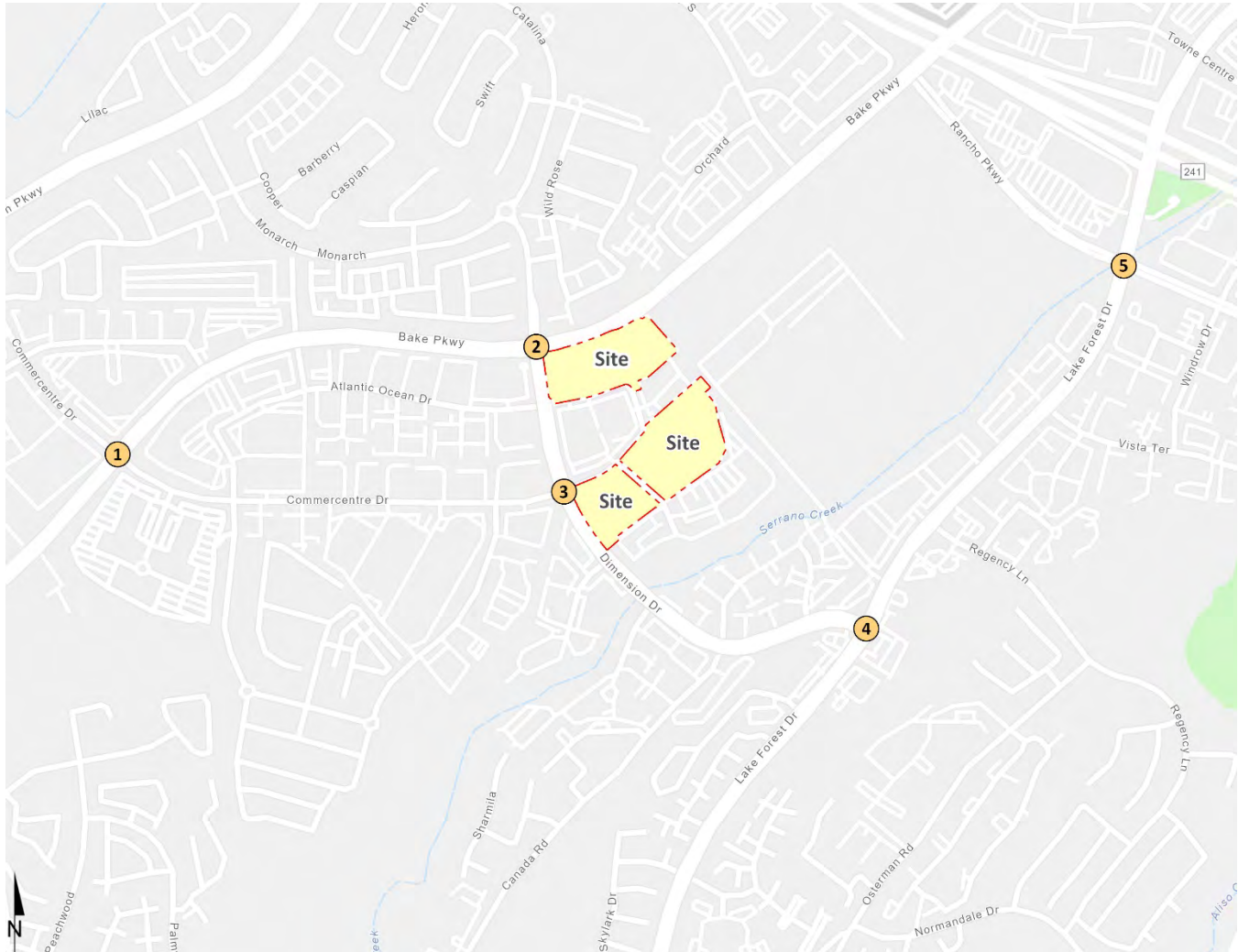


Table 1 summarizes the intersections that will be evaluated for each of the analysis scenarios listed above (also shown on Exhibit 3).

TABLE 1: STUDY AREA INTERSECTIONS

#	Intersection
1	Bake Pkwy. & Commercentre Dr.
2	Dimension Dr. & Bake Pkwy.
3	Dimension Dr. & Commercentre Dr./Enterprise Wy.
4	Lake Forest Dr. & Dimension Dr.
5	Lake Forest Dr. & Rancho Pkwy.

TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

EXISTING USE

The existing sites are currently occupied by office buildings as follows:

- 26200 Enterprise Way = 144,906 square feet of general office use
- 26110, 26140, and 26160 Enterprise Way = 3 buildings totaling 145,440 square feet of general office use
- 26250 Enterprise Way = 76,841 square feet of general office use

Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project. In order to develop the traffic characteristics of the currently approved Project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) was used to estimate the trip generation. Trip generation rates for the existing and proposed uses are summarized on Table 2.

TABLE 2: TRIP GENERATION RATES

Land Use ¹	ITE LU Code	Units ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicles:									
Manufacturing ³	140	TSF	0.517	0.163	0.680	0.229	0.511	0.740	4.750
Passenger Cars:			0.475	0.150	0.626	0.213	0.475	0.688	4.275
2-Axle Trucks:			0.007	0.002	0.009	0.003	0.006	0.009	0.079
3-Axle Trucks:			0.009	0.003	0.011	0.003	0.007	0.011	0.098
4+-Axle Trucks:			0.026	0.008	0.034	0.010	0.022	0.032	0.297
Warehousing ³	150	TSF	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars:			0.114	0.034	0.148	0.043	0.110	0.153	1.248
2-Axle Trucks:			0.003	0.001	0.004	0.001	0.003	0.005	0.077
3-Axle Trucks:			0.004	0.001	0.005	0.002	0.004	0.006	0.096
4+-Axle Trucks:			0.011	0.003	0.014	0.005	0.012	0.017	0.289
General Office	710	TSF	1.338	0.182	1.520	0.245	1.195	1.440	10.840
Passenger Car Equivalent (PCE):⁴									
Manufacturing ³	140	TSF	0.517	0.163	0.680	0.229	0.511	0.740	4.750
Passenger Cars:			0.475	0.150	0.626	0.213	0.475	0.688	4.275
2-Axle Trucks (PCE = 1.5):			0.010	0.003	0.013	0.004	0.009	0.013	0.119
3-Axle Trucks (PCE = 2.0):			0.017	0.005	0.022	0.007	0.015	0.022	0.197
4+-Axle Trucks (PCE = 3.0):			0.078	0.025	0.103	0.030	0.067	0.097	0.892
Warehousing ³	150	TSF	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars:			0.114	0.034	0.148	0.043	0.110	0.153	1.248
2-Axle Trucks (PCE = 1.5):			0.004	0.001	0.005	0.002	0.005	0.007	0.116
3-Axle Trucks (PCE = 2.0):			0.007	0.002	0.009	0.003	0.008	0.011	0.191
4+-Axle Trucks (PCE = 3.0):			0.032	0.010	0.042	0.014	0.037	0.051	0.867

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

² TSF = Thousand Square Feet

³ Vehicle Mix Source: ITE Trip Generation Handbook Supplement (2020), Appendix C.

Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

⁴ PCE rates: 1.5 for 2-axle, 2.0 for 3-axle, and 3.0 for 4+-axle.

The trip generation for the existing use is summarized on Table 3 for each existing site. As shown in Table 3, the existing office uses (if occupied) would generate 3,984 two-way trips per day, with 559 trips generated during the AM peak hour and 529 trips generated during the PM peak hour.

TABLE 3: EXISTING TRIP GENERATION SUMMARY

Existing Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
General Office:								
26200 Enterprise Way	144.906 TSF	194	26	220	35	173	208	1,572
26110, 26140, 26160 Enterprise Way	145.440 TSF	195	27	222	36	174	210	1,578
26250 Enterprise Way	76.841 TSF	103	14	117	19	92	111	834
Total	367.187 TSF	492	67	559	90	439	529	3,984

¹ TSF = thousand square feet

PROPOSED PROJECT

The following summarizes the development proposed on each site:

- 26200 Enterprise Way = 168,467 square feet of manufacturing use
- 26110, 26140, and 26160 Enterprise Way = 39,000 square feet of manufacturing use and 124,300 square feet of warehousing use
- 26250 Enterprise Way = 78,000 square feet of warehousing use

The trip generation for 26200 Enterprise Way has been calculated and shown on Table 4. As the proposed manufacturing use is a truck intensive use, the trip generation has been provided in both actual vehicles and passenger car equivalents (PCE) based on the trip generation rates presented previously in Table 2. As shown in Table 4, the proposed Project is anticipated to generate 806 two-way trips per day with 112 AM peak hour trips and 125 PM peak hour trips (actual vehicles).

TABLE 4: TRIP GENERATION SUMMARY FOR 26200 ENTERPRISE WAY

Proposed Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Manufacturing	168.467 TSF							
Passenger Cars:		80	25	105	36	80	116	722
2-Axle Trucks:		1	0	1	0	1	1	14
3-Axle Trucks:		1	0	1	1	1	2	18
4+-Axle Trucks:		4	1	5	2	4	6	52
Total Truck Trips		6	1	7	3	6	9	84
Total Trips (Actual Vehicles)²		86	26	112	39	86	125	806
Passenger Car Equivalent (PCE):								
Manufacturing	168.467 TSF							
Passenger Cars:		80	25	105	36	80	116	722
2-Axle Trucks:		2	1	3	1	2	3	22
3-Axle Trucks:		3	1	4	1	3	4	34
4+-Axle Trucks:		13	4	17	5	11	16	152
Total Truck Trips		18	6	24	7	16	23	208
Total Trips (PCE)²		98	31	129	43	96	139	930

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

The trip generation for 26110, 26140 and 26160 Enterprise Way has been calculated and shown on Table 5. The trip generation has been provided in both actual vehicles and PCE based on the trip generation rates presented previously in Table 2. As shown in Table 5, the proposed Project is anticipated to generate 402 two-way trips per day with 45 AM peak hour trips and 51 PM peak hour trips (actual vehicles).

TABLE 5: TRIP GENERATION SUMMARY FOR 26110, 26140 & 26160 ENTERPRISE WAY

Proposed Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Manufacturing	39.000 TSF							
Passenger Cars:		19	6	25	8	19	27	168
2-Axle Trucks:		0	0	0	0	0	0	4
3-Axle Trucks:		0	0	0	0	0	0	4
4+-Axle Trucks:		1	0	1	0	1	1	12
Total Truck Trips		1	0	1	0	1	1	20
Warehousing	124.300 TSF							
Passenger Cars:		14	4	18	5	14	19	156
2-Axle Trucks:		0	0	0	0	0	0	10
3-Axle Trucks:		0	0	0	0	1	1	12
4+-Axle Trucks:		1	0	1	1	2	3	36
Total Truck Trips		1	0	1	1	3	4	58
Total Trips (Actual Vehicles)²		35	10	45	14	37	51	402
Passenger Car Equivalent (PCE):								
Manufacturing	39.000 TSF							
Passenger Cars:		19	6	25	8	19	27	168
2-Axle Trucks:		0	0	0	0	0	0	6
3-Axle Trucks:		1	0	1	0	1	1	8
4+-Axle Trucks:		3	1	4	1	3	4	36
Total Truck Trips		4	1	5	1	4	5	50
Warehousing	124.300 TSF							
Passenger Cars:		14	4	18	5	14	19	156
2-Axle Trucks:		0	0	0	0	1	1	14
3-Axle Trucks:		1	0	1	0	1	1	24
4+-Axle Trucks:		4	1	5	2	5	7	108
Total Truck Trips		5	1	6	2	7	9	146
Total Trips (PCE)²		42	12	54	16	44	60	520

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

The trip generation for 26250 Enterprise Way has been calculated and shown on Table 6. The trip generation has been provided in both actual vehicles and PCE based on the trip generation rates presented previously in Table 2. As shown in Table 6, the proposed Project is anticipated to generate 136 two-way trips per day with 13 AM peak hour trips and 13 PM peak hour trips (actual vehicles).

TABLE 6: TRIP GENERATION SUMMARY FOR 26250 ENTERPRISE WAY

		AM Peak Hour			PM Peak Hour			
Proposed Land Use	Quantity Units ¹	In	Out	Total	In	Out	Total	Daily
Actual Vehicles:								
Warehousing	78.000 TSF							
Passenger Cars:		9	3	12	3	9	12	98
2-Axle Trucks:		0	0	0	0	0	0	6
3-Axle Trucks:		0	0	0	0	0	0	8
4+-Axle Trucks:		1	0	1	0	1	1	24
Total Truck Trips		1	0	1	0	1	1	38
Total Trips (Actual Vehicles) ²		10	3	13	3	10	13	136
Passenger Car Equivalent (PCE):								
Warehousing	78.000 TSF							
Passenger Cars:		9	3	12	3	9	12	98
2-Axle Trucks:		0	0	0	0	0	0	10
3-Axle Trucks:		1	0	1	0	1	1	16
4+-Axle Trucks:		2	1	3	1	3	4	68
Total Truck Trips		3	1	4	1	4	5	94
Total Trips (PCE) ²		12	4	16	4	13	17	192

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

PROJECT TRIP GENERATION COMPARISON

In an effort to conduct a conservative trip generation estimate, the PCE-based trip generation for the proposed warehouses uses has been compared to the existing office trip generation for each applicable site. As shown in Table 7, the development of the proposed Project is anticipated to generate fewer trips than the existing office uses for each site. However, for the purposes of the Traffic Study, the Project trip generation summary identified on Tables 4, 5, and 6 will be utilized for the applicable buildings.

TABLE 7: TRIP GENERATION COMPARISON

Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
26200 Enterprise Way							
Existing Use (General Office)	194	26	220	35	173	208	1572
Proposed Project (Manufacturing in PCE)	98	31	129	43	96	139	930
Variance	-96	5	-91	8	-77	-69	-642
26110, 26140 & 26160 Enterprise Way							
Existing Use (General Office)	195	27	222	36	174	210	1,578
Proposed Project (Warehousing/Manufacturing in PCE)	42	12	54	16	44	60	520
Variance	-153	-15	-168	-20	-130	-150	-1,058
26250 Enterprise Way							
Existing Use (General Office)	103	14	117	19	92	111	834
Proposed Project (Warehousing in PCE)	12	4	16	4	13	17	192
Variance	-91	-10	-101	-15	-79	-94	-642

TRIP DISTRIBUTION

The Project trip distribution patterns were developed based on an understanding of existing travel patterns in the area, the geographical location of the site, and the site's proximity to the regional arterial and state highway system. Project travel patterns were derived for passenger cars and heavy trucks. The truck trip distribution patterns are consistent with the recommended routes by City staff and have been validated by the existing count data collected and existing truck travel patterns. Exhibits 4 and 5 show the trip distribution patterns for the passenger cars and heavy trucks, respectively.

EXHIBIT 4: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION

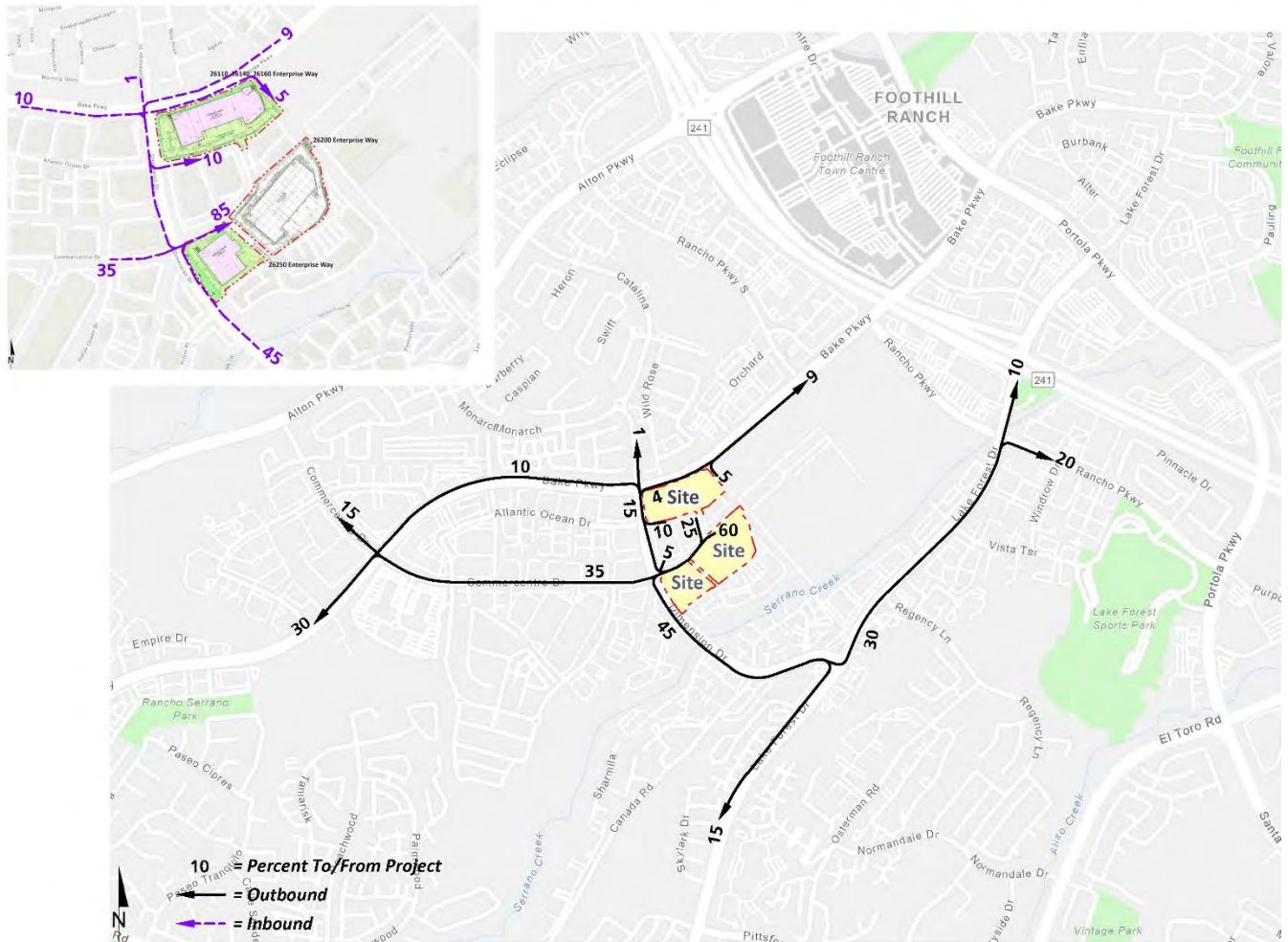
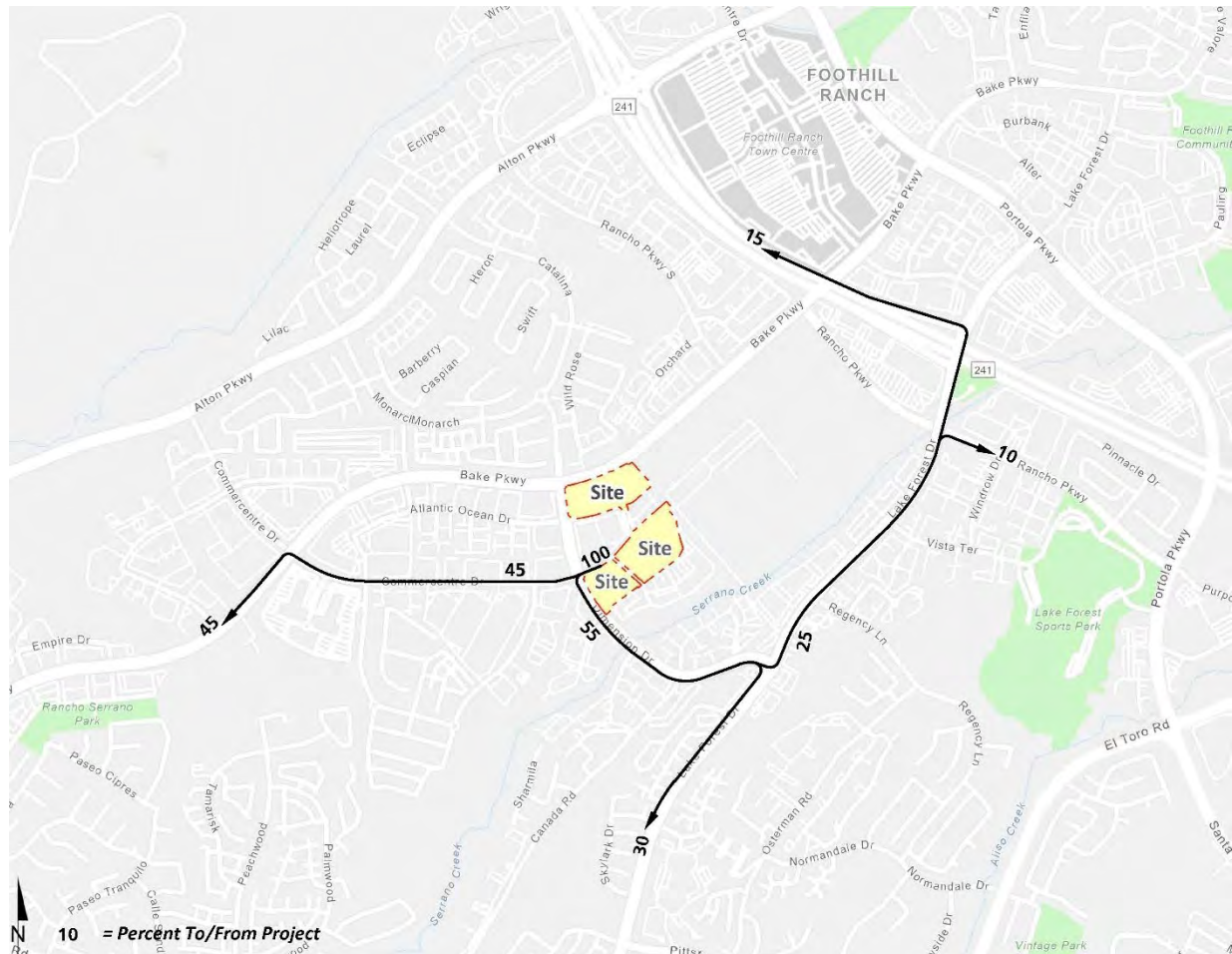


EXHIBIT 5: PROJECT (TRUCK) TRIP DISTRIBUTION



ANALYSIS SCENARIOS

Peak hour operations at each of the study area intersections and site access driveways will be assessed for the following analysis scenarios:

1. Existing (2021) Conditions (Baseline)
2. Existing plus Project (all 3 buildings) Conditions
3. Opening Year Cumulative (2023) With Project Conditions (all 3 buildings)

As requested by City staff, peak hour intersection operations will be conducted using the Intersection Capacity Utilization (ICU) and Highway Capacity Manual (HCM) methodologies for signalized intersections and HCM methodology will be utilized for the analysis of unsignalized intersections. Note that traffic volumes identified in the Traffic Study exhibits will be expressed in actual vehicles, but all peak hour intersection operations analyses will utilize PCE adjusted volumes. Peak hour operations and level of service for study area intersections will be evaluated for the following time periods:

- Weekday AM Peak Hour (7AM-9AM)
- Weekday PM Peak Hour (4PM-6PM)

EXISTING COUNT DATA

As local schools were back in session as of August 16, 2021, we have conducted new traffic counts on Thursday, August 19, 2021, for the study area intersections and are proposing to not apply any adjustment factors to account for effects related to the currently ongoing COVID-19 pandemic (some of which may be in effect for the foreseeable future).

LEVEL OF SERVICE (LOS) CRITERIA

The City of Lake Forest has established LOS D as the minimum level of service for its intersections. Therefore, any intersection operating at LOS E or F will be considered deficient for the purposes of this analysis.

AMBIENT GROWTH

An ambient growth rate of 2% per year is proposed for the study area intersections to approximate background traffic growth not identified by nearby cumulative development projects. The rate will be compounded over a two-year period (i.e., $1.02^{2\text{years}} = 1.0404$ or 4.04% for 2023).

LOS DEFICIENCY

Below are the traffic deficiency criteria:

- When existing traffic conditions exceed the General Plan target LOS (e.g., LOS D or better).
- When project traffic, added to existing traffic, will deteriorate the LOS to below the target LOS, and deficiencies cannot be improved through project conditions of approval.
- When cumulative traffic exceeds the target LOS, and deficiencies cannot be improved through a pre-existing funding mechanism, project conditions of approval, or other implementation mechanism.

SPECIAL ISSUES

The following special issue will also be addressed as part of the Traffic Study:

- Assessment of Turn Pocket Needs: Identify the need for additional turn pockets to support project traffic. The Traffic Study will identify the truck volume in each of these turn pockets (both existing and proposed by the Project). Other analysis assumptions include:
 - Bake Pkwy. & Commercentre Dr.: City request to evaluate the elimination of the existing split-phase signal operation along Commercentre Dr. to the traditional protected left-turn phasing. Lane geometrics for the westbound approach (Commercentre Dr.) would be dual left turn lanes and a shared through-right turn lane (preferred 20-foot width). Evaluate need for a northbound right turn lane (on Bake Pkwy. onto Commercentre Dr.).
 - Dimension Dr. & Commercentre Dr./Enterprise Wy.: Evaluate need for a northbound right turn lane (on Dimension Dr. onto Enterprise Wy.). Also evaluate protected left-turn phasing along Enterprise Wy. (Dimension Dr. left turns are currently protected).
 - Lake Forest Dr. & Dimension Dr.: Evaluate need for a southbound right turn lane (on Lake Forest Dr. onto Dimension Dr.).
 - Lake Forest Dr. & Rancho Pkwy.: Evaluate need for a northbound right turn lane (on Lake Forest Dr. onto Rancho Pkwy.).
 - For all intersections: A minimum of 10-feet will be utilized for left turn lane widths, 11-feet for through lanes, 12-foot minimum adjacent to raised medians, and a minimum of 19-20-feet for shared through-right turn lanes (if feasible). 13-foot minimum widths will be utilized for right turn lanes and 6-foot minimum for bike lanes when located between a through lane and right turn lane.
- Queuing Analysis: In addition to the peak hour intersection operations, the queuing will also be evaluated at the study area intersections to determine the turn pocket lengths needed to support the traffic forecasts.

- Operations Analysis: The 3 projects will be analyzed in a single study at the City's request, however, the trip generation for each project will be calculated separately and will be considered together in the comprehensive analysis. Improvement needs will be recommended project by project in order to enable the City to condition each of the 3 projects separately. The construct obligations and fair share contributions of each of the 3 projects will be provided.
- Truck Turn Evaluation: Evaluate truck turns at the study area intersections for the applicable turning movements. Truck turn templates will utilize the WB-67 truck template.
- Concept Plans: Concept striping plans will be prepared for each analysis location reflecting recommendations from the Traffic Study as it pertains to number of lanes, intersection control, turn pocket storage, and other physical improvements needed to accommodate truck turns. Concept plans will identify potential impacts to existing infrastructure and right-of-way constraints.

CUMULATIVE DEVELOPMENT PROJECTS

At a minimum we request that the location of each project be provided along with land use and intensity information that we will need to generate traffic and load onto the study area network. Traffic studies/reports for the cumulative projects would be preferred, if available. Pursuant to information from City staff, the following projects will be included/considered:

- a. Applied Medical
- b. Arctic Ocean Storage
- c. Arctic Ocean Warehouse
- d. Nakase Meadows
- e. Portola Center (~45% complete)
- f. Serrano Summit (~49% complete)
- g. Teresina (~67% complete)

If you have any questions, please contact me directly at (949) 861-0177.

Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE
Associate Principal

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APPENDIX 3.1:

TRAFFIC COUNTS

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City of Lake Forest
N/S: Bake Parkway
E/W: Commercentre Drive
Weather: Clear

File Name : 01_LKE_Bake_Com AM
Site Code : 05121392
Start Date : 8/19/2021
Page No : 1

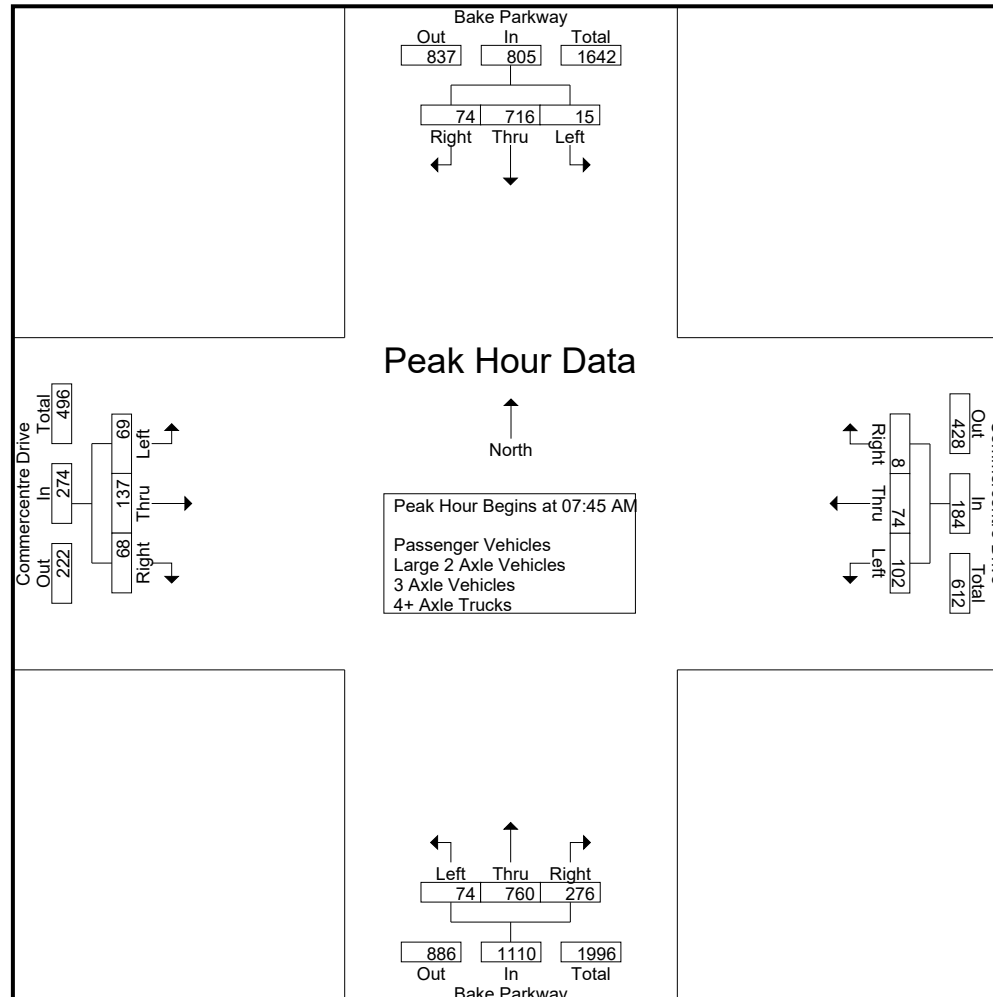
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Bake Parkway Southbound					Commercentre Drive Westbound					Bake Parkway Northbound					Commercentre Drive Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	3	136	12	8	151	19	8	0	0	27	9	109	82	5	200	15	35	15	1	65	14	443	457
07:15 AM	2	146	17	5	165	16	16	0	0	32	14	127	70	9	211	17	36	14	7	67	21	475	496
07:30 AM	4	206	12	3	222	35	19	1	0	55	12	173	75	14	260	17	25	12	5	54	22	591	613
07:45 AM	4	189	12	4	205	22	21	0	0	43	25	229	92	18	346	19	25	20	11	64	33	658	691
Total	13	677	53	20	743	92	64	1	0	157	60	638	319	46	1017	68	121	61	24	250	90	2167	2257
08:00 AM	4	189	16	3	209	29	18	0	0	47	12	176	70	17	258	15	43	19	8	77	28	591	619
08:15 AM	6	156	23	4	185	17	11	3	3	31	18	179	63	13	260	17	28	11	2	56	22	532	554
08:30 AM	1	182	23	8	206	34	24	5	5	63	19	176	51	7	246	18	41	18	9	77	29	592	621
08:45 AM	2	151	17	3	170	36	8	0	0	44	19	190	61	7	270	20	30	17	5	67	15	551	566
Total	13	678	79	18	770	116	61	8	8	185	68	721	245	44	1034	70	142	65	24	277	94	2266	2360
Grand Total	26	1355	132	38	1513	208	125	9	8	342	128	1359	564	90	2051	138	263	126	48	527	184	4433	4617
Apprch %	1.7	89.6	8.7			60.8	36.5	2.6			6.2	66.3	27.5			26.2	49.9	23.9					
Total %	0.6	30.6	3		34.1	4.7	2.8	0.2		7.7	2.9	30.7	12.7		46.3	3.1	5.9	2.8		11.9	4	96	
Passenger Vehicles	24	1311	129		1501	177	114	8		307	121	1313	546		2066	135	247	120		546	0	0	4420
% Passenger Vehicles	92.3	96.8	97.7	97.4	96.8	85.1	91.2	88.9	100	87.7	94.5	96.6	96.8	95.6	96.5	97.8	93.9	95.2	91.7	95	0	0	95.7
Large 2 Axle Vehicles	1	32	1		34	11	7	1		19	4	34	10		50	3	11	2		17	0	0	120
% Large 2 Axle Vehicles	3.8	2.4	0.8	0	2.2	5.3	5.6	11.1	0	5.4	3.1	2.5	1.8	2.2	2.3	2.2	4.2	1.6	2.1	3	0	0	2.6
3 Axle Vehicles	1	1	1		4	3	3	0		6	1	5	2		8	0	2	2		5	0	0	23
% 3 Axle Vehicles	3.8	0.1	0.8	2.6	0.3	1.4	2.4	0	0	1.7	0.8	0.4	0.4	0	0.4	0	0.8	1.6	2.1	0.9	0	0	0.5
4+ Axle Trucks	0	11	1		12	17	1	0		18	2	7	6		17	0	3	2		7	0	0	54
% 4+ Axle Trucks	0	0.8	0.8	0	0.8	8.2	0.8	0	0	5.1	1.6	0.5	1.1	2.2	0.8	0	1.1	1.6	4.2	1.2	0	0	1.2

	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	4	189	12	205	22	21	0	43	25	229	92	346	19	25	20	64	658
08:00 AM	4	189	16	209	29	18	0	47	12	176	70	258	15	43	19	77	591
08:15 AM	6	156	23	185	17	11	3	31	18	179	63	260	17	28	11	56	532
08:30 AM	1	182	23	206	34	24	5	63	19	176	51	246	18	41	18	77	592
Total Volume	15	716	74	805	102	74	8	184	74	760	276	1110	69	137	68	274	2373
% App. Total	1.9	88.9	9.2		55.4	40.2	4.3		6.7	68.5	24.9		25.2	50	24.8		
PHF	.625	.947	.804	.963	.750	.771	.400	.730	.740	.830	.750	.802	.908	.797	.850	.890	.902

City of Lake Forest
N/S: Bake Parkway
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City of Lake Forest
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	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				08:00 AM				07:30 AM				08:00 AM				
+0 mins.	4	206	12	222	29	18	0	47	12	173	75	260	15	43	19	77	
+15 mins.	4	189	12	205	17	11	3	31	25	229	92	346	17	28	11	56	
+30 mins.	4	189	16	209	34	24	5	63	12	176	70	258	18	41	18	77	
+45 mins.	6	156	23	185	36	8	0	44	18	179	63	260	20	30	17	67	
Total Volume	18	740	63	821	116	61	8	185	67	757	300	1124	70	142	65	277	
% App. Total	2.2	90.1	7.7		62.7	33	4.3		6	67.3	26.7		25.3	51.3	23.5		
PHF	.750	.898	.685	.925	.806	.635	.400	.734	.670	.826	.815	.812	.875	.826	.855	.899	

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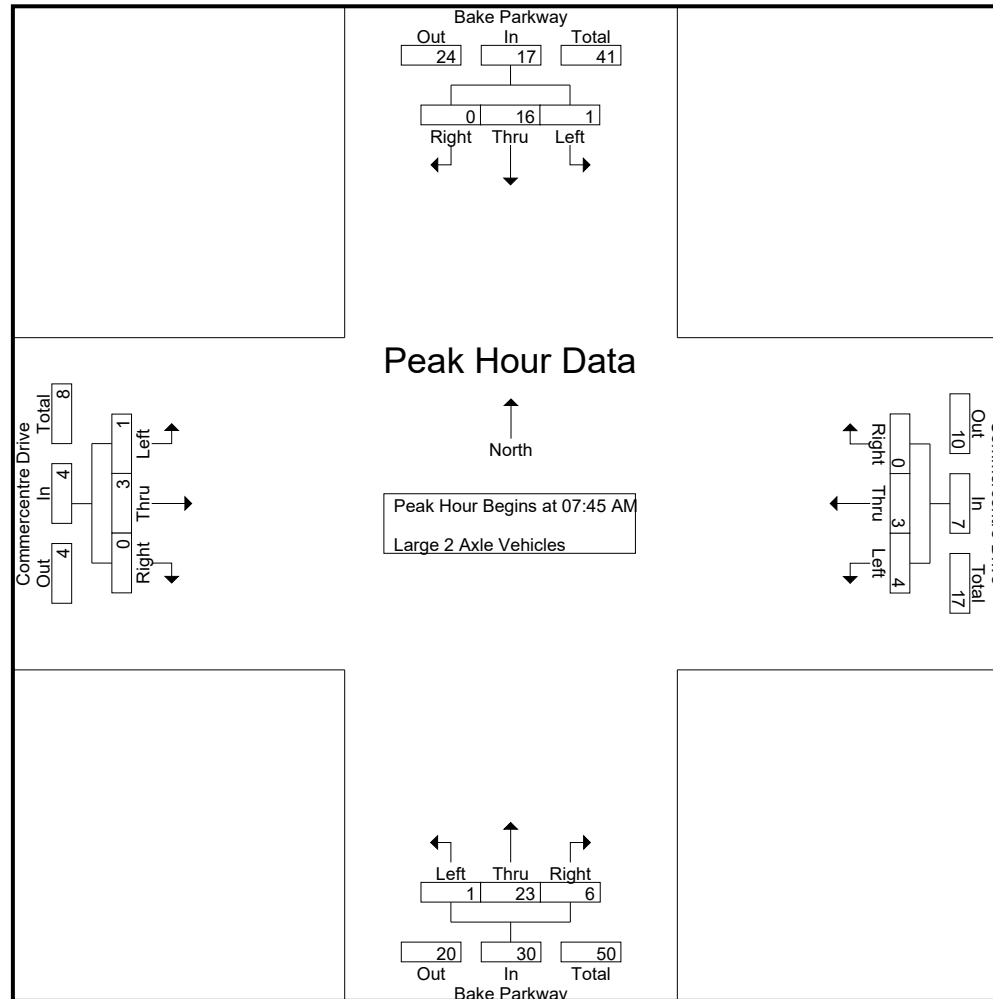
Groups Printed- Large 2 Axle Vehicles

	Bake Parkway Southbound					Commercentre Drive Westbound					Bake Parkway Northbound					Commercentre Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	3	1	0	4	1	0	0	0	1	1	2	0	0	3	1	3	0	0	4	0	12	12
07:15 AM	0	1	0	0	1	1	2	0	0	3	0	3	1	0	4	0	2	1	1	3	1	11	12
07:30 AM	0	7	0	0	7	3	1	1	0	5	2	1	1	0	4	0	1	0	0	1	0	17	17
07:45 AM	0	1	0	0	1	0	2	0	0	2	0	9	2	0	11	1	0	0	0	1	0	15	15
Total	0	12	1	0	13	5	5	1	0	11	3	15	4	0	22	2	6	1	1	9	1	55	56
08:00 AM	0	2	0	0	2	3	1	0	0	4	0	5	0	0	5	0	0	0	0	0	0	11	11
08:15 AM	1	4	0	0	5	0	0	0	0	0	0	4	3	2	7	0	1	0	0	1	2	13	15
08:30 AM	0	9	0	0	9	1	0	0	0	1	1	5	1	0	7	0	2	0	0	2	0	19	19
08:45 AM	0	5	0	0	5	2	1	0	0	3	0	5	2	0	7	1	2	1	0	4	0	19	19
Total	1	20	0	0	21	6	2	0	0	8	1	19	6	2	26	1	5	1	0	7	2	62	64
Grand Total	1	32	1	0	34	11	7	1	0	19	4	34	10	2	48	3	11	2	1	16	3	117	120
Apprch %	2.9	94.1	2.9			57.9	36.8	5.3			8.3	70.8	20.8			18.8	68.8	12.5					
Total %	0.9	27.4	0.9		29.1	9.4	6	0.9		16.2	3.4	29.1	8.5		41	2.6	9.4	1.7		13.7	2.5	97.5	

	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	1	0	1	0	2	0	2	0	9	2	11	1	0	0	1	15
08:00 AM	0	2	0	2	3	1	0	4	0	5	0	5	0	0	0	0	11
08:15 AM	1	4	0	5	0	0	0	0	0	4	3	7	0	1	0	1	13
08:30 AM	0	9	0	9	1	0	0	1	1	5	1	7	0	2	0	2	19
Total Volume	1	16	0	17	4	3	0	7	1	23	6	30	1	3	0	4	58
% App. Total	5.9	94.1	0		57.1	42.9	0		3.3	76.7	20		25	75	0		
PHF	.250	.444	.000	.472	.333	.375	.000	.438	.250	.639	.500	.682	.250	.375	.000	.500	.763

City of Lake Forest
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Page No : 3

	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	1	0	1	0	2	0	2	0	9	2	11	1	0	0	1	
+15 mins.	0	2	0	2	3	1	0	4	0	5	0	5	0	0	0	0	
+30 mins.	1	4	0	5	0	0	0	0	0	4	3	7	0	1	0	1	
+45 mins.	0	9	0	9	1	0	0	1	1	5	1	7	0	2	0	2	
Total Volume	1	16	0	17	4	3	0	7	1	23	6	30	1	3	0	4	
% App. Total	5.9	94.1	0		57.1	42.9	0		3.3	76.7	20		25	75	0		
PHF	.250	.444	.000	.472	.333	.375	.000	.438	.250	.639	.500	.682	.250	.375	.000	.500	

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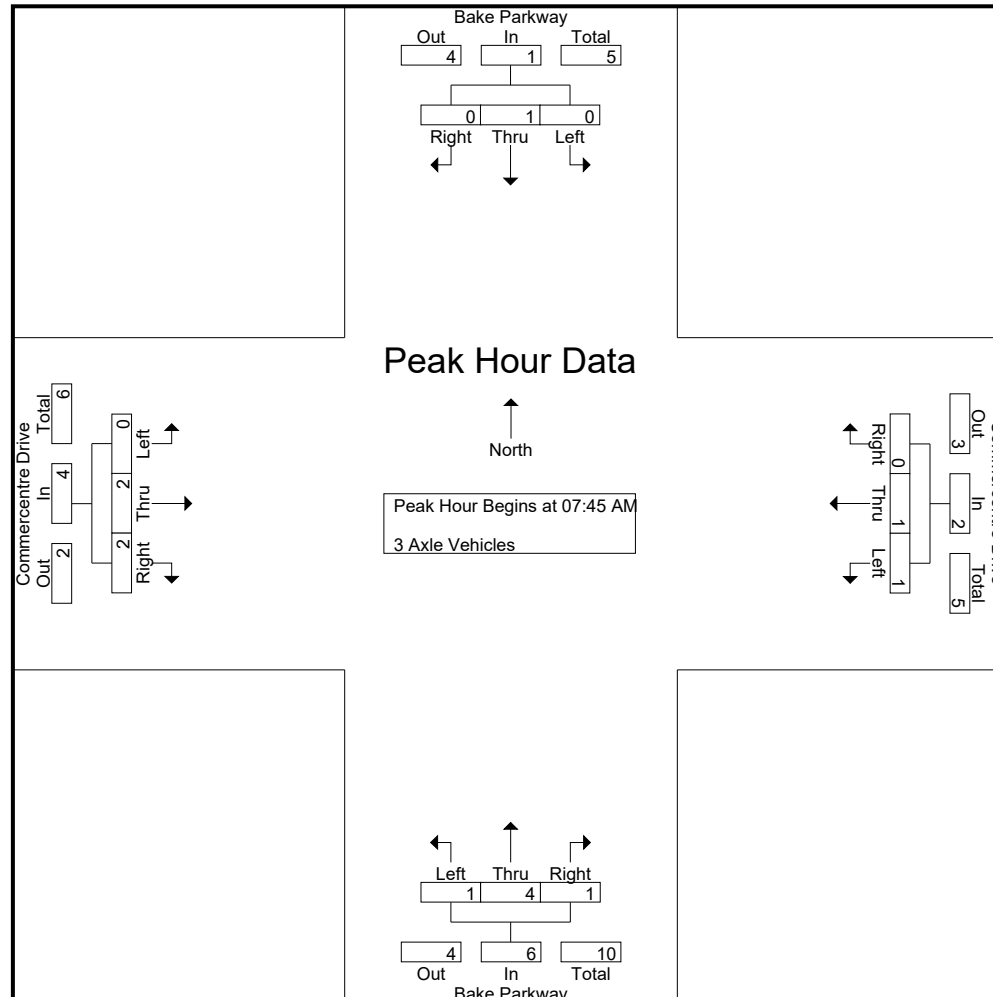
Groups Printed- 3 Axle Vehicles

	Bake Parkway Southbound					Commercentre Drive Westbound					Bake Parkway Northbound					Commercentre Drive Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	1	1	2	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	4	5
07:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
Total	1	0	1	1	2	1	2	0	0	3	1	0	0	0	1	0	0	0	0	0	1	6	7
08:00 AM	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	0	2	2	1	4	1	8	9
08:15 AM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	2	2
08:45 AM	0	0	0	0	0	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	3	3
Total	0	1	0	0	1	2	1	0	0	3	0	5	2	0	7	0	2	2	1	4	1	15	16
Grand Total	1	1	1	1	3	3	3	0	0	6	1	5	2	0	8	0	2	2	1	4	2	21	23
Apprch %	33.3	33.3	33.3			50	50	0			12.5	62.5	25			0	50	50					
Total %	4.8	4.8	4.8		14.3	14.3	14.3	0		28.6	4.8	23.8	9.5		38.1	0	9.5	9.5		19	8.7	91.3	

	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:00 AM	0	1	0	1	0	1	0	1	0	2	0	2	0	2	2	4	8
08:15 AM	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2
Total Volume	0	1	0	1	1	1	0	2	1	4	1	6	0	2	2	4	13
% App. Total	0	100	0		50	50	0		16.7	66.7	16.7		0	50	50		
PHF	.000	.250	.000	.250	.250	.250	.000	.500	.250	.500	.250	.750	.000	.250	.250	.250	.406

City of Lake Forest
 N/S: Bake Parkway
 E/W: Commercentre Drive
 Weather: Clear

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City of Lake Forest
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	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	
+15 mins.	0	1	0	1	0	1	0	1	0	2	0	2	0	2	2	4	
+30 mins.	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	
Total Volume	0	1	0	1	1	1	0	2	1	4	1	6	0	2	2	4	
% App. Total	0	100	0		50	50	0		16.7	66.7	16.7		0	50	50		
PHF	.000	.250	.000	.250	.250	.250	.000	.500	.250	.500	.250	.750	.000	.250	.250	.250	

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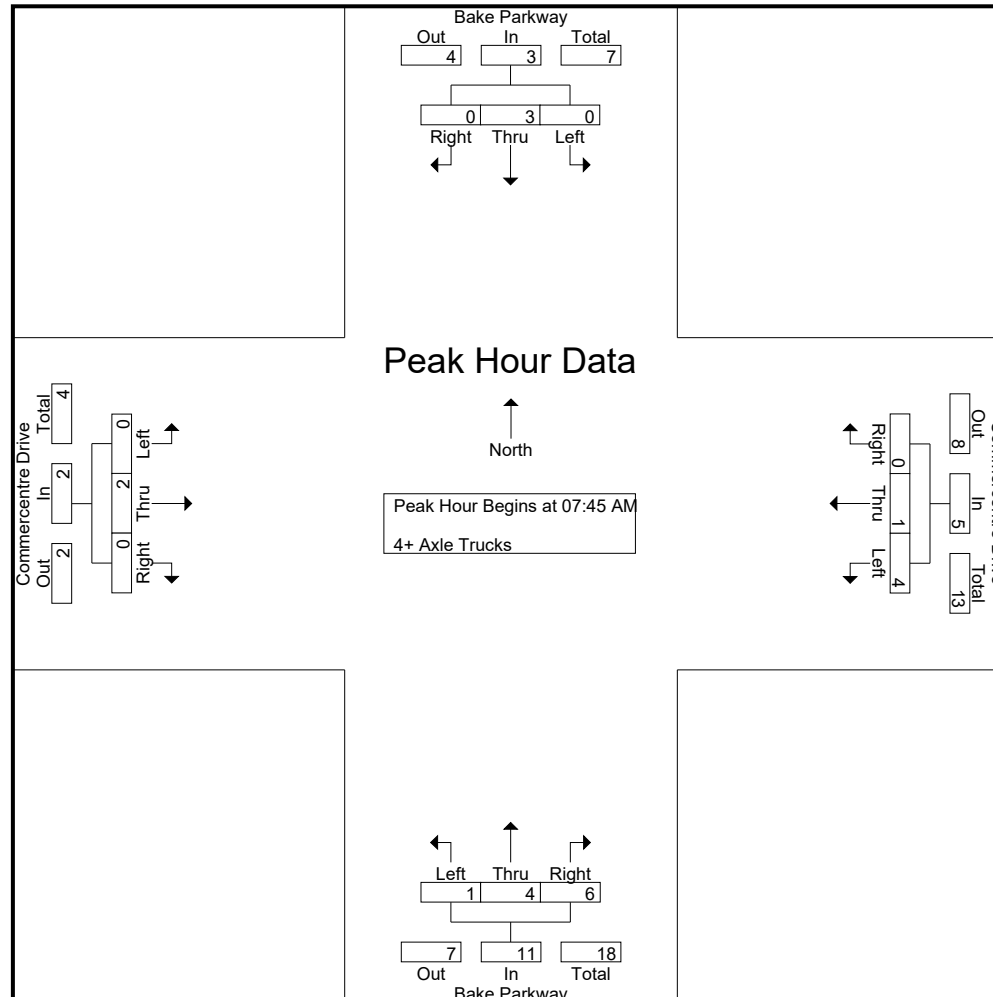
Groups Printed- 4+ Axle Trucks

	Bake Parkway Southbound					Commercentre Drive Westbound					Bake Parkway Northbound					Commercentre Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	3
07:15 AM	0	2	0	0	2	3	0	0	0	3	0	1	0	0	1	0	1	1	1	2	1	8	9
07:30 AM	0	2	0	0	2	6	0	0	0	6	0	2	0	0	2	0	0	1	1	1	1	11	12
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	4	4
Total	0	7	0	0	7	9	0	0	0	9	1	4	2	0	7	0	1	2	2	3	2	26	28
08:00 AM	0	1	0	0	1	2	0	0	0	2	1	1	1	1	3	0	0	0	0	0	1	6	7
08:15 AM	0	1	0	0	1	1	0	0	0	1	0	0	2	0	2	0	0	0	0	0	0	4	4
08:30 AM	0	0	0	0	0	1	1	0	0	2	0	2	1	1	3	0	2	0	0	2	1	7	8
08:45 AM	0	2	1	0	3	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	7	7
Total	0	4	1	0	5	8	1	0	0	9	1	3	4	2	8	0	2	0	0	2	2	24	26
Grand Total	0	11	1	0	12	17	1	0	0	18	2	7	6	2	15	0	3	2	2	5	4	50	54
Apprch %	0	91.7	8.3			94.4	5.6	0			13.3	46.7	40			0	60	40					
Total %	0	22	2		24	34	2	0		36	4	14	12		30	0	6	4		10	7.4	92.6	

	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	1	0	1	0	0	0	0	0	1	2	3	0	0	0	0	4
08:00 AM	0	1	0	1	2	0	0	2	1	1	1	3	0	0	0	0	6
08:15 AM	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0	4
08:30 AM	0	0	0	0	1	1	0	2	0	2	1	3	0	2	0	2	7
Total Volume	0	3	0	3	4	1	0	5	1	4	6	11	0	2	0	2	21
% App. Total	0	100	0		80	20	0		9.1	36.4	54.5		0	100	0		
PHF	.000	.750	.000	.750	.500	.250	.000	.625	.250	.500	.750	.917	.000	.250	.000	.250	.750

City of Lake Forest
 N/S: Bake Parkway
 E/W: Commercentre Drive
 Weather: Clear

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City of Lake Forest
N/S: Bake Parkway
E/W: Commercentre Drive
Weather: Clear

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	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	1	0	1	0	0	0	0	0	1	2	3	0	0	0	0	
+15 mins.	0	1	0	1	2	0	0	2	1	1	1	3	0	0	0	0	
+30 mins.	0	1	0	1	1	0	0	1	0	0	2	2	0	0	0	0	
+45 mins.	0	0	0	0	1	1	0	2	0	2	1	3	0	2	0	2	
Total Volume	0	3	0	3	4	1	0	5	1	4	6	11	0	2	0	2	
% App. Total	0	100	0		80	20	0		9.1	36.4	54.5		0	100	0		
PHF	.000	.750	.000	.750	.500	.250	.000	.625	.250	.500	.750	.917	.000	.250	.000	.250	

City of Lake Forest
N/S: Bake Parkway
E/W: Commercentre Drive
Weather: Clear

File Name : 01_LKE_Bake_Com PM
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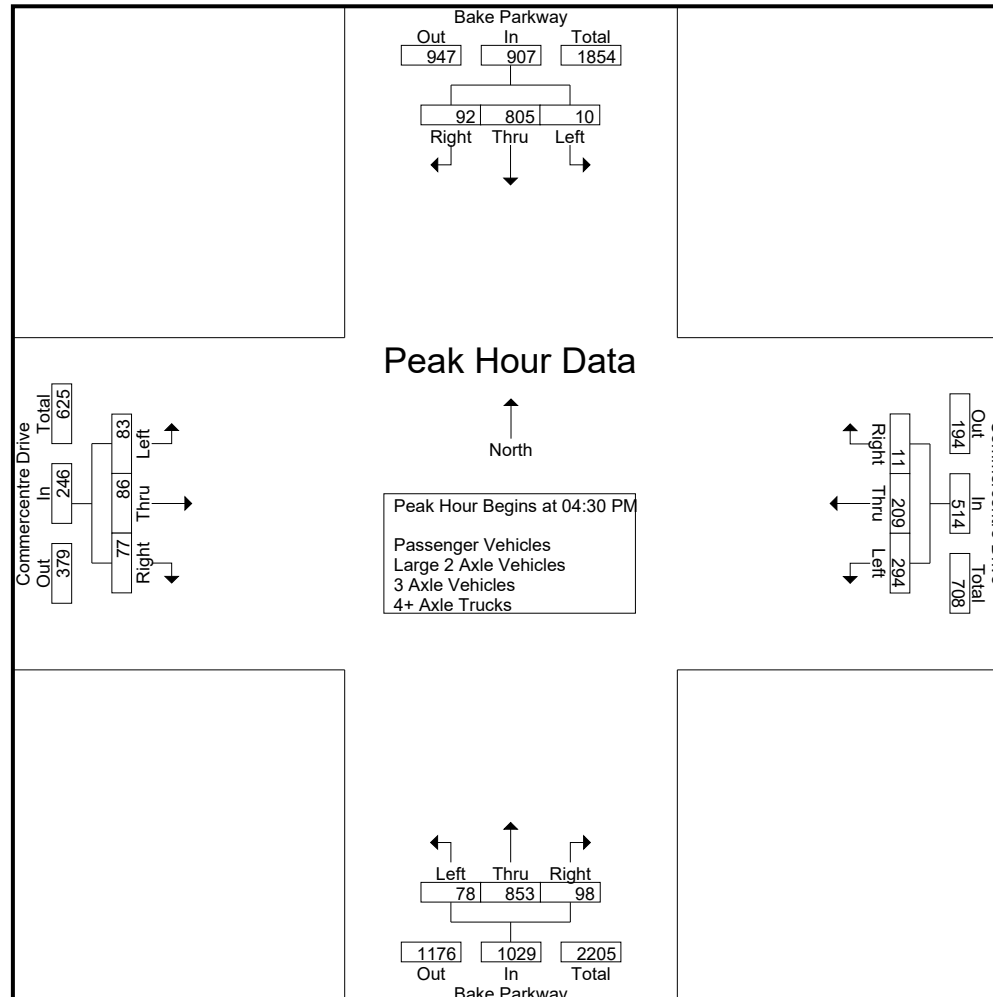
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Bake Parkway Southbound					Commercentre Drive Westbound					Bake Parkway Northbound					Commercentre Drive Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	2	208	30	13	240	77	39	1	1	117	15	188	31	4	234	15	14	23	19	52	37	643	680
04:15 PM	1	109	19	10	129	51	38	1	1	90	14	219	34	12	267	24	13	18	8	55	31	541	572
04:30 PM	1	208	18	2	227	81	60	6	0	147	15	196	30	7	241	19	18	23	6	60	15	675	690
04:45 PM	1	153	23	9	177	65	55	1	0	121	18	192	26	4	236	21	19	21	10	61	23	595	618
Total	5	678	90	34	773	274	192	9	2	475	62	795	121	27	978	79	64	85	43	228	106	2454	2560
05:00 PM	4	234	30	11	268	92	52	3	0	147	21	235	19	6	275	21	21	21	11	63	28	753	781
05:15 PM	4	210	21	6	235	56	42	1	1	99	24	230	23	4	277	22	28	12	7	62	18	673	691
05:30 PM	3	200	19	9	222	57	42	6	2	105	12	212	25	6	249	13	19	22	7	54	24	630	654
05:45 PM	2	173	18	7	193	40	27	4	1	71	22	224	33	7	279	19	21	19	6	59	21	602	623
Total	13	817	88	33	918	245	163	14	4	422	79	901	100	23	1080	75	89	74	31	238	91	2658	2749
Grand Total	18	1495	178	67	1691	519	355	23	6	897	141	1696	221	50	2058	154	153	159	74	466	197	5112	5309
Apprch %	1.1	88.4	10.5			57.9	39.6	2.6			6.9	82.4	10.7			33	32.8	34.1					
Total %	0.4	29.2	3.5		33.1	10.2	6.9	0.4		17.5	2.8	33.2	4.3		40.3	3	3	3.1		9.1	3.7	96.3	
Passenger Vehicles	17	1470	177		1731	509	341	22		878	139	1679	207		2071	151	146	158		528	0	0	5208
% Passenger Vehicles	94.4	98.3	99.4	100	98.5	98.1	96.1	95.7	100	97.2	98.6	99	93.7	92	98.2	98.1	95.4	99.4	98.6	97.8	0	0	98.1
Large 2 Axle Vehicles	1	16	0		17	6	10	1		17	2	11	9		24	1	6	0		7	0	0	65
% Large 2 Axle Vehicles	5.6	1.1	0	0	1	1.2	2.8	4.3	0	1.9	1.4	0.6	4.1	4	1.1	0.6	3.9	0	0	1.3	0	0	1.2
3 Axle Vehicles	0	0	0		0	2	1	0		3	0	1	2		3	0	0	1		2	0	0	8
% 3 Axle Vehicles	0	0	0	0	0	0.4	0.3	0	0	0.3	0	0.1	0.9	0	0.1	0	0	0.6	1.4	0.4	0	0	0.2
4+ Axle Trucks	0	9	1		10	2	3	0		5	0	5	3		10	2	1	0		3	0	0	28
% 4+ Axle Trucks	0	0.6	0.6	0	0.6	0.4	0.8	0	0	0.6	0	0.3	1.4	4	0.5	1.3	0.7	0	0	0.6	0	0	0.5

	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	208	18	227	81	60	6	147	15	196	30	241	19	18	23	60	675
04:45 PM	1	153	23	177	65	55	1	121	18	192	26	236	21	19	21	61	595
05:00 PM	4	234	30	268	92	52	3	147	21	235	19	275	21	21	21	63	753
05:15 PM	4	210	21	235	56	42	1	99	24	230	23	277	22	28	12	62	673
Total Volume	10	805	92	907	294	209	11	514	78	853	98	1029	83	86	77	246	2696
% App. Total	1.1	88.8	10.1		57.2	40.7	2.1		7.6	82.9	9.5		33.7	35	31.3		
PHF	.625	.860	.767	.846	.799	.871	.458	.874	.813	.907	.817	.929	.943	.768	.837	.976	.895

City of Lake Forest
 N/S: Bake Parkway
 E/W: Commercentre Drive
 Weather: Clear

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City of Lake Forest
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	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	05:00 PM				04:30 PM				05:00 PM				04:30 PM				
+0 mins.	4	234	30	268	81	60	6	147	21	235	19	275	19	18	23	60	
+15 mins.	4	210	21	235	65	55	1	121	24	230	23	277	21	19	21	61	
+30 mins.	3	200	19	222	92	52	3	147	12	212	25	249	21	21	21	63	
+45 mins.	2	173	18	193	56	42	1	99	22	224	33	279	22	28	12	62	
Total Volume	13	817	88	918	294	209	11	514	79	901	100	1080	83	86	77	246	
% App. Total	1.4	89	9.6		57.2	40.7	2.1		7.3	83.4	9.3		33.7	35	31.3		
PHF	.813	.873	.733	.856	.799	.871	.458	.874	.823	.959	.758	.968	.943	.768	.837	.976	

City of Lake Forest
N/S: Bake Parkway
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File Name : 01_LKE_Bake_Com PM
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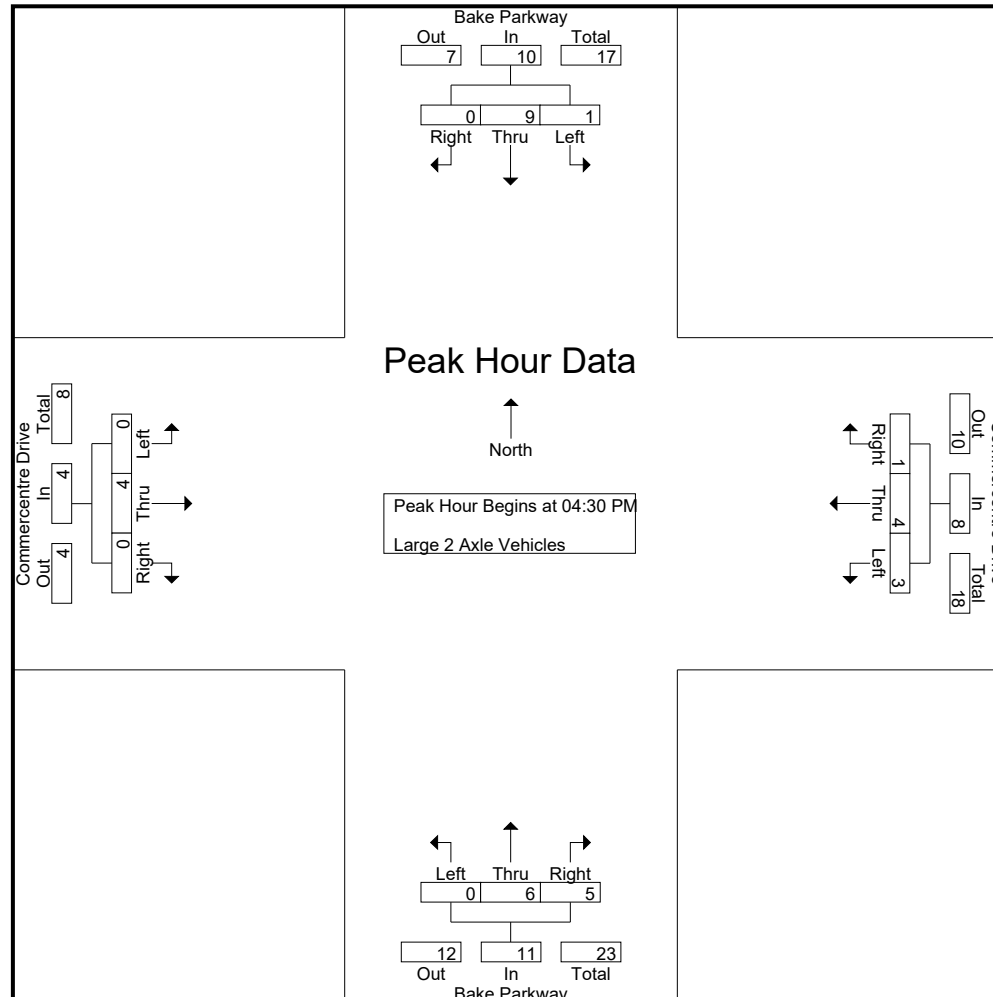
Groups Printed- Large 2 Axle Vehicles

	Bake Parkway Southbound					Commercentre Drive Westbound					Bake Parkway Northbound					Commercentre Drive Eastbound								
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	0	3	0	0	3	0	2	0	0	2	0	2	3	0	5	0	0	0	0	0	0	0	10	10
04:15 PM	0	1	0	0	1	3	2	0	0	5	0	2	1	1	3	1	2	0	0	3	1	12	13	
04:30 PM	1	1	0	0	2	0	0	1	0	1	0	2	2	0	4	0	1	0	0	1	0	8	8	
04:45 PM	0	1	0	0	1	3	3	0	0	6	0	1	1	0	2	0	0	0	0	0	0	9	9	
Total	1	6	0	0	7	6	7	1	0	14	0	7	7	1	14	1	3	0	0	4	1	39	40	
05:00 PM	0	7	0	0	7	0	0	0	0	0	0	2	1	1	3	0	1	0	0	1	1	11	12	
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	0	2	0	0	2	0	5	5	
05:30 PM	0	1	0	0	1	0	2	0	0	2	1	1	0	0	2	0	0	0	0	0	0	5	5	
05:45 PM	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	3	
Total	0	10	0	0	10	0	3	0	0	3	2	4	2	1	8	0	3	0	0	3	1	24	25	
Grand Total	1	16	0	0	17	6	10	1	0	17	2	11	9	2	22	1	6	0	0	7	2	63	65	
Apprch %	5.9	94.1	0			35.3	58.8	5.9			9.1	50	40.9			14.3	85.7	0						
Total %	1.6	25.4	0		27	9.5	15.9	1.6		27	3.2	17.5	14.3		34.9	1.6	9.5	0		11.1	3.1	96.9		

	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	1	0	2	0	0	1	1	0	2	2	4	0	1	0	1	8
04:45 PM	0	1	0	1	3	3	0	6	0	1	1	2	0	0	0	0	9
05:00 PM	0	7	0	7	0	0	0	0	0	2	1	3	0	1	0	1	11
05:15 PM	0	0	0	0	0	1	0	1	0	1	1	2	0	2	0	2	5
Total Volume	1	9	0	10	3	4	1	8	0	6	5	11	0	4	0	4	33
% App. Total	10	90	0		37.5	50	12.5		0	54.5	45.5		0	100	0		
PHF	.250	.321	.000	.357	.250	.333	.250	.333	.000	.750	.625	.688	.000	.500	.000	.500	.750

City of Lake Forest
 N/S: Bake Parkway
 E/W: Commercentre Drive
 Weather: Clear

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City of Lake Forest
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	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	1	1	0	2	0	0	1	1	0	2	2	4	0	1	0	1	
+15 mins.	0	1	0	1	3	3	0	6	0	1	1	2	0	0	0	0	
+30 mins.	0	7	0	7	0	0	0	0	0	2	1	3	0	1	0	1	
+45 mins.	0	0	0	0	0	1	0	1	0	1	1	2	0	2	0	2	
Total Volume	1	9	0	10	3	4	1	8	0	6	5	11	0	4	0	4	
% App. Total	10	90	0		37.5	50	12.5		0	54.5	45.5		0	100	0		
PHF	.250	.321	.000	.357	.250	.333	.250	.333	.000	.750	.625	.688	.000	.500	.000	.500	

City of Lake Forest
N/S: Bake Parkway
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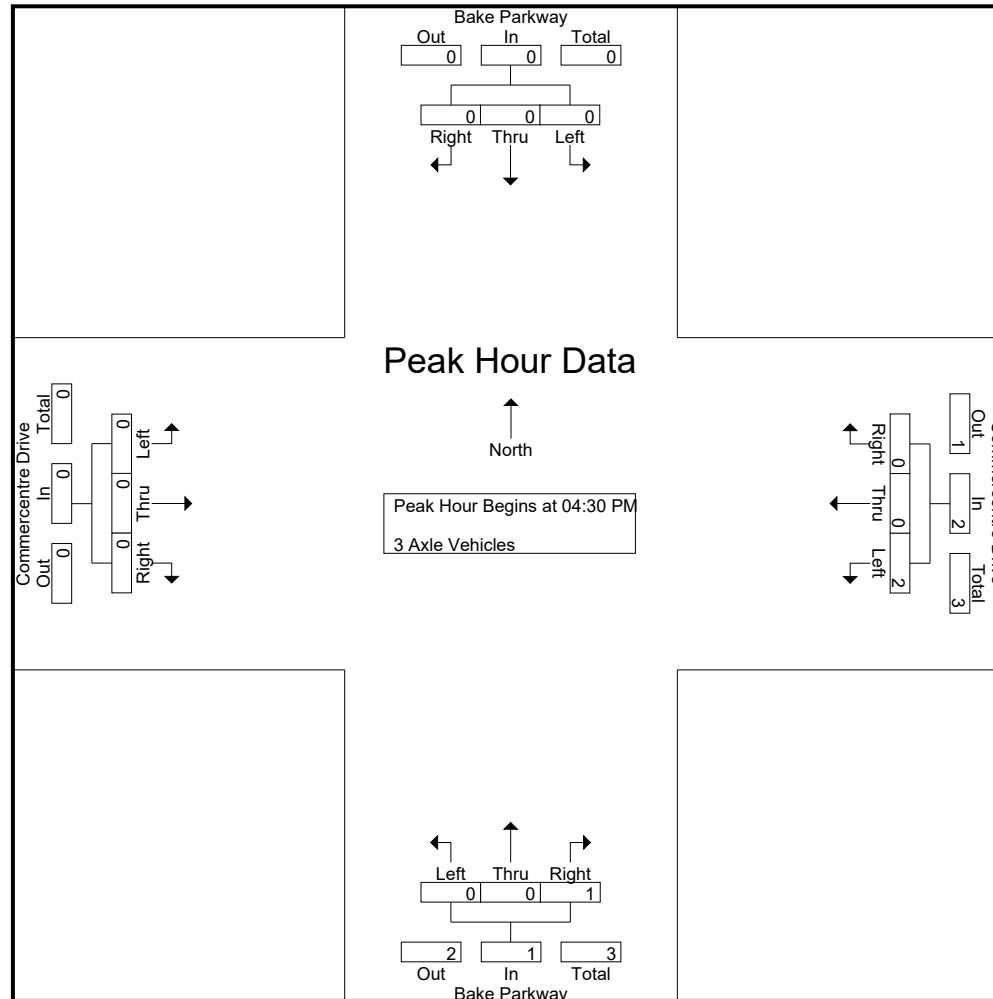
Groups Printed- 3 Axle Vehicles

	Bake Parkway Southbound					Commercentre Drive Westbound					Bake Parkway Northbound					Commercentre Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	1	1	0	0	2	0	0	1	0	1	0	0	0	0	0	0	3	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2
Total	0	0	0	0	0	1	0	0	0	1	0	1	1	0	2	0	0	1	1	1	1	4	5
Grand Total	0	0	0	0	0	2	1	0	0	3	0	1	2	0	3	0	0	1	1	1	1	7	8
Apprch %	0	0	0			66.7	33.3	0			0	33.3	66.7			0	0	100					
Total %	0	0	0			28.6	14.3	0		42.9	0	14.3	28.6		42.9	0	0	14.3		14.3	12.5	87.5	

	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
Total Volume	0	0	0	0	2	0	0	2	0	0	1	1	0	0	0	0	3
% App. Total	0	0	0		100	0	0		0	0	100		0	0	0		
PHF	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.250	.250	.000	.000	.000	.000	.375

City of Lake Forest
 N/S: Bake Parkway
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	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	0
Total Volume	0	0	0	0	2	0	0	2	0	0	1	1	0	0	0	0	0
% App. Total	0	0	0		100	0	0		0	0	100		0	0	0		
PHF	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.250	.250	.000	.000	.000	.000	

City of Lake Forest
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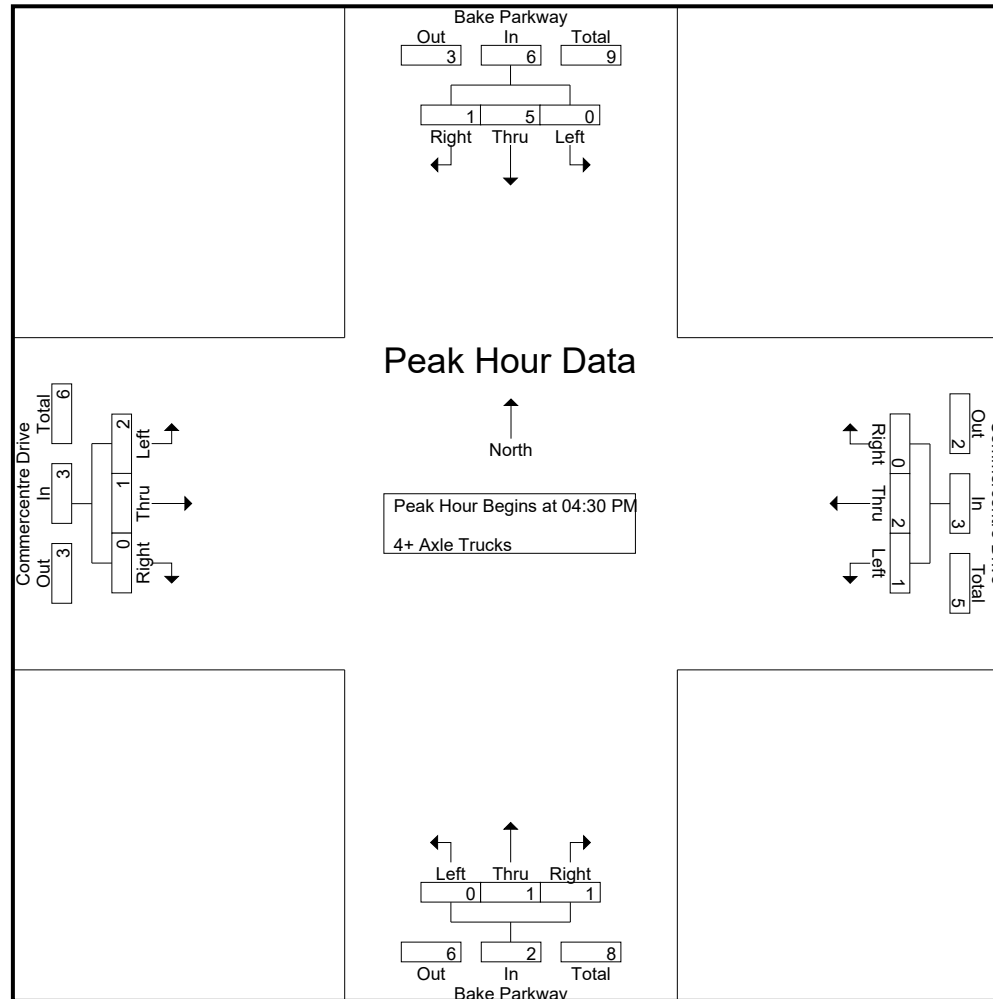
Groups Printed- 4+ Axle Trucks

	Bake Parkway Southbound					Commercentre Drive Westbound					Bake Parkway Northbound					Commercentre Drive Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	0	0	0	0	1	2	3
04:15 PM	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	3	3
04:30 PM	0	4	0	0	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	5
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3	3
Total	0	4	1	0	5	1	1	0	0	2	0	3	1	1	4	1	1	0	0	2	1	13	14
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	3	3
05:15 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	3	3
05:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:45 PM	0	2	0	0	2	0	1	0	0	1	0	1	1	1	2	0	0	0	0	0	1	5	6
Total	0	5	0	0	5	1	2	0	0	3	0	2	2	1	4	1	0	0	0	1	1	13	14
Grand Total	0	9	1	0	10	2	3	0	0	5	0	5	3	2	8	2	1	0	0	3	2	26	28
Apprch %	0	90	10			40	60	0			0	62.5	37.5			66.7	33.3	0					
Total %	0	34.6	3.8		38.5	7.7	11.5	0		19.2	0	19.2	11.5		30.8	7.7	3.8	0		11.5	7.1	92.9	

	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	4	0	4	0	1	0	1	0	0	0	0	0	0	0	0	5
04:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	2	3
05:00 PM	0	0	0	0	1	0	0	1	0	1	1	2	0	0	0	0	3
05:15 PM	0	1	0	1	0	1	0	1	0	0	0	0	1	0	0	1	3
Total Volume	0	5	1	6	1	2	0	3	0	1	1	2	2	1	0	3	14
% App. Total	0	83.3	16.7		33.3	66.7	0		0	50	50		66.7	33.3	0		
PHF	.000	.313	.250	.375	.250	.500	.000	.750	.000	.250	.250	.250	.500	.250	.000	.375	.700

City of Lake Forest
 N/S: Bake Parkway
 E/W: Commercentre Drive
 Weather: Clear

File Name : 01_LKE_Bake_Com PM
 Site Code : 05121392
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City of Lake Forest
N/S: Bake Parkway
E/W: Commercentre Drive
Weather: Clear

File Name : 01_LKE_Bake_Com PM
Site Code : 05121392
Start Date : 8/19/2021
Page No : 3

	Bake Parkway Southbound				Commercentre Drive Westbound				Bake Parkway Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	4	0	4	0	1	0	1	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	2	2
+30 mins.	0	0	0	0	1	0	0	1	0	1	1	2	0	0	0	0	0
+45 mins.	0	1	0	1	0	1	0	1	0	0	0	0	1	0	0	1	1
Total Volume	0	5	1	6	1	2	0	3	0	1	1	2	2	1	0	3	3
% App. Total	0	83.3	16.7		33.3	66.7	0		0	50	50		66.7	33.3	0		
PHF	.000	.313	.250	.375	.250	.500	.000	.750	.000	.250	.250	.250	.500	.250	.000	.375	

Location: Lake Forest
 N/S: Bake Parkway
 E/W: Commercentre Drive



Date: 8/19/2021
 Day: Thursday

PEDESTRIANS

		North Leg Bake Parkway Pedestrians	East Leg Commercentre Drive Pedestrians	South Leg Bake Parkway Pedestrians	West Leg Commercentre Drive Pedestrians	
	7:00 AM	0	0	0	0	0
	7:15 AM	0	1	0	0	1
	7:30 AM	0	0	1	0	1
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	1	0	1
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL VOLUMES:	0	1	2	0	3

		North Leg Bake Parkway Pedestrians	East Leg Commercentre Drive Pedestrians	South Leg Bake Parkway Pedestrians	West Leg Commercentre Drive Pedestrians	
	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL VOLUMES:	0	0	0	0	0

Location: Lake Forest
 N/S: Bake Parkway
 E/W: Commercentre Drive



Date: 8/19/2021
 Day: Thursday

BICYCLES

	Southbound Bake Parkway			Westbound Commercentre Drive			Northbound Bake Parkway			Eastbound Commercentre Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	1	0	0	0	0	0	1	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	0	0	0	2	1	1	1	0	6

	Southbound Bake Parkway			Westbound Commercentre Drive			Northbound Bake Parkway			Eastbound Commercentre Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	1	0	0	1	0	0	0	2
TOTAL VOLUMES:	0	0	0	1	0	1	0	2	1	0	1	0	6

City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
Weather: Clear

File Name : LKF_DIM_Bake AM
Site Code : 05121573
Start Date : 10/12/2021
Page No : 1

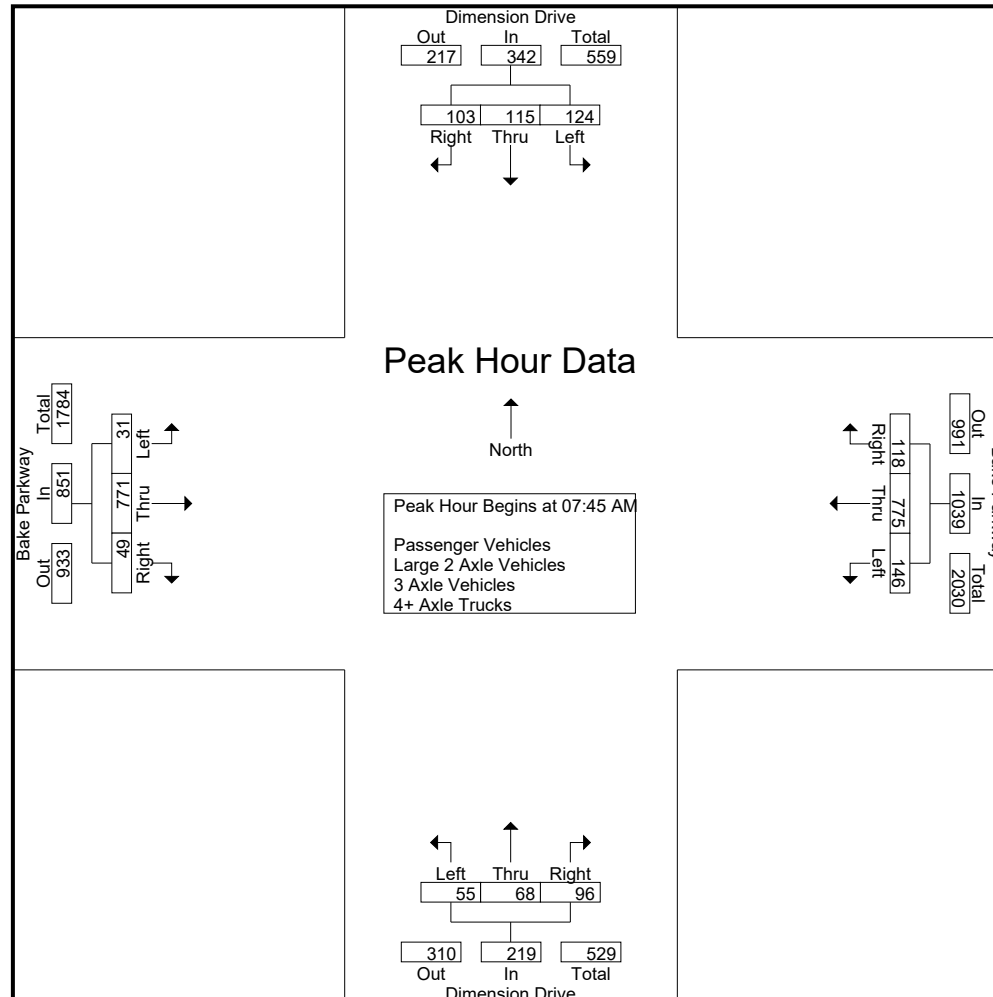
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Dimension Drive Southbound					Bake Parkway Westbound					Dimension Drive Northbound					Bake Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	7	5	20	15	32	18	153	8	0	179	3	4	11	11	18	0	118	13	1	131	27	360	387
07:15 AM	14	15	14	11	43	24	184	3	0	211	7	8	8	6	23	3	143	4	0	150	17	427	444
07:30 AM	24	8	19	15	51	22	177	7	1	206	4	10	13	11	27	0	145	11	2	156	29	440	469
07:45 AM	51	41	27	19	119	33	214	7	0	254	22	7	23	14	52	2	192	8	2	202	35	627	662
Total	96	69	80	60	245	97	728	25	1	850	36	29	55	42	120	5	598	36	5	639	108	1854	1962
08:00 AM	25	27	40	29	92	45	210	40	0	295	9	10	18	17	37	10	190	10	0	210	46	634	680
08:15 AM	34	26	16	11	76	31	186	42	0	259	15	21	26	20	62	9	177	12	2	198	33	595	628
08:30 AM	14	21	20	19	55	37	165	29	0	231	9	30	29	23	68	10	212	19	5	241	47	595	642
08:45 AM	7	11	7	6	25	37	123	14	0	174	8	21	20	16	49	4	178	10	2	192	24	440	464
Total	80	85	83	65	248	150	684	125	0	959	41	82	93	76	216	33	757	51	9	841	150	2264	2414
Grand Total	176	154	163	125	493	247	1412	150	1	1809	77	111	148	118	336	38	1355	87	14	1480	258	4118	4376
Apprch %	35.7	31.2	33.1			13.7	78.1	8.3			22.9	33	44			2.6	91.6	5.9					
Total %	4.3	3.7	4		12	6	34.3	3.6		43.9	1.9	2.7	3.6		8.2	0.9	32.9	2.1		35.9	5.9	94.1	
Passenger Vehicles	175	151	161		610	242	1385	150		1778	70	107	141		432	38	1306	77		1434	0	0	4254
% Passenger Vehicles	99.4	98.1	98.8	98.4	98.7	98	98.1	100	100	98.2	90.9	96.4	95.3	96.6	95.2	100	96.4	88.5	92.9	96	0	0	97.2
Large 2 Axle Vehicles	1	2	2		7	2	12	0		14	5	3	5		16	0	35	5		41	0	0	78
% Large 2 Axle Vehicles	0.6	1.3	1.2	1.6	1.1	0.8	0.8	0	0	0.8	6.5	2.7	3.4	2.5	3.5	0	2.6	5.7	7.1	2.7	0	0	1.8
3 Axle Vehicles	0	1	0		1	1	2	0		3	1	1	1		4	0	9	2		11	0	0	19
% 3 Axle Vehicles	0	0.6	0	0	0.2	0.4	0.1	0	0	0.2	1.3	0.9	0.7	0.8	0.9	0	0.7	2.3	0	0.7	0	0	0.4
4+ Axle Trucks	0	0	0		0	2	13	0		15	1	0	1		2	0	5	3		8	0	0	25
% 4+ Axle Trucks	0	0	0	0	0	0.8	0.9	0	0	0.8	1.3	0	0.7	0	0.4	0	0.4	3.4	0	0.5	0	0	0.6

	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	51	41	27	119	33	214	7	254	22	7	23	52	2	192	8	202	627
08:00 AM	25	27	40	92	45	210	40	295	9	10	18	37	10	190	10	210	634
08:15 AM	34	26	16	76	31	186	42	259	15	21	26	62	9	177	12	198	595
08:30 AM	14	21	20	55	37	165	29	231	9	30	29	68	10	212	19	241	595
Total Volume	124	115	103	342	146	775	118	1039	55	68	96	219	31	771	49	851	2451
% App. Total	36.3	33.6	30.1		14.1	74.6	11.4		25.1	31.1	43.8		3.6	90.6	5.8		
PHF	.608	.701	.644	.718	.811	.905	.702	.881	.625	.567	.828	.805	.775	.909	.645	.883	.966

City of Lake Forest
 N/S: Dimension Drive
 E/W: Bake Parkway
 Weather: Clear

File Name : LKF_DIM_Bake AM
 Site Code : 05121573
 Start Date : 10/12/2021
 Page No : 2



City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
Weather: Clear

File Name : LKF_DIM_Bake AM
Site Code : 05121573
Start Date : 10/12/2021
Page No : 3

	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	51	41	27	119	33	214	7	254	22	7	23	52	2	192	8	202	
+15 mins.	25	27	40	92	45	210	40	295	9	10	18	37	10	190	10	210	
+30 mins.	34	26	16	76	31	186	42	259	15	21	26	62	9	177	12	198	
+45 mins.	14	21	20	55	37	165	29	231	9	30	29	68	10	212	19	241	
Total Volume	124	115	103	342	146	775	118	1039	55	68	96	219	31	771	49	851	
% App. Total	36.3	33.6	30.1		14.1	74.6	11.4		25.1	31.1	43.8		3.6	90.6	5.8		
PHF	.608	.701	.644	.718	.811	.905	.702	.881	.625	.567	.828	.805	.775	.909	.645	.883	

City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
Weather: Clear

File Name : LKF_DIM_Bake AM
Site Code : 05121573
Start Date : 10/12/2021
Page No : 1

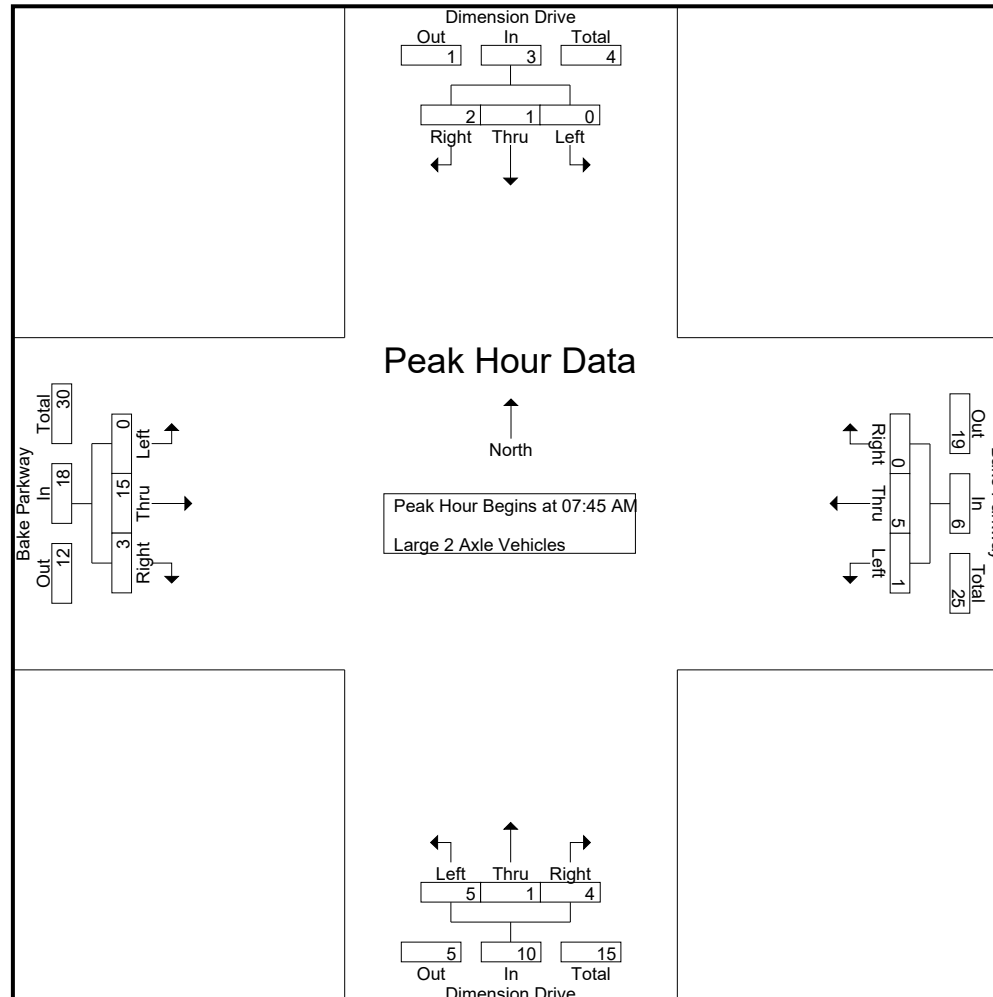
Groups Printed- Large 2 Axle Vehicles

	Dimension Drive Southbound					Bake Parkway Westbound					Dimension Drive Northbound					Bake Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	1	1	1	0	8	2	0	10	1	15	16
07:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	6	6
07:30 AM	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	0	4	0	0	4	0	8	8
07:45 AM	0	1	0	0	1	0	4	0	0	4	3	0	0	0	3	0	4	0	0	4	0	12	12
Total	1	2	0	0	3	0	10	0	0	10	3	2	1	1	6	0	20	2	0	22	1	41	42
08:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	1	1	0	4	1	0	5	1	7	8
08:15 AM	0	0	0	0	0	0	1	0	0	1	1	1	2	0	4	0	4	1	0	5	0	10	10
08:30 AM	0	0	2	2	2	0	0	0	0	0	1	0	1	1	2	0	3	1	1	4	4	8	12
08:45 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	4	0	0	4	0	6	6
Total	0	0	2	2	2	2	2	0	0	4	2	1	4	2	7	0	15	3	1	18	5	31	36
Grand Total	1	2	2	2	5	2	12	0	0	14	5	3	5	3	13	0	35	5	1	40	6	72	78
Apprch %	20	40	40			14.3	85.7	0			38.5	23.1	38.5			0	87.5	12.5					
Total %	1.4	2.8	2.8		6.9	2.8	16.7	0		19.4	6.9	4.2	6.9		18.1	0	48.6	6.9		55.6	7.7	92.3	

	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	1	0	1	0	4	0	4	3	0	0	3	0	4	0	4	12
08:00 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	4	1	5	7
08:15 AM	0	0	0	0	0	1	0	1	1	1	2	4	0	4	1	5	10
08:30 AM	0	0	2	2	0	0	0	0	1	0	1	2	0	3	1	4	8
Total Volume	0	1	2	3	1	5	0	6	5	1	4	10	0	15	3	18	37
% App. Total	0	33.3	66.7		16.7	83.3	0		50	10	40		0	83.3	16.7		
PHF	.000	.250	.250	.375	.250	.313	.000	.375	.417	.250	.500	.625	.000	.938	.750	.900	.771

City of Lake Forest
 N/S: Dimension Drive
 E/W: Bake Parkway
 Weather: Clear

File Name : LKF_DIM_Bake AM
 Site Code : 05121573
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City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
Weather: Clear

File Name : LKF_DIM_Bake AM
Site Code : 05121573
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	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	1	0	1	0	4	0	4	3	0	0	3	0	4	0	4	
+15 mins.	0	0	0	0	1	0	0	1	0	0	1	1	0	4	1	5	
+30 mins.	0	0	0	0	0	1	0	1	1	1	2	4	0	4	1	5	
+45 mins.	0	0	2	2	0	0	0	0	1	0	1	2	0	3	1	4	
Total Volume	0	1	2	3	1	5	0	6	5	1	4	10	0	15	3	18	
% App. Total	0	33.3	66.7		16.7	83.3	0		50	10	40		0	83.3	16.7		
PHF	.000	.250	.250	.375	.250	.313	.000	.375	.417	.250	.500	.625	.000	.938	.750	.900	

City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
Weather: Clear

File Name : LKF_DIM_Bake AM
Site Code : 05121573
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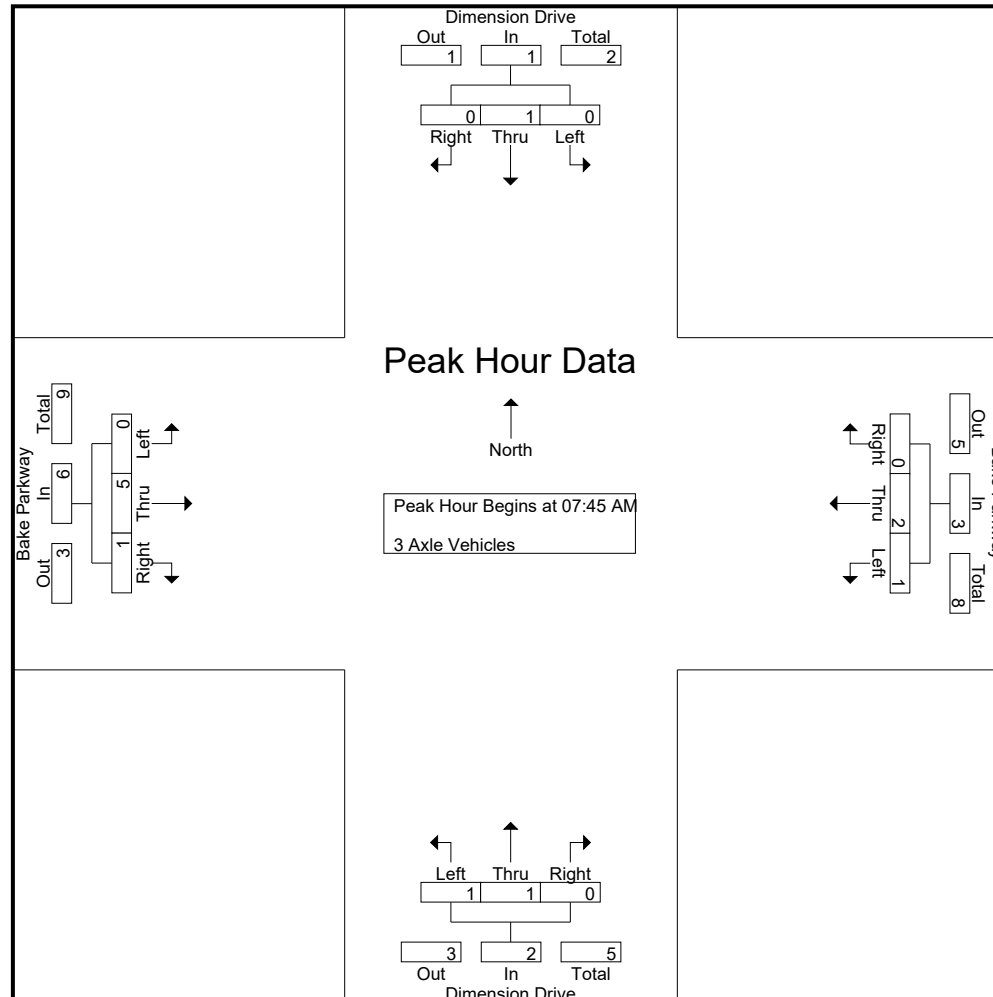
Groups Printed- 3 Axle Vehicles

	Dimension Drive Southbound					Bake Parkway Westbound					Dimension Drive Northbound					Bake Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
07:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	2	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	3	3
08:15 AM	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3	3
08:30 AM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3	0	0	3	0	5	5
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	4	0	0	4	1	5	6
Total	0	1	0	0	1	1	1	0	0	2	1	1	1	1	3	0	9	1	0	10	1	16	17
Grand Total	0	1	0	0	1	1	2	0	0	3	1	1	1	1	3	0	9	2	0	11	1	18	19
Apprch %	0	100	0			33.3	66.7	0			33.3	33.3	33.3			0	81.8	18.2					
Total %	0	5.6	0		5.6	5.6	11.1	0		16.7	5.6	5.6	5.6		16.7	0	50	11.1		61.1	5.3	94.7	

	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	3
08:15 AM	0	1	0	1	0	0	0	0	1	1	0	2	0	0	0	0	3
08:30 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	3	0	3	5
Total Volume	0	1	0	1	1	2	0	3	1	1	0	2	0	5	1	6	12
% App. Total	0	100	0		33.3	66.7	0		50	50	0		0	83.3	16.7		
PHF	.000	.250	.000	.250	.250	.500	.000	.375	.250	.250	.000	.250	.000	.417	.250	.500	.600

City of Lake Forest
 N/S: Dimension Drive
 E/W: Bake Parkway
 Weather: Clear

File Name : LKF_DIM_Bake AM
 Site Code : 05121573
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City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
Weather: Clear

File Name : LKF_DIM_Bake AM
Site Code : 05121573
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	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	3
+30 mins.	0	1	0	1	0	0	0	0	1	1	0	2	0	0	0	0	0
+45 mins.	0	0	0	0	1	1	0	2	0	0	0	0	0	3	0	3	3
Total Volume	0	1	0	1	1	2	0	3	1	1	0	2	0	5	1	6	6
% App. Total	0	100	0		33.3	66.7	0		50	50	0		0	83.3	16.7		
PHF	.000	.250	.000	.250	.250	.500	.000	.375	.250	.250	.000	.250	.000	.417	.250	.500	

City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
Weather: Clear

File Name : LKF_DIM_Bake AM
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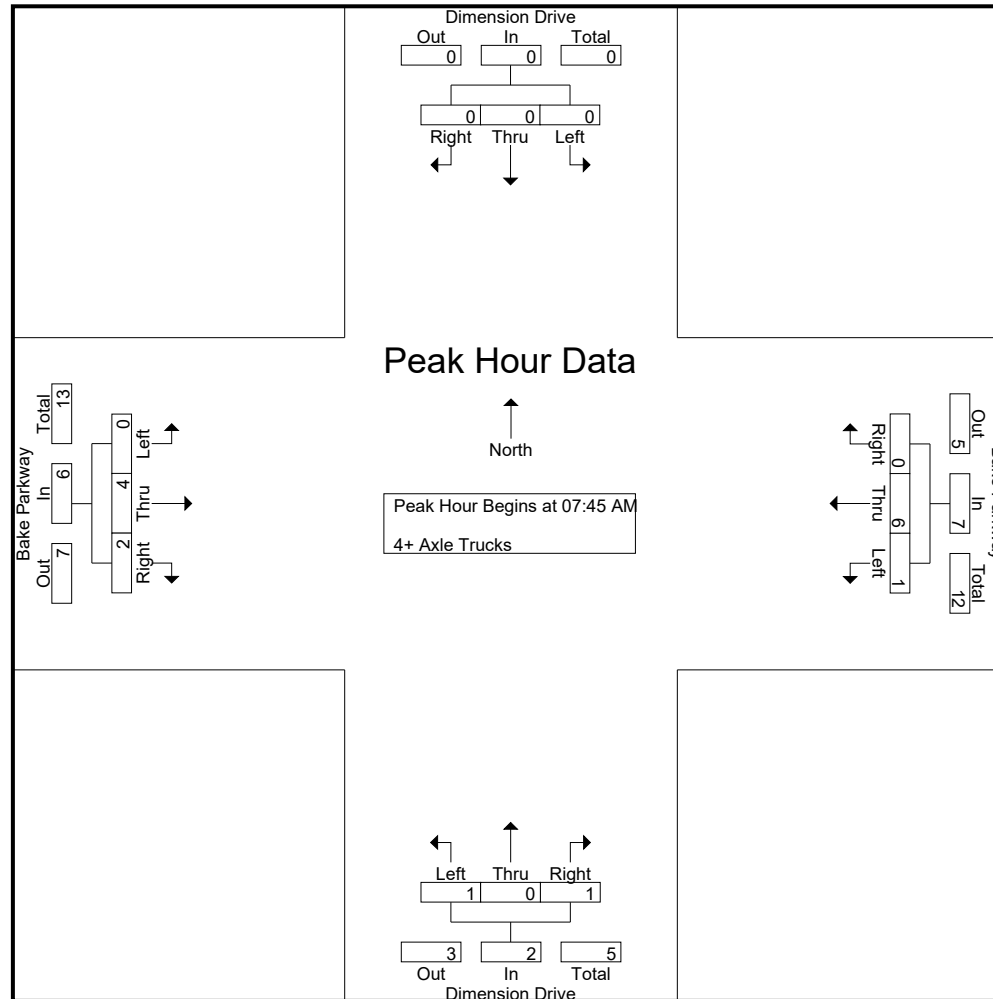
Groups Printed- 4+ Axle Trucks

	Dimension Drive Southbound					Bake Parkway Westbound					Dimension Drive Northbound					Bake Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	0	4	4
07:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
07:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	1	0	0	1	1	0	1	0	2	0	0	0	0	0	0	3	3
Total	0	0	0	0	0	0	6	0	0	6	1	0	1	0	2	0	1	1	0	2	0	10	10
08:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	2	2
08:15 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
08:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	1	0	5	0	7	7
08:45 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
Total	0	0	0	0	0	2	7	0	0	9	0	0	0	0	0	0	4	2	0	6	0	15	15
Grand Total	0	0	0	0	0	2	13	0	0	15	1	0	1	0	2	0	5	3	0	8	0	25	25
Apprch %	0	0	0			13.3	86.7	0			50	0	50			0	62.5	37.5			0		
Total %	0	0	0			8	52	0		60	4	0	4		8	0	20	12		32	0	100	

	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	1	0	1	1	0	1	2	0	0	0	0	3
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	2
08:15 AM	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3
08:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	4	1	5	7
Total Volume	0	0	0	0	1	6	0	7	1	0	1	2	0	4	2	6	15
% App. Total	0	0	0		14.3	85.7	0		50	0	50		0	66.7	33.3		
PHF	.000	.000	.000	.000	.250	.750	.000	.583	.250	.000	.250	.250	.000	.250	.500	.300	.536

City of Lake Forest
 N/S: Dimension Drive
 E/W: Bake Parkway
 Weather: Clear

File Name : LKF_DIM_Bake AM
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City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
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File Name : LKF_DIM_Bake AM
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	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	0	0	0	0	1	0	1	1	0	1	2	0	0	0	0	
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	
+30 mins.	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	4	1	5	
Total Volume	0	0	0	0	1	6	0	7	1	0	1	2	0	4	2	6	
% App. Total	0	0	0		14.3	85.7	0		50	0	50		0	66.7	33.3		
PHF	.000	.000	.000	.000	.250	.750	.000	.583	.250	.000	.250	.250	.000	.250	.500	.300	

City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
Weather: Clear

File Name : LKF_DIM_Bake PM
Site Code : 05121573
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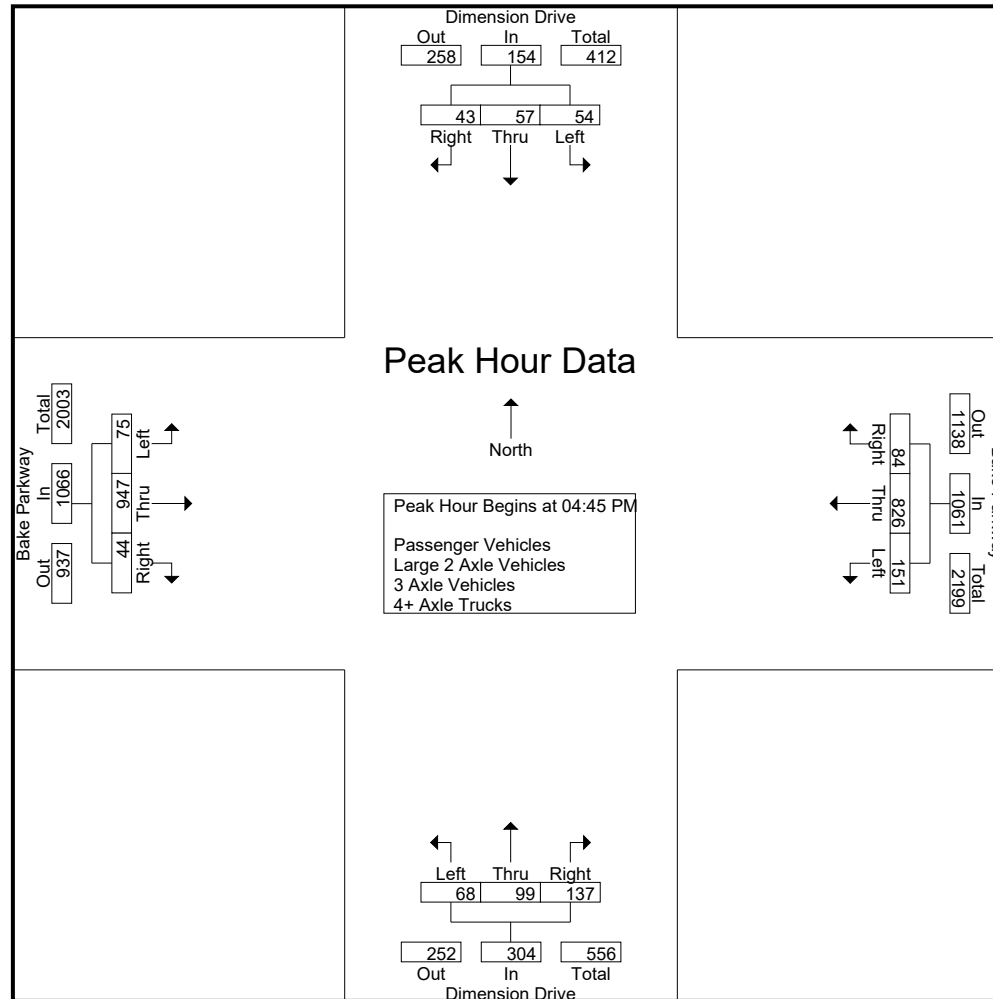
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Dimension Drive Southbound					Bake Parkway Westbound					Dimension Drive Northbound					Bake Parkway Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	19	6	4	4	29	23	192	17	4	232	20	11	21	17	52	18	231	9	1	258	26	571	597
04:15 PM	17	17	10	8	44	28	181	25	8	234	22	12	29	27	63	11	177	8	1	196	44	537	581
04:30 PM	13	15	8	5	36	28	168	13	3	209	20	19	31	20	70	13	217	12	0	242	28	557	585
04:45 PM	16	14	13	11	43	31	186	23	6	240	17	24	37	31	78	23	220	11	0	254	48	615	663
Total	65	52	35	28	152	110	727	78	21	915	79	66	118	95	263	65	845	40	2	950	146	2280	2426
05:00 PM	6	13	12	9	31	50	205	19	13	274	20	31	30	15	81	15	226	10	2	251	39	637	676
05:15 PM	18	13	5	2	36	42	220	20	7	282	14	25	35	26	74	24	245	11	2	280	37	672	709
05:30 PM	14	17	13	12	44	28	215	22	3	265	17	19	35	23	71	13	256	12	3	281	41	661	702
05:45 PM	16	13	5	4	34	35	171	15	2	221	16	9	33	26	58	21	256	13	5	290	37	603	640
Total	54	56	35	27	145	155	811	76	25	1042	67	84	133	90	284	73	983	46	12	1102	154	2573	2727
Grand Total	119	108	70	55	297	265	1538	154	46	1957	146	150	251	185	547	138	1828	86	14	2052	300	4853	5153
Apprch %	40.1	36.4	23.6			13.5	78.6	7.9			26.7	27.4	45.9			6.7	89.1	4.2					
Total %	2.5	2.2	1.4		6.1	5.5	31.7	3.2		40.3	3	3.1	5.2		11.3	2.8	37.7	1.8		42.3	5.8	94.2	
Passenger Vehicles	119	107	70		351	257	1515	153		1971	140	149	249		722	136	1807	82		2038	0	0	5082
% Passenger Vehicles	100	99.1	100	100	99.7	97	98.5	99.4	100	98.4	95.9	99.3	99.2	99.5	98.6	98.6	98.9	95.3	92.9	98.6	0	0	98.6
Large 2 Axle Vehicles	0	1	0		1	6	11	1		18	5	1	1		7	2	16	1		19	0	0	45
% Large 2 Axle Vehicles	0	0.9	0	0	0.3	2.3	0.7	0.6	0	0.9	3.4	0.7	0.4	0	1	1.4	0.9	1.2	0	0.9	0	0	0.9
3 Axle Vehicles	0	0	0		0	0	5	0		5	0	0	0		0	0	1	0		1	0	0	6
% 3 Axle Vehicles	0	0	0	0	0	0	0.3	0	0	0.2	0	0	0	0	0	0	0.1	0	0	0	0	0	0.1
4+ Axle Trucks	0	0	0		0	2	7	0		9	1	0	1		3	0	4	3		8	0	0	20
% 4+ Axle Trucks	0	0	0	0	0	0.8	0.5	0	0	0.4	0.7	0	0.4	0.5	0.4	0	0.2	3.5	7.1	0.4	0	0	0.4

	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	16	14	13	43	31	186	23	240	17	24	37	78	23	220	11	254	615
05:00 PM	6	13	12	31	50	205	19	274	20	31	30	81	15	226	10	251	637
05:15 PM	18	13	5	36	42	220	20	282	14	25	35	74	24	245	11	280	672
05:30 PM	14	17	13	44	28	215	22	265	17	19	35	71	13	256	12	281	661
Total Volume	54	57	43	154	151	826	84	1061	68	99	137	304	75	947	44	1066	2585
% App. Total	35.1	37	27.9		14.2	77.9	7.9		22.4	32.6	45.1		7	88.8	4.1		
PHF	.750	.838	.827	.875	.755	.939	.913	.941	.850	.798	.926	.938	.781	.925	.917	.948	.962

City of Lake Forest
 N/S: Dimension Drive
 E/W: Bake Parkway
 Weather: Clear

File Name : LKF_DIM_Bake PM
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City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
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File Name : LKF_DIM_Bake PM
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	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:45 PM				04:45 PM				05:00 PM				
+0 mins.	17	17	10	44	31	186	23	240	17	24	37	78	15	226	10	251	
+15 mins.	13	15	8	36	50	205	19	274	20	31	30	81	24	245	11	280	
+30 mins.	16	14	13	43	42	220	20	282	14	25	35	74	13	256	12	281	
+45 mins.	6	13	12	31	28	215	22	265	17	19	35	71	21	256	13	290	
Total Volume	52	59	43	154	151	826	84	1061	68	99	137	304	73	983	46	1102	
% App. Total	33.8	38.3	27.9		14.2	77.9	7.9		22.4	32.6	45.1		6.6	89.2	4.2		
PHF	.765	.868	.827	.875	.755	.939	.913	.941	.850	.798	.926	.938	.760	.960	.885	.950	

City of Lake Forest
N/S: Dimension Drive
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File Name : LKF_DIM_Bake PM
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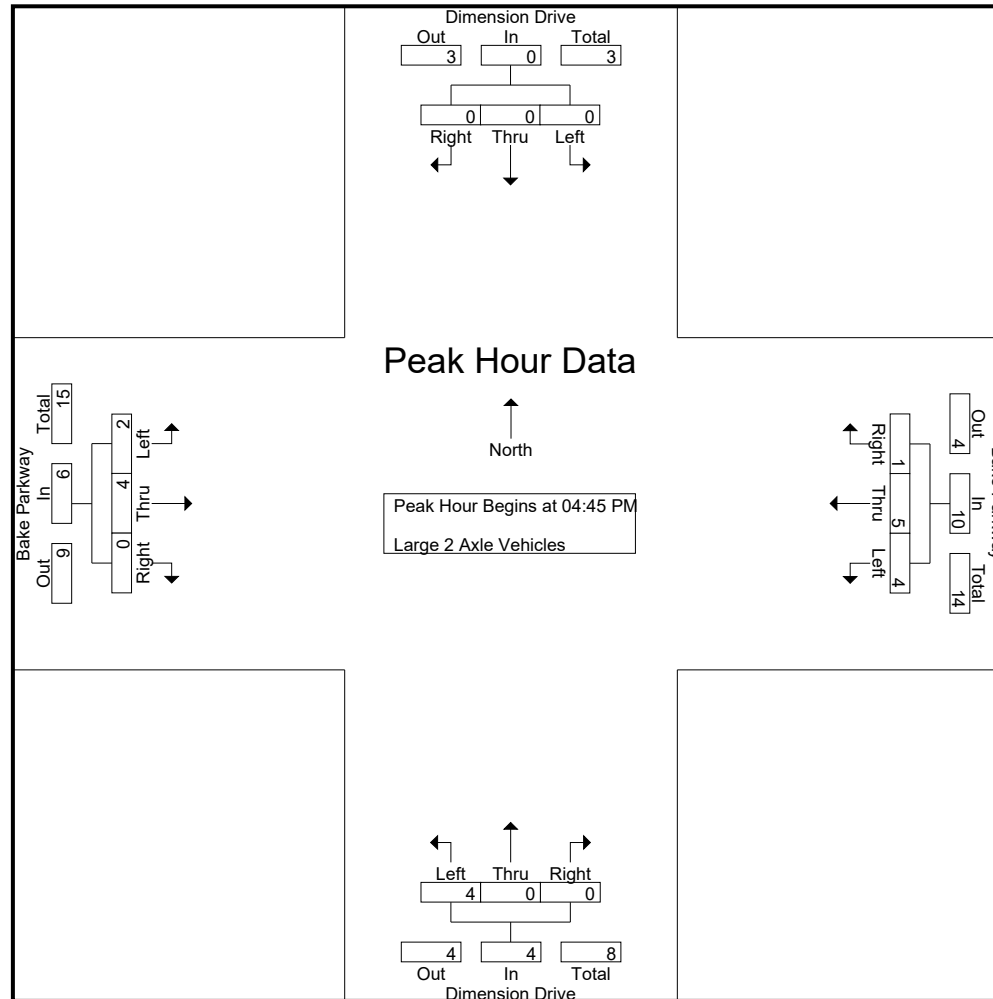
Groups Printed- Large 2 Axle Vehicles

	Dimension Drive Southbound					Bake Parkway Westbound					Dimension Drive Northbound					Bake Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	2	1	0	0	3	0	0	1	0	1	0	6	1	0	7	0	12	12
04:15 PM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	2	0	0	2	0	5	5
04:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	7	7
04:45 PM	0	0	0	0	0	2	2	0	0	4	1	0	0	0	1	0	1	0	0	1	0	6	6
Total	0	1	0	0	1	4	8	0	0	12	2	0	1	0	3	0	13	1	0	14	0	30	30
05:00 PM	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	0	1	0	0	1	0	4	4
05:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	1	0	0	2	0	4	4
05:30 PM	0	0	0	0	0	0	1	1	0	2	2	0	0	0	2	1	1	0	0	2	0	6	6
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	2	3	1	0	6	3	1	0	0	4	2	3	0	0	5	0	15	15
Grand Total	0	1	0	0	1	6	11	1	0	18	5	1	1	0	7	2	16	1	0	19	0	45	45
Apprch %	0	100	0			33.3	61.1	5.6			71.4	14.3	14.3			10.5	84.2	5.3			0	45	45
Total %	0	2.2	0		2.2	13.3	24.4	2.2		40	11.1	2.2	2.2		15.6	4.4	35.6	2.2		42.2	0	100	

	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	2	2	0	4	1	0	0	1	0	1	0	1	6
05:00 PM	0	0	0	0	2	0	0	2	1	0	0	1	0	1	0	1	4
05:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	1	1	0	2	4
05:30 PM	0	0	0	0	0	1	1	2	2	0	0	2	1	1	0	2	6
Total Volume	0	0	0	0	4	5	1	10	4	0	0	4	2	4	0	6	20
% App. Total	0	0	0	0	40	50	10		100	0	0		33.3	66.7	0		
PHF	.000	.000	.000	.000	.500	.625	.250	.625	.500	.000	.000	.500	.500	1.00	.000	.750	.833

City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
Weather: Clear

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City of Lake Forest
N/S: Dimension Drive
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File Name : LKF_DIM_Bake PM
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	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	0	0	2	2	0	4	1	0	0	1	0	1	0	1	
+15 mins.	0	0	0	0	2	0	0	2	1	0	0	1	0	1	0	1	
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	1	1	0	2	
+45 mins.	0	0	0	0	0	1	1	2	2	0	0	2	1	1	0	2	
Total Volume	0	0	0	0	4	5	1	10	4	0	0	4	2	4	0	6	
% App. Total	0	0	0		40	50	10		100	0	0		33.3	66.7	0		
PHF	.000	.000	.000	.000	.500	.625	.250	.625	.500	.000	.000	.500	.500	1.000	.000	.750	

City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
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File Name : LKF_DIM_Bake PM
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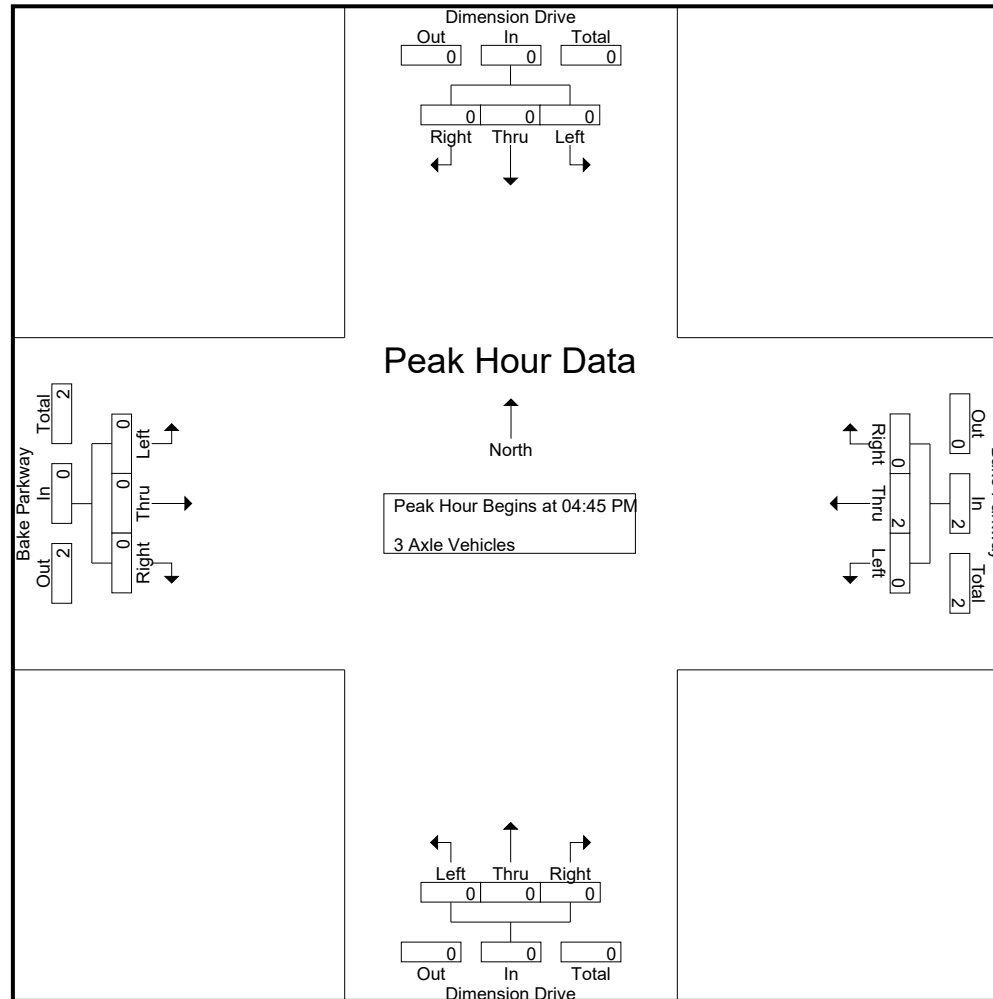
Groups Printed- 3 Axle Vehicles

	Dimension Drive Southbound					Bake Parkway Westbound					Dimension Drive Northbound					Bake Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	3	3
05:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
Grand Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	0	6	6
Apprch %	0	0	0			0	100	0			0	0	0			0	100	0			0		
Total %	0	0	0			0	83.3	0		83.3	0	0	0			0	16.7	0		16.7	0	100	

	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0	0	0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

City of Lake Forest
 N/S: Dimension Drive
 E/W: Bake Parkway
 Weather: Clear

File Name : LKF_DIM_Bake PM
 Site Code : 05121573
 Start Date : 10/12/2021
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City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
Weather: Clear

File Name : LKF_DIM_Bake PM
Site Code : 05121573
Start Date : 10/12/2021
Page No : 3

	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000

City of Lake Forest
N/S: Dimension Drive
E/W: Bake Parkway
Weather: Clear

File Name : LKF_DIM_Bake PM
Site Code : 05121573
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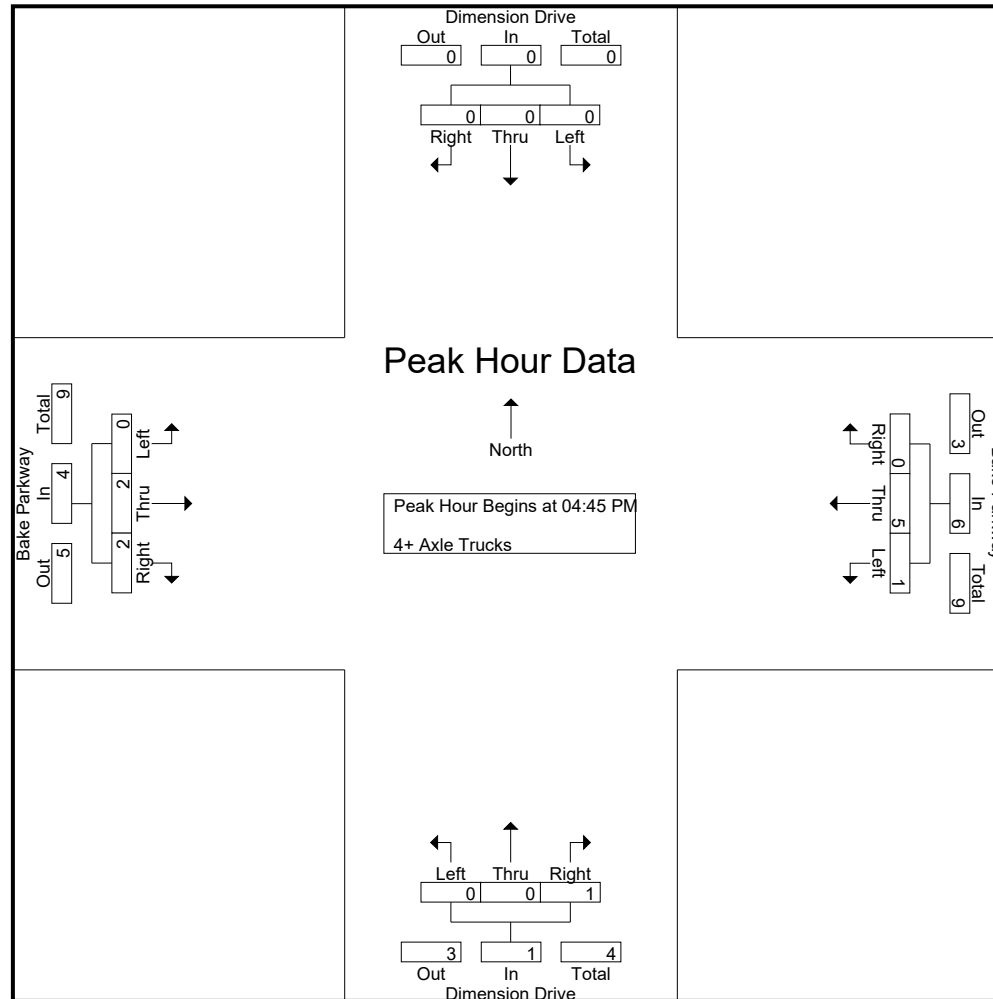
Groups Printed- 4+ Axle Trucks

	Dimension Drive Southbound					Bake Parkway Westbound					Dimension Drive Northbound					Bake Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
04:15 PM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	3	3
04:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	2
Total	0	0	0	0	0	0	2	0	0	2	1	0	1	1	2	0	2	1	0	3	1	7	8
05:00 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	2	1	3	1	5	6
05:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
05:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	2	5	0	0	7	0	0	0	0	0	0	2	2	1	4	1	11	12
Grand Total	0	0	0	0	0	2	7	0	0	9	1	0	1	1	2	0	4	3	1	7	2	18	20
Apprch %	0	0	0			22.2	77.8	0			50	0	50			0	57.1	42.9					
Total %	0	0	0			11.1	38.9	0		50	5.6	0	5.6		11.1	0	22.2	16.7		38.9	10	90	

	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
05:00 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	1	2	3	5
05:15 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total Volume	0	0	0	0	1	5	0	6	0	0	1	1	0	2	2	4	11
% App. Total	0	0	0		16.7	83.3	0		0	0	100		0	50	50		
PHF	.000	.000	.000	.000	.250	.417	.000	.500	.000	.000	.250	.250	.000	.500	.250	.333	.550

City of Lake Forest
 N/S: Dimension Drive
 E/W: Bake Parkway
 Weather: Clear

File Name : LKF_DIM_Bake PM
 Site Code : 05121573
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City of Lake Forest
N/S: Dimension Drive
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File Name : LKF_DIM_Bake PM
Site Code : 05121573
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	Dimension Drive Southbound				Bake Parkway Westbound				Dimension Drive Northbound				Bake Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	
+15 mins.	0	0	0	0	1	1	0	2	0	0	0	0	0	1	2	3	
+30 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	
Total Volume	0	0	0	0	1	5	0	6	0	0	1	1	0	2	2	4	
% App. Total	0	0	0		16.7	83.3	0		0	0	100		0	50	50		
PHF	.000	.000	.000	.000	.250	.417	.000	.500	.000	.000	.250	.250	.000	.500	.250	.333	

Location: Lake Forest
 N/S: Dimension Drive
 E/W: Bake Parkway



Date: 10/12/2021
 Day: Tuesday

PEDESTRIANS

	North Leg Dimension Drive	East Leg Bake Parkway	South Leg Dimension Drive	West Leg Bake Parkway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	1	1
7:30 AM	0	2	0	0	2
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	2	5

	North Leg Dimension Drive	East Leg Bake Parkway	South Leg Dimension Drive	West Leg Bake Parkway	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	2	2
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	2	2
5:15 PM	0	1	0	2	3
5:30 PM	0	0	0	1	1
5:45 PM	0	0	1	0	1
TOTAL VOLUMES:	0	1	1	7	9

Location: Lake Forest
 N/S: Dimension Drive
 E/W: Bake Parkway



Date: 10/12/2021
 Day: Tuesday

BICYCLES

	Southbound Dimension Drive			Westbound Bake Parkway			Northbound Dimension Drive			Eastbound Bake Parkway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	3	0	0	0	0	0	0	0	0	0	0	3

	Southbound Dimension Drive			Westbound Bake Parkway			Northbound Dimension Drive			Eastbound Bake Parkway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	0	0	0	2	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	2	1	1	0	2	0	0	2	0	8

City of Lake Forest
N/S: Dimension Drive
E/W: Commercentre Dr/Enterprise Way
Weather: Clear

File Name : 03_LKE_Dim_Com AM
Site Code : 05121392
Start Date : 8/19/2021
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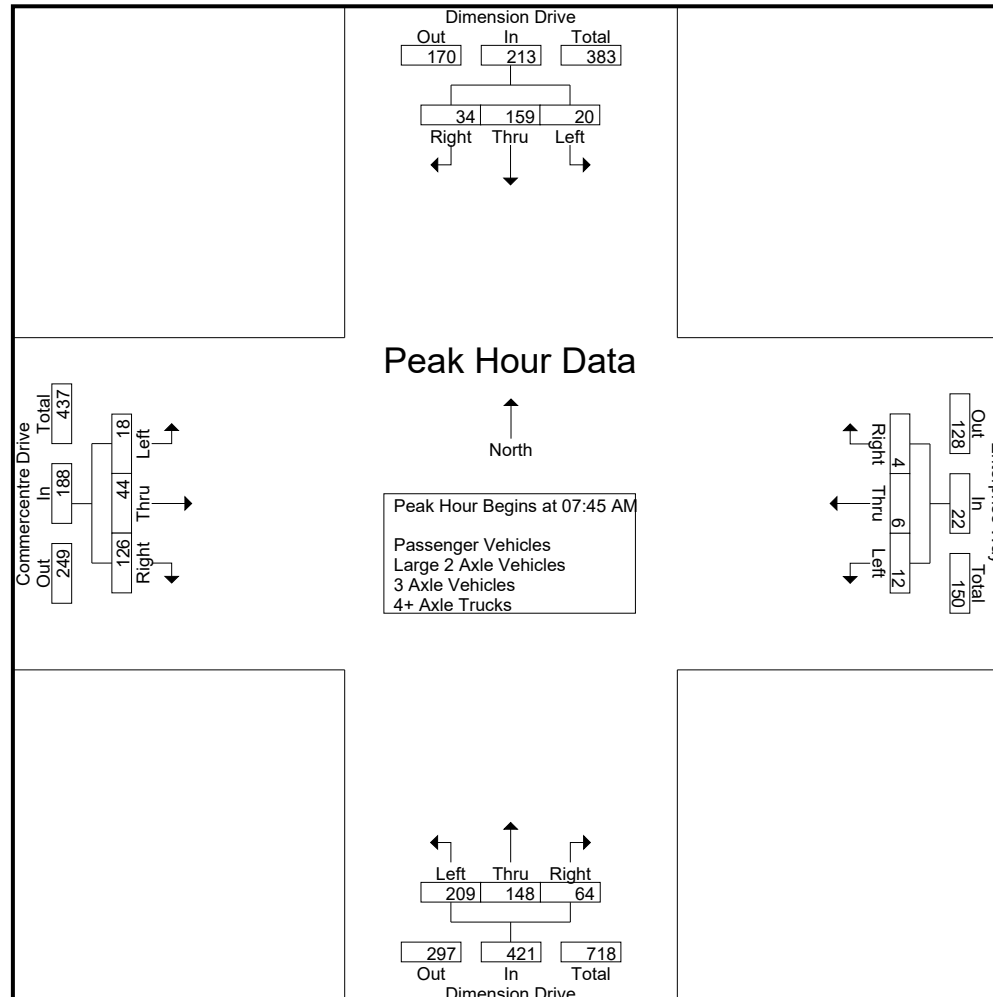
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Dimension Drive Southbound					Enterprise Way Westbound					Dimension Drive Northbound					Commercentre Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	14	3	2	17	2	1	1	0	4	29	22	4	1	55	3	11	20	14	34	17	110	127
07:15 AM	3	21	5	2	29	1	1	2	2	4	39	24	5	1	68	0	9	34	25	43	30	144	174
07:30 AM	0	22	5	0	27	1	0	0	0	1	42	23	8	0	73	2	9	28	26	39	26	140	166
07:45 AM	3	41	9	1	53	2	3	0	0	5	57	37	17	0	111	6	9	43	35	58	36	227	263
Total	6	98	22	5	126	6	5	3	2	14	167	106	34	2	307	11	38	125	100	174	109	621	730
08:00 AM	4	49	9	3	62	3	1	2	1	6	60	29	19	1	108	4	9	23	20	36	25	212	237
08:15 AM	3	34	8	2	45	5	1	1	1	7	44	42	13	2	99	4	13	29	23	46	28	197	225
08:30 AM	10	35	8	3	53	2	1	1	1	4	48	40	15	3	103	4	13	31	19	48	26	208	234
08:45 AM	10	38	8	1	56	4	1	1	1	6	37	42	13	0	92	1	12	42	37	55	39	209	248
Total	27	156	33	9	216	14	4	5	4	23	189	153	60	6	402	13	47	125	99	185	118	826	944
Grand Total	33	254	55	14	342	20	9	8	6	37	356	259	94	8	709	24	85	250	199	359	227	1447	1674
Apprch %	9.6	74.3	16.1			54.1	24.3	21.6			50.2	36.5	13.3			6.7	23.7	69.6					
Total %	2.3	17.6	3.8		23.6	1.4	0.6	0.6		2.6	24.6	17.9	6.5		49	1.7	5.9	17.3		24.8	13.6	86.4	
Passenger Vehicles	32	243	54		343	17	6	8		37	338	253	93		692	23	84	228		519	0	0	1591
% Passenger Vehicles	97	95.7	98.2	100	96.3	85	66.7	100	100	86	94.9	97.7	98.9	100	96.5	95.8	98.8	91.2	92.5	93	0	0	95
Large 2 Axle Vehicles	0	9	1		10	1	3	0		4	8	4	1		13	1	1	18		31	0	0	58
% Large 2 Axle Vehicles	0	3.5	1.8	0	2.8	5	33.3	0	0	9.3	2.2	1.5	1.1	0	1.8	4.2	1.2	7.2	5.5	5.6	0	0	3.5
3 Axle Vehicles	1	0	0		1	2	0	0		2	4	1	0		5	0	0	3		6	0	0	14
% 3 Axle Vehicles	3	0	0	0	0.3	10	0	0	0	4.7	1.1	0.4	0	0	0.7	0	0	1.2	1.5	1.1	0	0	0.8
4+ Axle Trucks	0	2	0		2	0	0	0		0	6	1	0		7	0	0	1		2	0	0	11
% 4+ Axle Trucks	0	0.8	0	0	0.6	0	0	0	0	0	1.7	0.4	0	0	1	0	0	0.4	0.5	0.4	0	0	0.7

	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	3	41	9	53	2	3	0	5	57	37	17	111	6	9	43	58	227
08:00 AM	4	49	9	62	3	1	2	6	60	29	19	108	4	9	23	36	212
08:15 AM	3	34	8	45	5	1	1	7	44	42	13	99	4	13	29	46	197
08:30 AM	10	35	8	53	2	1	1	4	48	40	15	103	4	13	31	48	208
Total Volume	20	159	34	213	12	6	4	22	209	148	64	421	18	44	126	188	844
% App. Total	9.4	74.6	16		54.5	27.3	18.2		49.6	35.2	15.2		9.6	23.4	67		
PHF	.500	.811	.944	.859	.600	.500	.500	.786	.871	.881	.842	.948	.750	.846	.733	.810	.930

City of Lake Forest
 N/S: Dimension Drive
 E/W: Commercentre Dr/Enterprise Way
 Weather: Clear

File Name : 03_LKE_Dim_Com AM
 Site Code : 05121392
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City of Lake Forest
N/S: Dimension Drive
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File Name : 03_LKE_Dim_Com AM
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	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00 AM				08:00 AM				07:45 AM				07:45 AM				
+0 mins.	4	49	9	62	3	1	2	6	57	37	17	111	6	9	43	58	
+15 mins.	3	34	8	45	5	1	1	7	60	29	19	108	4	9	23	36	
+30 mins.	10	35	8	53	2	1	1	4	44	42	13	99	4	13	29	46	
+45 mins.	10	38	8	56	4	1	1	6	48	40	15	103	4	13	31	48	
Total Volume	27	156	33	216	14	4	5	23	209	148	64	421	18	44	126	188	
% App. Total	12.5	72.2	15.3		60.9	17.4	21.7		49.6	35.2	15.2		9.6	23.4	67		
PHF	.675	.796	.917	.871	.700	1.000	.625	.821	.871	.881	.842	.948	.750	.846	.733	.810	

City of Lake Forest
N/S: Dimension Drive
E/W: Commercentre Dr/Enterprise Way
Weather: Clear

File Name : 03_LKE_Dim_Com AM
Site Code : 05121392
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Page No : 1

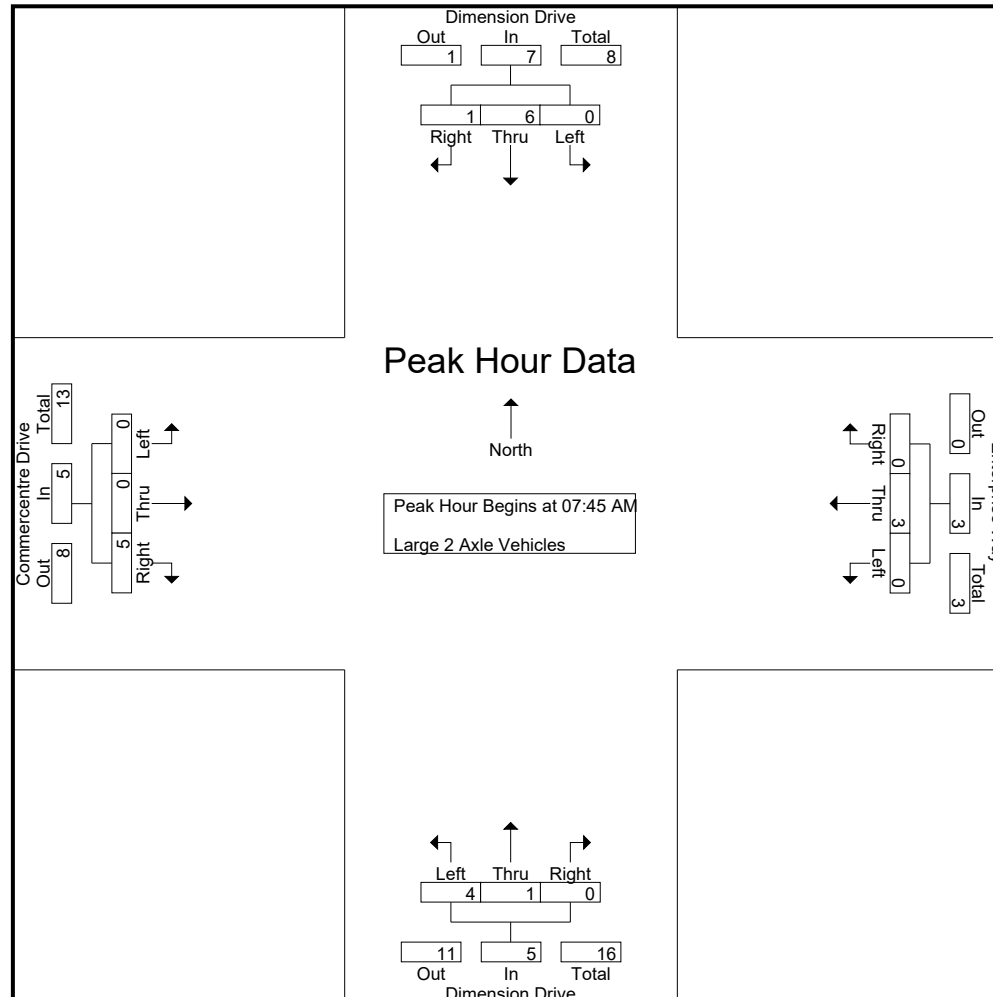
Groups Printed- Large 2 Axle Vehicles

	Dimension Drive Southbound					Enterprise Way Westbound					Dimension Drive Northbound					Commercentre Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	3	1	3	1	6	7
07:15 AM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	4	2	4	2	7	9
07:30 AM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	1	1	5	5	7	5	11	16
07:45 AM	0	1	1	0	2	0	3	0	0	3	1	0	0	0	1	0	0	3	1	3	1	9	10
Total	0	4	1	0	5	0	3	0	0	3	5	3	0	0	8	1	1	15	9	17	9	33	42
08:00 AM	0	3	0	0	3	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	5	5
08:15 AM	0	2	0	0	2	0	0	0	0	0	1	1	0	0	2	0	0	2	1	2	1	6	7
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	1	1	1	1	3	4
Total	0	5	0	0	5	1	0	0	0	1	3	1	1	0	5	0	0	3	2	3	2	14	16
Grand Total	0	9	1	0	10	1	3	0	0	4	8	4	1	0	13	1	1	18	11	20	11	47	58
Apprch %	0	90	10			25	75	0			61.5	30.8	7.7			5	5	90					
Total %	0	19.1	2.1		21.3	2.1	6.4	0		8.5	17	8.5	2.1		27.7	2.1	2.1	38.3		42.6	19	81	

	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	1	1	2	0	3	0	3	1	0	0	1	0	0	3	3	9
08:00 AM	0	3	0	3	0	0	0	0	2	0	0	2	0	0	0	0	5
08:15 AM	0	2	0	2	0	0	0	0	1	1	0	2	0	0	2	2	6
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	6	1	7	0	3	0	3	4	1	0	5	0	0	5	5	20
% App. Total	0	85.7	14.3		0	100	0		80	20	0		0	0	100		
PHF	.000	.500	.250	.583	.000	.250	.000	.250	.500	.250	.000	.625	.000	.000	.417	.417	.556

City of Lake Forest
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	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	1	1	2	0	3	0	3	1	0	0	1	0	0	3	3	
+15 mins.	0	3	0	3	0	0	0	0	2	0	0	2	0	0	0	0	
+30 mins.	0	2	0	2	0	0	0	0	1	1	0	2	0	0	2	2	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	6	1	7	0	3	0	3	4	1	0	5	0	0	5	5	
% App. Total	0	85.7	14.3		0	100	0		80	20	0		0	0	100		
PHF	.000	.500	.250	.583	.000	.250	.000	.250	.500	.250	.000	.625	.000	.000	.417	.417	

City of Lake Forest
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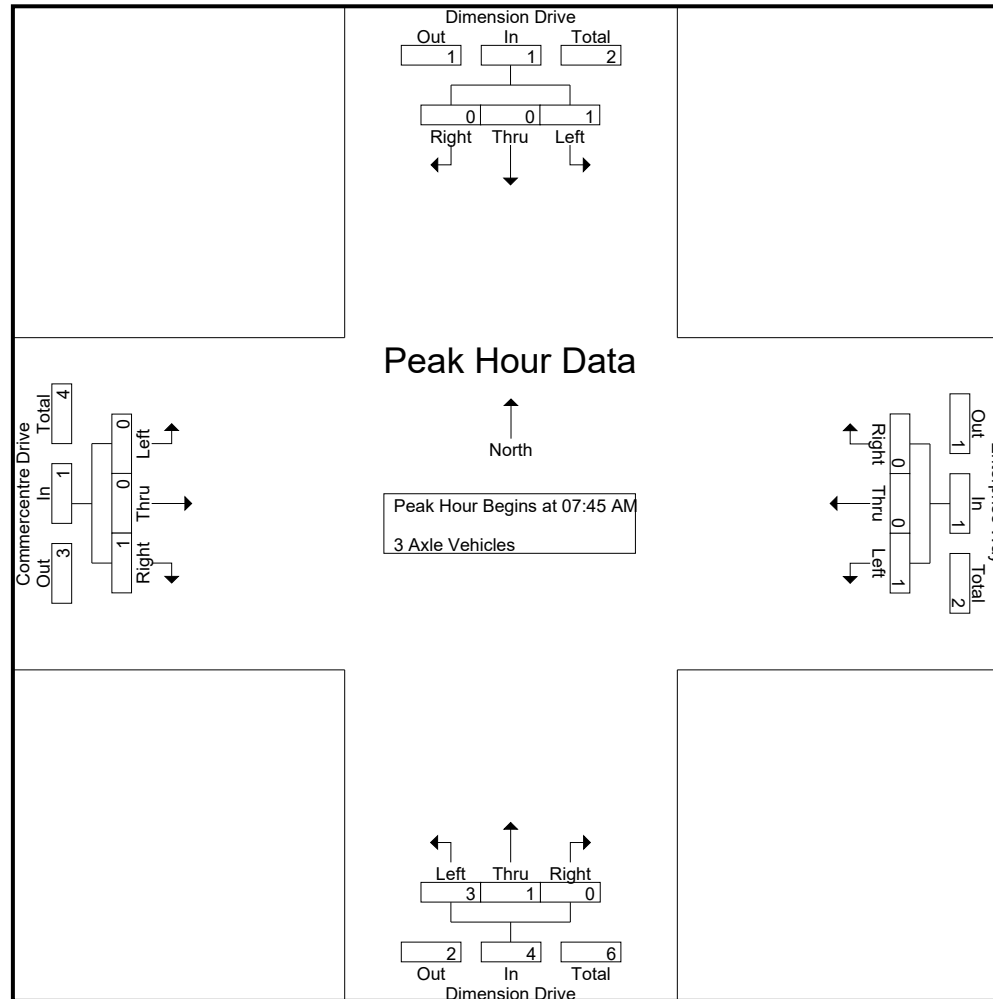
Groups Printed- 3 Axle Vehicles

	Dimension Drive Southbound					Enterprise Way Westbound					Dimension Drive Northbound					Commercentre Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	1	0	0	0	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	3
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	1	1	1	1	3	4
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	2	2	2	3	5
Total	0	0	0	0	0	0	0	0	0	0	4	1	0	0	5	0	0	3	3	3	3	8	11
Grand Total	1	0	0	0	1	2	0	0	0	2	4	1	0	0	5	0	0	3	3	3	3	11	14
Apprch %	100	0	0			100	0	0			80	20	0			0	0	100					
Total %	9.1	0	0		9.1	18.2	0	0		18.2	36.4	9.1	0		45.5	0	0	27.3		27.3	21.4	78.6	

	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	1	1	3
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total Volume	1	0	0	1	1	0	0	1	3	1	0	4	0	0	1	1	7
% App. Total	100	0	0		100	0	0		75	25	0		0	0	100		
PHF	.250	.000	.000	.250	.250	.000	.000	.250	.375	.250	.000	.500	.000	.000	.250	.250	.583

City of Lake Forest
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	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	1	1	0	2	0	0	1	1	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
Total Volume	1	0	0	1	1	0	0	1	3	1	0	4	0	0	1	1	1
% App. Total	100	0	0		100	0	0		75	25	0		0	0	100		
PHF	.250	.000	.000	.250	.250	.000	.000	.250	.375	.250	.000	.500	.000	.000	.250	.250	

City of Lake Forest
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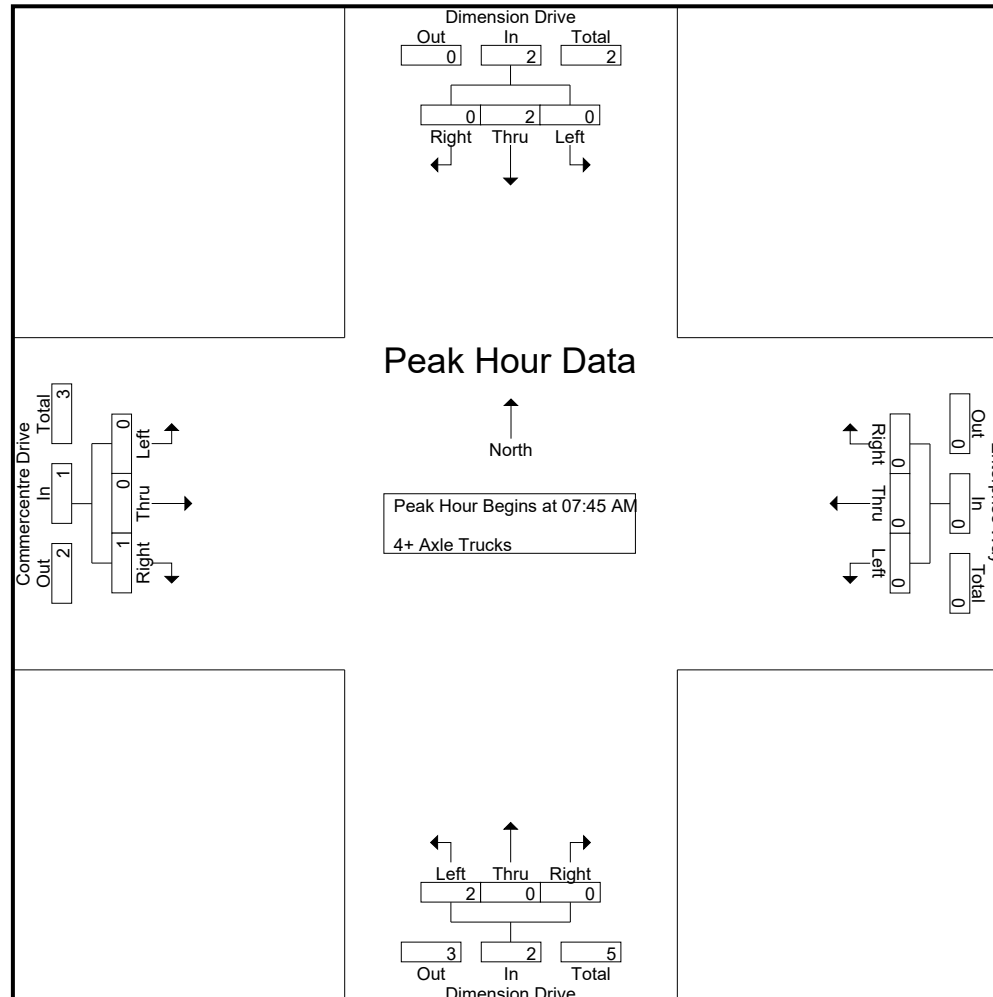
Groups Printed- 4+ Axle Trucks

	Dimension Drive Southbound					Enterprise Way Westbound					Dimension Drive Northbound					Commercentre Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	3	3
07:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	2	0	0	2	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	6	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	1	1	1	1	4	5
Grand Total	0	2	0	0	2	0	0	0	0	0	6	1	0	0	7	0	0	1	1	1	1	10	11
Apprch %	0	100	0			0	0	0			85.7	14.3	0			0	0	100					
Total %	0	20	0		20	0	0	0			60	10	0		70	0	0	10		10	9.1	90.9	

	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	0	2	0	2	0	0	0	0	2	0	0	2	0	0	1	1	5
% App. Total	0	100	0		0	0	0		100	0	0		0	0	100		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.250	.250	.625

City of Lake Forest
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	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
+45 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	2	0	0	2	0	0	1	1	1
% App. Total	0	100	0		0	0	0		100	0	0		0	0	100		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.250	.250	

City of Lake Forest
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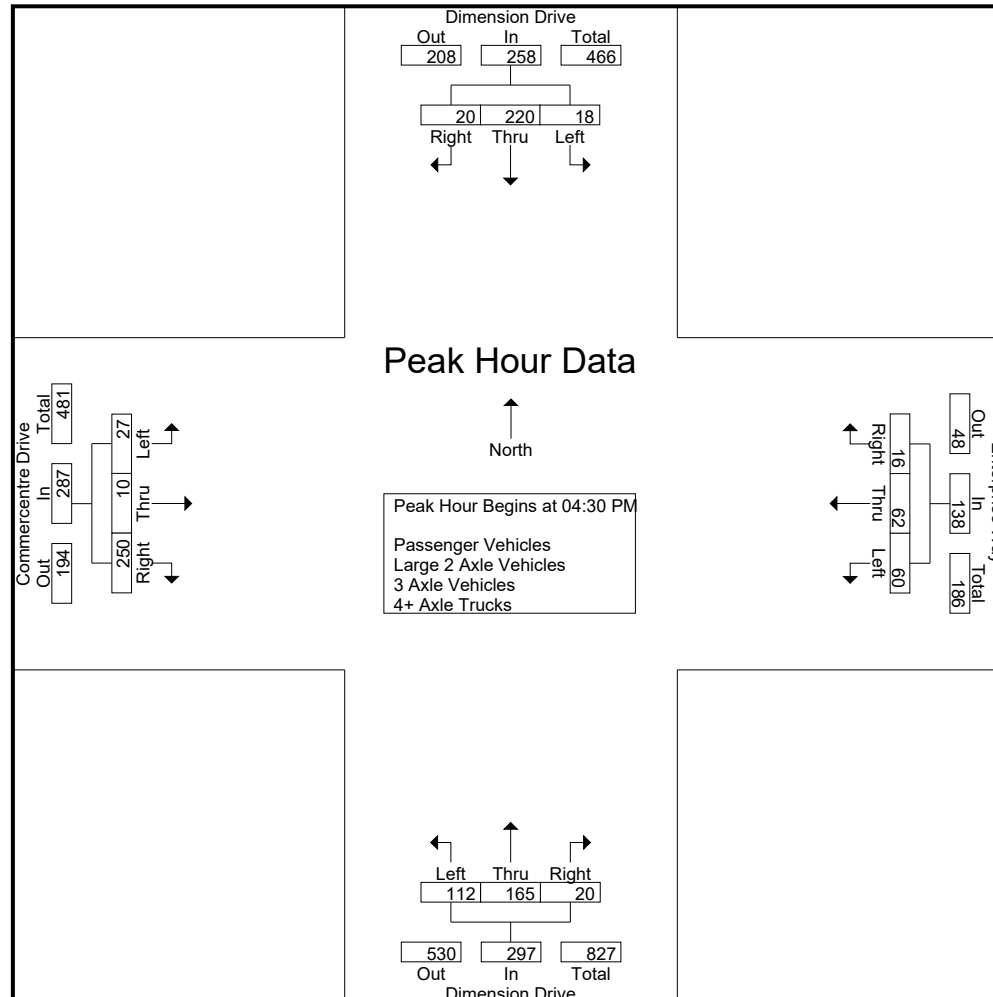
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Dimension Drive Southbound					Enterprise Way Westbound					Dimension Drive Northbound					Commercentre Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	3	54	7	1	64	14	14	5	0	33	29	35	12	3	76	12	4	61	36	77	40	250	290
04:15 PM	4	43	9	6	56	11	10	2	0	23	29	23	6	2	58	10	5	64	36	79	44	216	260
04:30 PM	2	51	7	2	60	14	23	2	1	39	27	44	5	1	76	5	4	73	46	82	50	257	307
04:45 PM	6	44	6	1	56	14	17	5	3	36	27	37	6	0	70	10	4	43	19	57	23	219	242
Total	15	192	29	10	236	53	64	14	4	131	112	139	29	6	280	37	17	241	137	295	157	942	1099
05:00 PM	5	66	5	1	76	24	18	4	0	46	27	43	5	0	75	10	0	71	40	81	41	278	319
05:15 PM	5	59	2	0	66	8	4	5	2	17	31	41	4	1	76	2	2	63	41	67	44	226	270
05:30 PM	3	53	3	0	59	9	10	4	0	23	28	52	3	0	83	9	2	36	24	47	24	212	236
05:45 PM	1	35	7	2	43	10	12	5	0	27	25	35	5	2	65	5	4	47	29	56	33	191	224
Total	14	213	17	3	244	51	44	18	2	113	111	171	17	3	299	26	8	217	134	251	142	907	1049
Grand Total	29	405	46	13	480	104	108	32	6	244	223	310	46	9	579	63	25	458	271	546	299	1849	2148
Apprch %	6	84.4	9.6			42.6	44.3	13.1			38.5	53.5	7.9			11.5	4.6	83.9					
Total %	1.6	21.9	2.5		26	5.6	5.8	1.7		13.2	12.1	16.8	2.5		31.3	3.4	1.4	24.8		29.5	13.9	86.1	
Passenger Vehicles	29	395	43		479	102	106	32		246	216	304	46		575	60	23	448		798	0	0	2098
% Passenger Vehicles	100	97.5	93.5	92.3	97.2	98.1	98.1	100	100	98.4	96.9	98.1	100	100	97.8	95.2	92	97.8	98.5	97.7	0	0	97.7
Large 2 Axle Vehicles	0	6	1		8	2	2	0		4	4	4	0		8	1	2	5		11	0	0	31
% Large 2 Axle Vehicles	0	1.5	2.2	7.7	1.6	1.9	1.9	0	0	1.6	1.8	1.3	0	0	1.4	1.6	8	1.1	1.1	1.3	0	0	1.4
3 Axle Vehicles	0	4	0		4	0	0	0		0	1	1	0		2	0	0	1		1	0	0	7
% 3 Axle Vehicles	0	1	0	0	0.8	0	0	0	0	0	0.4	0.3	0	0	0.3	0	0	0.2	0	0.1	0	0	0.3
4+ Axle Trucks	0	0	2		2	0	0	0		0	2	1	0		3	2	0	4		7	0	0	12
% 4+ Axle Trucks	0	0	4.3	0	0.4	0	0	0	0	0	0.9	0.3	0	0	0.5	3.2	0	0.9	0.4	0.9	0	0	0.6

	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	51	7	60	14	23	2	39	27	44	5	76	5	4	73	82	257
04:45 PM	6	44	6	56	14	17	5	36	27	37	6	70	10	4	43	57	219
05:00 PM	5	66	5	76	24	18	4	46	27	43	5	75	10	0	71	81	278
05:15 PM	5	59	2	66	8	4	5	17	31	41	4	76	2	2	63	67	226
Total Volume	18	220	20	258	60	62	16	138	112	165	20	297	27	10	250	287	980
% App. Total	7	85.3	7.8		43.5	44.9	11.6		37.7	55.6	6.7		9.4	3.5	87.1		
PHF	.750	.833	.714	.849	.625	.674	.800	.750	.903	.938	.833	.977	.675	.625	.856	.875	.881

City of Lake Forest
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	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:15 PM				04:45 PM				04:15 PM				
+0 mins.	2	51	7	60	11	10	2	23	27	37	6	70	10	5	64	79	
+15 mins.	6	44	6	56	14	23	2	39	27	43	5	75	5	4	73	82	
+30 mins.	5	66	5	76	14	17	5	36	31	41	4	76	10	4	43	57	
+45 mins.	5	59	2	66	24	18	4	46	28	52	3	83	10	0	71	81	
Total Volume	18	220	20	258	63	68	13	144	113	173	18	304	35	13	251	299	
% App. Total	7	85.3	7.8		43.8	47.2	9		37.2	56.9	5.9		11.7	4.3	83.9		
PHF	.750	.833	.714	.849	.656	.739	.650	.783	.911	.832	.750	.916	.875	.650	.860	.912	

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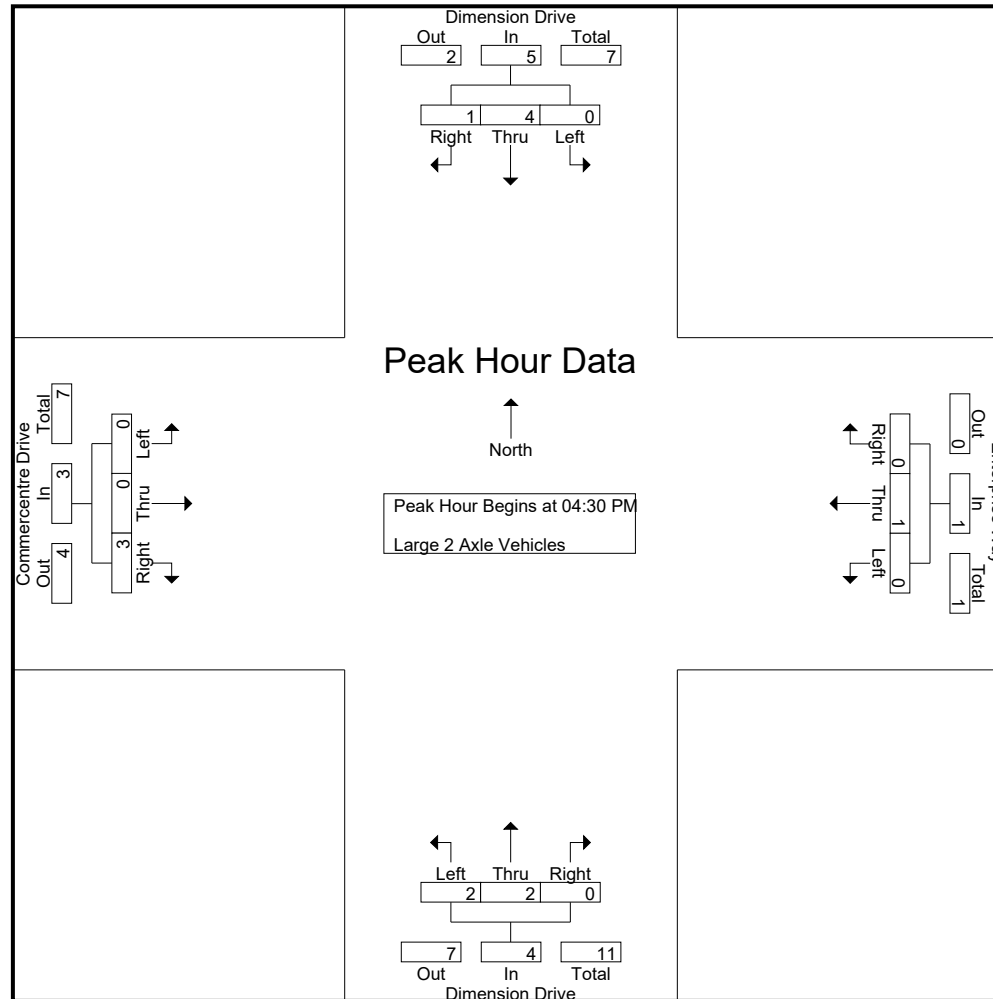
Groups Printed- Large 2 Axle Vehicles

	Dimension Drive Southbound					Enterprise Way Westbound					Dimension Drive Northbound					Commercentre Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	2	0	0	2	1	1	0	0	2	0	0	0	0	0	0	2	2	2	4	2	8	10
04:15 PM	0	0	0	0	0	1	0	0	0	1	2	2	0	0	4	1	0	0	0	1	0	6	6
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	3
04:45 PM	0	2	1	1	3	0	1	0	0	1	2	0	0	0	2	0	0	0	0	0	1	6	7
Total	0	5	1	1	6	2	2	0	0	4	4	2	0	0	6	1	2	3	3	6	4	22	26
05:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	3	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	2	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	0	5	5
Grand Total	0	6	1	1	7	2	2	0	0	4	4	4	0	0	8	1	2	5	3	8	4	27	31
Apprch %	0	85.7	14.3			50	50	0			50	50	0			12.5	25	62.5					
Total %	0	22.2	3.7		25.9	7.4	7.4	0		14.8	14.8	14.8	0		29.6	3.7	7.4	18.5		29.6	12.9	87.1	

	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
04:45 PM	0	2	1	3	0	1	0	1	2	0	0	2	0	0	0	0	6
05:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
Total Volume	0	4	1	5	0	1	0	1	2	2	0	4	0	0	3	3	13
% App. Total	0	80	20		0	100	0		50	50	0		0	0	100		
PHF	.000	.500	.250	.417	.000	.250	.000	.250	.250	.500	.000	.500	.000	.000	.750	.750	.542

City of Lake Forest
N/S: Dimension Drive
E/W: Commercentre Dr/Enterprise Way
Weather: Clear

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City of Lake Forest
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Weather: Clear

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	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	
+15 mins.	0	2	1	3	0	1	0	1	2	0	0	2	0	0	0	0	
+30 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	1	1	
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	
Total Volume	0	4	1	5	0	1	0	1	2	2	0	4	0	0	3	3	
% App. Total	0	80	20		0	100	0		50	50	0		0	0	100		
PHF	.000	.500	.250	.417	.000	.250	.000	.250	.250	.500	.000	.500	.000	.000	.750	.750	

City of Lake Forest
N/S: Dimension Drive
E/W: Commercentre Dr/Enterprise Way
Weather: Clear

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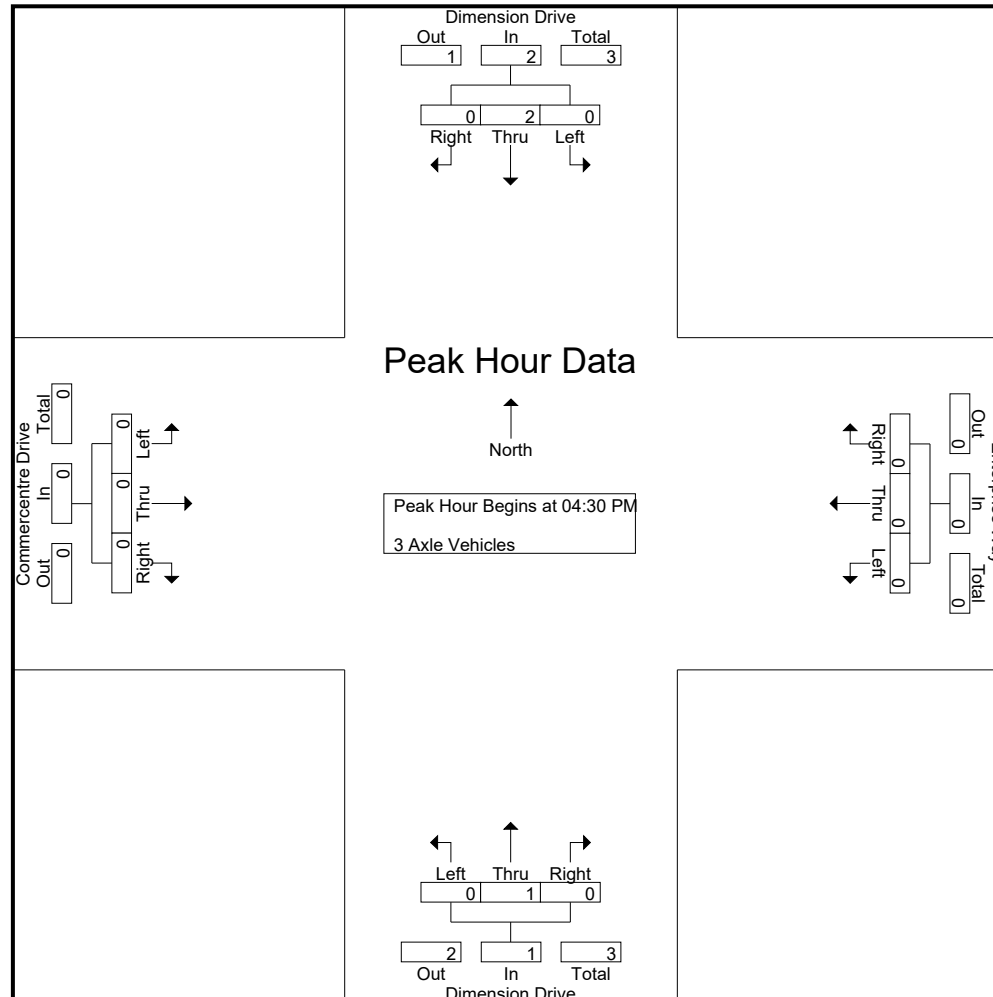
Groups Printed- 3 Axle Vehicles

	Dimension Drive Southbound					Enterprise Way Westbound					Dimension Drive Northbound					Commercentre Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	0	4	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
05:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	3
Grand Total	0	4	0	0	4	0	0	0	0	0	1	1	0	0	2	0	0	1	0	1	0	7	7
Apprch %	0	100	0			0	0	0			50	50	0			0	0	100			0		
Total %	0	57.1	0		57.1	0	0	0		0	14.3	14.3	0		28.6	0	0	14.3		14.3	0	100	

	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.750

City of Lake Forest
 N/S: Dimension Drive
 E/W: Commercentre Dr/Enterprise Way
 Weather: Clear

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City of Lake Forest
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	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	

City of Lake Forest
N/S: Dimension Drive
E/W: Commercentre Dr/Enterprise Way
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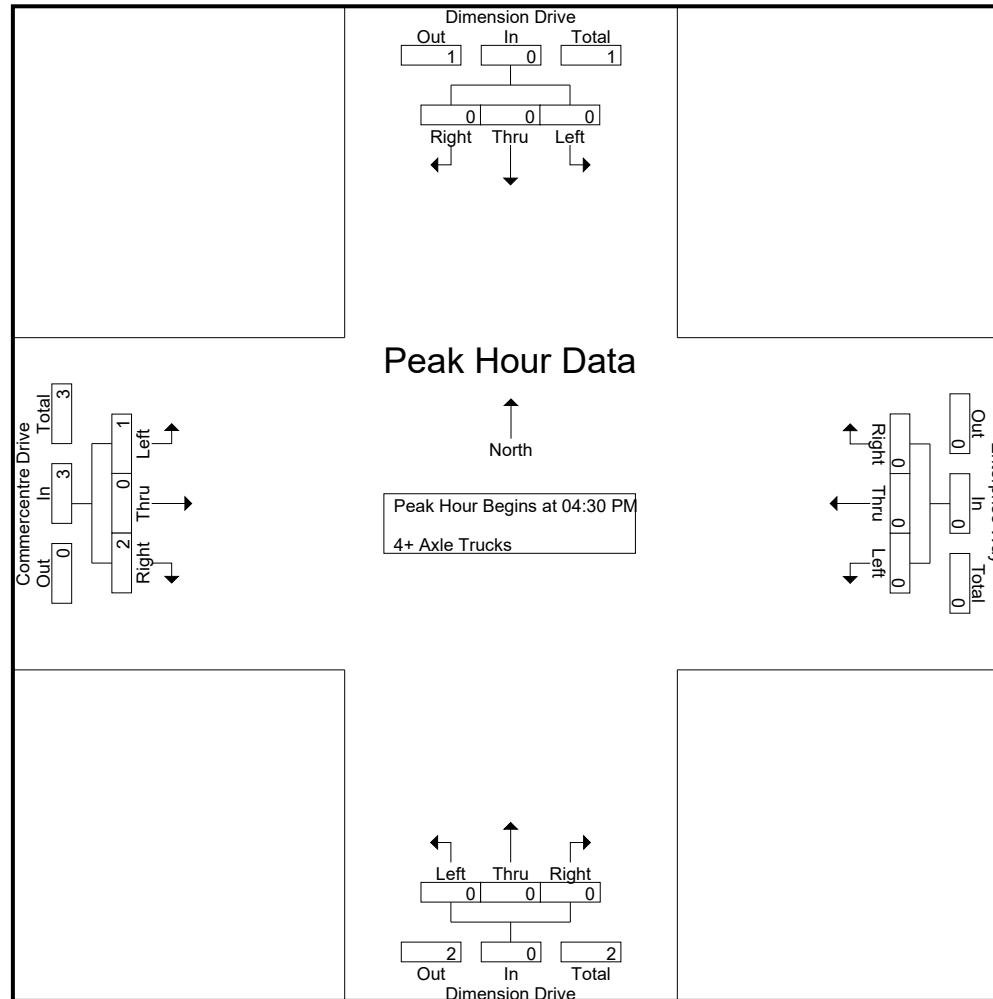
Groups Printed- 4+ Axle Trucks

	Dimension Drive Southbound					Enterprise Way Westbound					Dimension Drive Northbound					Commercentre Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	0	5	5
04:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
Total	0	0	2	0	2	0	0	0	0	0	1	0	0	0	1	2	0	3	0	5	0	8	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	1	1	1	1	3	4
Grand Total	0	0	2	0	2	0	0	0	0	0	2	1	0	0	3	2	0	4	1	6	1	11	12
Apprch %	0	0	100			0	0	0			66.7	33.3	0			33.3	0	66.7					
Total %	0	0	18.2		18.2	0	0	0			18.2	9.1	0		27.3	18.2	0	36.4		54.5	8.3	91.7	

	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	3
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	33.3	0	66.7		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.500	.750	.750

City of Lake Forest
 N/S: Dimension Drive
 E/W: Commercentre Dr/Enterprise Way
 Weather: Clear

File Name : 03_LKE_Dim_Com PM
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City of Lake Forest
N/S: Dimension Drive
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Weather: Clear

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	Dimension Drive Southbound				Enterprise Way Westbound				Dimension Drive Northbound				Commercentre Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	
% App. Total	0	0	0		0	0	0		0	0	0		33.3	0	66.7		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.500	.750	

Location: Lake Forest
 N/S: Dimension Drive
 E/W: Commercentre Dr/Enterprise Way



Date: 8/19/2021
 Day: Thursday

PEDESTRIANS

	North Leg Dimension Drive Pedestrians	East Leg Enterprise Way Pedestrians	South Leg Dimension Drive Pedestrians	West Leg Commercentre Drive Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	1	1	0	2	4
7:30 AM	0	0	0	1	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	1	1
8:15 AM	0	0	0	0	0
8:30 AM	0	1	1	0	2
8:45 AM	0	1	0	0	1
TOTAL VOLUMES:	1	3	1	4	9

	North Leg Dimension Drive Pedestrians	East Leg Enterprise Way Pedestrians	South Leg Dimension Drive Pedestrians	West Leg Commercentre Drive Pedestrians	
4:00 PM	0	0	0	1	1
4:15 PM	0	1	0	0	1
4:30 PM	0	1	0	2	3
4:45 PM	0	1	1	0	2
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	3	1	4	8

Location: Lake Forest
 N/S: Dimension Drive
 E/W: Commercentre Dr/Enterprise Way



Date: 8/19/2021
 Day: Thursday

BICYCLES

	Southbound Dimension Drive			Westbound Enterprise Way			Northbound Dimension Drive			Eastbound Commercentre Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	2	0	0	0	0	0	2	0	0	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	0	0	0	0	5	1	0	0	2	10

	Southbound Dimension Drive			Westbound Enterprise Way			Northbound Dimension Drive			Eastbound Commercentre Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	2
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	2	0	1	0	0	1	1	0	0	1	0	6

City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim AM
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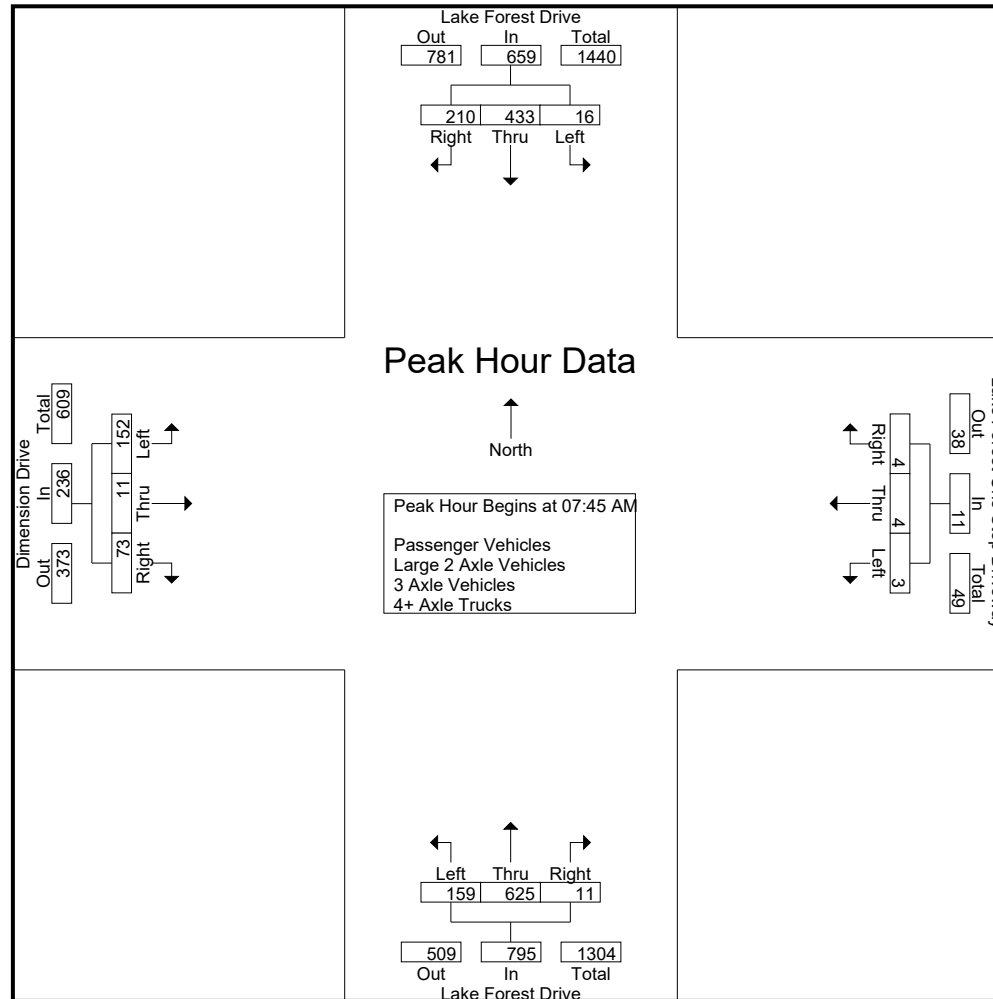
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Lake Forest Drive Southbound					Lake Forest One Stop Driveway Westbound					Lake Forest Drive Northbound					Dimension Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	88	35	9	124	0	0	1	1	1	17	96	0	0	113	21	0	8	8	29	18	267	285
07:15 AM	3	82	37	7	122	1	0	0	0	1	31	95	2	0	128	31	3	13	7	47	14	298	312
07:30 AM	5	95	50	5	150	1	0	1	1	2	25	101	2	0	128	31	1	13	8	45	14	325	339
07:45 AM	0	121	62	8	183	1	0	1	1	2	39	140	1	0	180	35	3	23	19	61	28	426	454
Total	9	386	184	29	579	3	0	3	3	6	112	432	5	0	549	118	7	57	42	182	74	1316	1390
08:00 AM	4	120	57	14	181	0	0	0	0	0	33	148	3	0	184	35	5	20	18	60	32	425	457
08:15 AM	6	99	36	15	141	0	3	2	2	5	48	195	3	0	246	38	1	17	15	56	32	448	480
08:30 AM	6	93	55	17	154	2	1	1	1	4	39	142	4	0	185	44	2	13	11	59	29	402	431
08:45 AM	5	104	58	12	167	0	0	0	0	0	35	122	0	0	157	42	2	17	12	61	24	385	409
Total	21	416	206	58	643	2	4	3	3	9	155	607	10	0	772	159	10	67	56	236	117	1660	1777
Grand Total	30	802	390	87	1222	5	4	6	6	15	267	1039	15	0	1321	277	17	124	98	418	191	2976	3167
Apprch %	2.5	65.6	31.9			33.3	26.7	40			20.2	78.7	1.1			66.3	4.1	29.7					
Total %	1	26.9	13.1		41.1	0.2	0.1	0.2		0.5	9	34.9	0.5		44.4	9.3	0.6	4.2		14	6	94	
Passenger Vehicles	29	766	377		1256	5	4	6		21	260	1008	15		1283	250	17	117		479	0	0	3039
% Passenger Vehicles	96.7	95.5	96.7	96.6	96	100	100	100	100	100	97.4	97	100	0	97.1	90.3	100	94.4	96.9	92.8	0	0	96
Large 2 Axle Vehicles	1	34	7		45	0	0	0		0	4	25	0		29	23	0	5		30	0	0	104
% Large 2 Axle Vehicles	3.3	4.2	1.8	3.4	3.4	0	0	0	0	0	1.5	2.4	0	0	2.2	8.3	0	4	2	5.8	0	0	3.3
3 Axle Vehicles	0	1	2		3	0	0	0		0	3	2	0		5	3	0	1		5	0	0	13
% 3 Axle Vehicles	0	0.1	0.5	0	0.2	0	0	0	0	0	1.1	0.2	0	0	0.4	1.1	0	0.8	1	1	0	0	0.4
4+ Axle Trucks	0	1	4		5	0	0	0		0	0	4	0		4	1	0	1		2	0	0	11
% 4+ Axle Trucks	0	0.1	1	0	0.4	0	0	0	0	0	0	0.4	0	0	0.3	0.4	0	0.8	0	0.4	0	0	0.3

	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	121	62	183	1	0	1	2	39	140	1	180	35	3	23	61	426
08:00 AM	4	120	57	181	0	0	0	0	33	148	3	184	35	5	20	60	425
08:15 AM	6	99	36	141	0	3	2	5	48	195	3	246	38	1	17	56	448
08:30 AM	6	93	55	154	2	1	1	4	39	142	4	185	44	2	13	59	402
Total Volume	16	433	210	659	3	4	4	11	159	625	11	795	152	11	73	236	1701
% App. Total	2.4	65.7	31.9		27.3	36.4	36.4		20	78.6	1.4		64.4	4.7	30.9		
PHF	.667	.895	.847	.900	.375	.333	.500	.550	.828	.801	.688	.808	.864	.550	.793	.967	.949

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Dimension Drive
 Weather: Clear

File Name : 04_LKE_Lake_Dim AM
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City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim AM
Site Code : 05121392
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	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	121	62	183	1	0	1	2	39	140	1	180	35	3	23	61	
+15 mins.	4	120	57	181	0	0	0	0	33	148	3	184	35	5	20	60	
+30 mins.	6	99	36	141	0	3	2	5	48	195	3	246	38	1	17	56	
+45 mins.	6	93	55	154	2	1	1	4	39	142	4	185	44	2	13	59	
Total Volume	16	433	210	659	3	4	4	11	159	625	11	795	152	11	73	236	
% App. Total	2.4	65.7	31.9		27.3	36.4	36.4		20	78.6	1.4		64.4	4.7	30.9		
PHF	.667	.895	.847	.900	.375	.333	.500	.550	.828	.801	.688	.808	.864	.550	.793	.967	

City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim AM
Site Code : 05121392
Start Date : 8/19/2021
Page No : 1

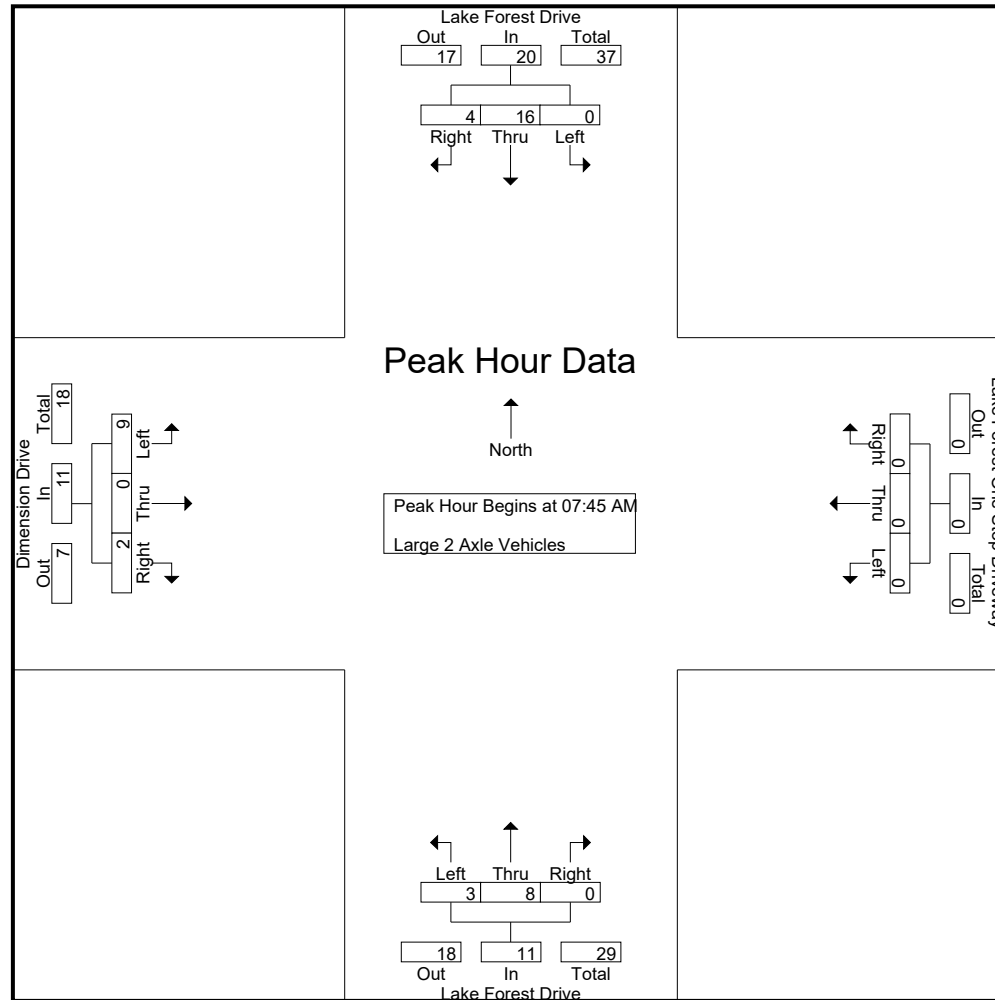
Groups Printed- Large 2 Axle Vehicles

	Lake Forest Drive Southbound					Lake Forest One Stop Driveway Westbound					Lake Forest Drive Northbound					Dimension Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	8	1	1	10	0	0	0	0	0	0	5	0	0	5	3	0	0	0	3	1	18	19
07:15 AM	0	4	0	0	4	0	0	0	0	0	1	2	0	0	3	5	0	2	0	7	0	14	14
07:30 AM	0	3	1	0	4	0	0	0	0	0	0	6	0	0	6	4	0	1	0	5	0	15	15
07:45 AM	0	4	1	1	5	0	0	0	0	0	0	1	0	0	1	3	0	1	1	4	2	10	12
Total	1	19	3	2	23	0	0	0	0	0	1	14	0	0	15	15	0	4	1	19	3	57	60
08:00 AM	0	4	0	0	4	0	0	0	0	0	2	1	0	0	3	2	0	0	0	2	0	9	9
08:15 AM	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	3	0	1	1	4	1	11	12
08:30 AM	0	4	3	1	7	0	0	0	0	0	1	3	0	0	4	1	0	0	0	1	1	12	13
08:45 AM	0	3	1	0	4	0	0	0	0	0	0	4	0	0	4	2	0	0	0	2	0	10	10
Total	0	15	4	1	19	0	0	0	0	0	3	11	0	0	14	8	0	1	1	9	2	42	44
Grand Total	1	34	7	3	42	0	0	0	0	0	4	25	0	0	29	23	0	5	2	28	5	99	104
Apprch %	2.4	81	16.7			0	0	0			13.8	86.2	0			82.1	0	17.9					
Total %	1	34.3	7.1		42.4	0	0	0			4	25.3	0		29.3	23.2	0	5.1		28.3	4.8	95.2	

	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	4	1	5	0	0	0	0	0	1	0	1	3	0	1	4	10
08:00 AM	0	4	0	4	0	0	0	0	2	1	0	3	2	0	0	2	9
08:15 AM	0	4	0	4	0	0	0	0	0	3	0	3	3	0	1	4	11
08:30 AM	0	4	3	7	0	0	0	0	1	3	0	4	1	0	0	1	12
Total Volume	0	16	4	20	0	0	0	0	3	8	0	11	9	0	2	11	42
% App. Total	0	80	20		0	0	0		27.3	72.7	0		81.8	0	18.2		
PHF	.000	1.00	.333	.714	.000	.000	.000	.000	.375	.667	.000	.688	.750	.000	.500	.688	.875

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Dimension Drive
 Weather: Clear

File Name : 04_LKE_Lake_Dim AM
 Site Code : 05121392
 Start Date : 8/19/2021
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City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim AM
Site Code : 05121392
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	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	4	1	5	0	0	0	0	0	1	0	1	3	0	1	4	
+15 mins.	0	4	0	4	0	0	0	0	2	1	0	3	2	0	0	2	
+30 mins.	0	4	0	4	0	0	0	0	0	3	0	3	3	0	1	4	
+45 mins.	0	4	3	7	0	0	0	0	1	3	0	4	1	0	0	1	
Total Volume	0	16	4	20	0	0	0	0	3	8	0	11	9	0	2	11	
% App. Total	0	80	20		0	0	0		27.3	72.7	0		81.8	0	18.2		
PHF	.000	1.000	.333	.714	.000	.000	.000	.000	.375	.667	.000	.688	.750	.000	.500	.688	

City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim AM
Site Code : 05121392
Start Date : 8/19/2021
Page No : 1

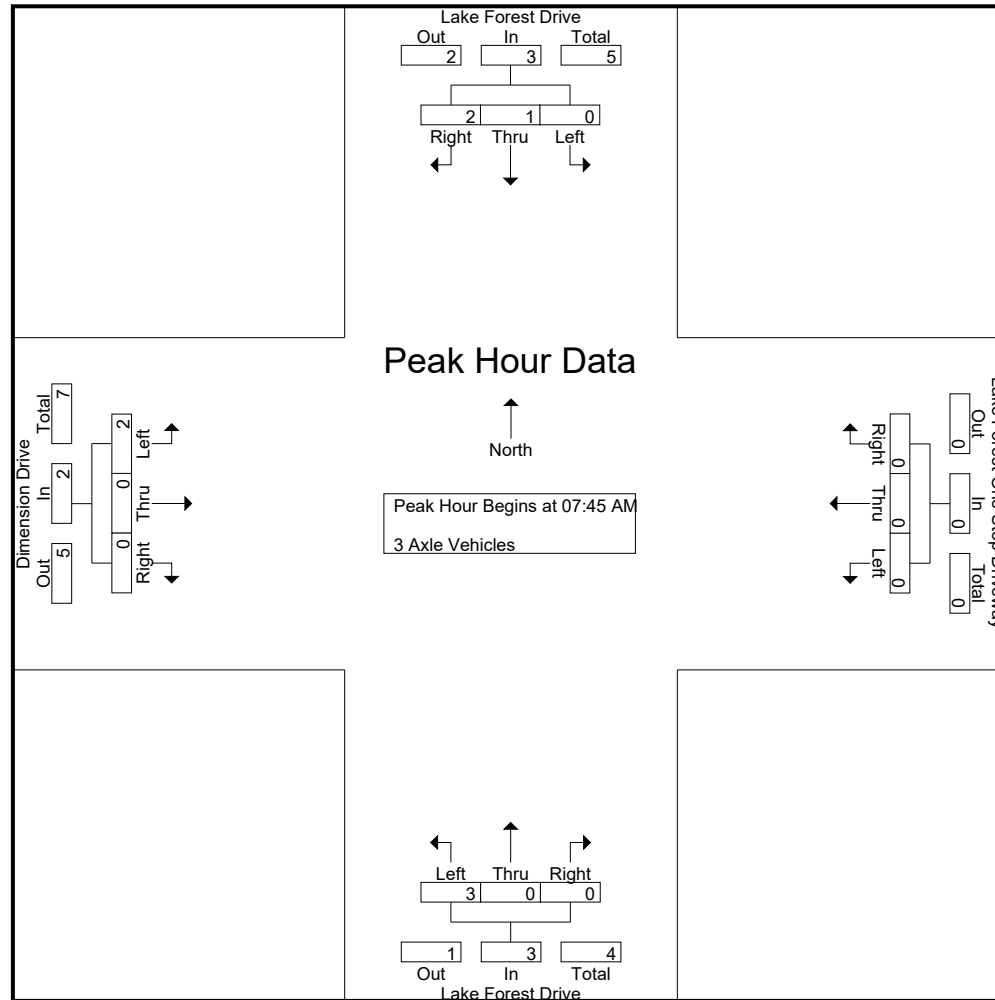
Groups Printed- 3 Axle Vehicles

	Lake Forest Drive Southbound					Lake Forest One Stop Driveway Westbound					Lake Forest Drive Northbound					Dimension Drive Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	1	1	1	3	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
Total	0	1	0	0	1	0	0	0	0	0	1	2	0	0	3	0	0	1	1	1	1	5	6
08:00 AM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	2	0	0	0	2	0	4	4
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1
Total	0	0	2	0	2	0	0	0	0	0	2	0	0	0	2	3	0	0	0	3	0	7	7
Grand Total	0	1	2	0	3	0	0	0	0	0	3	2	0	0	5	3	0	1	1	4	1	12	13
Apprch %	0	33.3	66.7			0	0	0			60	40	0			75	0	25					
Total %	0	8.3	16.7		25	0	0	0		0	25	16.7	0		41.7	25	0	8.3		33.3	7.7	92.3	

	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
08:00 AM	0	0	1	1	0	0	0	0	1	0	0	1	2	0	0	2	4
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	2
Total Volume	0	1	2	3	0	0	0	0	3	0	0	3	2	0	0	2	8
% App. Total	0	33.3	66.7		0	0	0		100	0	0		100	0	0		
PHF	.000	.250	.500	.750	.000	.000	.000	.000	.750	.000	.000	.750	.250	.000	.000	.250	.500

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Dimension Drive
 Weather: Clear

File Name : 04_LKE_Lake_Dim AM
 Site Code : 05121392
 Start Date : 8/19/2021
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City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim AM
Site Code : 05121392
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	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	
+15 mins.	0	0	1	1	0	0	0	0	1	0	0	1	2	0	0	2	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	
Total Volume	0	1	2	3	0	0	0	0	3	0	0	3	2	0	0	2	
% App. Total	0	33.3	66.7		0	0	0		100	0	0		100	0	0		
PHF	.000	.250	.500	.750	.000	.000	.000	.000	.750	.000	.000	.750	.250	.000	.000	.250	

City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim AM
Site Code : 05121392
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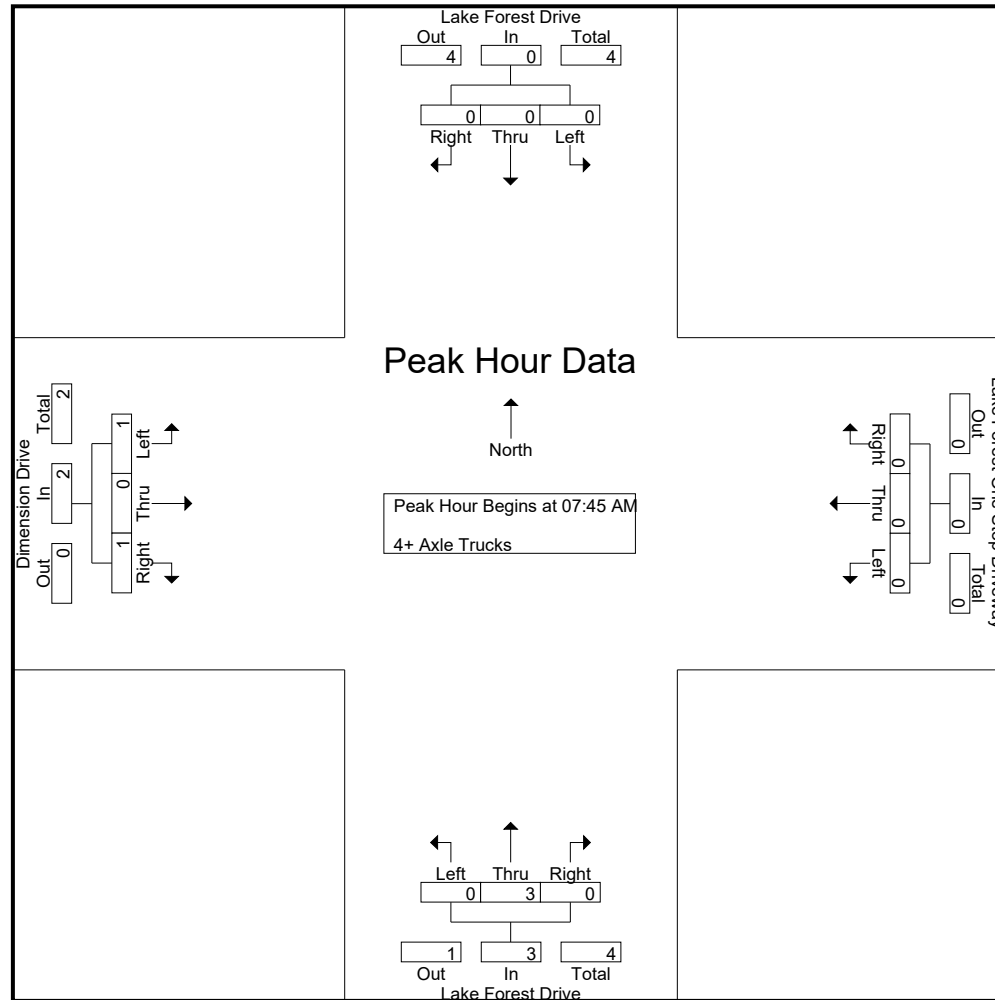
Groups Printed- 4+ Axle Trucks

	Lake Forest Drive Southbound					Lake Forest One Stop Driveway Westbound					Lake Forest Drive Northbound					Dimension Drive Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	3	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	2	2
Total	0	0	3	0	3	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	6	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	2	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	0	5	5
Grand Total	0	1	4	0	5	0	0	0	0	0	0	4	0	0	4	1	0	1	0	2	0	11	11
Apprch %	0	20	80			0	0	0			0	100	0			50	0	50			0		
Total %	0	9.1	36.4		45.5	0	0	0		0	0	36.4	0		36.4	9.1	0	9.1		18.2	0	100	

	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	3	0	3	1	0	1	2	5
% App. Total	0	0	0	0	0	0	0	0	0	100	0		50	0	50		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750	.000	.750	.250	.000	.250	.500	.625

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Dimension Drive
 Weather: Clear

File Name : 04_LKE_Lake_Dim AM
 Site Code : 05121392
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City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim AM
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	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:45 AM				07:45 AM				07:45 AM				07:45 AM				
+0 mins.	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	
+15 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	3	0	3	1	0	1	2	
% App. Total	0	0	0		0	0	0		0	100	0		50	0	50		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750	.000	.750	.250	.000	.250	.500	

City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim PM
Site Code : 05121392
Start Date : 8/19/2021
Page No : 1

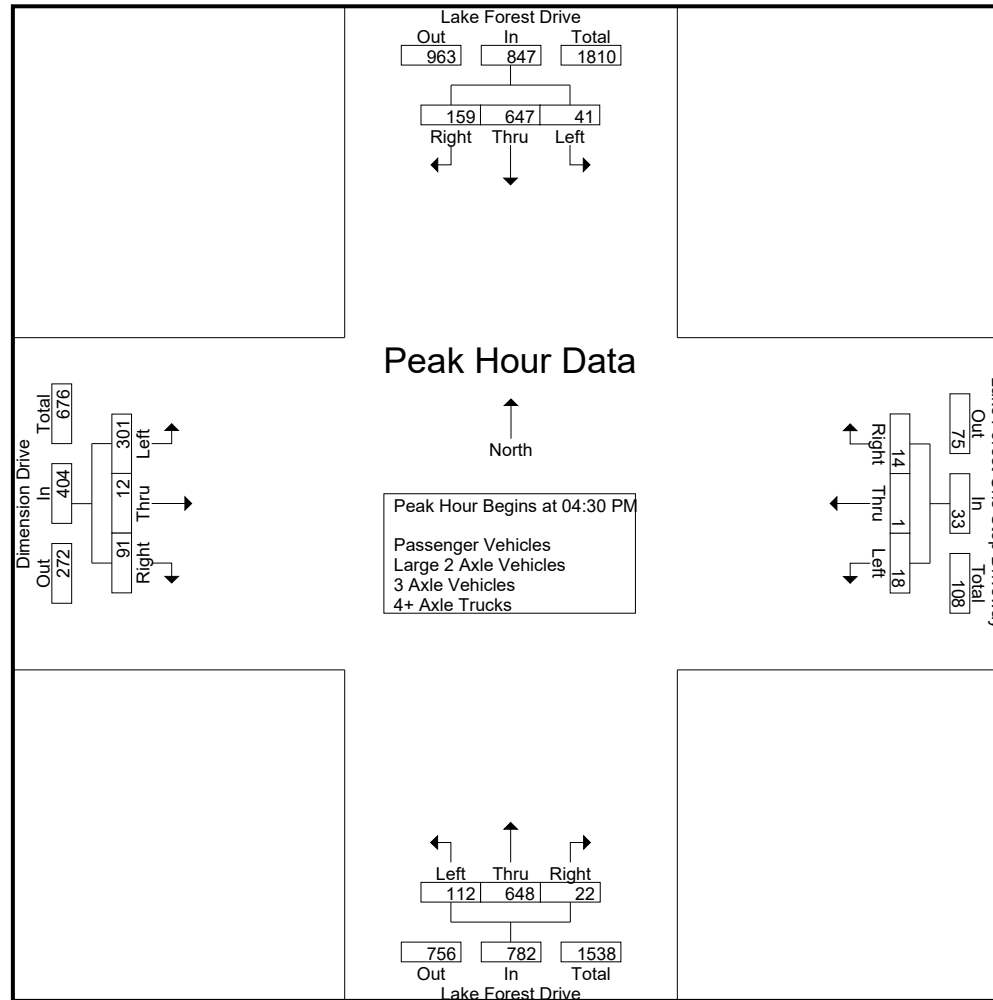
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Lake Forest Drive Southbound					Lake Forest One Stop Driveway Westbound					Lake Forest Drive Northbound					Dimension Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	11	158	38	8	207	12	4	3	3	19	22	109	5	1	136	69	1	27	20	97	32	459	491
04:15 PM	8	123	32	16	163	8	3	2	1	13	25	169	7	1	201	65	3	24	17	92	35	469	504
04:30 PM	13	141	45	15	199	5	0	5	5	10	25	147	5	1	177	73	2	28	14	103	35	489	524
04:45 PM	10	145	38	11	193	0	0	3	3	3	30	172	6	0	208	57	1	23	16	81	30	485	515
Total	42	567	153	50	762	25	7	13	12	45	102	597	23	3	722	264	7	102	67	373	132	1902	2034
05:00 PM	10	190	30	11	230	9	0	4	2	13	21	146	5	1	172	87	4	22	18	113	32	528	560
05:15 PM	8	171	46	14	225	4	1	2	2	7	36	183	6	1	225	84	5	18	15	107	32	564	596
05:30 PM	7	127	31	11	165	5	1	0	0	6	32	171	6	0	209	59	1	23	17	83	28	463	491
05:45 PM	12	127	32	9	171	6	1	4	2	11	25	158	3	0	186	59	2	11	6	72	17	440	457
Total	37	615	139	45	791	24	3	10	6	37	114	658	20	2	792	289	12	74	56	375	109	1995	2104
Grand Total	79	1182	292	95	1553	49	10	23	18	82	216	1255	43	5	1514	553	19	176	123	748	241	3897	4138
Apprch %	5.1	76.1	18.8			59.8	12.2	28			14.3	82.9	2.8			73.9	2.5	23.5					
Total %	2	30.3	7.5		39.9	1.3	0.3	0.6		2.1	5.5	32.2	1.1		38.9	14.2	0.5	4.5		19.2	5.8	94.2	
Passenger Vehicles	79	1164	278		1613	49	10	22		98	213	1239	43		1500	540	19	174		855	0	0	4066
% Passenger Vehicles	100	98.5	95.2	96.8	97.9	100	100	95.7	94.4	98	98.6	98.7	100	100	98.7	97.6	100	98.9	99.2	98.2	0	0	98.3
Large 2 Axle Vehicles	0	13	8		24	0	0	1		2	0	14	0		14	8	0	2		11	0	0	51
% Large 2 Axle Vehicles	0	1.1	2.7	3.2	1.5	0	0	4.3	5.6	2	0	1.1	0	0	0.9	1.4	0	1.1	0.8	1.3	0	0	1.2
3 Axle Vehicles	0	2	2		4	0	0	0		0	2	1	0		3	3	0	0		3	0	0	10
% 3 Axle Vehicles	0	0.2	0.7	0	0.2	0	0	0	0	0	0.9	0.1	0	0	0.2	0.5	0	0	0	0.3	0	0	0.2
4+ Axle Trucks	0	3	4		7	0	0	0		0	1	1	0		2	2	0	0		2	0	0	11
% 4+ Axle Trucks	0	0.3	1.4	0	0.4	0	0	0	0	0	0.5	0.1	0	0	0.1	0.4	0	0	0	0.2	0	0	0.3

	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	13	141	45	199	5	0	5	10	25	147	5	177	73	2	28	103	489
04:45 PM	10	145	38	193	0	0	3	3	30	172	6	208	57	1	23	81	485
05:00 PM	10	190	30	230	9	0	4	13	21	146	5	172	87	4	22	113	528
05:15 PM	8	171	46	225	4	1	2	7	36	183	6	225	84	5	18	107	564
Total Volume	41	647	159	847	18	1	14	33	112	648	22	782	301	12	91	404	2066
% App. Total	4.8	76.4	18.8		54.5	3	42.4		14.3	82.9	2.8		74.5	3	22.5		
PHF	.788	.851	.864	.921	.500	.250	.700	.635	.778	.885	.917	.869	.865	.600	.813	.894	.916

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Dimension Drive
 Weather: Clear

File Name : 04_LKE_Lake_Dim PM
 Site Code : 05121392
 Start Date : 8/19/2021
 Page No : 2



City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim PM
Site Code : 05121392
Start Date : 8/19/2021
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	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:00 PM				04:45 PM				04:30 PM				
+0 mins.	13	141	45	199	12	4	3	19	30	172	6	208	73	2	28	103	
+15 mins.	10	145	38	193	8	3	2	13	21	146	5	172	57	1	23	81	
+30 mins.	10	190	30	230	5	0	5	10	36	183	6	225	87	4	22	113	
+45 mins.	8	171	46	225	0	0	3	3	32	171	6	209	84	5	18	107	
Total Volume	41	647	159	847	25	7	13	45	119	672	23	814	301	12	91	404	
% App. Total	4.8	76.4	18.8		55.6	15.6	28.9		14.6	82.6	2.8		74.5	3	22.5		
PHF	.788	.851	.864	.921	.521	.438	.650	.592	.826	.918	.958	.904	.865	.600	.813	.894	

City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim PM
Site Code : 05121392
Start Date : 8/19/2021
Page No : 1

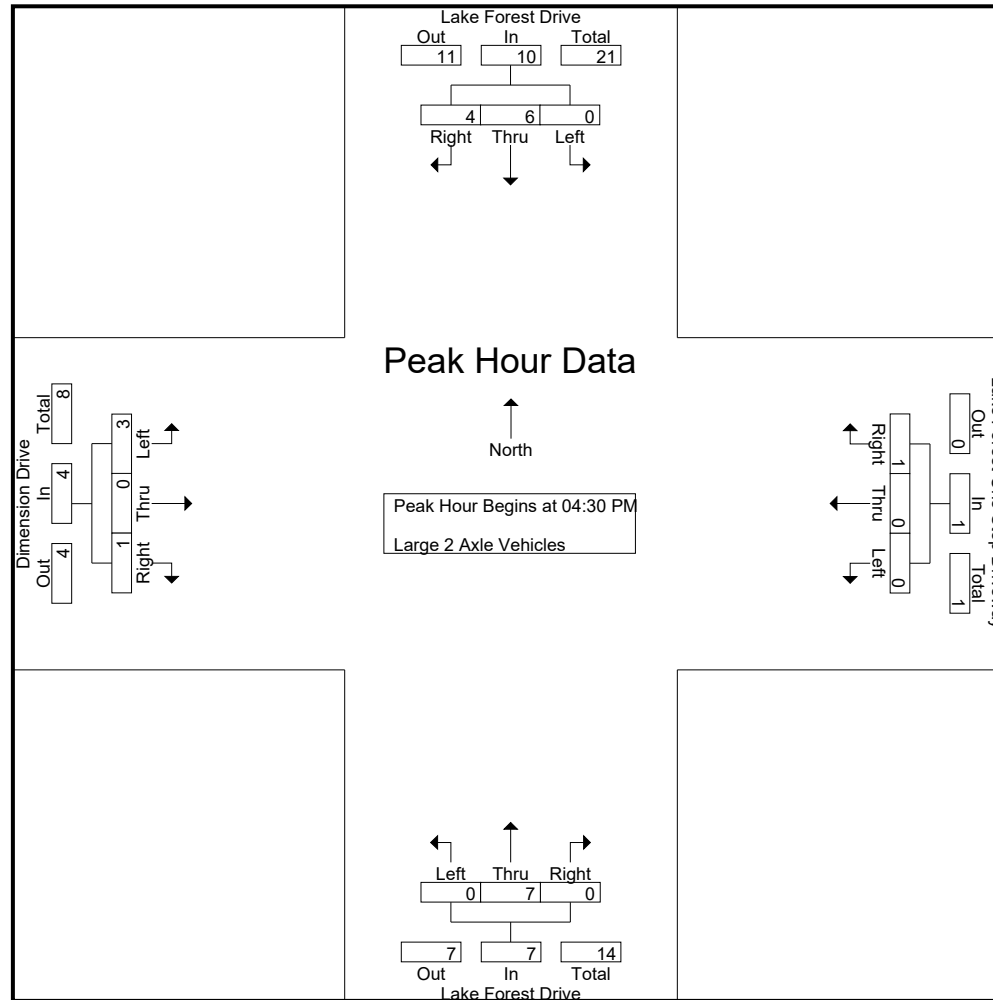
Groups Printed- Large 2 Axle Vehicles

	Lake Forest Drive Southbound					Lake Forest One Stop Driveway Westbound					Lake Forest Drive Northbound					Dimension Drive Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	1	2	1	3	0	0	0	0	0	0	1	0	0	1	3	0	0	0	3	1	7	8
04:15 PM	0	3	1	1	4	0	0	0	0	0	0	3	0	0	3	2	0	0	0	2	1	9	10
04:30 PM	0	1	2	1	3	0	0	1	1	1	0	3	0	0	3	2	0	0	0	2	2	9	11
04:45 PM	0	3	2	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	7	7
Total	0	8	7	3	15	0	0	1	1	1	0	9	0	0	9	7	0	0	0	7	4	32	36
05:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	3	3
05:30 PM	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	1	1	1	4	5
05:45 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	4
Total	0	5	1	0	6	0	0	0	0	0	0	5	0	0	5	1	0	2	1	3	1	14	15
Grand Total	0	13	8	3	21	0	0	1	1	1	0	14	0	0	14	8	0	2	1	10	5	46	51
Apprch %	0	61.9	38.1			0	0	100			0	100	0			80	0	20					
Total %	0	28.3	17.4		45.7	0	0	2.2		2.2	0	30.4	0		30.4	17.4	0	4.3		21.7	9.8	90.2	

	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	1	2	3	0	0	1	1	0	3	0	3	2	0	0	2	9
04:45 PM	0	3	2	5	0	0	0	0	0	2	0	2	0	0	0	0	7
05:00 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	3
05:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	1	3
Total Volume	0	6	4	10	0	0	1	1	0	7	0	7	3	0	1	4	22
% App. Total	0	60	40		0	0	100		0	100	0		75	0	25		
PHF	.000	.500	.500	.500	.000	.000	.250	.250	.000	.583	.000	.583	.375	.000	.250	.500	.611

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Dimension Drive
 Weather: Clear

File Name : 04_LKE_Lake_Dim PM
 Site Code : 05121392
 Start Date : 8/19/2021
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City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim PM
Site Code : 05121392
Start Date : 8/19/2021
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	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	1	2	3	0	0	1	1	0	3	0	3	2	0	0	2	
+15 mins.	0	3	2	5	0	0	0	0	0	2	0	2	0	0	0	0	
+30 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	
+45 mins.	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	1	
Total Volume	0	6	4	10	0	0	1	1	0	7	0	7	3	0	1	4	
% App. Total	0	60	40		0	0	100		0	100	0		75	0	25		
PHF	.000	.500	.500	.500	.000	.000	.250	.250	.000	.583	.000	.583	.375	.000	.250	.500	

City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim PM
Site Code : 05121392
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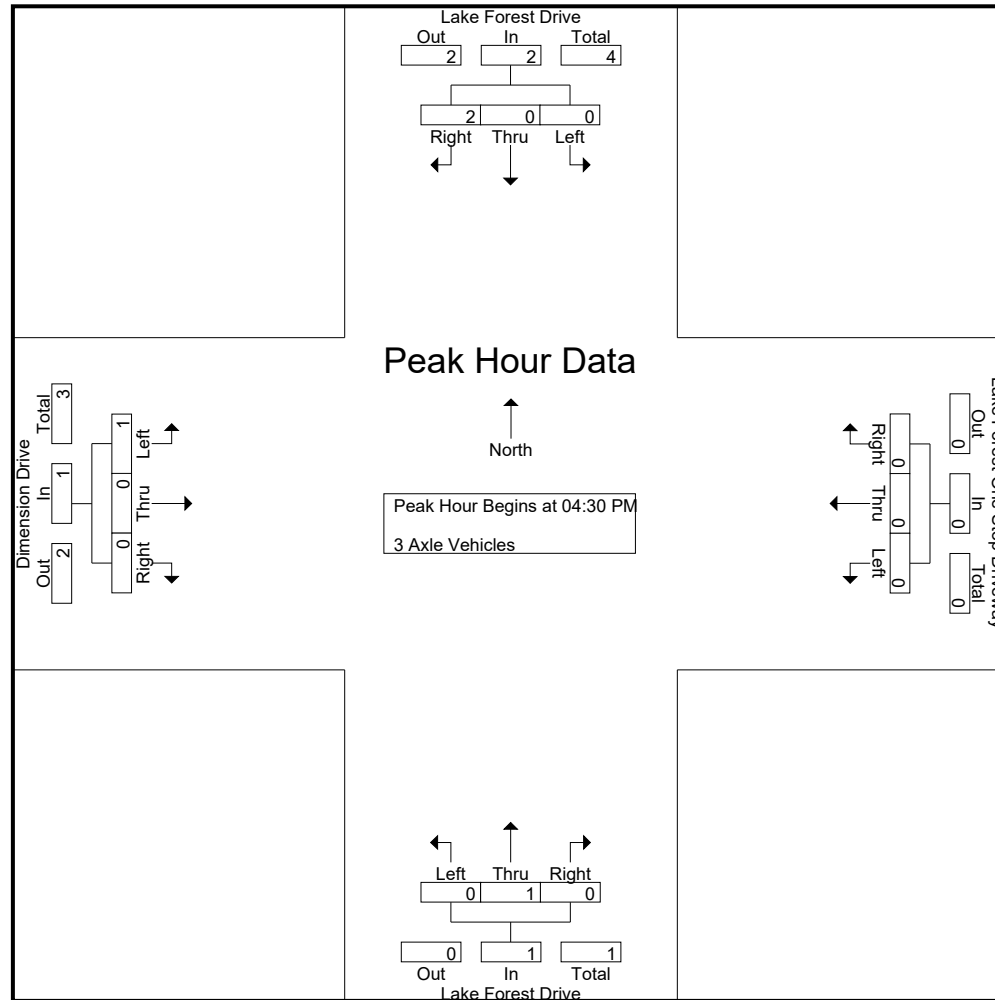
Groups Printed- 3 Axle Vehicles

	Lake Forest Drive Southbound					Lake Forest One Stop Driveway Westbound					Lake Forest Drive Northbound					Dimension Drive Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	2	0	3	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	2	0	0	0	2	0	4	4
05:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	2	2
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2
Total	0	2	1	0	3	0	0	0	0	0	1	1	0	0	2	1	0	0	0	1	0	6	6
Grand Total	0	2	2	0	4	0	0	0	0	0	2	1	0	0	3	3	0	0	0	3	0	10	10
Apprch %	0	50	50			0	0	0			66.7	33.3	0			100	0	0			0		
Total %	0	20	20		40	0	0	0		0	20	10	0		30	30	0	0		30	0	100	

	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2
Total Volume	0	0	2	2	0	0	0	0	0	1	0	1	1	0	0	1	4
% App. Total	0	0	100		0	0	0		0	100	0		100	0	0		
PHF	.000	.000	.500	.500	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.500

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Dimension Drive
 Weather: Clear

File Name : 04_LKE_Lake_Dim PM
 Site Code : 05121392
 Start Date : 8/19/2021
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City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim PM
Site Code : 05121392
Start Date : 8/19/2021
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	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	1
Total Volume	0	0	2	2	0	0	0	0	0	1	0	1	1	0	0	1	1
% App. Total	0	0	100		0	0	0		0	100	0		100	0	0		
PHF	.000	.000	.500	.500	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	

City of Lake Forest
N/S: Lake Forest Drive
E/W: Dimension Drive
Weather: Clear

File Name : 04_LKE_Lake_Dim PM
Site Code : 05121392
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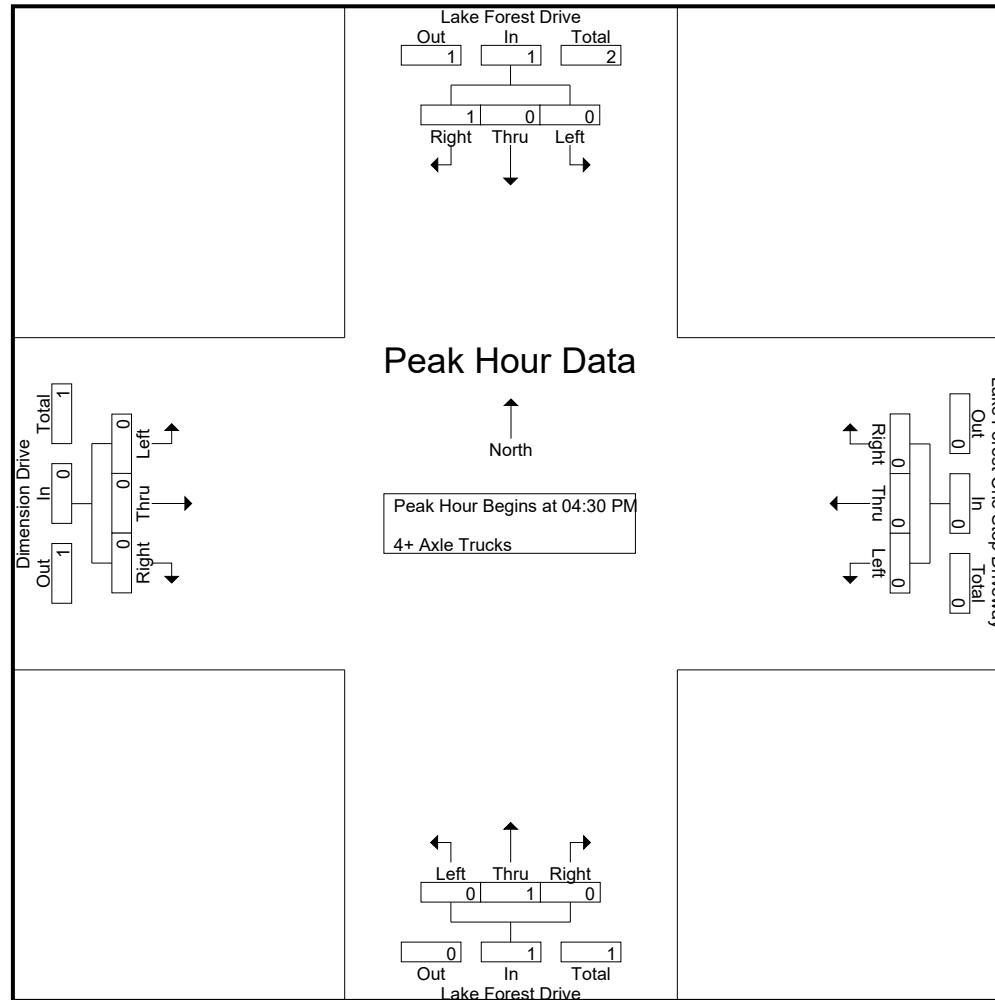
Groups Printed- 4+ Axle Trucks

	Lake Forest Drive Southbound					Lake Forest One Stop Driveway Westbound					Lake Forest Drive Northbound					Dimension Drive Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	4	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:30 PM	0	2	2	0	4	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	5	5
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1
Total	0	2	3	0	5	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	7	7
Grand Total	0	3	4	0	7	0	0	0	0	0	1	1	0	0	2	2	0	0	0	2	0	11	11
Apprch %	0	42.9	57.1			0	0	0			50	50	0			100	0	0			0		
Total %	0	27.3	36.4		63.6	0	0	0			9.1	9.1	0		18.2	18.2	0	0		18.2	0	100	

	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
% App. Total	0	0	100		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.500

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Dimension Drive
 Weather: Clear

File Name : 04_LKE_Lake_Dim PM
 Site Code : 05121392
 Start Date : 8/19/2021
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City of Lake Forest
N/S: Lake Forest Drive
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File Name : 04_LKE_Lake_Dim PM
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	Lake Forest Drive Southbound				Lake Forest One Stop Driveway Westbound				Lake Forest Drive Northbound				Dimension Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0
% App. Total	0	0	100		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000

Location: Lake Forest
 N/S: Lake Forest Drive
 E/W: Dimension Drive



Date: 8/19/2021
 Day: Thursday

PEDESTRIANS

	North Leg Lake Forest Drive Pedestrians	East Leg Lake Forest One Stop DW Pedestrians	South Leg Lake Forest Drive Pedestrians	West Leg Dimension Drive Pedestrians	
7:00 AM	0	2	0	0	2
7:15 AM	0	1	0	2	3
7:30 AM	0	2	1	0	3
7:45 AM	0	1	0	1	2
8:00 AM	0	0	1	2	3
8:15 AM	0	3	2	1	6
8:30 AM	0	0	2	1	3
8:45 AM	0	0	1	1	2
TOTAL VOLUMES:	0	9	7	8	24

	North Leg Lake Forest Drive Pedestrians	East Leg Lake Forest One Stop DW Pedestrians	South Leg Lake Forest Drive Pedestrians	West Leg Dimension Drive Pedestrians	
4:00 PM	0	2	3	0	5
4:15 PM	0	0	2	1	3
4:30 PM	0	1	1	2	4
4:45 PM	0	0	0	0	0
5:00 PM	0	1	0	2	3
5:15 PM	0	0	0	1	1
5:30 PM	0	1	2	0	3
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	5	8	6	19

Location: Lake Forest
 N/S: Lake Forest Drive
 E/W: Dimension Drive



Date: 8/19/2021
 Day: Thursday

BICYCLES

		Southbound Lake Forest Drive			Westbound Lake Forest One Stop DW			Northbound Lake Forest Drive			Eastbound Dimension Drive			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	7:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
	7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1
	7:30 AM	0	0	0	0	0	0	0	2	0	0	0	0	2
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
	8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
	8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		0	0	2	0	0	0	0	2	0	2	0	1	7

		Southbound Lake Forest Drive			Westbound Lake Forest One Stop DW			Northbound Lake Forest Drive			Eastbound Dimension Drive			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	2	1	0	0	0	0	0	0	0	0	0	3
	4:45 PM	0	2	0	0	0	0	0	1	0	0	0	0	3
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	0	0	0	0	0	2	0	1	0	0	4
TOTAL VOLUMES:		0	7	1	0	0	0	0	3	0	1	0	0	12

City of Lake Forest
N/S: Lake Forest Drive
E/W: Rancho Parkway
Weather: Clear

File Name : 05_LKE_Lake_Rancho AM
Site Code : 05121392
Start Date : 8/19/2021
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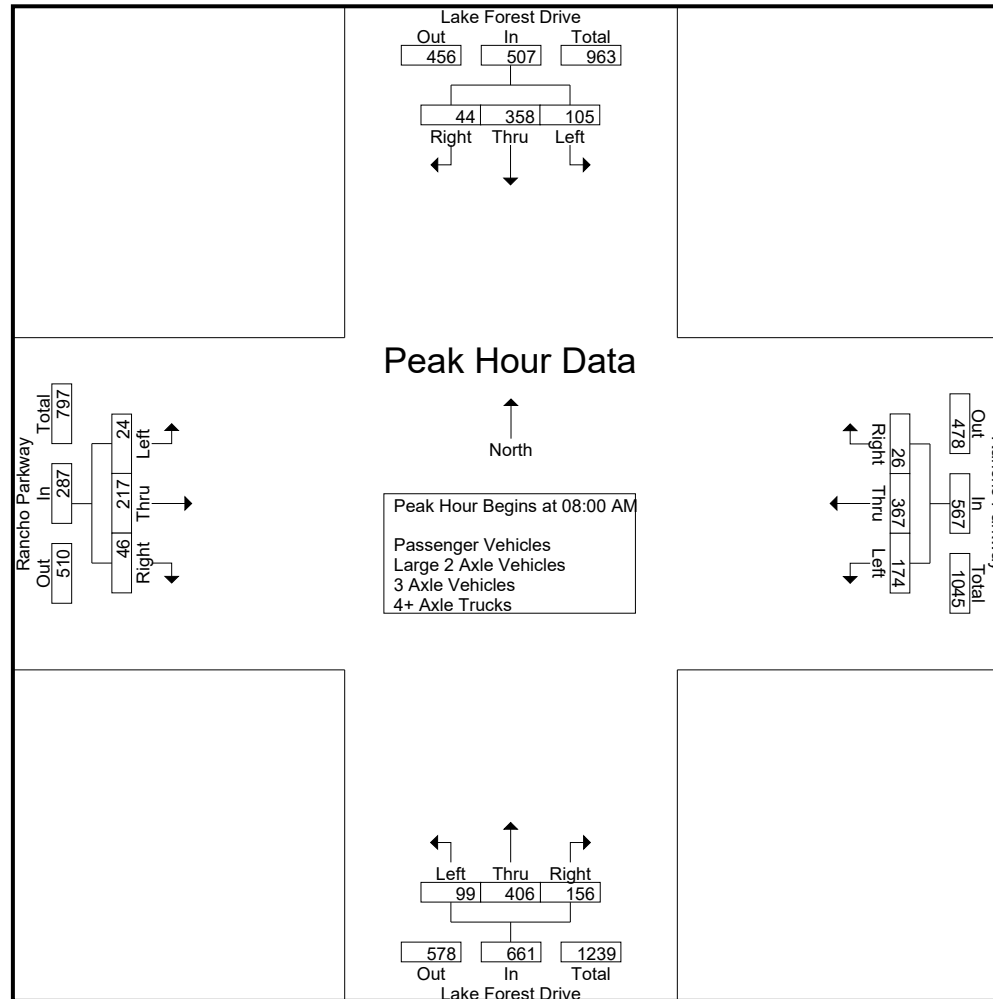
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Lake Forest Drive Southbound					Rancho Parkway Westbound					Lake Forest Drive Northbound					Rancho Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	10	62	7	3	79	21	62	2	2	85	23	53	21	9	97	3	40	9	4	52	18	313	331
07:15 AM	9	63	7	4	79	27	64	5	5	96	15	71	35	9	121	1	46	17	14	64	32	360	392
07:30 AM	27	98	7	3	132	22	60	4	3	86	13	76	34	6	123	4	60	10	4	74	16	415	431
07:45 AM	22	98	5	3	125	56	78	10	9	144	21	95	28	8	144	3	72	8	6	83	26	496	522
Total	68	321	26	13	415	126	264	21	19	411	72	295	118	32	485	11	218	44	28	273	92	1584	1676
08:00 AM	21	108	12	5	141	61	99	6	4	166	23	115	34	10	172	6	50	13	7	69	26	548	574
08:15 AM	20	76	11	2	107	31	89	9	7	129	21	114	51	7	186	6	50	12	4	68	20	490	510
08:30 AM	28	85	12	4	125	34	91	8	6	133	28	93	35	6	156	5	60	8	5	73	21	487	508
08:45 AM	36	89	9	3	134	48	88	3	1	139	27	84	36	7	147	7	57	13	9	77	20	497	517
Total	105	358	44	14	507	174	367	26	18	567	99	406	156	30	661	24	217	46	25	287	87	2022	2109
Grand Total	173	679	70	27	922	300	631	47	37	978	171	701	274	62	1146	35	435	90	53	560	179	3606	3785
Apprch %	18.8	73.6	7.6			30.7	64.5	4.8			14.9	61.2	23.9			6.2	77.7	16.1					
Total %	4.8	18.8	1.9		25.6	8.3	17.5	1.3		27.1	4.7	19.4	7.6		31.8	1	12.1	2.5		15.5	4.7	95.3	
Passenger Vehicles	170	652	65		913	295	622	44		997	161	681	261		1163	31	427	83		592	0	0	3665
% Passenger Vehicles	98.3	96	92.9	96.3	96.2	98.3	98.6	93.6	97.3	98.2	94.2	97.1	95.3	96.8	96.3	88.6	98.2	92.2	96.2	96.6	0	0	96.8
Large 2 Axle Vehicles	3	23	0		26	3	7	3		14	7	18	12		39	3	4	5		13	0	0	92
% Large 2 Axle Vehicles	1.7	3.4	0	0	2.7	1	1.1	6.4	2.7	1.4	4.1	2.6	4.4	3.2	3.2	8.6	0.9	5.6	1.9	2.1	0	0	2.4
3 Axle Vehicles	0	1	1		2	2	0	0		2	1	1	1		3	0	2	0		2	0	0	9
% 3 Axle Vehicles	0	0.1	1.4	0	0.2	0.7	0	0	0	0.2	0.6	0.1	0.4	0	0.2	0	0.5	0	0	0.3	0	0	0.2
4+ Axle Trucks	0	3	4		8	0	2	0		2	2	1	0		3	1	2	2		6	0	0	19
% 4+ Axle Trucks	0	0.4	5.7	3.7	0.8	0	0.3	0	0	0.2	1.2	0.1	0	0	0.2	2.9	0.5	2.2	1.9	1	0	0	0.5

	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	21	108	12	141	61	99	6	166	23	115	34	172	6	50	13	69	548
08:15 AM	20	76	11	107	31	89	9	129	21	114	51	186	6	50	12	68	490
08:30 AM	28	85	12	125	34	91	8	133	28	93	35	156	5	60	8	73	487
08:45 AM	36	89	9	134	48	88	3	139	27	84	36	147	7	57	13	77	497
Total Volume	105	358	44	507	174	367	26	567	99	406	156	661	24	217	46	287	2022
% App. Total	20.7	70.6	8.7		30.7	64.7	4.6		15	61.4	23.6		8.4	75.6	16		
PHF	.729	.829	.917	.899	.713	.927	.722	.854	.884	.883	.765	.888	.857	.904	.885	.932	.922

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Rancho Parkway
 Weather: Clear

File Name : 05_LKE_Lake_Rancho AM
 Site Code : 05121392
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City of Lake Forest
N/S: Lake Forest Drive
E/W: Rancho Parkway
Weather: Clear

File Name : 05_LKE_Lake_Rancho AM
Site Code : 05121392
Start Date : 8/19/2021
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	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00 AM				07:45 AM				08:00 AM				07:30 AM				
+0 mins.	21	108	12	141	56	78	10	144	23	115	34	172	4	60	10	74	
+15 mins.	20	76	11	107	61	99	6	166	21	114	51	186	3	72	8	83	
+30 mins.	28	85	12	125	31	89	9	129	28	93	35	156	6	50	13	69	
+45 mins.	36	89	9	134	34	91	8	133	27	84	36	147	6	50	12	68	
Total Volume	105	358	44	507	182	357	33	572	99	406	156	661	19	232	43	294	
% App. Total	20.7	70.6	8.7		31.8	62.4	5.8		15	61.4	23.6		6.5	78.9	14.6		
PHF	.729	.829	.917	.899	.746	.902	.825	.861	.884	.883	.765	.888	.792	.806	.827	.886	

City of Lake Forest
N/S: Lake Forest Drive
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Weather: Clear

File Name : 05_LKE_Lake_Rancho AM
Site Code : 05121392
Start Date : 8/19/2021
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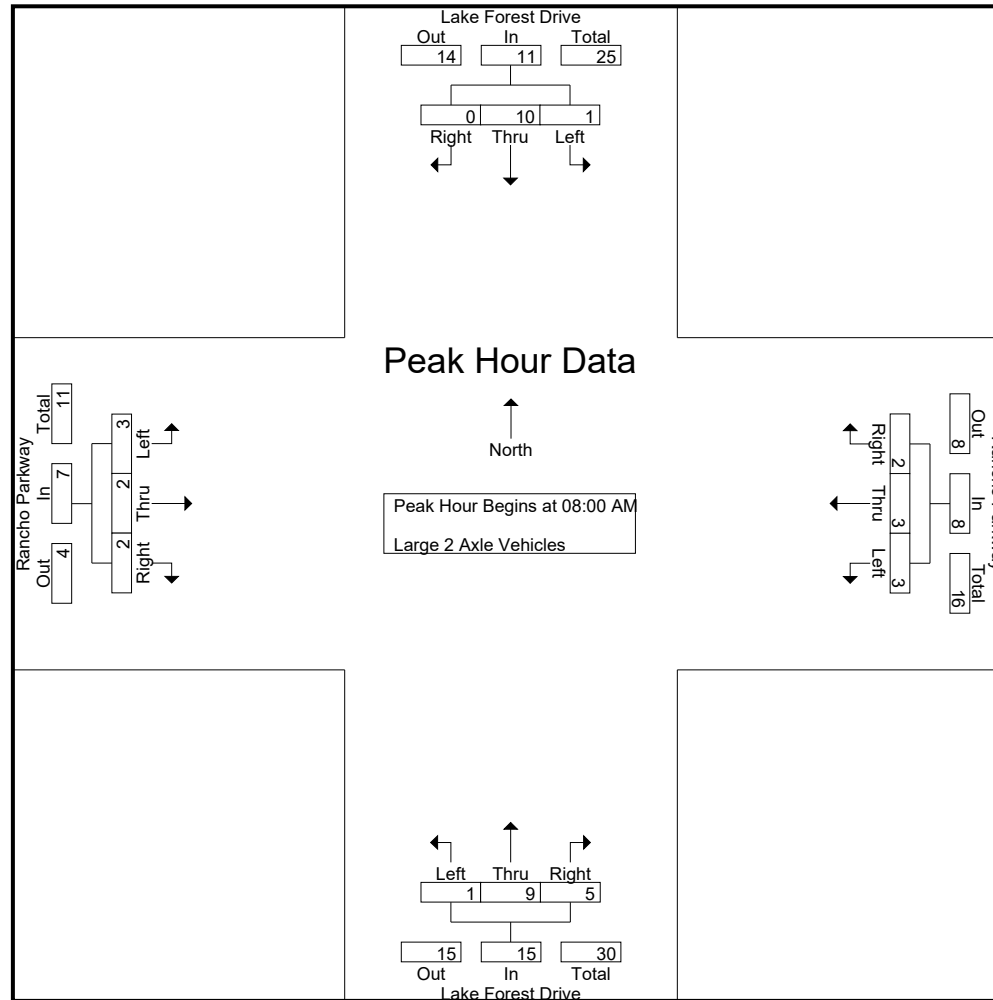
Groups Printed- Large 2 Axle Vehicles

	Lake Forest Drive Southbound					Rancho Parkway Westbound					Lake Forest Drive Northbound					Rancho Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	2	7	0	0	9	0	3	1	1	4	3	1	2	2	6	0	0	1	0	1	3	20	23
07:15 AM	0	2	0	0	2	0	0	0	0	0	0	3	4	0	7	0	0	1	1	1	1	10	11
07:30 AM	0	3	0	0	3	0	1	0	0	1	1	4	0	0	5	0	1	1	0	2	0	11	11
07:45 AM	0	1	0	0	1	0	0	0	0	0	2	1	1	0	4	0	1	0	0	1	0	6	6
Total	2	13	0	0	15	0	4	1	1	5	6	9	7	2	22	0	2	3	1	5	4	47	51
08:00 AM	0	3	0	0	3	1	1	0	0	2	0	0	2	0	2	0	1	1	0	2	0	9	9
08:15 AM	1	3	0	0	4	0	0	1	0	1	0	0	3	0	3	2	0	0	0	2	0	10	10
08:30 AM	0	2	0	0	2	2	2	1	0	5	0	3	0	0	3	0	1	1	0	2	0	12	12
08:45 AM	0	2	0	0	2	0	0	0	0	0	1	6	0	0	7	1	0	0	0	1	0	10	10
Total	1	10	0	0	11	3	3	2	0	8	1	9	5	0	15	3	2	2	0	7	0	41	41
Grand Total	3	23	0	0	26	3	7	3	1	13	7	18	12	2	37	3	4	5	1	12	4	88	92
Apprch %	11.5	88.5	0			23.1	53.8	23.1			18.9	48.6	32.4			25	33.3	41.7					
Total %	3.4	26.1	0		29.5	3.4	8	3.4		14.8	8	20.5	13.6		42	3.4	4.5	5.7		13.6	4.3	95.7	

	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	3	0	3	1	1	0	2	0	0	2	2	0	1	1	2	9
08:15 AM	1	3	0	4	0	0	1	1	0	0	3	3	2	0	0	2	10
08:30 AM	0	2	0	2	2	2	1	5	0	3	0	3	0	1	1	2	12
08:45 AM	0	2	0	2	0	0	0	0	1	6	0	7	1	0	0	1	10
Total Volume	1	10	0	11	3	3	2	8	1	9	5	15	3	2	2	7	41
% App. Total	9.1	90.9	0		37.5	37.5	25		6.7	60	33.3		42.9	28.6	28.6		
PHF	.250	.833	.000	.688	.375	.375	.500	.400	.250	.375	.417	.536	.375	.500	.500	.875	.854

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Rancho Parkway
 Weather: Clear

File Name : 05_LKE_Lake_Rancho AM
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City of Lake Forest
N/S: Lake Forest Drive
E/W: Rancho Parkway
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File Name : 05_LKE_Lake_Rancho AM
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	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00 AM				08:00 AM				08:00 AM				08:00 AM				
+0 mins.	0	3	0	3	1	1	0	2	0	0	2	2	0	1	1	2	
+15 mins.	1	3	0	4	0	0	1	1	0	0	3	3	2	0	0	2	
+30 mins.	0	2	0	2	2	2	1	5	0	3	0	3	0	1	1	2	
+45 mins.	0	2	0	2	0	0	0	0	1	6	0	7	1	0	0	1	
Total Volume	1	10	0	11	3	3	2	8	1	9	5	15	3	2	2	7	
% App. Total	9.1	90.9	0		37.5	37.5	25		6.7	60	33.3		42.9	28.6	28.6		
PHF	.250	.833	.000	.688	.375	.375	.500	.400	.250	.375	.417	.536	.375	.500	.500	.875	

City of Lake Forest
N/S: Lake Forest Drive
E/W: Rancho Parkway
Weather: Clear

File Name : 05_LKE_Lake_Rancho AM
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Start Date : 8/19/2021
Page No : 1

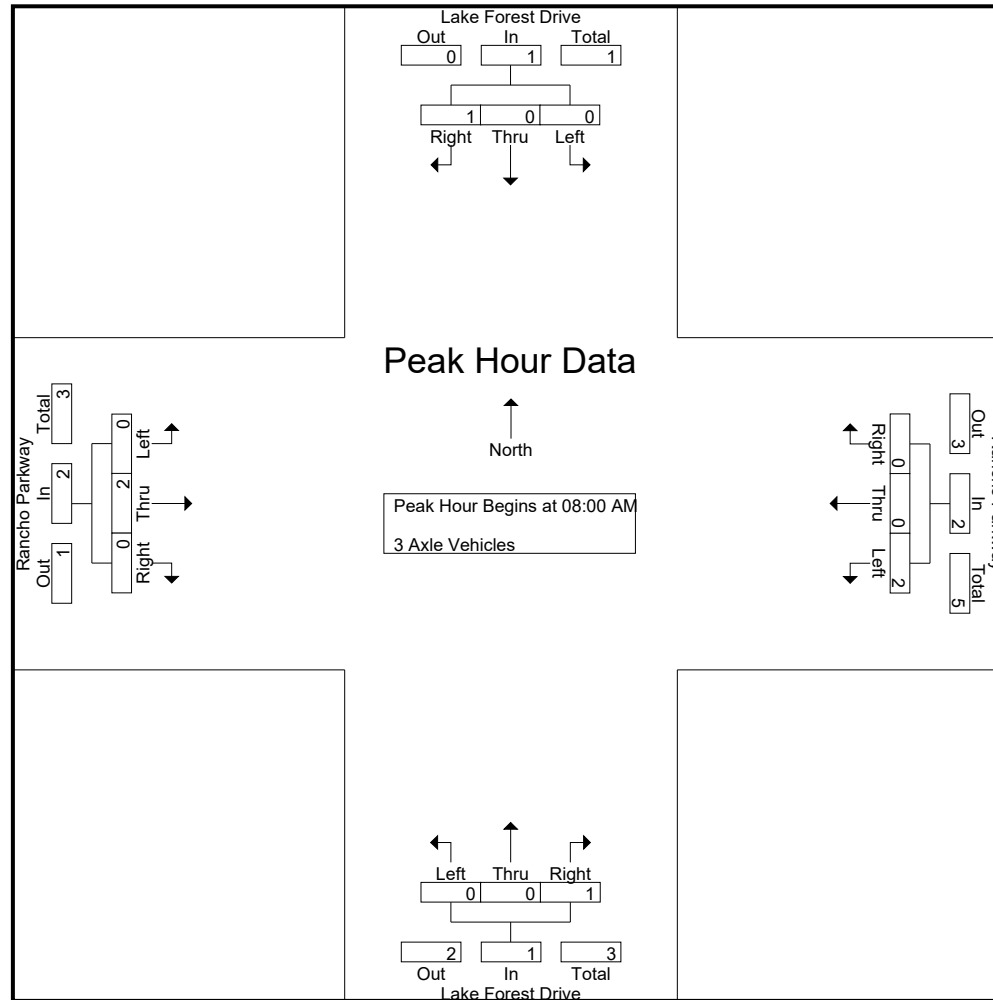
Groups Printed- 3 Axle Vehicles

	Lake Forest Drive Southbound					Rancho Parkway Westbound					Lake Forest Drive Northbound					Rancho Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3	3
08:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
08:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	3	3
08:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	1	2	0	0	0	2	0	0	1	0	1	0	2	0	0	2	0	6	6
Grand Total	0	1	1	0	2	2	0	0	0	2	1	1	1	0	3	0	2	0	0	2	0	9	9
Apprch %	0	50	50			100	0	0			33.3	33.3	33.3			0	100	0			0		
Total %	0	11.1	11.1		22.2	22.2	0	0		22.2	11.1	11.1	11.1		33.3	0	22.2	0		22.2	0	100	

	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	1	1	0	0	0	0	0	0	1	1	0	1	0	1	3
08:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	2	0	0	2	0	0	1	1	0	2	0	2	6
% App. Total	0	0	100		100	0	0		0	0	100		0	100	0		
PHF	.000	.000	.250	.250	.500	.000	.000	.500	.000	.000	.250	.250	.000	.500	.000	.500	.500

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Rancho Parkway
 Weather: Clear

File Name : 05_LKE_Lake_Rancho AM
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City of Lake Forest
N/S: Lake Forest Drive
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	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00 AM				08:00 AM				08:00 AM				08:00 AM				
+0 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	1	1	0	0	0	0	0	0	1	1	0	1	0	1	1
+30 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	2	0	0	2	0	0	1	1	0	2	0	2	2
% App. Total	0	0	100		100	0	0		0	0	100		0	100	0		
PHF	.000	.000	.250	.250	.500	.000	.000	.500	.000	.000	.250	.250	.000	.500	.000	.500	

City of Lake Forest
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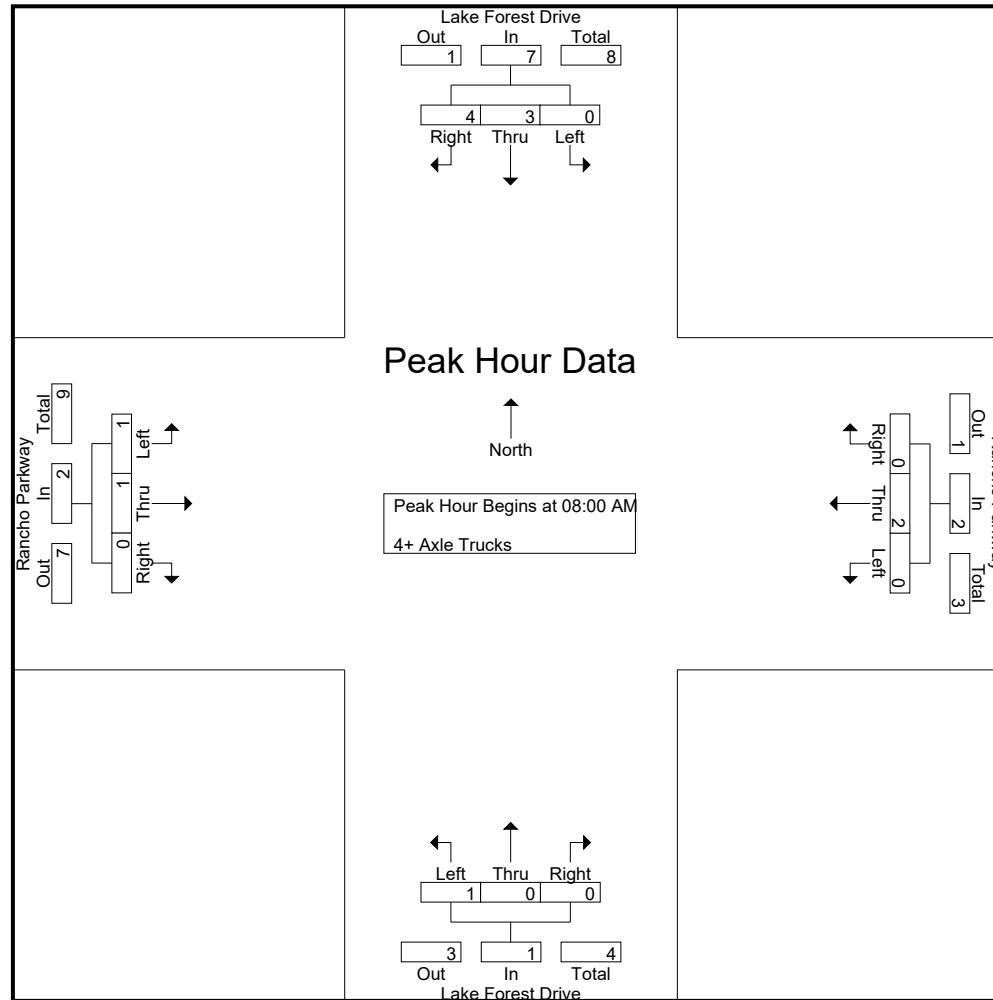
Groups Printed- 4+ Axle Trucks

	Lake Forest Drive Southbound					Rancho Parkway Westbound					Lake Forest Drive Northbound					Rancho Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	0	3	3
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	1	2	1	3	1	5	6
08:00 AM	0	0	1	0	1	0	2	0	0	2	1	0	0	0	1	0	1	0	0	1	0	5	5
08:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
08:30 AM	0	1	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4
08:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3	3
Total	0	3	4	1	7	0	2	0	0	2	1	0	0	0	1	1	1	0	0	2	1	12	13
Grand Total	0	3	4	1	7	0	2	0	0	2	2	1	0	0	3	1	2	2	1	5	2	17	19
Apprch %	0	42.9	57.1			0	100	0			66.7	33.3	0			20	40	40					
Total %	0	17.6	23.5		41.2	0	11.8	0		11.8	11.8	5.9	0		17.6	5.9	11.8	11.8		29.4	10.5	89.5	

	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	1	1	0	2	0	2	1	0	0	1	0	1	0	1	5
08:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	3
08:45 AM	0	2	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
Total Volume	0	3	4	7	0	2	0	2	1	0	0	1	1	1	0	2	12
% App. Total	0	42.9	57.1		0	100	0		100	0	0		50	50	0		
PHF	.000	.375	.500	.583	.000	.250	.000	.250	.250	.000	.000	.250	.250	.250	.000	.500	.600

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Rancho Parkway
 Weather: Clear

File Name : 05_LKE_Lake_Rancho AM
 Site Code : 05121392
 Start Date : 8/19/2021
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City of Lake Forest
N/S: Lake Forest Drive
E/W: Rancho Parkway
Weather: Clear

File Name : 05_LKE_Lake_Rancho AM
Site Code : 05121392
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	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	08:00 AM				08:00 AM				08:00 AM				08:00 AM				
+0 mins.	0	0	1	1	0	2	0	2	1	0	0	1	0	1	0	1	
+15 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	2	0	2	0	0	0	0	0	0	0	0	1	0	0	1	
Total Volume	0	3	4	7	0	2	0	2	1	0	0	1	1	1	0	2	
% App. Total	0	42.9	57.1		0	100	0		100	0	0		50	50	0		
PHF	.000	.375	.500	.583	.000	.250	.000	.250	.250	.000	.000	.250	.250	.250	.000	.500	

City of Lake Forest
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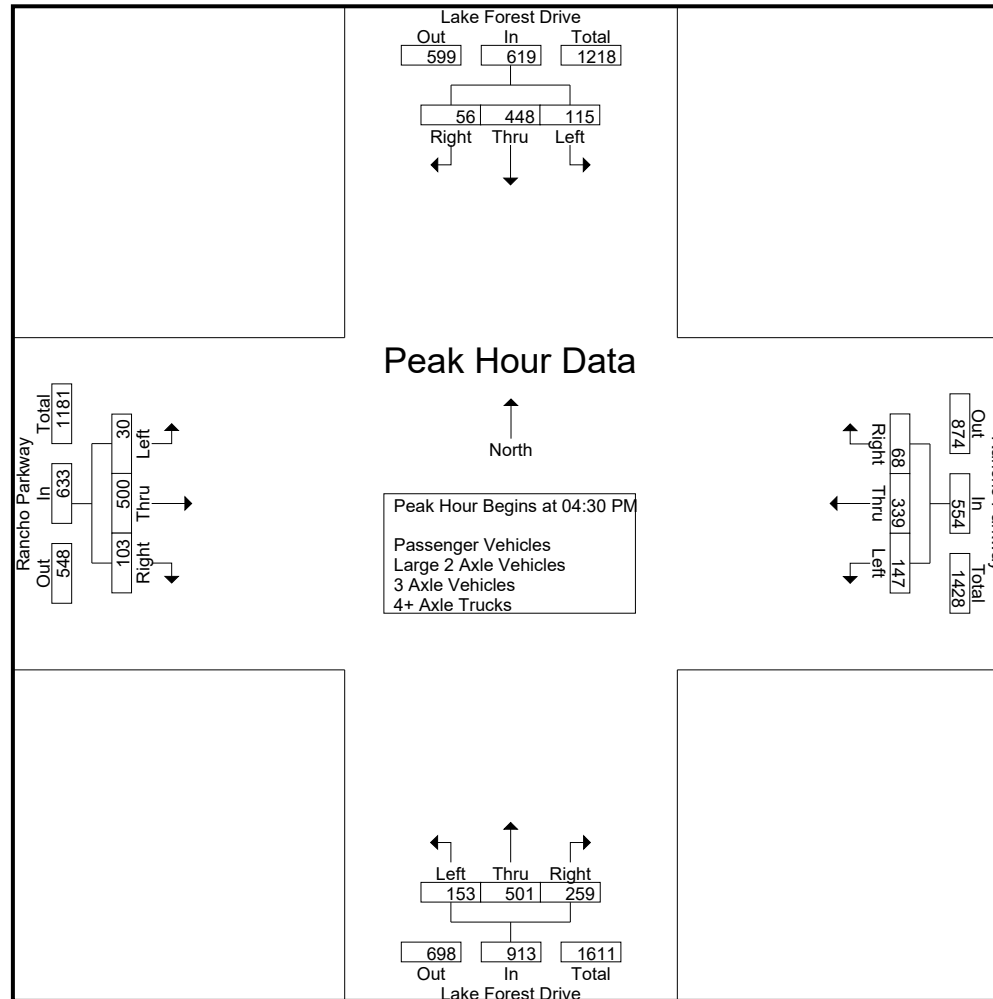
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Lake Forest Drive Southbound					Rancho Parkway Westbound					Lake Forest Drive Northbound					Rancho Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	37	139	12	4	188	35	76	11	7	122	38	111	42	8	191	4	81	33	18	118	37	619	656
04:15 PM	36	111	9	3	156	24	81	13	11	118	38	114	51	4	203	2	88	26	17	116	35	593	628
04:30 PM	23	102	16	6	141	26	79	24	13	129	34	136	72	12	242	6	123	24	7	153	38	665	703
04:45 PM	25	96	10	5	131	44	74	17	10	135	38	114	57	6	209	6	120	28	15	154	36	629	665
Total	121	448	47	18	616	129	310	65	41	504	148	475	222	30	845	18	412	111	57	541	146	2506	2652
05:00 PM	36	142	16	5	194	32	95	17	13	144	38	123	69	11	230	5	127	25	19	157	48	725	773
05:15 PM	31	108	14	4	153	45	91	10	5	146	43	128	61	14	232	13	130	26	18	169	41	700	741
05:30 PM	43	100	14	8	157	27	98	13	7	138	34	114	47	6	195	6	99	28	12	133	33	623	656
05:45 PM	36	106	9	8	151	36	72	9	6	117	38	120	48	14	206	6	116	28	18	150	46	624	670
Total	146	456	53	25	655	140	356	49	31	545	153	485	225	45	863	30	472	107	67	609	168	2672	2840
Grand Total	267	904	100	43	1271	269	666	114	72	1049	301	960	447	75	1708	48	884	218	124	1150	314	5178	5492
Apprch %	21	71.1	7.9			25.6	63.5	10.9			17.6	56.2	26.2			4.2	76.9	19					
Total %	5.2	17.5	1.9		24.5	5.2	12.9	2.2		20.3	5.8	18.5	8.6		33	0.9	17.1	4.2		22.2	5.7	94.3	
Passenger Vehicles	263	892	99		1297	264	661	114		1111	299	944	442		1759	45	875	215		1258	0	0	5425
% Passenger Vehicles	98.5	98.7	99	100	98.7	98.1	99.2	100	100	99.1	99.3	98.3	98.9	98.7	98.7	93.8	99	98.6	99.2	98.7	0	0	98.8
Large 2 Axle Vehicles	3	6	1		10	4	4	0		8	1	10	5		17	2	7	3		13	0	0	48
% Large 2 Axle Vehicles	1.1	0.7	1	0	0.8	1.5	0.6	0	0	0.7	0.3	1	1.1	1.3	1	4.2	0.8	1.4	0.8	1	0	0	0.9
3 Axle Vehicles	0	3	0		3	0	0	0		0	0	3	0		3	0	0	0		0	0	0	6
% 3 Axle Vehicles	0	0.3	0	0	0.2	0	0	0	0	0	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0.1
4+ Axle Trucks	1	3	0		4	1	1	0		2	1	3	0		4	1	2	0		3	0	0	13
% 4+ Axle Trucks	0.4	0.3	0	0	0.3	0.4	0.2	0	0	0.2	0.3	0.3	0	0	0.2	2.1	0.2	0	0	0.2	0	0	0.2

	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	23	102	16	141	26	79	24	129	34	136	72	242	6	123	24	153	665
04:45 PM	25	96	10	131	44	74	17	135	38	114	57	209	6	120	28	154	629
05:00 PM	36	142	16	194	32	95	17	144	38	123	69	230	5	127	25	157	725
05:15 PM	31	108	14	153	45	91	10	146	43	128	61	232	13	130	26	169	700
Total Volume	115	448	56	619	147	339	68	554	153	501	259	913	30	500	103	633	2719
% App. Total	18.6	72.4	9		26.5	61.2	12.3		16.8	54.9	28.4		4.7	79	16.3		
PHF	.799	.789	.875	.798	.817	.892	.708	.949	.890	.921	.899	.943	.577	.962	.920	.936	.938

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Rancho Parkway
 Weather: Clear

File Name : 05_LKE_Lake_Rancho PM
 Site Code : 05121392
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City of Lake Forest
N/S: Lake Forest Drive
E/W: Rancho Parkway
Weather: Clear

File Name : 05_LKE_Lake_Rancho PM
Site Code : 05121392
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	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	05:00 PM				04:45 PM				04:30 PM				04:30 PM				
+0 mins.	36	142	16	194	44	74	17	135	34	136	72	242	6	123	24	153	
+15 mins.	31	108	14	153	32	95	17	144	38	114	57	209	6	120	28	154	
+30 mins.	43	100	14	157	45	91	10	146	38	123	69	230	5	127	25	157	
+45 mins.	36	106	9	151	27	98	13	138	43	128	61	232	13	130	26	169	
Total Volume	146	456	53	655	148	358	57	563	153	501	259	913	30	500	103	633	
% App. Total	22.3	69.6	8.1		26.3	63.6	10.1		16.8	54.9	28.4		4.7	79	16.3		
PHF	.849	.803	.828	.844	.822	.913	.838	.964	.890	.921	.899	.943	.577	.962	.920	.936	

City of Lake Forest
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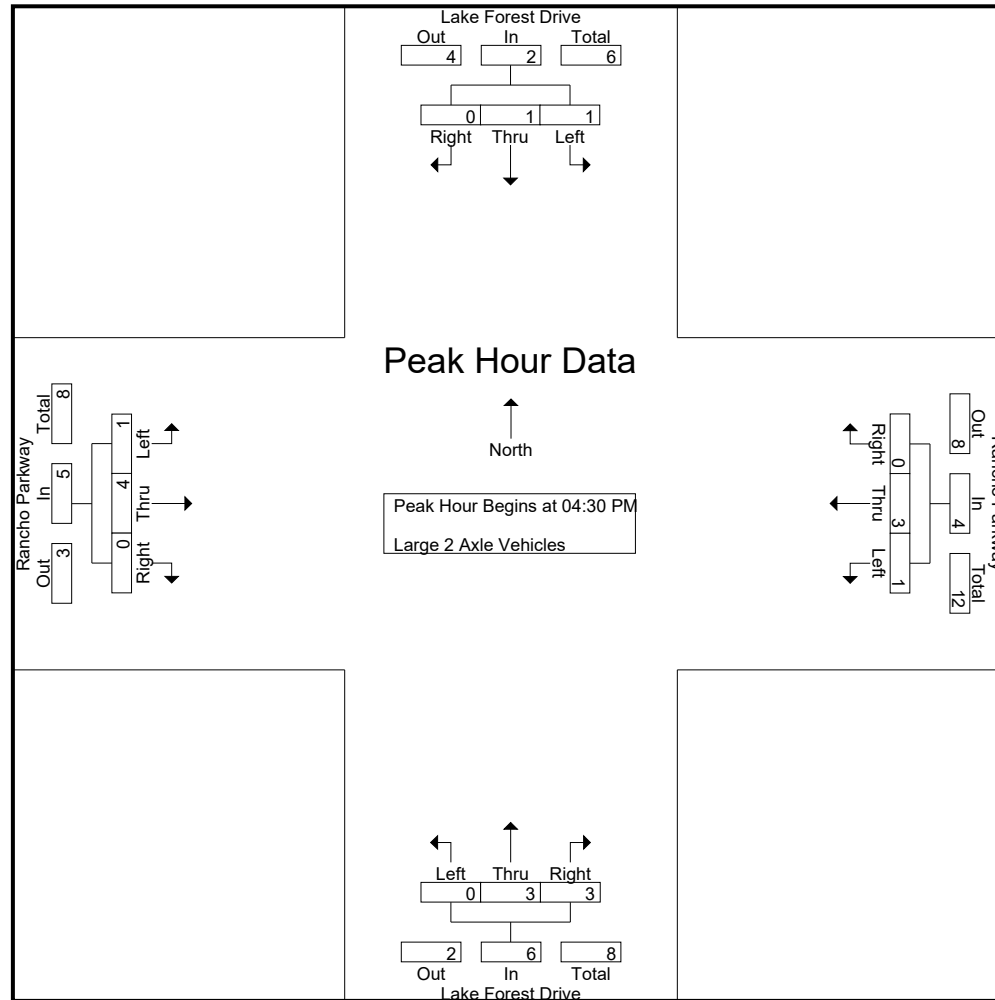
Groups Printed- Large 2 Axle Vehicles

	Lake Forest Drive Southbound					Rancho Parkway Westbound					Lake Forest Drive Northbound					Rancho Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	2	1	0	0	3	0	2	0	0	2	0	0	2	0	2	0	7	7
04:15 PM	2	2	1	0	5	0	0	0	0	0	1	2	1	0	4	0	2	1	1	3	1	12	13
04:30 PM	0	0	0	0	0	0	2	0	0	2	0	2	1	1	3	0	1	0	0	1	1	6	7
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	3	3
Total	2	2	1	0	5	2	3	0	0	5	1	6	2	1	9	1	5	3	1	9	2	28	30
05:00 PM	0	1	0	0	1	1	1	0	0	2	0	1	1	0	2	0	1	0	0	1	0	6	6
05:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	2
05:30 PM	0	0	0	0	0	1	0	0	0	1	0	1	1	0	2	0	1	0	0	1	0	4	4
05:45 PM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	6	6
Total	1	4	0	0	5	2	1	0	0	3	0	4	3	0	7	1	2	0	0	3	0	18	18
Grand Total	3	6	1	0	10	4	4	0	0	8	1	10	5	1	16	2	7	3	1	12	2	46	48
Apprch %	30	60	10			50	50	0			6.2	62.5	31.2			16.7	58.3	25					
Total %	6.5	13	2.2		21.7	8.7	8.7	0		17.4	2.2	21.7	10.9		34.8	4.3	15.2	6.5		26.1	4.2	95.8	

	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	2	0	2	0	2	1	3	0	1	0	1	6
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3
05:00 PM	0	1	0	1	1	1	0	2	0	1	1	2	0	1	0	1	6
05:15 PM	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Total Volume	1	1	0	2	1	3	0	4	0	3	3	6	1	4	0	5	17
% App. Total	50	50	0		25	75	0		0	50	50		20	80	0		
PHF	.250	.250	.000	.500	.250	.375	.000	.500	.000	.375	.750	.500	.250	.500	.000	.417	.708

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Rancho Parkway
 Weather: Clear

File Name : 05_LKE_Lake_Rancho PM
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City of Lake Forest
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E/W: Rancho Parkway
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File Name : 05_LKE_Lake_Rancho PM
Site Code : 05121392
Start Date : 8/19/2021
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	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	0	0	0	0	2	0	2	0	2	1	3	0	1	0	1	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	
+30 mins.	0	1	0	1	1	1	0	2	0	1	1	2	0	1	0	1	
+45 mins.	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	
Total Volume	1	1	0	2	1	3	0	4	0	3	3	6	1	4	0	5	
% App. Total	50	50	0		25	75	0		0	50	50		20	80	0		
PHF	.250	.250	.000	.500	.250	.375	.000	.500	.000	.375	.750	.500	.250	.500	.000	.417	

City of Lake Forest
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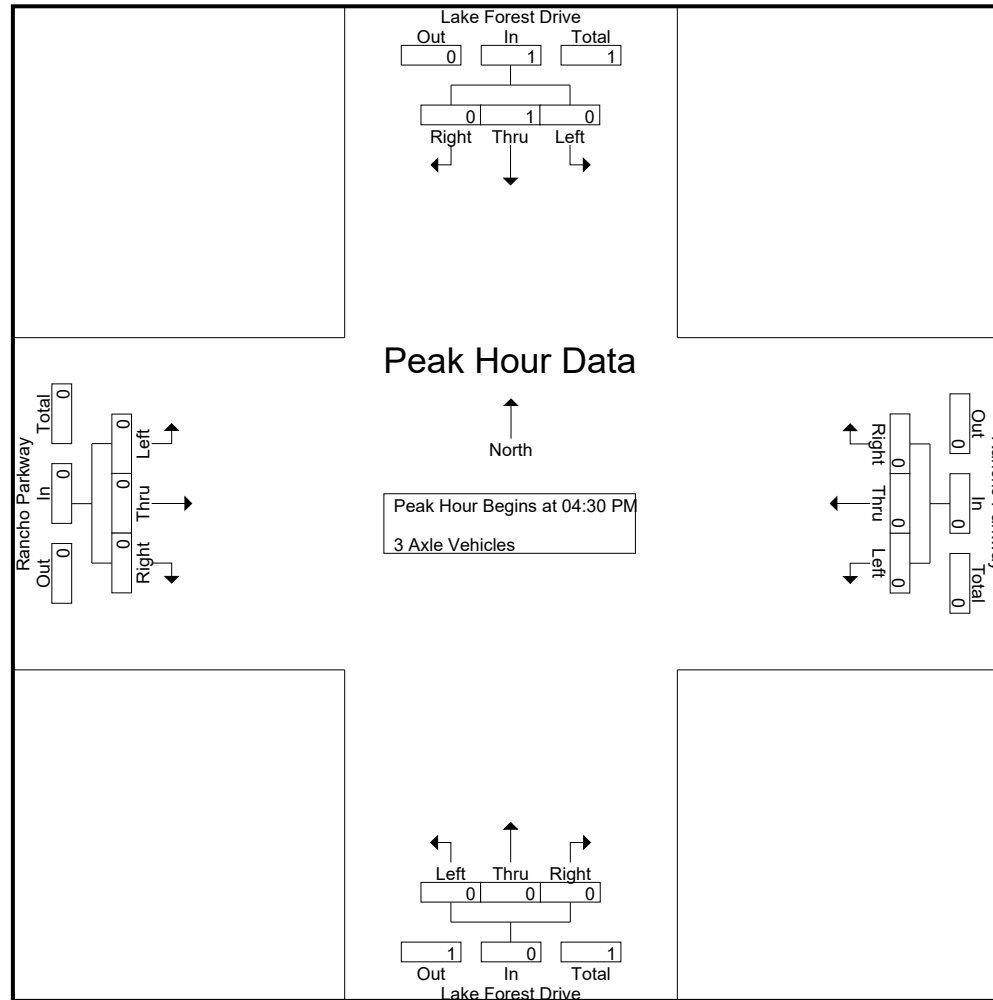
Groups Printed- 3 Axle Vehicles

	Lake Forest Drive Southbound					Rancho Parkway Westbound					Lake Forest Drive Northbound					Rancho Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
Total	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	3
Grand Total	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6	6
Apprch %	0	100	0			0	0	0			0	100	0			0	0	0			0		
Total %	0	50	0		50	0	0	0		0	50	0		50		0	0	0		0	0	100	

	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

City of Lake Forest
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	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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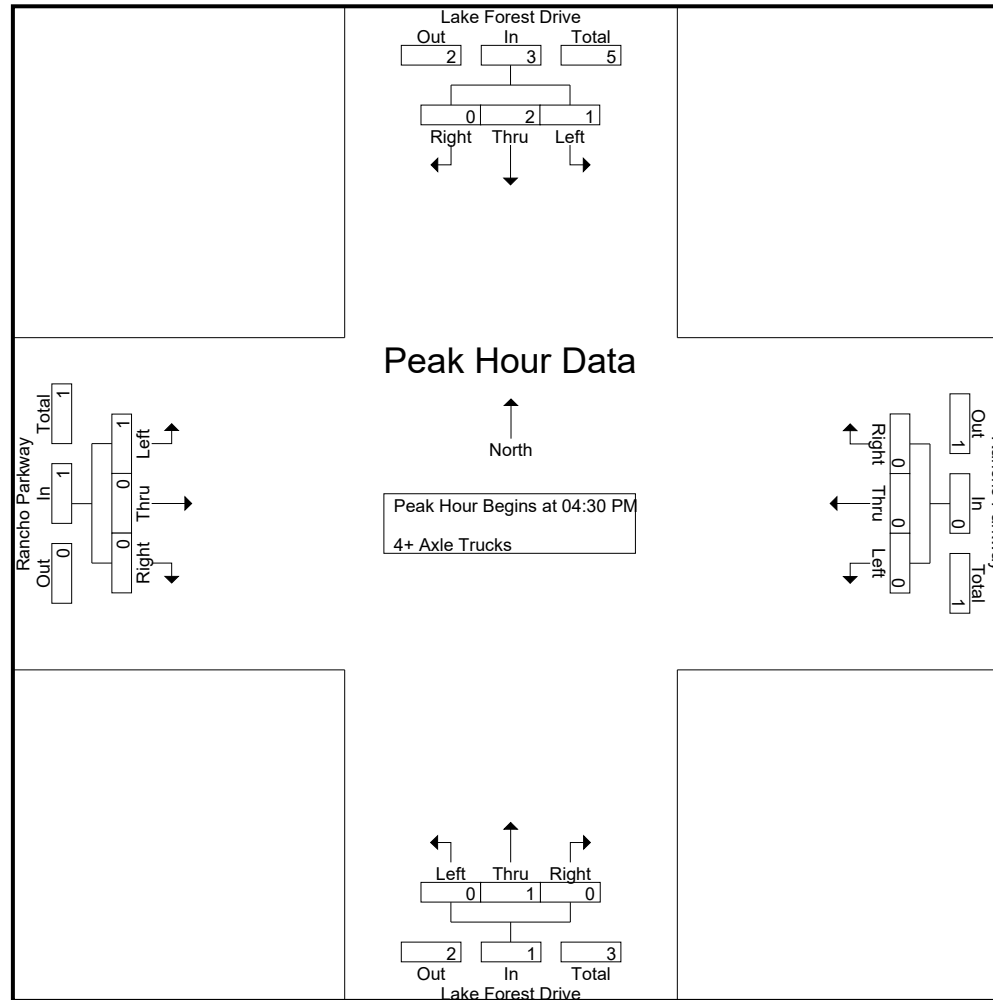
Groups Printed- 4+ Axle Trucks

	Lake Forest Drive Southbound					Rancho Parkway Westbound					Lake Forest Drive Northbound					Rancho Parkway Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	1	1	0	0	2	0	1	0	0	1	0	0	0	0	0	0	3	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1
Total	0	0	0	0	0	1	1	0	0	2	1	2	0	0	3	1	0	0	0	1	0	6	6
05:00 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
05:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	2	2
Total	1	3	0	0	4	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	0	7	7
Grand Total	1	3	0	0	4	1	1	0	0	2	1	3	0	0	4	1	2	0	0	3	0	13	13
Apprch %	25	75	0			50	50	0			25	75	0			33.3	66.7	0					
Total %	7.7	23.1	0		30.8	7.7	7.7	0		15.4	7.7	23.1	0		30.8	7.7	15.4	0		23.1	0	100	

	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	1	2	0	3	0	0	0	0	0	1	0	1	1	0	0	1	5
% App. Total	33.3	66.7	0		0	0	0		0	100	0		100	0	0		
PHF	.250	.250	.000	.375	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.625

City of Lake Forest
 N/S: Lake Forest Drive
 E/W: Rancho Parkway
 Weather: Clear

File Name : 05_LKE_Lake_Rancho PM
 Site Code : 05121392
 Start Date : 8/19/2021
 Page No : 2



City of Lake Forest
N/S: Lake Forest Drive
E/W: Rancho Parkway
Weather: Clear

File Name : 05_LKE_Lake_Rancho PM
Site Code : 05121392
Start Date : 8/19/2021
Page No : 3

	Lake Forest Drive Southbound				Rancho Parkway Westbound				Lake Forest Drive Northbound				Rancho Parkway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:30 PM				04:30 PM				04:30 PM				04:30 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
+30 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	2	0	3	0	0	0	0	0	1	0	1	1	0	0	1	1
% App. Total	33.3	66.7	0		0	0	0		0	100	0		100	0	0		
PHF	.250	.250	.000	.375	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	

Location: Lake Forest
 N/S: Lake Forest Drive
 E/W: Rancho Parkway



Date: 8/19/2021
 Day: Thursday

PEDESTRIANS

	North Leg Lake Forest Drive Pedestrians	East Leg Rancho Parkway Pedestrians	South Leg Lake Forest Drive Pedestrians	West Leg Rancho Parkway Pedestrians	
7:00 AM	0	0	2	0	2
7:15 AM	0	0	0	2	2
7:30 AM	1	0	1	2	4
7:45 AM	0	0	0	0	0
8:00 AM	0	1	0	2	3
8:15 AM	0	1	0	0	1
8:30 AM	1	1	1	0	3
8:45 AM	0	0	1	0	1
TOTAL VOLUMES:	2	3	5	6	16

	North Leg Lake Forest Drive Pedestrians	East Leg Rancho Parkway Pedestrians	South Leg Lake Forest Drive Pedestrians	West Leg Rancho Parkway Pedestrians	
4:00 PM	0	0	0	1	1
4:15 PM	1	0	0	1	2
4:30 PM	0	1	0	3	4
4:45 PM	0	2	0	1	3
5:00 PM	1	0	0	1	2
5:15 PM	0	1	4	3	8
5:30 PM	1	1	1	6	9
5:45 PM	0	2	0	1	3
TOTAL VOLUMES:	3	7	5	17	32

Location: Lake Forest
 N/S: Lake Forest Drive
 E/W: Rancho Parkway



Date: 8/19/2021
 Day: Thursday

BICYCLES

	Southbound Lake Forest Drive			Westbound Rancho Parkway			Northbound Lake Forest Drive			Eastbound Rancho Parkway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	1	0	0	0	0	0	0	1	0	2
7:15 AM	0	1	0	0	0	0	0	0	0	0	1	0	2
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	2	0	1	0	0	1	1	0	0	3	0	8

	Southbound Lake Forest Drive			Westbound Rancho Parkway			Northbound Lake Forest Drive			Eastbound Rancho Parkway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	1	0	0	0	0	2
4:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
5:00 PM	0	2	0	0	0	0	0	1	0	0	0	1	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	3	1	1	0	1	0	0	1	0	1	0	8
TOTAL VOLUMES:	1	6	1	1	0	1	0	2	1	0	1	3	17

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, May 18, 2021

JOB #: SC

CITY# Lake Forest

CLASS1 Bake between Baffin Bay and Dimension

AM TIME	EASTBOUND													TOTAL	PM Time	EASTBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	12:00	0	75	51	2	11	1	1	1	2	0	0	0	15	159
0:15	0	3	3	0	1	0	0	0	0	0	0	0	0	7	12:15	0	66	55	2	10	3	3	1	1	0	0	1	15	157
0:30	0	7	0	0	1	0	0	0	0	0	0	1	0	9	12:30	0	63	43	2	9	1	0	2	1	0	1	0	17	139
0:45	0	4	1	0	0	0	0	0	0	0	0	0	0	5	12:45	0	56	42	2	11	0	3	1	0	0	0	0	15	130
1:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	13:00	0	39	52	3	10	2	2	1	0	0	0	0	10	119
1:15	0	2	2	0	0	0	0	0	0	1	0	0	0	5	13:15	1	50	54	2	9	4	0	2	0	0	0	1	11	134
1:30	0	0	1	0	1	0	0	0	0	0	0	0	0	2	13:30	0	59	57	0	10	1	0	0	0	0	0	0	15	142
1:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:45	1	55	56	3	16	1	1	0	0	0	1	0	8	142
2:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3	14:00	1	50	58	1	11	2	2	0	0	0	0	0	10	135
2:15	0	2	1	0	0	0	0	0	0	0	0	0	0	3	14:15	1	42	56	1	15	2	2	0	0	0	0	0	21	140
2:30	0	3	1	0	1	0	0	0	0	0	0	0	0	5	14:30	1	64	51	1	13	0	2	1	0	0	0	0	12	145
2:45	0	0	3	0	0	0	0	0	0	0	0	0	0	3	14:45	1	57	66	1	20	6	0	0	0	0	0	0	18	169
3:00	0	1	1	0	0	0	0	0	0	0	0	0	1	3	15:00	0	59	58	1	10	3	0	0	0	0	0	0	11	142
3:15	0	7	1	0	0	0	0	0	0	0	0	0	0	8	15:15	0	54	64	0	12	0	0	1	0	0	0	0	11	142
3:30	0	11	2	0	2	1	0	0	0	0	0	0	0	16	15:30	0	75	58	1	12	2	0	0	0	0	0	0	13	161
3:45	0	6	8	0	0	0	0	0	0	0	0	0	0	14	15:45	0	82	52	1	7	1	0	1	1	0	0	0	14	159
4:00	0	10	2	0	3	0	0	0	0	0	0	0	0	15	16:00	1	73	51	1	14	2	0	1	0	0	1	0	13	157
4:15	0	12	4	0	1	0	0	0	0	0	0	0	1	18	16:15	0	61	59	1	10	1	0	0	0	0	0	0	21	153
4:30	1	20	11	0	1	1	0	0	1	0	0	0	2	37	16:30	1	67	45	2	20	3	0	1	0	0	0	0	21	160
4:45	0	22	6	0	2	0	0	1	0	0	0	0	3	34	16:45	0	72	77	0	8	2	0	0	0	0	0	0	21	180
5:00	0	5	6	0	1	0	0	0	0	0	0	0	0	12	17:00	0	77	73	1	12	4	0	0	0	0	0	0	19	186
5:15	0	18	7	0	1	0	0	0	0	0	0	0	1	27	17:15	0	81	54	0	8	1	0	1	0	0	0	0	31	176
5:30	0	28	11	2	4	0	0	0	0	0	0	0	1	46	17:30	0	82	74	0	15	3	1	0	0	1	0	0	24	200
5:45	0	35	18	0	6	0	0	2	0	0	0	0	7	68	17:45	1	93	70	0	15	6	0	0	0	0	0	0	26	211
6:00	1	20	12	1	6	0	0	1	0	0	0	0	2	43	18:00	0	55	56	1	7	0	0	2	0	0	0	0	26	147
6:15	1	14	11	0	9	2	0	0	0	0	0	0	6	43	18:15	1	69	44	0	8	2	0	2	1	0	0	0	25	152
6:30	0	17	12	1	8	1	0	0	0	0	0	0	5	44	18:30	0	64	52	0	4	2	0	2	0	0	0	0	15	139
6:45	0	38	17	2	11	1	0	2	1	0	0	0	5	77	18:45	0	59	37	0	4	2	0	0	0	0	0	0	10	112
7:00	0	24	12	0	6	0	1	1	1	0	0	0	3	48	19:00	0	42	26	0	8	1	0	0	1	0	0	0	12	90
7:15	1	42	18	1	3	0	0	0	0	0	0	0	3	68	19:15	0	50	29	0	5	0	0	0	0	0	0	0	7	91
7:30	0	44	13	0	4	2	0	0	0	0	0	0	6	69	19:30	1	38	25	0	3	1	0	1	0	0	0	0	4	73
7:45	1	48	32	1	11	0	0	1	0	0	0	0	12	106	19:45	1	36	31	0	6	1	0	0	0	0	0	0	8	83
8:00	0	36	19	1	13	2	0	2	0	0	0	0	14	87	20:00	0	21	26	0	4	0	0	1	0	0	0	0	6	58
8:15	2	53	25	0	7	4	0	1	0	0	0	0	7	99	20:15	1	37	27	0	1	0	0	0	0	0	0	0	4	70
8:30	0	58	28	0	16	1	0	0	0	0	0	0	7	110	20:30	0	33	27	0	1	1	0	1	1	0	0	0	6	70
8:45	1	47	24	1	7	4	2	1	0	0	0	0	18	105	20:45	0	23	20	0	2	0	0	0	0	0	0	0	10	55
9:00	1	32	31	0	13	4	0	1	0	0	0	0	11	93	21:00	0	23	19	1	4	1	0	0	0	0	0	0	3	51
9:15	1	30	35	1	7	0	1	1	0	0	0	0	5	81	21:15	0	29	15	0	3	0	0	0	0	0	0	0	3	50
9:30	0	39	21	1	8	3	0	0	0	0	0	0	8	80	21:30	0	25	8	0	4	1	0	0	0	0	0	0	3	41
9:45	0	37	24	2	10	3	1	0	0	0	0	0	10	87	21:45	0	23	14	0	1	0	0	1	0	0	0	0	1	40
10:00	1	34	21	2	10	2	0	0	0	0	0	0	5	75	22:00	0	19	8	1	2	1	0	0	0	0	0	0	0	31
10:15	1	35	29	1	9	2	1	1	0	0	0	1	5	85	22:15	0	19	9	0	0	0	0	0	0	0	0	0	0	28
10:30	0	31	25	1	6	1	0	2	0	0	0	0	8	74	22:30	0	9	3	0	0	0	0	0	0	0	0	0	0	12
10:45	0	61	44	0	11	1	2	2	0	0	0	0	3	124	22:45	0	11	8	0	2	0	0	0	0	0	0	0	2	23
11:00	1	45	40	5	14	2	0	0	0	0	0	1	6	114	23:00	0	8	6	0	1	0	0	0	0	0	0	0	1	16
11:15	1	46	39	6	10	5	1	3	1	0	0	0	8	120	23:15	0	9	1	0	1	0	0	0	0	0	0	0	0	11
11:30	0	50	45	0	11	2	1	0	1	0	0	0	4	114	23:30	0	9	3	0	1	0	0	0	0	0	0	0	0	13
11:45	1	57	47	3	8	1	2	1	0	0	0	0	10	130	23:45	0	7	1	0	1	0	0	0	0	0	0	0	0	9
TOTAL	15	1,145	715	32	244	45	12	23	6	0	1	2	187	2,427	TOTAL	13	2,270	1,871	31	361	64	17	24	8	1	3	2	538	5,203
AM PEAK HOUR														11:00 AM	PM PEAK HOUR														5:00 PM
AM PEAK VOLUME														478	PM PEAK VOLUME														773

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	28	3,415	2,586	63	605	109	29	47	14	1	4	4	725	7,630
% OF TOTAL	0.4%	44.8%	33.9%	0.8%	7.9%	1.4%	0.4%	0.6%	0.2%	0.0%	0.1%	0.1%	9.5%	100.0%
Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	51	4,345	8,318	136	1,625	204	31	88	36	3	15	5	###	16,487
% OF TOTAL	0.3%	26.4%	50.5%	0.8%	9.9%	1.2%	0.2%	0.5%	0.2%	0.0%	0.1%	0.0%	9.9%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, May 18, 2021

JOB #: SC

CITY#

CLASS1 Bake between Baffin Bay and Dimension

AM TIME	WESTBOUND													TOTAL	PM Time	WESTBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	1	15	0	5	0	0	0	0	0	0	0	0	21	12:00	0	15	84	2	20	2	0	0	1	0	1	0	8	133
0:15	0	2	10	0	2	0	0	0	0	0	0	0	0	14	12:15	0	18	90	0	22	2	0	0	0	0	0	0	14	146
0:30	0	0	6	0	0	0	0	0	0	0	0	0	0	6	12:30	0	16	96	2	14	1	0	1	0	0	0	0	19	149
0:45	0	0	5	0	1	0	0	1	0	0	0	0	0	7	12:45	0	24	112	4	18	2	0	2	0	0	0	0	9	171
1:00	0	0	4	0	5	0	0	0	0	0	0	0	0	9	13:00	1	17	102	1	18	0	0	1	0	0	1	0	11	152
1:15	0	5	17	0	1	0	0	0	0	0	0	0	1	24	13:15	0	19	126	2	12	1	0	0	0	0	0	0	14	174
1:30	0	4	22	0	0	0	0	0	0	0	0	0	0	26	13:30	0	24	83	2	24	4	0	1	0	0	0	0	20	158
1:45	0	2	1	0	1	0	0	0	0	0	0	0	0	4	13:45	0	19	93	0	29	2	0	2	0	0	0	0	19	164
2:00	0	0	7	0	1	0	0	0	0	0	0	0	0	8	14:00	0	17	81	1	17	1	0	0	2	0	0	0	24	143
2:15	0	1	3	0	1	0	0	0	0	0	0	0	0	5	14:15	1	11	91	2	18	2	0	1	1	0	0	0	19	146
2:30	0	1	5	0	1	0	0	0	0	0	0	0	0	7	14:30	1	15	114	1	15	4	0	0	1	0	0	0	35	186
2:45	0	1	4	0	1	0	0	0	0	0	0	0	0	6	14:45	0	11	104	3	10	1	0	0	0	0	0	0	22	151
3:00	0	2	3	0	1	0	0	0	0	0	0	0	0	6	15:00	2	9	107	4	27	2	0	0	0	0	0	0	16	167
3:15	0	2	3	0	1	0	0	0	0	0	0	0	0	6	15:15	0	17	99	4	19	1	0	1	2	0	0	0	16	159
3:30	0	1	8	0	0	0	0	0	0	0	0	0	0	9	15:30	0	7	101	0	27	1	0	1	0	0	0	1	20	158
3:45	0	1	12	1	0	0	0	0	0	0	0	0	0	14	15:45	0	7	78	1	25	2	1	0	0	0	0	0	22	136
4:00	0	1	8	0	4	0	0	0	0	0	0	0	0	13	16:00	1	7	102	0	16	2	0	0	0	0	1	0	23	152
4:15	0	2	7	0	4	0	0	0	0	0	0	0	0	13	16:15	0	11	86	1	15	0	0	2	0	0	0	0	25	140
4:30	0	2	14	1	5	0	0	0	0	0	0	0	0	22	16:30	2	10	101	1	22	2	0	1	0	0	0	0	16	155
4:45	0	3	13	0	4	0	0	0	0	0	0	0	0	20	16:45	1	11	108	0	18	5	0	0	0	0	1	0	23	167
5:00	0	5	27	0	5	0	0	0	0	0	0	0	1	38	17:00	0	20	123	1	17	4	0	0	0	0	0	0	25	190
5:15	0	8	38	0	9	0	0	0	0	0	0	1	0	56	17:15	0	13	112	0	18	2	0	0	0	0	0	0	23	168
5:30	0	5	44	0	6	1	0	1	0	0	0	0	4	61	17:30	1	16	105	0	10	2	0	4	0	0	2	0	29	169
5:45	0	2	43	1	13	0	0	0	0	0	1	0	4	64	17:45	1	19	74	0	14	4	0	0	0	0	0	0	23	135
6:00	0	4	33	0	5	0	0	0	0	0	0	0	2	44	18:00	1	15	101	0	8	1	1	0	0	0	0	0	21	148
6:15	0	4	42	0	11	0	0	0	0	0	0	0	1	58	18:15	0	17	89	0	12	1	0	0	0	0	0	0	15	134
6:30	0	10	64	0	12	0	0	1	1	0	0	0	6	94	18:30	0	14	94	1	9	4	0	1	0	0	0	0	9	132
6:45	2	13	62	1	10	0	0	2	1	0	0	0	8	99	18:45	0	15	66	0	11	1	0	0	0	0	0	0	12	105
7:00	0	14	61	3	16	0	0	2	1	0	0	0	5	102	19:00	0	10	79	0	9	0	0	0	0	0	0	0	16	114
7:15	1	13	76	1	16	3	0	1	0	0	0	0	13	124	19:15	0	12	75	1	11	2	0	1	0	0	0	0	18	120
7:30	0	22	116	1	9	2	0	1	1	0	0	0	15	167	19:30	0	4	66	0	4	0	0	0	0	0	0	0	15	89
7:45	0	14	97	1	17	1	0	0	2	0	1	0	14	147	19:45	0	12	58	1	8	0	0	0	0	0	0	0	9	88
8:00	0	10	101	4	16	1	0	1	0	0	0	0	10	143	20:00	0	13	65	0	11	0	0	0	0	0	0	0	5	94
8:15	0	17	115	0	15	3	0	1	0	0	0	0	12	163	20:15	0	12	58	0	5	1	0	0	0	0	0	0	11	87
8:30	0	17	113	2	25	0	0	0	0	0	0	0	13	170	20:30	0	13	56	0	7	0	0	1	0	0	1	0	9	87
8:45	0	20	90	0	19	1	0	0	3	0	0	0	11	144	20:45	1	11	51	1	5	1	0	0	0	0	0	0	3	73
9:00	1	11	69	1	15	1	0	0	0	0	0	0	6	104	21:00	0	14	55	0	6	0	0	0	0	0	0	0	11	86
9:15	0	9	69	1	15	3	0	1	0	0	0	0	17	115	21:15	0	8	50	0	6	2	0	0	0	0	0	0	6	72
9:30	1	9	70	2	10	4	0	0	2	1	0	0	13	112	21:30	0	8	46	0	7	1	0	0	0	0	0	0	2	64
9:45	0	12	66	2	10	1	0	0	0	0	0	0	8	99	21:45	0	7	45	0	3	0	0	0	0	0	0	0	2	57
10:00	0	8	73	4	14	1	0	3	1	0	0	0	12	116	22:00	0	6	36	0	2	0	0	0	0	0	0	0	2	46
10:15	0	14	58	3	16	1	0	3	0	0	0	0	20	115	22:15	0	6	25	0	1	0	0	0	0	0	0	0	1	33
10:30	1	13	63	1	17	2	0	0	0	1	0	0	10	108	22:30	0	1	28	0	3	0	0	0	0	0	0	0	1	33
10:45	0	13	68	2	20	2	0	1	0	0	0	0	15	121	22:45	0	5	25	0	3	0	0	0	0	0	0	0	1	34
11:00	3	13	58	2	23	1	0	0	2	0	1	0	11	114	23:00	0	7	22	0	3	0	0	0	0	0	0	0	0	32
11:15	0	9	69	1	20	0	0	1	0	0	0	0	12	112	23:15	0	5	26	0	4	0	0	0	0	0	0	0	0	35
11:30	1	16	79	1	14	2	0	1	0	0	0	0	3	117	23:30	0	3	12	0	0	1	0	0	0	0	0	0	0	16
11:45	0	18	91	1	19	1	0	0	1	0	0	0	14	145	23:45	0	5	10	0	2	0	0	0	0	0	0	0	0	17
TOTAL	10	354	2,122	37	435	31	0	21	15	2	4	0	261	3,292	TOTAL	13	576	3,610	36	585	64	2	20	7	0	7	1	644	5,565
AM PEAK HOUR														7:45 AM	PM PEAK HOUR														4:45 PM
AM PEAK VOLUME														623	PM PEAK VOLUME														694

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	23	930	5,732	73	1,020	95	2	41	22	2	11	1	905	8,857
% OF TOTAL	0.3%	10.5%	64.7%	0.8%	11.5%	1.1%	0.0%	0.5%	0.2%	0.0%	0.1%	0.0%	10.2%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13

APPENDIX 3.2:

EXISTING (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS

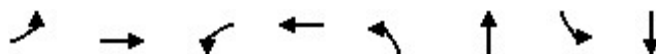
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Timings

Lake Forest Warehouses (JN 14042/14177)

1: Bake Pkwy. & Commercentre Dr.

02/23/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	70	145	113	79	78	784	16	731
Future Volume (vph)	70	145	113	79	78	784	16	731
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	8	8	5	2	1	6
Permitted Phases								
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.8	34.8	34.8	34.8	9.6	29.2	9.6	29.2
Total Split (s)	34.9	34.9	34.8	34.8	17.9	60.1	10.2	52.4
Total Split (%)	24.9%	24.9%	24.9%	24.9%	12.8%	42.9%	7.3%	37.4%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	15.7	15.7	14.8	14.8	10.6	87.4	5.6	76.5
Actuated g/C Ratio	0.11	0.11	0.11	0.11	0.08	0.62	0.04	0.55
v/c Ratio	0.39	0.56	0.42	0.42	0.64	0.55	0.25	0.46
Control Delay	61.3	49.5	63.8	58.9	83.0	19.3	73.4	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.3	49.5	63.8	58.9	83.0	19.3	73.4	23.2
LOS	E	D	E	E	F	B	E	C
Approach Delay		52.4		60.5		23.7		24.2
Approach LOS		D		E		C		C

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 30.2

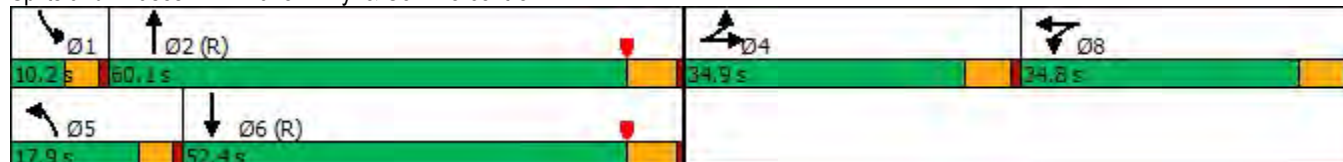
Intersection LOS: C

Intersection Capacity Utilization 71.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Bake Pkwy. & Commercentre Dr.



HCM 6th Signalized Intersection Summary

1: Bake Pkwy. & Commercentre Dr.

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	145	70	113	79	8	78	784	292	16	731	74
Future Volume (veh/h)	70	145	70	113	79	8	78	784	292	16	731	74
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		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	78	161	45	74	160	9	87	871	263	18	812	61
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	149	231	63	129	255	14	108	1820	549	33	2129	160
Arrive On Green	0.08	0.08	0.08	0.07	0.07	0.07	0.06	0.67	0.67	0.02	0.63	0.63
Sat Flow, veh/h	1810	2804	761	1810	3565	199	1810	2724	821	1810	3400	255
Grp Volume(v), veh/h	78	102	104	74	85	84	87	577	557	18	431	442
Grp Sat Flow(s),veh/h/ln	1810	1805	1760	1810	1900	1864	1810	1805	1740	1810	1805	1850
Q Serve(g_s), s	5.8	7.7	8.1	5.5	6.1	6.2	6.6	21.8	21.9	1.4	16.4	16.4
Cycle Q Clear(g_c), s	5.8	7.7	8.1	5.5	6.1	6.2	6.6	21.8	21.9	1.4	16.4	16.4
Prop In Lane	1.00		0.43	1.00		0.11	1.00		0.47	1.00		0.14
Lane Grp Cap(c), veh/h	149	149	145	129	136	133	108	1206	1162	33	1130	1159
V/C Ratio(X)	0.52	0.68	0.72	0.57	0.62	0.63	0.80	0.48	0.48	0.55	0.38	0.38
Avail Cap(c_a), veh/h	376	375	366	375	394	386	172	1206	1162	72	1130	1159
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.6	62.4	62.6	62.9	63.2	63.2	65.0	11.3	11.3	68.2	12.9	12.9
Incr Delay (d2), s/veh	2.8	5.4	6.4	3.9	4.6	4.9	5.8	1.4	1.4	5.4	1.0	1.0
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	2.7	3.7	3.8	2.7	3.1	3.1	3.1	8.0	7.7	0.7	6.3	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.4	67.9	69.1	66.9	67.8	68.1	70.8	12.7	12.8	73.5	13.8	13.8
LnGrp LOS	E	E	E	E	E	E	E	B	B	E	B	B
Approach Vol, veh/h		284			243			1221			891	
Approach Delay, s/veh		67.4			67.6			16.9			15.0	
Approach LOS		E			E			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	99.7		17.4	13.0	93.9		15.8				
Change Period (Y+Rc), s	4.6	6.2		5.8	4.6	6.2		5.8				
Max Green Setting (Gmax), s	5.6	53.9		29.1	13.3	46.2		29.0				
Max Q Clear Time (g_c+I1), s	3.4	23.9		10.1	8.6	18.4		8.2				
Green Ext Time (p_c), s	0.0	7.5		1.1	0.0	5.0		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				26.4								
HCM 6th LOS				C								
Notes												
User approved volume balancing among the lanes for turning movement.												

Timings

Lake Forest Warehouses (JN 14042/14177)

2: Dimension Dr. & Bake Pkwy.

02/23/2023

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	31	792	150	792	61	70	100	124	117	104
Future Volume (vph)	31	792	150	792	61	70	100	124	117	104
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.2	9.6	36.2	9.6	35.8	35.8	9.6	35.0	35.0
Total Split (s)	11.4	55.0	26.0	69.6	10.6	36.0	36.0	23.0	48.4	48.4
Total Split (%)	8.1%	39.3%	18.6%	49.7%	7.6%	25.7%	25.7%	16.4%	34.6%	34.6%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	4.8	3.6	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	5.8	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None
Act Effect Green (s)	6.5	74.1	16.2	87.7	5.8	14.6	14.6	14.0	25.5	25.5
Actuated g/C Ratio	0.05	0.53	0.12	0.63	0.04	0.10	0.10	0.10	0.18	0.18
v/c Ratio	0.38	0.46	0.75	0.42	0.43	0.36	0.33	0.72	0.35	0.27
Control Delay	77.5	24.1	80.7	16.3	74.9	61.3	2.8	81.9	51.3	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.5	24.1	80.7	16.3	74.9	61.3	2.8	81.9	51.3	4.6
LOS	E	C	F	B	E	E	A	F	D	A
Approach Delay		26.0		25.5		39.6			48.3	
Approach LOS		C		C		D			D	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 30.1

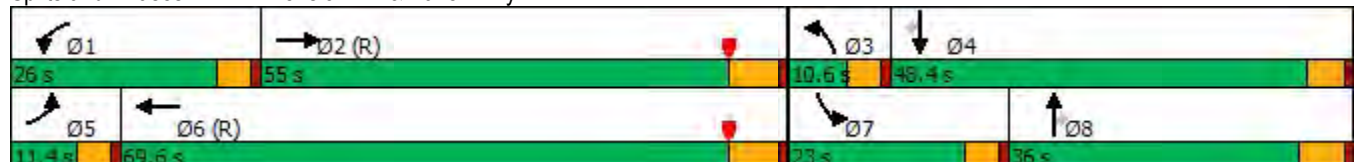
Intersection LOS: C

Intersection Capacity Utilization 58.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Dimension Dr. & Bake Pkwy.



HCM 6th Signalized Intersection Summary

2: Dimension Dr. & Bake Pkwy.

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	792	56	150	792	118	61	70	100	124	117	104
Future Volume (veh/h)	31	792	56	150	792	118	61	70	100	124	117	104
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	816	58	155	816	122	63	72	103	128	121	107
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	46	1988	141	179	2064	309	115	159	134	152	257	218
Arrive On Green	0.03	0.58	0.58	0.10	0.66	0.66	0.03	0.08	0.08	0.08	0.14	0.14
Sat Flow, veh/h	1810	3418	243	1810	3149	471	3510	1900	1604	1810	1900	1610
Grp Volume(v), veh/h	32	431	443	155	468	470	63	72	103	128	121	107
Grp Sat Flow(s),veh/h/ln	1810	1805	1856	1810	1805	1815	1755	1900	1604	1810	1900	1610
Q Serve(g_s), s	2.5	18.4	18.4	11.8	16.9	16.9	2.5	5.1	8.8	9.8	8.2	8.6
Cycle Q Clear(g_c), s	2.5	18.4	18.4	11.8	16.9	16.9	2.5	5.1	8.8	9.8	8.2	8.6
Prop In Lane	1.00		0.13	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	46	1050	1080	179	1183	1190	115	159	134	152	257	218
V/C Ratio(X)	0.70	0.41	0.41	0.86	0.40	0.40	0.55	0.45	0.77	0.84	0.47	0.49
Avail Cap(c_a), veh/h	88	1050	1080	277	1183	1190	150	410	346	238	589	499
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.7	16.1	16.1	62.1	11.2	11.2	66.7	61.1	62.8	63.2	55.9	56.1
Incr Delay (d2), s/veh	6.8	1.2	1.2	10.4	1.0	1.0	1.5	2.0	8.8	8.5	1.3	1.7
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	1.2	7.3	7.5	5.8	6.3	6.3	1.1	2.5	3.9	4.8	4.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.5	17.3	17.2	72.5	12.2	12.2	68.2	63.1	71.6	71.7	57.3	57.8
LnGrp LOS	E	B	B	E	B	B	E	E	E	E	E	E
Approach Vol, veh/h	906			1093			238			356		
Approach Delay, s/veh	19.3			20.8			68.1			62.6		
Approach LOS	B			C			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.5	87.6	9.2	24.7	8.2	98.0	16.4	17.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	21.4	48.8	6.0	* 43	6.8	63.4	18.4	30.2				
Max Q Clear Time (g_c+I1), s	13.8	20.4	4.5	10.6	4.5	18.9	11.8	10.8				
Green Ext Time (p_c), s	0.1	5.0	0.0	1.0	0.0	5.9	0.1	0.6				

Intersection Summary

HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

02/23/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	18	44	132	13	8	218	150	21	166
Future Volume (vph)	18	44	132	13	8	218	150	21	166
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.8	34.8	34.8	33.6	33.6	9.6	27.8	9.6	27.8
Total Split (s)	34.8	34.8	34.8	34.8	34.8	17.0	35.4	9.8	28.2
Total Split (%)	43.5%	43.5%	43.5%	43.5%	43.5%	21.3%	44.3%	12.3%	35.3%
Yellow Time (s)	4.8	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	15.2	15.2	15.2	15.6	15.6	12.6	24.9	6.5	14.3
Actuated g/C Ratio	0.32	0.32	0.32	0.33	0.33	0.26	0.52	0.14	0.30
v/c Ratio	0.04	0.08	0.23	0.03	0.02	0.50	0.13	0.09	0.20
Control Delay	16.3	16.5	3.7	15.5	13.2	26.8	7.1	28.3	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.3	16.5	3.7	15.5	13.2	26.8	7.1	28.3	16.0
LOS	B	B	A	B	B	C	A	C	B
Approach Delay		7.7			14.4		17.0		17.2
Approach LOS		A			B		B		B

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 47.9

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 14.9

Intersection LOS: B

Intersection Capacity Utilization 43.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.



HCM 6th Signalized Intersection Summary

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	44	132	13	8	4	218	150	64	21	166	35
Future Volume (veh/h)	18	44	132	13	8	4	218	150	64	21	166	35
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		0.98	1.00		0.98
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	19	47	38	14	9	1	234	161	63	23	178	28
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	436	338	286	397	299	33	299	946	354	51	730	113
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.17	0.37	0.37	0.03	0.23	0.23
Sat Flow, veh/h	1427	1900	1608	1332	1680	187	1810	2551	954	1810	3122	482
Grp Volume(v), veh/h	19	47	38	14	0	10	234	112	112	23	101	105
Grp Sat Flow(s),veh/h/ln	1427	1900	1608	1332	0	1866	1810	1805	1700	1810	1805	1799
Q Serve(g_s), s	0.4	0.8	0.8	0.3	0.0	0.2	4.7	1.6	1.7	0.5	1.7	1.8
Cycle Q Clear(g_c), s	0.6	0.8	0.8	1.1	0.0	0.2	4.7	1.6	1.7	0.5	1.7	1.8
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.56	1.00		0.27
Lane Grp Cap(c), veh/h	436	338	286	397	0	332	299	669	630	51	422	421
V/C Ratio(X)	0.04	0.14	0.13	0.04	0.00	0.03	0.78	0.17	0.18	0.45	0.24	0.25
Avail Cap(c_a), veh/h	1262	1439	1218	1210	0	1472	586	1395	1314	246	1056	1052
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.3	13.3	13.3	13.8	0.0	13.0	15.3	8.1	8.1	18.3	11.9	11.9
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.0	0.0	1.7	0.1	0.1	2.3	0.3	0.3
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	0.1	0.3	0.3	0.1	0.0	0.1	1.6	0.4	0.4	0.2	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	13.5	13.5	13.8	0.0	13.0	17.0	8.2	8.3	20.6	12.2	12.2
LnGrp LOS	B	B	B	B	A	B	B	A	A	C	B	B
Approach Vol, veh/h		104			24			458			229	
Approach Delay, s/veh		13.4			13.5			12.7			13.1	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	20.0		12.6	10.9	14.8		12.6				
Change Period (Y+Rc), s	4.6	5.8		5.8	4.6	5.8		* 5.8				
Max Green Setting (Gmax), s	5.2	29.6		29.0	12.4	22.4		* 30				
Max Q Clear Time (g_c+I1), s	2.5	3.7		2.8	6.7	3.8		3.1				
Green Ext Time (p_c), s	0.0	1.1		0.3	0.2	0.9		0.1				

Intersection Summary

HCM 6th Ctrl Delay 12.9

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings
4: Lake Forest Dr. & Dimension Dr./Driveway

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	161	11	76	3	4	164	635	16	442
Future Volume (vph)	161	11	76	3	4	164	635	16	442
Turn Type	Split	NA	Perm	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4		8	8	5	2	1	6
Permitted Phases			4						
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	32.8	32.8	32.8	14.6	14.6	9.6	35.0	9.6	35.0
Total Split (s)	32.8	32.8	32.8	14.6	14.6	17.4	43.0	9.6	35.2
Total Split (%)	32.8%	32.8%	32.8%	14.6%	14.6%	17.4%	43.0%	9.6%	35.2%
Yellow Time (s)	4.8	4.8	4.8	3.6	3.6	3.6	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.6	4.6	4.6	6.0	4.6	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	14.0	14.0	14.0	10.0	10.0	13.0	67.2	5.3	53.7
Actuated g/C Ratio	0.14	0.14	0.14	0.10	0.10	0.13	0.67	0.05	0.54
v/c Ratio	0.38	0.38	0.21	0.02	0.04	0.74	0.28	0.18	0.37
Control Delay	41.7	41.7	1.3	41.0	32.5	61.1	10.3	49.7	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	41.7	1.3	41.0	32.5	61.1	10.3	49.7	14.9
LOS	D	D	A	D	C	E	B	D	B
Approach Delay		29.3			34.8		20.6		15.8
Approach LOS		C			C		C		B

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 20.1

Intersection LOS: C

Intersection Capacity Utilization 60.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Lake Forest Dr. & Dimension Dr./Driveway



HCM 6th Signalized Intersection Summary

4: Lake Forest Dr. & Dimension Dr./Driveway

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	11	76	3	4	4	164	635	11	16	442	214
Future Volume (veh/h)	161	11	76	3	4	4	164	635	11	16	442	214
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	178	0	14	3	4	0	173	668	12	17	465	168
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	402	0	177	32	34	0	205	2330	42	34	1425	511
Arrive On Green	0.11	0.00	0.11	0.02	0.02	0.00	0.11	0.64	0.64	0.02	0.55	0.55
Sat Flow, veh/h	3619	0	1588	1810	1900	0	1810	3628	65	1810	2600	932
Grp Volume(v), veh/h	178	0	14	3	4	0	173	332	348	17	322	311
Grp Sat Flow(s),veh/h/ln	1810	0	1588	1810	1900	0	1810	1805	1888	1810	1805	1727
Q Serve(g_s), s	4.6	0.0	0.8	0.2	0.2	0.0	9.4	8.1	8.1	0.9	9.8	9.9
Cycle Q Clear(g_c), s	4.6	0.0	0.8	0.2	0.2	0.0	9.4	8.1	8.1	0.9	9.8	9.9
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.03	1.00		0.54
Lane Grp Cap(c), veh/h	402	0	177	32	34	0	205	1159	1213	34	989	947
V/C Ratio(X)	0.44	0.00	0.08	0.09	0.12	0.00	0.85	0.29	0.29	0.50	0.33	0.33
Avail Cap(c_a), veh/h	977	0	429	181	190	0	232	1159	1213	90	989	947
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	0.0	39.9	48.3	48.4	0.0	43.5	7.8	7.8	48.6	12.4	12.5
Incr Delay (d2), s/veh	0.8	0.0	0.2	1.3	1.6	0.0	19.9	0.6	0.6	4.2	0.9	0.9
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	2.0	0.0	0.3	0.1	0.1	0.0	5.1	2.7	2.8	0.4	3.7	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	0.0	40.0	49.6	49.9	0.0	63.4	8.5	8.4	52.7	13.3	13.4
LnGrp LOS	D	A	D	D	D	A	E	A	A	D	B	B
Approach Vol, veh/h		192			7			853			650	
Approach Delay, s/veh		42.1			49.8			19.6			14.4	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	70.2		16.9	15.9	60.8		6.4				
Change Period (Y+Rc), s	4.6	6.0		5.8	4.6	6.0		4.6				
Max Green Setting (Gmax), s	5.0	37.0		27.0	12.8	29.2		10.0				
Max Q Clear Time (g_c+I1), s	2.9	10.1		6.6	11.4	11.9		2.2				
Green Ext Time (p_c), s	0.0	3.7		0.6	0.0	3.2		0.0				

Intersection Summary

HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings

Lake Forest Warehouses (JN 14042/14177)

5: Lake Forest Dr. & Rancho Pkwy.

02/23/2023

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	28	222	178	373	27	102	411	106	369
Future Volume (vph)	28	222	178	373	27	102	411	106	369
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.8	9.6	36.8	36.8	9.6	37.0	9.6	37.0
Total Split (s)	10.5	36.8	12.0	38.3	38.3	14.0	37.2	14.0	37.2
Total Split (%)	10.5%	36.8%	12.0%	38.3%	38.3%	14.0%	37.2%	14.0%	37.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	6.0	4.6	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	5.6	16.9	7.4	22.5	22.5	9.6	44.9	9.8	45.1
Actuated g/C Ratio	0.06	0.17	0.07	0.22	0.22	0.10	0.45	0.10	0.45
v/c Ratio	0.30	0.48	0.75	0.50	0.06	0.64	0.39	0.65	0.29
Control Delay	53.1	35.4	64.2	35.8	0.3	60.7	19.1	61.0	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	35.4	64.2	35.8	0.3	60.7	19.1	61.0	19.1
LOS	D	D	E	D	A	E	B	E	B
Approach Delay		37.0		42.9			25.4		27.5
Approach LOS		D		D			C		C

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 32.5

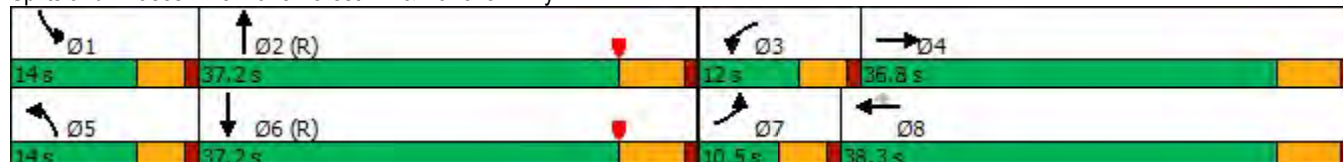
Intersection LOS: C

Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Lake Forest Dr. & Rancho Pkwy.



HCM 6th Signalized Intersection Summary
5: Lake Forest Dr. & Rancho Pkwy.

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	222	47	178	373	27	102	411	160	106	369	53
Future Volume (veh/h)	28	222	47	178	373	27	102	411	160	106	369	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	30	241	24	193	405	9	111	447	141	115	401	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	51	361	36	258	556	248	139	1425	445	143	1744	186
Arrive On Green	0.03	0.11	0.11	0.07	0.15	0.15	0.08	0.53	0.53	0.08	0.53	0.53
Sat Flow, veh/h	1810	3317	327	3510	3610	1607	1810	2696	843	1810	3286	350
Grp Volume(v), veh/h	30	130	135	193	405	9	111	298	290	115	219	225
Grp Sat Flow(s),veh/h/ln	1810	1805	1839	1755	1805	1607	1810	1805	1734	1810	1805	1831
Q Serve(g_s), s	1.6	6.9	7.1	5.4	10.7	0.5	6.0	9.3	9.5	6.2	6.5	6.6
Cycle Q Clear(g_c), s	1.6	6.9	7.1	5.4	10.7	0.5	6.0	9.3	9.5	6.2	6.5	6.6
Prop In Lane	1.00		0.18	1.00		1.00	1.00		0.49	1.00		0.19
Lane Grp Cap(c), veh/h	51	197	200	258	556	248	139	954	916	143	958	972
V/C Ratio(X)	0.59	0.66	0.67	0.75	0.73	0.04	0.80	0.31	0.32	0.80	0.23	0.23
Avail Cap(c_a), veh/h	107	560	570	260	1173	522	170	954	916	170	958	972
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	42.8	42.8	45.4	40.3	36.0	45.4	13.3	13.4	45.3	12.5	12.5
Incr Delay (d2), s/veh	3.9	3.8	3.9	10.0	1.8	0.1	15.8	0.9	0.9	17.2	0.6	0.6
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	0.8	3.2	3.3	2.6	4.7	0.2	3.2	3.5	3.5	3.4	2.5	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	46.6	46.8	55.4	42.1	36.0	61.2	14.2	14.3	62.5	13.1	13.1
LnGrp LOS	D	D	D	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		295			607			699			559	
Approach Delay, s/veh		47.2			46.3			21.7			23.3	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	58.8	12.0	16.7	12.3	59.1	7.4	21.2				
Change Period (Y+Rc), s	4.6	6.0	4.6	5.8	4.6	6.0	4.6	5.8				
Max Green Setting (Gmax), s	9.4	31.2	7.4	31.0	9.4	31.2	5.9	32.5				
Max Q Clear Time (g_c+I1), s	8.2	11.5	7.4	9.1	8.0	8.6	3.6	12.7				
Green Ext Time (p_c), s	0.0	3.0	0.0	1.3	0.0	2.2	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			32.5									
HCM 6th LOS			C									

Timings

Lake Forest Warehouses (JN 14042/14177)

1: Bake Pkwy. & Commercentre Dr.

02/23/2023

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	87	90	300	215	78	858	11	820
Future Volume (vph)	87	90	300	215	78	858	11	820
Turn Type	Split	NA	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4	8	8	5	2	1	6
Permitted Phases								
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.8	34.8	34.8	34.8	9.6	29.2	9.6	29.2
Total Split (s)	34.8	34.8	34.8	34.8	15.0	50.4	10.0	45.4
Total Split (%)	26.8%	26.8%	26.8%	26.8%	11.5%	38.8%	7.7%	34.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	15.2	15.2	21.6	21.6	9.8	71.3	5.3	61.0
Actuated g/C Ratio	0.12	0.12	0.17	0.17	0.08	0.55	0.04	0.47
v/c Ratio	0.46	0.40	0.71	0.70	0.64	0.55	0.16	0.61
Control Delay	58.8	29.2	64.8	57.1	79.5	23.5	65.1	29.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.8	29.2	64.8	57.1	79.5	23.5	65.1	29.8
LOS	E	C	E	E	E	C	E	C
Approach Delay		39.4		59.6		27.7		30.2
Approach LOS		D		E		C		C

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 35.8

Intersection LOS: D

Intersection Capacity Utilization 68.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Bake Pkwy. & Commercentre Dr.



HCM 6th Signalized Intersection Summary

1: Bake Pkwy. & Commercentre Dr.

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	90	77	300	215	12	78	858	104	11	820	94
Future Volume (veh/h)	87	90	77	300	215	12	78	858	104	11	820	94
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		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	97	100	48	195	433	12	87	953	93	12	911	73
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	139	186	84	266	542	15	109	1958	191	24	1839	147
Arrive On Green	0.08	0.08	0.08	0.15	0.15	0.15	0.06	0.59	0.59	0.01	0.54	0.54
Sat Flow, veh/h	1810	2414	1094	1810	3680	102	1810	3318	324	1810	3385	271
Grp Volume(v), veh/h	97	73	75	195	223	222	87	518	528	12	486	498
Grp Sat Flow(s),veh/h/ln	1810	1805	1703	1810	1900	1882	1810	1805	1837	1810	1805	1851
Q Serve(g_s), s	6.8	5.1	5.5	13.4	14.8	14.8	6.2	21.5	21.5	0.9	21.9	21.9
Cycle Q Clear(g_c), s	6.8	5.1	5.5	13.4	14.8	14.8	6.2	21.5	21.5	0.9	21.9	21.9
Prop In Lane	1.00		0.64	1.00		0.05	1.00		0.18	1.00		0.15
Lane Grp Cap(c), veh/h	139	139	131	266	280	277	109	1065	1084	24	981	1006
V/C Ratio(X)	0.70	0.53	0.57	0.73	0.80	0.80	0.80	0.49	0.49	0.49	0.50	0.50
Avail Cap(c_a), veh/h	404	403	380	404	424	420	145	1065	1084	75	981	1006
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	57.7	57.9	53.0	53.6	53.6	60.3	15.3	15.3	63.7	18.6	18.6
Incr Delay (d2), s/veh	6.1	3.1	3.9	3.9	6.1	6.3	14.9	1.6	1.6	5.5	1.8	1.7
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	3.3	2.4	2.5	6.2	7.4	7.3	3.2	8.3	8.5	0.4	8.8	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.7	60.8	61.8	56.8	59.7	59.9	75.2	16.9	16.9	69.2	20.3	20.3
LnGrp LOS	E	E	E	E	E	E	E	B	B	E	C	C
Approach Vol, veh/h					640				1133			
Approach Delay, s/veh					58.9				21.4			
Approach LOS	E				E				C			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	82.9		15.8	12.4	76.8		24.9				
Change Period (Y+Rc), s	4.6	6.2		5.8	4.6	6.2		5.8				
Max Green Setting (Gmax), s	5.4	44.2		29.0	10.4	39.2		29.0				
Max Q Clear Time (g_c+I1), s	2.9	23.5		8.8	8.2	23.9		16.8				
Green Ext Time (p_c), s	0.0	5.9		0.9	0.0	4.8		2.3				

Intersection Summary

HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings

Lake Forest Warehouses (JN 14042/14177)

2: Dimension Dr. & Bake Pkwy.

02/23/2023

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	76	953	155	841	70	99	39	54	57	43
Future Volume (vph)	76	953	155	841	70	99	39	54	57	43
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.2	9.6	36.2	9.6	35.8	35.8	9.6	35.0	35.0
Total Split (s)	11.2	49.1	24.0	61.9	10.4	35.9	35.9	21.0	46.5	46.5
Total Split (%)	8.6%	37.8%	18.5%	47.6%	8.0%	27.6%	27.6%	16.2%	35.8%	35.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	4.8	3.6	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	5.8	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None
Act Effect Green (s)	10.6	71.0	15.9	76.3	5.6	15.4	15.4	8.4	18.9	18.9
Actuated g/C Ratio	0.08	0.55	0.12	0.59	0.04	0.12	0.12	0.06	0.15	0.15
v/c Ratio	0.54	0.53	0.73	0.46	0.48	0.46	0.12	0.48	0.21	0.13
Control Delay	70.9	23.5	73.4	18.4	71.5	58.0	0.7	71.4	47.1	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	23.5	73.4	18.4	71.5	58.0	0.7	71.4	47.1	0.7
LOS	E	C	E	B	E	E	A	E	D	A
Approach Delay		26.9		26.2		51.7			42.6	
Approach LOS		C		C		D			D	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 29.6

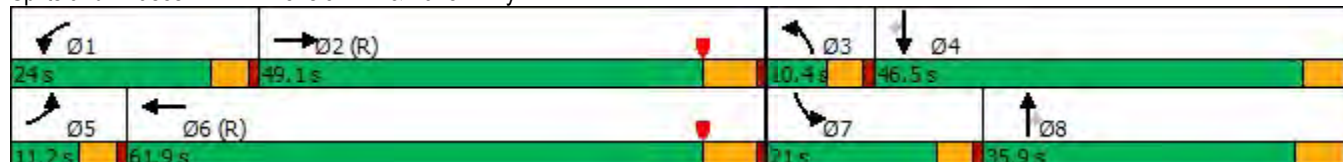
Intersection LOS: C

Intersection Capacity Utilization 61.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Dimension Dr. & Bake Pkwy.



HCM 6th Signalized Intersection Summary

2: Dimension Dr. & Bake Pkwy.

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	953	48	155	841	85	70	99	39	54	57	43
Future Volume (veh/h)	76	953	48	155	841	85	70	99	39	54	57	43
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		0.98	1.00		1.00	1.00		0.98
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	79	993	50	161	876	89	73	103	41	56	59	45
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	92	2130	107	187	2184	222	125	160	135	73	169	141
Arrive On Green	0.05	0.61	0.61	0.10	0.66	0.66	0.04	0.08	0.08	0.04	0.09	0.09
Sat Flow, veh/h	1810	3497	176	1810	3301	335	3510	1900	1604	1810	1900	1583
Grp Volume(v), veh/h	79	512	531	161	479	486	73	103	41	56	59	45
Grp Sat Flow(s),veh/h/ln	1810	1805	1868	1810	1805	1831	1755	1900	1604	1810	1900	1583
Q Serve(g_s), s	5.6	20.2	20.2	11.4	15.9	15.9	2.7	6.8	3.1	4.0	3.8	3.5
Cycle Q Clear(g_c), s	5.6	20.2	20.2	11.4	15.9	15.9	2.7	6.8	3.1	4.0	3.8	3.5
Prop In Lane	1.00		0.09	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	1099	1138	187	1194	1212	125	160	135	73	169	141
V/C Ratio(X)	0.86	0.47	0.47	0.86	0.40	0.40	0.58	0.64	0.30	0.77	0.35	0.32
Avail Cap(c_a), veh/h	92	1099	1138	270	1194	1212	157	440	371	228	607	505
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.2	13.9	13.9	57.4	10.1	10.1	61.7	57.6	55.9	61.8	55.7	55.5
Incr Delay (d2), s/veh	49.9	1.4	1.4	12.7	1.0	1.0	1.6	4.2	1.2	6.3	1.2	1.3
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	3.8	7.7	7.9	5.7	5.7	5.8	1.2	3.4	1.3	2.0	1.9	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.1	15.3	15.2	70.1	11.1	11.1	63.3	61.9	57.2	68.1	56.9	56.8
LnGrp LOS	F	B	B	E	B	B	E	E	E	E	E	E
Approach Vol, veh/h		1122			1126			217			160	
Approach Delay, s/veh		22.0			19.6			61.5			60.8	
Approach LOS		C			B			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	85.4	9.2	17.3	11.2	92.2	9.8	16.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	19.4	42.9	5.8	* 42	6.6	55.7	16.4	30.1				
Max Q Clear Time (g_c+I1), s	13.4	22.2	4.7	5.8	7.6	17.9	6.0	8.8				
Green Ext Time (p_c), s	0.1	5.8	0.0	0.4	0.0	6.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			26.6									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

02/23/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	29	10	256	60	63	113	167	18	224
Future Volume (vph)	29	10	256	60	63	113	167	18	224
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	34.8	34.8	34.8	33.6	33.6	9.6	27.8	9.6	27.8
Total Split (s)	34.8	34.8	34.8	34.8	34.8	17.0	35.4	9.8	28.2
Total Split (%)	43.5%	43.5%	43.5%	43.5%	43.5%	21.3%	44.3%	12.3%	35.3%
Yellow Time (s)	4.8	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	13.2	13.2	13.2	14.2	14.2	8.0	21.3	5.5	12.4
Actuated g/C Ratio	0.27	0.27	0.27	0.29	0.29	0.17	0.44	0.11	0.26
v/c Ratio	0.09	0.02	0.45	0.16	0.16	0.43	0.14	0.10	0.30
Control Delay	15.8	15.1	5.0	15.5	12.8	26.7	9.1	27.6	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	15.1	5.0	15.5	12.8	26.7	9.1	27.6	17.0
LOS	B	B	A	B	B	C	A	C	B
Approach Delay		6.4			13.9		15.7		17.7
Approach LOS		A			B		B		B

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 48.4

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 13.2

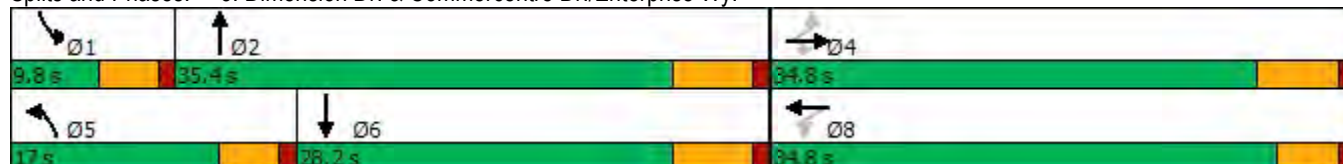
Intersection LOS: B

Intersection Capacity Utilization 47.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.



HCM 6th Signalized Intersection Summary

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	10	256	60	63	16	113	167	20	18	224	21
Future Volume (veh/h)	29	10	256	60	63	16	113	167	20	18	224	21
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		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	33	11	125	68	72	13	128	190	21	20	255	19
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	436	422	357	466	348	63	176	1071	117	45	865	64
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.10	0.33	0.33	0.03	0.25	0.25
Sat Flow, veh/h	1333	1900	1608	1272	1566	283	1810	3281	358	1810	3406	252
Grp Volume(v), veh/h	33	11	125	68	0	85	128	104	107	20	134	140
Grp Sat Flow(s),veh/h/ln	1333	1900	1608	1272	0	1849	1810	1805	1834	1810	1805	1853
Q Serve(g_s), s	0.8	0.2	2.5	1.7	0.0	1.4	2.6	1.6	1.6	0.4	2.3	2.3
Cycle Q Clear(g_c), s	2.2	0.2	2.5	1.9	0.0	1.4	2.6	1.6	1.6	0.4	2.3	2.3
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.20	1.00		0.14
Lane Grp Cap(c), veh/h	436	422	357	466	0	410	176	589	599	45	458	471
V/C Ratio(X)	0.08	0.03	0.35	0.15	0.00	0.21	0.73	0.18	0.18	0.44	0.29	0.30
Avail Cap(c_a), veh/h	1158	1451	1228	1195	0	1470	591	1407	1430	248	1065	1093
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	11.6	12.5	12.3	0.0	12.0	16.6	9.1	9.2	18.3	11.4	11.4
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.1	0.0	0.2	2.1	0.1	0.1	2.5	0.4	0.3
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	0.2	0.1	0.8	0.4	0.0	0.5	0.9	0.4	0.4	0.2	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.0	11.6	13.1	12.4	0.0	12.3	18.8	9.3	9.3	20.7	11.8	11.8
LnGrp LOS	B	B	B	B	A	B	B	A	A	C	B	B
Approach Vol, veh/h	169			153			339			294		
Approach Delay, s/veh	12.9			12.4			12.9			12.4		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	5.6	18.2	14.2		8.3	15.4	14.2					
Change Period (Y+Rc), s	4.6	5.8	5.8		4.6	5.8	* 5.8					
Max Green Setting (Gmax), s	5.2	29.6	29.0		12.4	22.4	* 30					
Max Q Clear Time (g_c+I1), s	2.4	3.6	4.5		4.6	4.3	3.9					
Green Ext Time (p_c), s	0.0	1.0	0.5		0.1	1.2	0.7					

Intersection Summary

HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Lake Forest Warehouses (JN 14042/14177)

4: Lake Forest Dr. & Dimension Dr./Driveway

02/23/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	304	12	92	18	1	112	655	41	650
Future Volume (vph)	304	12	92	18	1	112	655	41	650
Turn Type	Split	NA	Perm	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4		8	8	5	2	1	6
Permitted Phases			4						
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	32.8	32.8	32.8	14.6	14.6	9.6	35.0	9.6	35.0
Total Split (s)	32.8	32.8	32.8	14.6	14.6	17.4	43.0	9.6	35.2
Total Split (%)	32.8%	32.8%	32.8%	14.6%	14.6%	17.4%	43.0%	9.6%	35.2%
Yellow Time (s)	4.8	4.8	4.8	3.6	3.6	3.6	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.6	4.6	4.6	6.0	4.6	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	16.8	16.8	16.8	10.0	10.0	10.5	55.9	6.2	47.6
Actuated g/C Ratio	0.17	0.17	0.17	0.10	0.10	0.10	0.56	0.06	0.48
v/c Ratio	0.60	0.59	0.24	0.11	0.10	0.64	0.37	0.40	0.53
Control Delay	46.1	45.7	1.3	42.7	20.8	58.2	16.8	56.4	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	45.7	1.3	42.7	20.8	58.2	16.8	56.4	22.8
LOS	D	D	A	D	C	E	B	E	C
Approach Delay		35.8			32.6		22.7		24.5
Approach LOS		D			C		C		C

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 26.1

Intersection LOS: C

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Lake Forest Dr. & Dimension Dr./Driveway



HCM 6th Signalized Intersection Summary

4: Lake Forest Dr. & Dimension Dr./Driveway

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	304	12	92	18	1	15	112	655	22	41	650	165
Future Volume (veh/h)	304	12	92	18	1	15	112	655	22	41	650	165
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		0.98	1.00		0.97
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	339	0	32	20	1	12	122	712	21	45	707	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	448	0	199	109	8	90	152	2042	60	65	1596	280
Arrive On Green	0.12	0.00	0.12	0.06	0.06	0.06	0.08	0.57	0.57	0.04	0.52	0.52
Sat Flow, veh/h	3619	0	1606	1810	125	1504	1810	3578	105	1810	3055	535
Grp Volume(v), veh/h	339	0	32	20	0	13	122	359	374	45	417	414
Grp Sat Flow(s),veh/h/ln	1810	0	1606	1810	0	1629	1810	1805	1878	1810	1805	1785
Q Serve(g_s), s	9.1	0.0	1.8	1.1	0.0	0.8	6.6	10.7	10.7	2.5	14.4	14.4
Cycle Q Clear(g_c), s	9.1	0.0	1.8	1.1	0.0	0.8	6.6	10.7	10.7	2.5	14.4	14.4
Prop In Lane	1.00		1.00	1.00		0.92	1.00		0.06	1.00		0.30
Lane Grp Cap(c), veh/h	448	0	199	109	0	98	152	1030	1072	65	943	933
V/C Ratio(X)	0.76	0.00	0.16	0.18	0.00	0.13	0.80	0.35	0.35	0.70	0.44	0.44
Avail Cap(c_a), veh/h	977	0	434	181	0	163	232	1030	1072	90	943	933
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	0.0	39.2	44.7	0.0	44.5	45.0	11.5	11.5	47.7	14.8	14.8
Incr Delay (d2), s/veh	2.6	0.0	0.4	0.8	0.0	0.6	5.9	0.9	0.9	5.0	1.5	1.5
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	4.0	0.0	0.7	0.5	0.0	0.3	3.1	3.9	4.1	1.2	5.5	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	0.0	39.6	45.5	0.0	45.1	50.9	12.4	12.4	52.6	16.3	16.4
LnGrp LOS	D	A	D	D	A	D	D	B	B	D	B	B
Approach Vol, veh/h	371			33			855			876		
Approach Delay, s/veh	44.5			45.3			17.9			18.2		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	8.2	63.1	18.2		13.0	58.3	10.6					
Change Period (Y+Rc), s	4.6	6.0	5.8		4.6	6.0	4.6					
Max Green Setting (Gmax), s	5.0	37.0	27.0		12.8	29.2	10.0					
Max Q Clear Time (g_c+l1), s	4.5	12.7	11.1		8.6	16.4	3.1					
Green Ext Time (p_c), s	0.0	4.0	1.1		0.0	3.8	0.0					

Intersection Summary

HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings

Lake Forest Warehouses (JN 14042/14177)

5: Lake Forest Dr. & Rancho Pkwy.

02/23/2023

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	33	502	148	341	68	153	505	118	454
Future Volume (vph)	33	502	148	341	68	153	505	118	454
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4	3	8		5	2	1	6
Permitted Phases					8				
Detector Phase	7	4	3	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.8	9.6	36.8	36.8	9.6	37.0	9.6	37.0
Total Split (s)	10.5	36.8	12.0	38.3	38.3	14.0	37.2	14.0	37.2
Total Split (%)	10.5%	36.8%	12.0%	38.3%	38.3%	14.0%	37.2%	14.0%	37.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	6.0	4.6	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	5.6	24.0	7.2	29.5	29.5	13.2	37.3	10.5	34.6
Actuated g/C Ratio	0.06	0.24	0.07	0.30	0.30	0.13	0.37	0.10	0.35
v/c Ratio	0.35	0.75	0.63	0.34	0.13	0.69	0.61	0.67	0.44
Control Delay	55.1	39.1	56.6	28.7	0.7	58.5	25.9	61.2	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	39.1	56.6	28.7	0.7	58.5	25.9	61.2	26.8
LOS	E	D	E	C	A	E	C	E	C
Approach Delay		39.9		32.7			31.3		33.2
Approach LOS		D		C			C		C

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 34.0

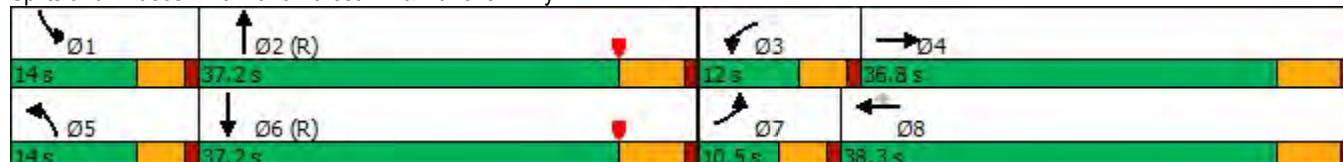
Intersection LOS: C

Intersection Capacity Utilization 74.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Lake Forest Dr. & Rancho Pkwy.



HCM 6th Signalized Intersection Summary
5: Lake Forest Dr. & Rancho Pkwy.

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	502	103	148	341	68	153	505	261	118	454	56
Future Volume (veh/h)	33	502	103	148	341	68	153	505	261	118	454	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.98
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	35	534	47	157	363	43	163	537	232	126	483	39
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	56	684	60	222	852	380	170	1068	460	155	1448	117
Arrive On Green	0.03	0.20	0.20	0.06	0.24	0.24	0.09	0.44	0.44	0.09	0.43	0.43
Sat Flow, veh/h	1810	3355	295	3510	3610	1608	1810	2444	1052	1810	3378	272
Grp Volume(v), veh/h	35	287	294	157	363	43	163	396	373	126	257	265
Grp Sat Flow(s),veh/h/ln	1810	1805	1845	1755	1805	1608	1810	1805	1691	1810	1805	1845
Q Serve(g_s), s	1.9	15.0	15.1	4.4	8.5	2.1	9.0	15.8	15.9	6.8	9.5	9.6
Cycle Q Clear(g_c), s	1.9	15.0	15.1	4.4	8.5	2.1	9.0	15.8	15.9	6.8	9.5	9.6
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.62	1.00		0.15
Lane Grp Cap(c), veh/h	56	368	376	222	852	380	170	789	739	155	774	791
V/C Ratio(X)	0.62	0.78	0.78	0.71	0.43	0.11	0.96	0.50	0.50	0.81	0.33	0.33
Avail Cap(c_a), veh/h	107	560	572	260	1173	523	170	789	739	170	774	791
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	37.7	37.7	45.9	32.4	30.0	45.1	20.3	20.3	44.9	19.0	19.0
Incr Delay (d2), s/veh	4.1	3.9	4.0	5.1	0.3	0.1	56.2	2.3	2.5	20.9	1.2	1.1
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	0.9	6.7	6.9	2.0	3.6	0.8	6.5	6.5	6.2	3.8	3.9	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.0	41.6	41.7	51.0	32.8	30.1	101.3	22.6	22.8	65.8	20.2	20.2
LnGrp LOS	D	D	D	D	C	C	F	C	C	E	C	C
Approach Vol, veh/h		616			563			932			648	
Approach Delay, s/veh		42.2			37.7			36.4			29.1	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.2	49.7	10.9	26.2	14.0	48.9	7.7	29.4				
Change Period (Y+Rc), s	4.6	6.0	4.6	5.8	4.6	6.0	4.6	5.8				
Max Green Setting (Gmax), s	9.4	31.2	7.4	31.0	9.4	31.2	5.9	32.5				
Max Q Clear Time (g_c+l1), s	8.8	17.9	6.4	17.1	11.0	11.6	3.9	10.5				
Green Ext Time (p_c), s	0.0	3.6	0.0	2.7	0.0	2.6	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			36.2									
HCM 6th LOS			D									

Lake Forest Warehouses (JN 14042 & 14177)
Existing (2021)
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Bake Pkwy. & Commercentre Dr.

Cycle (sec): 140 Critical Vol./Cap.(X): 0.464

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	78	784	292	16	731	74	70	145	70	113	79	8
Growth 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
Initial Bse:	78	784	292	16	731	74	70	145	70	113	79	8
User 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
PHF 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
PHF Volume:	78	784	292	16	731	74	70	145	70	113	79	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	784	292	16	731	74	70	145	70	113	79	8
PCE 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
MLF 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
FinalVolume:	78	784	292	16	731	74	70	145	70	113	79	8

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.46	0.54	1.00	1.82	0.18	1.00	1.35	0.65	1.69	1.19	0.12
Final Sat.:	1700	2477	923	1700	3087	313	1700	2293	1107	2877	2018	205

Capacity Analysis Module:

Vol/Sat:	0.05	0.32	0.32	0.01	0.24	0.24	0.04	0.06	0.06	0.04	0.04	0.04
Crit Moves:	****			****						****	****	

Lake Forest Warehouses (JN 14042 & 14177)
Existing (2021)
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Dimension Dr. & Bake Pkwy.

Cycle (sec): 140 Critical Vol./Cap.(X): 0.505

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 25 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	2	0	1	0	1	0	1	0	1	1	0	1	0

Volume Module:

Base Vol:	61	70	100	124	117	104	31	792	56	150	792	118
Growth 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
Initial Bse:	61	70	100	124	117	104	31	792	56	150	792	118
User 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
PHF 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
PHF Volume:	61	70	100	124	117	104	31	792	56	150	792	118
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	70	100	124	117	104	31	792	56	150	792	118
PCE 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
MLF 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
FinalVolume:	61	70	100	124	117	104	31	792	56	150	792	118

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.87	0.13	1.00	1.74	0.26
Final Sat.:	3400	1700	1700	1700	1700	1700	1700	3175	225	1700	2959	441

Capacity Analysis Module:

Vol/Sat:	0.02	0.04	0.06	0.07	0.07	0.06	0.02	0.25	0.25	0.09	0.27	0.27
Crit Moves:			****	****				****		****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing (2021)
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Dimension Dr. & Commercentre Dr./Enterprise Wy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.323

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 18 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	218	150	64	21	166	35	18	44	132	13	8	4
Growth 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
Initial Bse:	218	150	64	21	166	35	18	44	132	13	8	4
User 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
PHF 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
PHF Volume:	218	150	64	21	166	35	18	44	132	13	8	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	218	150	64	21	166	35	18	44	132	13	8	4
PCE 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
MLF 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
FinalVolume:	218	150	64	21	166	35	18	44	132	13	8	4

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.40	0.60	1.00	1.65	0.35	1.00	1.00	1.00	1.00	0.67	0.33
Final Sat.:	1700	2383	1017	1700	2808	592	1700	1700	1700	1700	1133	567

Capacity Analysis Module:

Vol/Sat:	0.13	0.06	0.06	0.01	0.06	0.06	0.01	0.03	0.08	0.01	0.01	0.01
Crit Moves:	****			****			****		****	****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing (2021)
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Lake Forest Dr. & Dimension Dr.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.395

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 20 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	0	1	1	0

Volume Module:

Base Vol:	164	635	11	16	442	214	161	11	76	3	4	4
Growth 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
Initial Bse:	164	635	11	16	442	214	161	11	76	3	4	4
User 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
PHF 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
PHF Volume:	164	635	11	16	442	214	161	11	76	3	4	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	164	635	11	16	442	214	161	11	76	3	4	4
PCE 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
MLF 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
FinalVolume:	164	635	11	16	442	214	161	11	76	3	4	4

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.97	0.03	1.00	1.35	0.65	1.87	0.13	1.00	1.00	0.50	0.50
Final Sat.:	1700	3342	58	1700	2291	1109	3183	217	1700	1700	850	850

Capacity Analysis Module:

Vol/Sat:	0.10	0.19	0.19	0.01	0.19	0.19	0.05	0.05	0.04	0.00	0.00	0.00
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing (2021)
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Lake Forest Dr. & Rancho Pkwy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.412
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 20 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	2

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	102	411	160	106	369	53	28	222	47	178	373	27
Growth 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
Initial Bse:	102	411	160	106	369	53	28	222	47	178	373	27
User 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
PHF 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
PHF Volume:	102	411	160	106	369	53	28	222	47	178	373	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	102	411	160	106	369	53	28	222	47	178	373	27
PCE 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
MLF 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
FinalVolume:	102	411	160	106	369	53	28	222	47	178	373	27

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.44	0.56	1.00	1.75	0.25	1.00	1.65	0.35	2.00	2.00	1.00
Final Sat.:	1700	2447	953	1700	2973	427	1700	2806	594	3400	3400	1700

Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.06	0.17	0.17	0.06	0.12	0.12	0.02	0.08	0.08	0.05	0.11	0.02
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing (2021)
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Bake Pkwy. & Commercentre Dr.

Cycle (sec): 130 Critical Vol./Cap.(X): 0.508

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 24 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	78	858	104	11	820	94	87	90	77	300	215	12
Growth 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
Initial Bse:	78	858	104	11	820	94	87	90	77	300	215	12
User 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
PHF 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
PHF Volume:	78	858	104	11	820	94	87	90	77	300	215	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	858	104	11	820	94	87	90	77	300	215	12
PCE 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
MLF 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
FinalVolume:	78	858	104	11	820	94	87	90	77	300	215	12

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.78	0.22	1.00	1.79	0.21	1.00	1.08	0.92	1.71	1.22	0.07
Final Sat.:	1700	3032	368	1700	3050	350	1700	1832	1568	2901	2083	116

Capacity Analysis Module:

Vol/Sat:	0.05	0.28	0.28	0.01	0.27	0.27	0.05	0.05	0.05	0.10	0.10	0.10
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing (2021)
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Dimension Dr. & Bake Pkwy.

Cycle (sec): 130 Critical Vol./Cap.(X): 0.514

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 25 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	1	0	1	0	1	1	0	1	0	1

Volume Module:

Base Vol:	70	99	39	54	57	43	76	953	48	155	841	85
Growth 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
Initial Bse:	70	99	39	54	57	43	76	953	48	155	841	85
User 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
PHF 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
PHF Volume:	70	99	39	54	57	43	76	953	48	155	841	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	99	39	54	57	43	76	953	48	155	841	85
PCE 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
MLF 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
FinalVolume:	70	99	39	54	57	43	76	953	48	155	841	85

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.82	0.18
Final Sat.:	3400	1700	1700	1700	1700	1700	1700	3237	163	1700	3088	312

Capacity Analysis Module:

Vol/Sat:	0.02	0.06	0.02	0.03	0.03	0.03	0.04	0.29	0.29	0.09	0.27	0.27
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing (2021)
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #3 Dimension Dr. & Commercentre Dr./Enterprise Wy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.374

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 19 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	113	167	20	18	224	21	29	10	256	60	63	16
Growth 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
Initial Bse:	113	167	20	18	224	21	29	10	256	60	63	16
User 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
PHF 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
PHF Volume:	113	167	20	18	224	21	29	10	256	60	63	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	167	20	18	224	21	29	10	256	60	63	16
PCE 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
MLF 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
FinalVolume:	113	167	20	18	224	21	29	10	256	60	63	16

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.79	0.21	1.00	1.83	0.17	1.00	1.00	1.00	1.00	0.80	0.20
Final Sat.:	1700	3036	364	1700	3109	291	1700	1700	1700	1700	1356	344

Capacity Analysis Module:

Vol/Sat:	0.07	0.05	0.06	0.01	0.07	0.07	0.02	0.01	0.15	0.04	0.05	0.05
Crit Moves:	****				****				****	****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing (2021)
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Lake Forest Dr. & Dimension Dr.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.459

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 22 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	0	1	1	0

Volume Module:

Base Vol:	112	655	22	41	650	165	304	12	92	18	1	15
Growth 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
Initial Bse:	112	655	22	41	650	165	304	12	92	18	1	15
User 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
PHF 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
PHF Volume:	112	655	22	41	650	165	304	12	92	18	1	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	655	22	41	650	165	304	12	92	18	1	15
PCE 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
MLF 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
FinalVolume:	112	655	22	41	650	165	304	12	92	18	1	15

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.94	0.06	1.00	1.60	0.40	1.92	0.08	1.00	1.00	0.06	0.94
Final Sat.:	1700	3290	110	1700	2712	688	3271	129	1700	1700	106	1594

Capacity Analysis Module:

Vol/Sat:	0.07	0.20	0.20	0.02	0.24	0.24	0.09	0.09	0.05	0.01	0.01	0.01
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing (2021)
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Lake Forest Dr. & Rancho Pkwy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.566

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 27 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	0	1	1

Volume Module:

Base Vol:	153	505	261	118	454	56	33	502	103	148	341	68
Growth 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
Initial Bse:	153	505	261	118	454	56	33	502	103	148	341	68
User 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
PHF 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
PHF Volume:	153	505	261	118	454	56	33	502	103	148	341	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	153	505	261	118	454	56	33	502	103	148	341	68
PCE 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
MLF 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
FinalVolume:	153	505	261	118	454	56	33	502	103	148	341	68

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.32	0.68	1.00	1.78	0.22	1.00	1.66	0.34	2.00	2.00	1.00
Final Sat.:	1700	2242	1158	1700	3027	373	1700	2821	579	3400	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.09	0.23	0.23	0.07	0.15	0.15	0.02	0.18	0.18	0.04	0.10	0.04
Crit Moves:	****			****			****			****		

APPENDIX 3.3:

EXISTING (2021) CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Intersection: 1: Bake Pkwy. & Commercentre Dr.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	LT	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	144	151	135	154	195	158	137	297	322	55	280	253
Average Queue (ft)	60	81	61	41	118	39	64	166	165	15	167	134
95th Queue (ft)	113	136	121	125	189	119	115	264	280	43	253	232
Link Distance (ft)		976	976		909	909		1226	1226		854	854
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	160			350			290			290		
Storage Blk Time (%)	0	0						0			0	
Queuing Penalty (veh)	0	0						0			0	

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T
Maximum Queue (ft)	94	265	267	230	254	278	62	89	149	89	216	220
Average Queue (ft)	35	165	146	121	131	116	16	40	59	38	102	100
95th Queue (ft)	77	246	246	197	218	221	45	78	125	73	179	180
Link Distance (ft)		1737	1737		1315	1315		1021	1021	1021		613
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	290			300			170				165	
Storage Blk Time (%)		0			0						3	2
Queuing Penalty (veh)		0			0						6	4

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	SB
Directions Served	R
Maximum Queue (ft)	78
Average Queue (ft)	32
95th Queue (ft)	60
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	165
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	35	53	46	41	38	135	53	121	54	75	98
Average Queue (ft)	9	15	17	8	10	70	16	48	13	32	48
95th Queue (ft)	26	38	38	28	32	118	43	96	39	67	87
Link Distance (ft)	463	463	463		405		1638	1638		1021	1021
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)				140		200			200		
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 4: Lake Forest Dr. & Dimension Dr./Driveway

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	165	199	54	30	35	176	172	129	58	186	166
Average Queue (ft)	20	104	26	4	10	92	78	36	15	91	74
95th Queue (ft)	94	170	47	19	34	158	156	96	42	154	143
Link Distance (ft)		409	409	51	51		758	758		892	892
Upstream Blk Time (%)					0						
Queuing Penalty (veh)					0						
Storage Bay Dist (ft)	160					140			110		
Storage Blk Time (%)	0	1				2	1			4	
Queuing Penalty (veh)	0	1				8	2			1	

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	L	T	T	R	L	T	TR	L
Maximum Queue (ft)	68	146	130	164	184	171	143	20	133	159	162	165
Average Queue (ft)	25	84	47	56	114	95	63	5	59	88	79	78
95th Queue (ft)	57	134	101	149	178	154	131	16	115	143	145	138
Link Distance (ft)		1122	1122			723	723			1187	1187	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			260	260			100	330			440
Storage Blk Time (%)							2					
Queuing Penalty (veh)							0					

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	161	149
Average Queue (ft)	85	54
95th Queue (ft)	147	114
Link Distance (ft)	725	725
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 22

Intersection: 1: Bake Pkwy. & Commercentre Dr.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	LT	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	166	159	109	244	292	207	188	319	320	45	363	344
Average Queue (ft)	70	52	39	137	194	119	69	189	172	11	224	193
95th Queue (ft)	134	110	83	225	259	206	143	285	280	33	323	305
Link Distance (ft)		976	976		909	909		1226	1226		854	854
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	160			350			290			290		
Storage Blk Time (%)	1	0			0			1			2	
Queuing Penalty (veh)	0	0			0			1			0	

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T
Maximum Queue (ft)	154	277	268	216	265	242	58	82	177	60	111	114
Average Queue (ft)	66	169	154	115	136	117	21	41	72	19	47	46
95th Queue (ft)	125	256	253	190	223	215	50	77	139	47	91	95
Link Distance (ft)		1737	1737		1315	1315		1021	1021	1021		613
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	290			300			170				165	
Storage Blk Time (%)		0			0							
Queuing Penalty (veh)		0			0							

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	SB
Directions Served	R
Maximum Queue (ft)	49
Average Queue (ft)	19
95th Queue (ft)	43
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	165
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	46	19	85	64	93	105	65	98	41	103	117
Average Queue (ft)	13	4	36	26	35	50	23	42	11	45	57
95th Queue (ft)	36	15	67	52	71	94	53	80	33	87	105
Link Distance (ft)	463	463	463		405		1638	1638		1021	1021
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)				140		200			200		
Storage Blk Time (%)					0						
Queuing Penalty (veh)					0						

Intersection: 4: Lake Forest Dr. & Dimension Dr./Driveway

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	211	248	69	58	48	142	191	173	154	264	250
Average Queue (ft)	82	161	29	18	14	66	103	61	43	144	121
95th Queue (ft)	206	236	53	49	41	123	174	144	107	237	222
Link Distance (ft)		409	409	51	51		758	758		892	892
Upstream Blk Time (%)				3	1						
Queuing Penalty (veh)				0	0						
Storage Bay Dist (ft)	160					140			110		
Storage Blk Time (%)	0	11				1	2		0	15	
Queuing Penalty (veh)	1	16				3	2		0	6	

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	L	T	T	R	L	T	TR	L
Maximum Queue (ft)	76	221	214	136	167	168	124	40	210	223	263	166
Average Queue (ft)	28	152	127	33	89	82	46	9	104	131	151	87
95th Queue (ft)	62	215	202	109	155	141	102	23	179	198	236	142
Link Distance (ft)		1122	1122			723	723			1187	1187	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			260	260			100	330			440
Storage Blk Time (%)		0					1					
Queuing Penalty (veh)		0					0					

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	207	178
Average Queue (ft)	120	88
95th Queue (ft)	189	165
Link Distance (ft)	725	725
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 30

APPENDIX 5.1:

E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

Lake Forest Warehouses (JN 14042/14177)

1: Bake Pkwy. & Commercentre Dr.

03/06/2023

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	70	163	125	85	78	796	323	16	735
Future Volume (vph)	70	163	125	85	78	796	323	16	735
Turn Type	Split	NA	Split	NA	Prot	NA	Perm	Prot	NA
Protected Phases	4	4	8	8	5	2		1	6
Permitted Phases							2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	34.8	34.8	34.8	34.8	9.6	29.2	29.2	9.6	29.2
Total Split (s)	34.8	34.8	34.8	34.8	17.9	60.2	60.2	10.2	52.5
Total Split (%)	24.9%	24.9%	24.9%	24.9%	12.8%	43.0%	43.0%	7.3%	37.5%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	16.3	16.3	15.0	15.0	10.6	86.6	86.6	5.6	75.7
Actuated g/C Ratio	0.12	0.12	0.11	0.11	0.08	0.62	0.62	0.04	0.54
v/c Ratio	0.37	0.59	0.40	0.45	0.64	0.41	0.29	0.25	0.47
Control Delay	60.0	53.0	60.1	61.4	83.1	17.8	5.0	73.6	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	53.0	60.1	61.4	83.1	17.8	5.0	73.6	23.7
LOS	E	D	E	E	F	B	A	E	C
Approach Delay		54.6		60.7		18.6			24.7
Approach LOS		D		E		B			C

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 28.5
Intersection Capacity Utilization 62.8%
Analysis Period (min) 15
Intersection LOS: C
ICU Level of Service B

Splits and Phases: 1: Bake Pkwy. & Commercentre Dr.

 Ø1	 Ø2 (R)	 Ø4	 Ø8
10.2 s	60.2 s	34.8 s	34.8 s
 Ø5	 Ø6 (R)		
17.9 s	52.5 s		

HCM 6th Signalized Intersection Summary

1: Bake Pkwy. & Commercentre Dr.

Lake Forest Warehouses (JN 14042/14177)

03/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	163	70	125	85	8	78	796	323	16	735	74
Future Volume (veh/h)	70	163	70	125	85	8	78	796	323	16	735	74
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		0.99	1.00		0.98
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	1900	1900	1900	1900	1976	1900	1900	1900	1976	1900	1900	1900
Adj Flow Rate, veh/h	78	181	45	139	94	9	87	884	298	18	817	61
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	160	254	62	254	128	12	108	2388	1094	33	2106	157
Arrive On Green	0.09	0.09	0.09	0.07	0.07	0.07	0.06	0.66	0.66	0.02	0.62	0.62
Sat Flow, veh/h	1810	2879	698	3510	1775	170	1810	3610	1653	1810	3399	254
Grp Volume(v), veh/h	78	112	114	139	0	103	87	884	298	18	434	444
Grp Sat Flow(s),veh/h/ln	1810	1805	1772	1755	0	1945	1810	1805	1653	1810	1805	1848
Q Serve(g_s), s	5.8	8.4	8.8	5.4	0.0	7.3	6.6	15.4	10.4	1.4	16.8	16.9
Cycle Q Clear(g_c), s	5.8	8.4	8.8	5.4	0.0	7.3	6.6	15.4	10.4	1.4	16.8	16.9
Prop In Lane	1.00		0.39	1.00		0.09	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	160	159	156	254	0	141	108	2388	1094	33	1118	1145
V/C Ratio(X)	0.49	0.70	0.73	0.55	0.00	0.73	0.80	0.37	0.27	0.55	0.39	0.39
Avail Cap(c_a), veh/h	375	374	367	727	0	403	172	2388	1094	72	1118	1145
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.8	62.0	62.2	62.7	0.0	63.6	65.0	10.6	9.8	68.2	13.3	13.3
Incr Delay (d2), s/veh	2.3	5.5	6.4	1.8	0.0	7.1	5.8	0.4	0.6	5.4	1.0	1.0
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	2.7	4.0	4.2	2.4	0.0	3.8	3.1	5.5	3.5	0.7	6.5	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.1	67.6	68.6	64.6	0.0	70.7	70.8	11.1	10.4	73.5	14.4	14.3
LnGrp LOS	E	E	E	E	A	E	E	B	B	E	B	B
Approach Vol, veh/h	304				242				1269			
Approach Delay, s/veh	66.8				67.2				15.0			
Approach LOS	E				E				B			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	98.8		18.1	13.0	92.9		15.9				
Change Period (Y+Rc), s	4.6	6.2		5.8	4.6	6.2		5.8				
Max Green Setting (Gmax), s	5.6	54.0		29.0	13.3	46.3		29.0				
Max Q Clear Time (g_c+I1), s	3.4	17.4		10.8	8.6	18.9		9.3				
Green Ext Time (p_c), s	0.0	7.4		1.2	0.0	5.0		0.9				

Intersection Summary

HCM 6th Ctrl Delay 25.6

HCM 6th LOS C

Notes

User approved volume balancing among the lanes for turning movement.

Timings

Lake Forest Warehouses (JN 14042/14177)

2: Dimension Dr. & Bake Pkwy.

03/06/2023

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	31	792	161	792	65	70	102	124	118	104
Future Volume (vph)	31	792	161	792	65	70	102	124	118	104
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.2	9.6	36.2	9.6	35.8	35.8	9.6	35.0	35.0
Total Split (s)	11.4	54.0	27.0	69.6	11.2	36.0	36.0	23.0	47.8	47.8
Total Split (%)	8.1%	38.6%	19.3%	49.7%	8.0%	25.7%	25.7%	16.4%	34.1%	34.1%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	4.8	3.6	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	5.8	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None
Act Effect Green (s)	6.5	73.2	17.0	87.7	6.2	14.6	14.6	14.0	25.1	25.1
Actuated g/C Ratio	0.05	0.52	0.12	0.63	0.04	0.10	0.10	0.10	0.18	0.18
v/c Ratio	0.38	0.47	0.76	0.42	0.43	0.36	0.33	0.72	0.36	0.27
Control Delay	77.5	24.8	80.6	16.3	73.8	61.3	3.1	81.9	51.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.5	24.8	80.6	16.3	73.8	61.3	3.1	81.9	51.9	4.7
LOS	E	C	F	B	E	E	A	F	D	A
Approach Delay		26.7		26.0		39.7			48.5	
Approach LOS		C		C		D			D	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 30.6

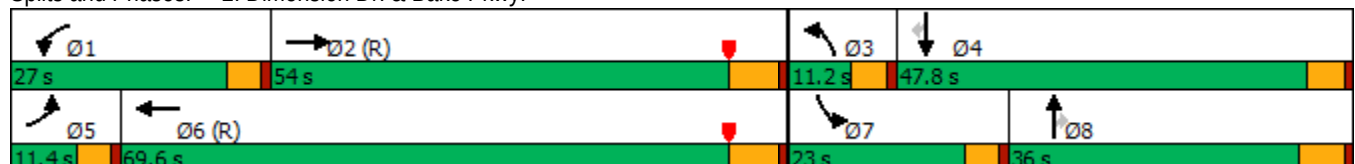
Intersection LOS: C

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Dimension Dr. & Bake Pkwy.



HCM 6th Signalized Intersection Summary

2: Dimension Dr. & Bake Pkwy.

Lake Forest Warehouses (JN 14042/14177)

03/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	792	68	161	792	118	65	70	102	124	118	104
Future Volume (veh/h)	31	792	68	161	792	118	65	70	102	124	118	104
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	816	70	166	816	122	67	72	105	128	122	107
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	46	1932	166	191	2060	308	116	161	136	152	258	219
Arrive On Green	0.03	0.57	0.57	0.11	0.65	0.65	0.03	0.08	0.08	0.08	0.14	0.14
Sat Flow, veh/h	1810	3364	289	1810	3149	471	3510	1900	1604	1810	1900	1610
Grp Volume(v), veh/h	32	438	448	166	468	470	67	72	105	128	122	107
Grp Sat Flow(s),veh/h/ln	1810	1805	1848	1810	1805	1815	1755	1900	1604	1810	1900	1610
Q Serve(g_s), s	2.5	19.1	19.1	12.7	16.9	16.9	2.6	5.0	9.0	9.8	8.3	8.6
Cycle Q Clear(g_c), s	2.5	19.1	19.1	12.7	16.9	16.9	2.6	5.0	9.0	9.8	8.3	8.6
Prop In Lane	1.00		0.16	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	46	1037	1061	191	1181	1188	116	161	136	152	258	219
V/C Ratio(X)	0.70	0.42	0.42	0.87	0.40	0.40	0.58	0.45	0.77	0.84	0.47	0.49
Avail Cap(c_a), veh/h	88	1037	1061	290	1181	1188	165	410	346	238	581	492
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	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.7	16.7	16.7	61.7	11.3	11.3	66.7	60.9	62.7	63.2	55.9	56.0
Incr Delay (d2), s/veh	6.8	1.3	1.2	11.5	1.0	1.0	1.7	1.9	8.7	8.5	1.3	1.7
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	1.2	7.6	7.8	6.2	6.3	6.3	1.2	2.5	3.9	4.8	4.1	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.5	18.0	18.0	73.2	12.3	12.3	68.4	62.8	71.4	71.7	57.2	57.7
LnGrp LOS	E	B	B	E	B	B	E	E	E	E	E	E
Approach Vol, veh/h	918		1104				244		357			
Approach Delay, s/veh	20.0		21.4				68.1		62.5			
Approach LOS	B		C				E		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.3	86.6	9.2	24.8	8.2	97.8	16.4	17.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	22.4	47.8	6.6	* 43	6.8	63.4	18.4	30.2				
Max Q Clear Time (g_c+I1), s	14.7	21.1	4.6	10.6	4.5	18.9	11.8	11.0				
Green Ext Time (p_c), s	0.1	5.0	0.0	1.0	0.0	5.9	0.1	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			30.9									
HCM 6th LOS			C									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

03/06/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	18	93	132	36	26	218	165	40	166
Future Volume (vph)	18	93	132	36	26	218	165	40	166
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	33.6	9.6	27.8	9.6	27.8
Total Split (s)	9.6	34.8	34.8	9.6	34.8	17.0	35.4	9.8	28.2
Total Split (%)	10.7%	38.8%	38.8%	10.7%	38.8%	19.0%	39.5%	10.9%	31.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	5.3	13.1	13.1	5.3	15.4	12.6	26.4	5.4	12.2
Actuated g/C Ratio	0.09	0.23	0.23	0.09	0.26	0.22	0.45	0.09	0.21
v/c Ratio	0.12	0.23	0.28	0.25	0.07	0.60	0.19	0.26	0.29
Control Delay	33.4	21.4	2.5	35.3	13.5	33.0	8.9	34.6	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	21.4	2.5	35.3	13.5	33.0	8.9	34.6	19.7
LOS	C	C	A	D	B	C	A	C	B
Approach Delay		12.0			24.4		19.5		22.2
Approach LOS		B			C		B		C

Intersection Summary

Cycle Length: 89.6

Actuated Cycle Length: 58.2

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 18.7

Intersection LOS: B

Intersection Capacity Utilization 43.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

			
9.8 s	35.4 s	9.6 s	34.8 s
			
17 s	28.2 s	9.6 s	34.8 s

HCM 6th Signalized Intersection Summary

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

03/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	93	132	36	26	10	218	165	113	40	166	35
Future Volume (veh/h)	18	93	132	36	26	10	218	165	113	40	166	35
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		0.97	1.00		0.97
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	1900	1900	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	19	100	38	39	28	8	234	177	116	43	178	28
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	42	335	283	76	288	82	292	658	405	82	606	94
Arrive On Green	0.02	0.18	0.18	0.04	0.20	0.20	0.16	0.31	0.31	0.05	0.19	0.19
Sat Flow, veh/h	1810	1900	1608	1810	1478	422	1810	2123	1307	1810	3122	482
Grp Volume(v), veh/h	19	100	38	39	0	36	234	149	144	43	101	105
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	0	1900	1810	1805	1625	1810	1805	1798
Q Serve(g_s), s	0.5	2.2	1.0	1.0	0.0	0.8	6.1	3.0	3.3	1.1	2.3	2.4
Cycle Q Clear(g_c), s	0.5	2.2	1.0	1.0	0.0	0.8	6.1	3.0	3.3	1.1	2.3	2.4
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.80	1.00		0.27
Lane Grp Cap(c), veh/h	42	335	283	76	0	371	292	560	504	82	350	349
V/C Ratio(X)	0.45	0.30	0.13	0.51	0.00	0.10	0.80	0.27	0.29	0.53	0.29	0.30
Avail Cap(c_a), veh/h	185	1129	956	185	0	1176	460	1095	986	193	829	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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	17.5	17.0	22.9	0.0	16.1	19.7	12.7	12.7	22.8	16.8	16.8
Incr Delay (d2), s/veh	7.4	0.5	0.2	5.2	0.0	0.1	2.4	0.3	0.3	1.9	0.5	0.5
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	0.3	0.8	0.3	0.5	0.0	0.3	2.3	1.0	1.0	0.5	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	18.0	17.2	28.1	0.0	16.2	22.1	12.9	13.1	24.7	17.2	17.3
LnGrp LOS	C	B	B	C	A	B	C	B	B	C	B	B
Approach Vol, veh/h		157			75			527			249	
Approach Delay, s/veh		19.3			22.4			17.0			18.6	
Approach LOS		B			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	20.9	6.7	14.4	12.5	15.3	5.7	15.3				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	* 5.8				
Max Green Setting (Gmax), s	5.2	29.6	5.0	29.0	12.4	22.4	5.0	* 30				
Max Q Clear Time (g_c+I1), s	3.1	5.3	3.0	4.2	8.1	4.4	2.5	2.8				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.5	0.1	0.9	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay 18.2

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Lake Forest Warehouses (JN 14042/14177)

4: Lake Forest Dr. & Dimension Dr./Driveway

03/06/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	175	11	85	3	4	187	635	16	442
Future Volume (vph)	175	11	85	3	4	187	635	16	442
Turn Type	Split	NA	Perm	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4		8	8	5	2	1	6
Permitted Phases			4						
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	32.8	32.8	32.8	14.6	14.6	9.6	35.0	9.6	35.0
Total Split (s)	32.8	32.8	32.8	14.6	14.6	17.0	43.0	9.6	35.6
Total Split (%)	32.8%	32.8%	32.8%	14.6%	14.6%	17.0%	43.0%	9.6%	35.6%
Yellow Time (s)	4.8	4.8	4.8	3.6	3.6	3.6	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.6	4.6	4.6	6.0	4.6	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	14.2	14.2	14.2	10.0	10.0	14.8	67.0	5.3	51.7
Actuated g/C Ratio	0.14	0.14	0.14	0.10	0.10	0.15	0.67	0.05	0.52
v/c Ratio	0.40	0.40	0.23	0.02	0.04	0.74	0.28	0.18	0.41
Control Delay	42.2	42.1	1.4	41.0	32.5	58.7	10.4	49.7	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	42.1	1.4	41.0	32.5	58.7	10.4	49.7	15.3
LOS	D	D	A	D	C	E	B	D	B
Approach Delay		29.5			34.8		21.2		16.1
Approach LOS		C			C		C		B

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 20.5

Intersection LOS: C

Intersection Capacity Utilization 61.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Lake Forest Dr. & Dimension Dr./Driveway

 Ø1	 Ø2 (R)	 Ø4	 Ø8
9.6 s	43 s	32.8 s	14.6 s
 Ø5	 Ø6 (R)		
17 s	35.6 s		

HCM 6th Signalized Intersection Summary

4: Lake Forest Dr. & Dimension Dr./Driveway

Lake Forest Warehouses (JN 14042/14177)

03/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	11	85	3	4	4	187	635	11	16	442	255
Future Volume (veh/h)	175	11	85	3	4	4	187	635	11	16	442	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	193	0	23	3	4	0	197	668	12	17	465	211
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	403	0	177	32	34	0	224	2330	42	34	1297	584
Arrive On Green	0.11	0.00	0.11	0.02	0.02	0.00	0.12	0.64	0.64	0.02	0.54	0.54
Sat Flow, veh/h	3619	0	1588	1810	1900	0	1810	3628	65	1810	2415	1088
Grp Volume(v), veh/h	193	0	23	3	4	0	197	332	348	17	347	329
Grp Sat Flow(s),veh/h/ln	1810	0	1588	1810	1900	0	1810	1805	1888	1810	1805	1698
Q Serve(g_s), s	5.0	0.0	1.3	0.2	0.2	0.0	10.7	8.1	8.1	0.9	11.0	11.1
Cycle Q Clear(g_c), s	5.0	0.0	1.3	0.2	0.2	0.0	10.7	8.1	8.1	0.9	11.0	11.1
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.03	1.00		0.64
Lane Grp Cap(c), veh/h	403	0	177	32	34	0	224	1159	1212	34	969	912
V/C Ratio(X)	0.48	0.00	0.13	0.09	0.12	0.00	0.88	0.29	0.29	0.50	0.36	0.36
Avail Cap(c_a), veh/h	977	0	429	181	190	0	224	1159	1212	90	969	912
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	0.0	40.1	48.3	48.4	0.0	43.1	7.8	7.8	48.6	13.3	13.3
Incr Delay (d2), s/veh	0.9	0.0	0.3	1.3	1.6	0.0	29.2	0.6	0.6	4.2	1.0	1.1
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	2.2	0.0	0.5	0.1	0.1	0.0	6.4	2.7	2.8	0.4	4.2	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	0.0	40.4	49.6	49.9	0.0	72.3	8.5	8.4	52.7	14.3	14.4
LnGrp LOS	D	A	D	D	D	A	E	A	A	D	B	B
Approach Vol, veh/h	216			7			877			693		
Approach Delay, s/veh	42.4			49.8			22.8			15.3		
Approach LOS	D			D			C			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	70.2		16.9	17.0	59.7		6.4				
Change Period (Y+Rc), s	4.6	6.0		5.8	4.6	6.0		4.6				
Max Green Setting (Gmax), s	5.0	37.0		27.0	12.4	29.6		10.0				
Max Q Clear Time (g_c+I1), s	2.9	10.1		7.0	12.7	13.1		2.2				
Green Ext Time (p_c), s	0.0	3.7		0.6	0.0	3.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay 22.4

HCM 6th LOS C

Notes

User approved volume balancing among the lanes for turning movement.

Timings

Lake Forest Warehouses (JN 14042/14177)

5: Lake Forest Dr. & Rancho Pkwy.

03/06/2023

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	28	222	204	373	27	102	416	169	106	384
Future Volume (vph)	28	222	204	373	27	102	416	169	106	384
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.8	9.6	36.8	36.8	9.6	37.0	37.0	9.6	37.0
Total Split (s)	10.5	36.8	12.0	38.3	38.3	13.0	38.2	38.2	13.0	38.2
Total Split (%)	10.5%	36.8%	12.0%	38.3%	38.3%	13.0%	38.2%	38.2%	13.0%	38.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	5.0	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	6.0	6.0	4.6	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	5.6	16.9	7.4	22.6	22.6	10.3	44.2	44.2	10.5	44.5
Actuated g/C Ratio	0.06	0.17	0.07	0.23	0.23	0.10	0.44	0.44	0.10	0.44
v/c Ratio	0.30	0.48	0.86	0.50	0.06	0.64	0.29	0.22	0.65	0.30
Control Delay	53.1	35.4	75.7	35.8	0.3	61.3	20.3	4.3	61.2	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	35.4	75.7	35.8	0.3	61.3	20.3	4.3	61.2	19.5
LOS	D	D	E	D	A	E	C	A	E	B
Approach Delay		37.0		47.7			22.4			27.6
Approach LOS		D		D			C			C

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 32.9

Intersection LOS: C

Intersection Capacity Utilization 64.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Lake Forest Dr. & Rancho Pkwy.

			
Ø1	Ø2 (R)	Ø3	Ø4
13 s	38.2 s	12 s	36.8 s
			
Ø5	Ø6 (R)	Ø7	Ø8
13 s	38.2 s	10.5 s	38.3 s

HCM 6th Signalized Intersection Summary
5: Lake Forest Dr. & Rancho Pkwy.

Lake Forest Warehouses (JN 14042/14177)

03/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	222	47	204	373	27	102	416	169	106	384	53
Future Volume (veh/h)	28	222	47	204	373	27	102	416	169	106	384	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1976	1900	1900	1900
Adj Flow Rate, veh/h	30	241	24	222	405	9	111	452	151	115	417	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	51	361	36	260	558	248	139	1906	872	143	1750	180
Arrive On Green	0.03	0.11	0.11	0.07	0.15	0.15	0.08	0.53	0.53	0.08	0.53	0.53
Sat Flow, veh/h	1810	3317	327	3510	3610	1607	1810	3610	1651	1810	3300	338
Grp Volume(v), veh/h	30	130	135	222	405	9	111	452	151	115	227	233
Grp Sat Flow(s),veh/h/ln	1810	1805	1839	1755	1805	1607	1810	1805	1651	1810	1805	1834
Q Serve(g_s), s	1.6	6.9	7.1	6.3	10.7	0.5	6.0	6.8	4.8	6.2	6.8	6.8
Cycle Q Clear(g_c), s	1.6	6.9	7.1	6.3	10.7	0.5	6.0	6.8	4.8	6.2	6.8	6.8
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	51	197	200	260	558	248	139	1906	872	143	957	973
V/C Ratio(X)	0.59	0.66	0.67	0.85	0.73	0.04	0.80	0.24	0.17	0.80	0.24	0.24
Avail Cap(c_a), veh/h	107	560	570	260	1173	522	152	1906	872	152	957	973
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	42.8	42.8	45.8	40.3	35.9	45.4	12.7	12.3	45.3	12.6	12.6
Incr Delay (d2), s/veh	3.9	3.8	3.9	22.3	1.8	0.1	21.1	0.3	0.4	22.6	0.6	0.6
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	0.8	3.2	3.3	3.4	4.7	0.2	3.4	2.5	1.7	3.6	2.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	46.6	46.8	68.0	42.1	36.0	66.6	13.0	12.7	67.8	13.2	13.2
LnGrp LOS	D	D	D	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		295			636			714			575	
Approach Delay, s/veh		47.2			51.0			21.3			24.1	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	58.8	12.0	16.7	12.3	59.0	7.4	21.3				
Change Period (Y+Rc), s	4.6	6.0	4.6	5.8	4.6	6.0	4.6	5.8				
Max Green Setting (Gmax), s	8.4	32.2	7.4	31.0	8.4	32.2	5.9	32.5				
Max Q Clear Time (g_c+I1), s	8.2	8.8	8.3	9.1	8.0	8.8	3.6	12.7				
Green Ext Time (p_c), s	0.0	3.1	0.0	1.3	0.0	2.3	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			34.0									
HCM 6th LOS			C									

Lake Forest Warehouses (JN 14042 & 14177)
Existing + Project
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Bake Pkwy. & Commercentre Dr.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.442
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 21 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	1	0	1	0	1	1	0	2

Volume Module:

Base Vol:	78	784	292	16	731	74	70	145	70	113	79	8
Growth 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
Initial Bse:	78	784	292	16	731	74	70	145	70	113	79	8
Added Vol:	0	14	41	0	4	0	0	21	0	18	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	78	798	333	16	735	74	70	166	70	131	86	8
User 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
PHF 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
PHF Volume:	78	798	333	16	735	74	70	166	70	131	86	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	798	333	16	735	74	70	166	70	131	86	8
PCE 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
MLF 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
FinalVolume:	78	798	333	16	735	74	70	166	70	131	86	8

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.82	0.18	1.00	1.41	0.59	2.00	0.91	0.09
Final Sat.:	1700	3400	1700	1700	3089	311	1700	2392	1008	3400	1555	145

Capacity Analysis Module:

Vol/Sat:	0.05	0.23	0.20	0.01	0.24	0.24	0.04	0.07	0.07	0.04	0.06	0.06
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing + Project
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Dimension Dr. & Bake Pkwy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.532
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 25 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	2	0	1	0	1	0	1	0	1	1	0	1	0

Volume Module:

Base Vol:	61	70	100	124	117	104	31	792	56	150	792	118
Growth 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
Initial Bse:	61	70	100	124	117	104	31	792	56	150	792	118
Added Vol:	4	0	3	0	1	0	0	0	14	12	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	70	103	124	118	104	31	792	70	162	792	118
User 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
PHF 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
PHF Volume:	65	70	103	124	118	104	31	792	70	162	792	118
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	70	103	124	118	104	31	792	70	162	792	118
PCE 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
MLF 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
FinalVolume:	65	70	103	124	118	104	31	792	70	162	792	118

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.84	0.16	1.00	1.74	0.26
Final Sat.:	3400	1700	1700	1700	1700	1700	1700	3124	276	1700	2959	441

Capacity Analysis Module:

Vol/Sat:	0.02	0.04	0.06	0.07	0.07	0.06	0.02	0.25	0.25	0.10	0.27	0.27
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing + Project
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Dimension Dr. & Commercentre Dr./Enterprise Wy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.334

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 18 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	218	150	64	21	166	35	18	44	132	13	8	4
Growth 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
Initial Bse:	218	150	64	21	166	35	18	44	132	13	8	4
Added Vol:	0	21	41	18	0	0	0	62	0	20	24	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	218	171	105	39	166	35	18	106	132	33	32	10
User 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
PHF 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
PHF Volume:	218	171	105	39	166	35	18	106	132	33	32	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	218	171	105	39	166	35	18	106	132	33	32	10
PCE 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
MLF 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
FinalVolume:	218	171	105	39	166	35	18	106	132	33	32	10

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.24	0.76	1.00	1.65	0.35	1.00	1.00	1.00	1.00	0.76	0.24
Final Sat.:	1700	2107	1293	1700	2808	592	1700	1700	1700	1700	1295	405

Capacity Analysis Module:

Vol/Sat:	0.13	0.08	0.08	0.02	0.06	0.06	0.01	0.06	0.08	0.02	0.02	0.02
Crit Moves:	****			****					****	****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing + Project
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Lake Forest Dr. & Dimension Dr.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.423
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	21	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	1	0	0	1	0

Volume Module:

Base Vol:	164	635	11	16	442	214	161	11	76	3	4	4
Growth 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
Initial Bse:	164	635	11	16	442	214	161	11	76	3	4	4
Added Vol:	21	0	0	0	0	41	13	0	7	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	185	635	11	16	442	255	174	11	83	3	4	4
User 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
PHF 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
PHF Volume:	185	635	11	16	442	255	174	11	83	3	4	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	185	635	11	16	442	255	174	11	83	3	4	4
PCE 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
MLF 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
FinalVolume:	185	635	11	16	442	255	174	11	83	3	4	4

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.97	0.03	1.00	1.27	0.73	1.88	0.12	1.00	1.00	0.50	0.50
Final Sat.:	1700	3342	58	1700	2156	1244	3198	202	1700	1700	850	850

Capacity Analysis Module:

Vol/Sat:	0.11	0.19	0.19	0.01	0.21	0.20	0.05	0.05	0.05	0.00	0.00	0.00
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing + Project
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Lake Forest Dr. & Rancho Pkwy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.378

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 19 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	1	1	0	1	0	1	1	0

Volume Module:

Base Vol:	102	411	160	106	369	53	28	222	47	178	373	27
Growth 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
Initial Bse:	102	411	160	106	369	53	28	222	47	178	373	27
Added Vol:	0	4	9	0	14	0	0	0	0	27	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	102	415	169	106	383	53	28	222	47	205	373	27
User 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
PHF 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
PHF Volume:	102	415	169	106	383	53	28	222	47	205	373	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	102	415	169	106	383	53	28	222	47	205	373	27
PCE 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
MLF 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
FinalVolume:	102	415	169	106	383	53	28	222	47	205	373	27

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.76	0.24	1.00	1.65	0.35	2.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	2987	413	1700	2806	594	3400	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.06	0.12	0.10	0.06	0.13	0.13	0.02	0.08	0.08	0.06	0.11	0.02
Crit Moves:	****			****			****			****		

Timings

Lake Forest Warehouses (JN 14042/14177)

1: Bake Pkwy. & Commercentre Dr.

03/06/2023

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	70	145	113	79	78	784	292	16	731
Future Volume (vph)	70	145	113	79	78	784	292	16	731
Turn Type	Split	NA	Split	NA	Prot	NA	Perm	Prot	NA
Protected Phases	4	4	8	8	5	2		1	6
Permitted Phases							2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	34.8	34.8	34.8	34.8	9.6	29.2	29.2	9.6	29.2
Total Split (s)	34.8	34.8	34.8	34.8	15.0	50.4	50.4	10.0	45.4
Total Split (%)	26.8%	26.8%	26.8%	26.8%	11.5%	38.8%	38.8%	7.7%	34.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	15.2	15.2	14.6	14.6	9.8	78.2	78.2	5.5	68.1
Actuated g/C Ratio	0.12	0.12	0.11	0.11	0.08	0.60	0.60	0.04	0.52
v/c Ratio	0.37	0.53	0.34	0.40	0.64	0.41	0.27	0.24	0.48
Control Delay	55.8	43.7	54.2	54.5	79.5	18.4	5.2	67.6	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	43.7	54.2	54.5	79.5	18.4	5.2	67.6	23.7
LOS	E	D	D	D	E	B	A	E	C
Approach Delay		46.7		54.3		19.2			24.6
Approach LOS		D		D		B			C

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 27.0

Intersection LOS: C

Intersection Capacity Utilization 62.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Bake Pkwy. & Commercentre Dr.

 Ø1	 Ø2 (R)	 Ø4	 Ø8
10 s	50.4 s	34.8 s	34.8 s
 Ø5	 Ø6 (R)		
15 s	45.4 s		

HCM 6th Signalized Intersection Summary

1: Bake Pkwy. & Commercentre Dr.

Lake Forest Warehouses (JN 14042/14177)

03/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	145	70	113	79	8	78	784	292	16	731	74
Future Volume (veh/h)	70	145	70	113	79	8	78	784	292	16	731	74
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		0.99	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	1900	1900	1900	1900	1976	1900	1900	1900	1976	1900	1900	1900
Adj Flow Rate, veh/h	78	161	40	126	88	8	87	871	301	18	812	51
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	145	230	56	270	137	12	109	2355	1079	33	2106	132
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.06	0.65	0.65	0.02	0.61	0.61
Sat Flow, veh/h	1810	2882	697	3510	1785	162	1810	3610	1654	1810	3449	217
Grp Volume(v), veh/h	78	99	102	126	0	96	87	871	301	18	425	438
Grp Sat Flow(s),veh/h/ln	1810	1805	1774	1755	0	1947	1810	1805	1654	1810	1805	1861
Q Serve(g_s), s	5.4	7.0	7.3	4.5	0.0	6.2	6.2	14.4	10.1	1.3	15.6	15.6
Cycle Q Clear(g_c), s	5.4	7.0	7.3	4.5	0.0	6.2	6.2	14.4	10.1	1.3	15.6	15.6
Prop In Lane	1.00		0.39	1.00		0.08	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	145	144	142	270	0	150	109	2355	1079	33	1102	1136
V/C Ratio(X)	0.54	0.69	0.72	0.47	0.00	0.64	0.80	0.37	0.28	0.54	0.39	0.39
Avail Cap(c_a), veh/h	404	403	396	783	0	434	145	2355	1079	75	1102	1136
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	58.2	58.4	57.4	0.0	58.3	60.3	10.3	9.6	63.3	12.9	12.9
Incr Delay (d2), s/veh	3.1	5.7	6.6	1.3	0.0	4.5	14.9	0.4	0.6	5.0	1.0	1.0
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	2.5	3.3	3.5	2.0	0.0	3.2	3.2	5.0	3.3	0.6	5.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	63.9	65.0	58.7	0.0	62.8	75.2	10.8	10.2	68.3	13.9	13.9
LnGrp LOS	E	E	E	E	A	E	E	B	B	E	B	B
Approach Vol, veh/h	279			222			1259			881		
Approach Delay, s/veh	63.4			60.5			15.1			15.0		
Approach LOS	E			E			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	91.0		16.2	12.4	85.6		15.8				
Change Period (Y+Rc), s	4.6	6.2		5.8	4.6	6.2		5.8				
Max Green Setting (Gmax), s	5.4	44.2		29.0	10.4	39.2		29.0				
Max Q Clear Time (g_c+I1), s	3.3	16.4		9.3	8.2	17.6		8.2				
Green Ext Time (p_c), s	0.0	6.9		1.1	0.0	4.6		0.8				
Intersection Summary												
HCM 6th Ctrl Delay	24.0											
HCM 6th LOS	C											
Notes												

Timings

Lake Forest Warehouses (JN 14042/14177)

2: Dimension Dr. & Bake Pkwy.

03/06/2023

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	31	792	150	792	61	70	100	124	117	104
Future Volume (vph)	31	792	150	792	61	70	100	124	117	104
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.2	9.6	36.2	9.6	35.8	35.8	9.6	35.0	35.0
Total Split (s)	11.2	49.1	24.0	61.9	10.4	35.9	35.9	21.0	46.5	46.5
Total Split (%)	8.6%	37.8%	18.5%	47.6%	8.0%	27.6%	27.6%	16.2%	35.8%	35.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	4.8	3.6	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	5.8	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None
Act Effect Green (s)	6.4	66.1	15.2	78.9	5.6	14.5	14.5	13.1	24.6	24.6
Actuated g/C Ratio	0.05	0.51	0.12	0.61	0.04	0.11	0.11	0.10	0.19	0.19
v/c Ratio	0.36	0.49	0.74	0.44	0.42	0.35	0.31	0.71	0.34	0.26
Control Delay	71.1	24.5	76.0	16.9	69.2	55.6	2.4	77.5	46.8	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.1	24.5	76.0	16.9	69.2	55.6	2.4	77.5	46.8	3.5
LOS	E	C	E	B	E	E	A	E	D	A
Approach Delay		26.1		25.3		36.3			44.8	
Approach LOS		C		C		D			D	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 29.3

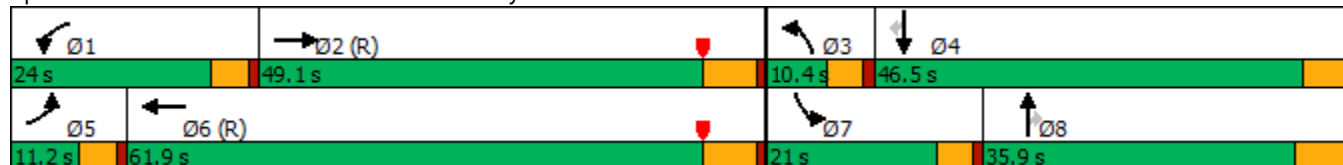
Intersection LOS: C

Intersection Capacity Utilization 60.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Dimension Dr. & Bake Pkwy.



HCM 6th Signalized Intersection Summary

2: Dimension Dr. & Bake Pkwy.

Lake Forest Warehouses (JN 14042/14177)

03/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	792	56	150	792	118	61	70	100	124	117	104
Future Volume (veh/h)	31	792	56	150	792	118	61	70	100	124	117	104
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		0.98	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	825	58	156	825	123	64	73	104	129	122	108
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	48	1934	136	182	2009	299	122	163	138	154	259	217
Arrive On Green	0.03	0.57	0.57	0.10	0.64	0.64	0.03	0.09	0.09	0.09	0.14	0.14
Sat Flow, veh/h	1810	3421	240	1810	3141	468	3510	1900	1605	1810	1900	1592
Grp Volume(v), veh/h	32	435	448	156	474	474	64	73	104	129	122	108
Grp Sat Flow(s),veh/h/ln	1810	1805	1857	1810	1805	1804	1755	1900	1605	1810	1900	1592
Q Serve(g_s), s	2.3	18.0	18.0	11.0	16.7	16.7	2.3	4.7	8.2	9.1	7.7	8.2
Cycle Q Clear(g_c), s	2.3	18.0	18.0	11.0	16.7	16.7	2.3	4.7	8.2	9.1	7.7	8.2
Prop In Lane	1.00		0.13	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	1020	1050	182	1154	1154	122	163	138	154	259	217
V/C Ratio(X)	0.67	0.43	0.43	0.86	0.41	0.41	0.53	0.45	0.76	0.84	0.47	0.50
Avail Cap(c_a), veh/h	92	1020	1050	270	1154	1154	157	440	372	228	607	508
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.7	16.2	16.2	57.5	11.5	11.5	61.7	56.5	58.1	58.6	51.8	52.0
Incr Delay (d2), s/veh	5.9	1.3	1.3	11.3	1.1	1.1	1.3	1.9	8.1	10.4	1.3	1.8
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	1.1	7.1	7.3	5.4	6.1	6.1	1.0	2.3	3.6	4.6	3.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.7	17.5	17.5	68.8	12.5	12.5	63.0	58.4	66.2	69.0	53.1	53.8
LnGrp LOS	E	B	B	E	B	B	E	E	E	E	D	D
Approach Vol, veh/h		915			1104			241			359	
Approach Delay, s/veh		19.3			20.5			63.0			59.0	
Approach LOS		B			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.7	79.7	9.1	23.5	8.0	89.3	15.7	17.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	19.4	42.9	5.8	* 42	6.6	55.7	16.4	30.1				
Max Q Clear Time (g_c+I1), s	13.0	20.0	4.3	10.2	4.3	18.7	11.1	10.2				
Green Ext Time (p_c), s	0.1	4.8	0.0	1.0	0.0	5.9	0.1	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			29.3									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

03/06/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	18	44	256	13	8	218	150	21	166
Future Volume (vph)	18	44	256	13	8	218	150	21	166
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	33.6	9.6	27.8	9.6	27.8
Total Split (s)	9.6	34.8	34.8	9.6	34.8	17.0	35.4	9.8	28.2
Total Split (%)	10.7%	38.8%	38.8%	10.7%	38.8%	19.0%	39.5%	10.9%	31.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	5.3	13.0	13.0	5.3	13.2	13.1	28.9	5.4	12.1
Actuated g/C Ratio	0.09	0.23	0.23	0.09	0.23	0.23	0.51	0.10	0.21
v/c Ratio	0.12	0.11	0.49	0.10	0.03	0.59	0.14	0.14	0.30
Control Delay	31.5	18.8	6.1	31.5	14.9	31.1	8.0	31.5	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	18.8	6.1	31.5	14.9	31.1	8.0	31.5	18.8
LOS	C	B	A	C	B	C	A	C	B
Approach Delay		9.2			23.5		19.7		20.0
Approach LOS		A			C		B		B

Intersection Summary

Cycle Length: 89.6

Actuated Cycle Length: 56.7

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 16.5

Intersection LOS: B

Intersection Capacity Utilization 43.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

			
9.8 s	35.4 s	9.6 s	34.8 s
			
17 s	28.2 s	9.6 s	34.8 s

HCM 6th Signalized Intersection Summary

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

03/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	44	256	13	8	4	218	150	64	21	166	35
Future Volume (veh/h)	18	44	256	13	8	4	218	150	64	21	166	35
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		0.99
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	1900	1900	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	50	125	15	9	0	248	170	71	24	189	35
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	44	357	302	34	361	0	307	856	343	51	608	110
Arrive On Green	0.02	0.19	0.19	0.02	0.18	0.00	0.17	0.34	0.34	0.03	0.20	0.20
Sat Flow, veh/h	1810	1900	1608	1810	1976	0	1810	2512	1008	1810	3047	553
Grp Volume(v), veh/h	20	50	125	15	9	0	248	120	121	24	110	114
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	1976	0	1810	1805	1715	1810	1805	1796
Q Serve(g_s), s	0.5	1.1	3.4	0.4	0.2	0.0	6.5	2.3	2.5	0.6	2.6	2.6
Cycle Q Clear(g_c), s	0.5	1.1	3.4	0.4	0.2	0.0	6.5	2.3	2.5	0.6	2.6	2.6
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.59	1.00		0.31
Lane Grp Cap(c), veh/h	44	357	302	34	361	0	307	615	584	51	360	358
V/C Ratio(X)	0.45	0.14	0.41	0.44	0.02	0.00	0.81	0.20	0.21	0.47	0.31	0.32
Avail Cap(c_a), veh/h	185	1124	951	185	1217	0	458	1090	1035	192	825	820
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	16.6	17.5	23.8	16.5	0.0	19.6	11.4	11.5	23.5	16.7	16.8
Incr Delay (d2), s/veh	7.2	0.2	0.9	8.7	0.0	0.0	3.7	0.2	0.2	2.4	0.5	0.5
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	0.3	0.4	1.2	0.2	0.1	0.0	2.5	0.7	0.7	0.3	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	16.8	18.4	32.5	16.5	0.0	23.3	11.6	11.6	25.9	17.2	17.3
LnGrp LOS	C	B	B	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h		195			24			489			248	
Approach Delay, s/veh		19.3			26.5			17.6			18.1	
Approach LOS		B			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	22.5	5.5	15.0	12.9	15.6	5.8	14.7				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	* 5.8				
Max Green Setting (Gmax), s	5.2	29.6	5.0	29.0	12.4	22.4	5.0	* 30				
Max Q Clear Time (g_c+I1), s	2.6	4.5	2.4	5.4	8.5	4.6	2.5	2.2				
Green Ext Time (p_c), s	0.0	1.2	0.0	0.6	0.1	1.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 18.3

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Lake Forest Warehouses (JN 14042/14177)

4: Lake Forest Dr. & Dimension Dr./Driveway

03/06/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	161	11	76	3	4	164	635	16	442
Future Volume (vph)	161	11	76	3	4	164	635	16	442
Turn Type	Split	NA	Perm	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4		8	8	5	2	1	6
Permitted Phases			4						
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	32.8	32.8	32.8	14.6	14.6	9.6	35.0	9.6	35.0
Total Split (s)	32.8	32.8	32.8	14.6	14.6	17.4	43.0	9.6	35.2
Total Split (%)	32.8%	32.8%	32.8%	14.6%	14.6%	17.4%	43.0%	9.6%	35.2%
Yellow Time (s)	4.8	4.8	4.8	3.6	3.6	3.6	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.6	4.6	4.6	6.0	4.6	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	14.1	14.1	14.1	10.0	10.0	13.3	67.1	5.3	53.3
Actuated g/C Ratio	0.14	0.14	0.14	0.10	0.10	0.13	0.67	0.05	0.53
v/c Ratio	0.39	0.39	0.22	0.02	0.04	0.74	0.29	0.18	0.39
Control Delay	41.8	41.9	1.3	41.0	32.4	61.0	10.4	49.7	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	41.9	1.3	41.0	32.4	61.0	10.4	49.7	15.3
LOS	D	D	A	D	C	E	B	D	B
Approach Delay		29.4			34.8		20.6		16.1
Approach LOS		C			C		C		B

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 20.2

Intersection LOS: C

Intersection Capacity Utilization 58.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Lake Forest Dr. & Dimension Dr./Driveway

 Ø1	 Ø2 (R)	 Ø4	 Ø8
9.6 s	43 s	32.8 s	14.6 s
 Ø5	 Ø6 (R)		
17.4 s	35.2 s		

HCM 6th Signalized Intersection Summary

4: Lake Forest Dr. & Dimension Dr./Driveway

Lake Forest Warehouses (JN 14042/14177)

03/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	11	76	3	4	4	164	635	11	16	442	214
Future Volume (veh/h)	161	11	76	3	4	4	164	635	11	16	442	214
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		0.98	1.00		0.97
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	184	0	15	3	4	0	178	690	9	17	480	178
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	369	0	164	32	34	0	210	2376	31	34	1420	523
Arrive On Green	0.10	0.00	0.10	0.02	0.02	0.00	0.12	0.65	0.65	0.02	0.55	0.55
Sat Flow, veh/h	3619	0	1605	1810	1900	0	1810	3648	48	1810	2561	942
Grp Volume(v), veh/h	184	0	15	3	4	0	178	341	358	17	337	321
Grp Sat Flow(s),veh/h/ln	1810	0	1605	1810	1900	0	1810	1805	1890	1810	1805	1699
Q Serve(g_s), s	4.8	0.0	0.8	0.2	0.2	0.0	9.6	8.1	8.1	0.9	10.2	10.4
Cycle Q Clear(g_c), s	4.8	0.0	0.8	0.2	0.2	0.0	9.6	8.1	8.1	0.9	10.2	10.4
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.03	1.00		0.55
Lane Grp Cap(c), veh/h	369	0	164	32	34	0	210	1176	1231	34	1001	942
V/C Ratio(X)	0.50	0.00	0.09	0.09	0.12	0.00	0.85	0.29	0.29	0.50	0.34	0.34
Avail Cap(c_a), veh/h	977	0	433	181	190	0	232	1176	1231	90	1001	942
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	0.0	40.7	48.3	48.4	0.0	43.3	7.5	7.5	48.6	12.2	12.2
Incr Delay (d2), s/veh	1.0	0.0	0.2	1.3	1.6	0.0	21.1	0.6	0.6	4.2	0.9	1.0
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	2.1	0.0	0.3	0.1	0.1	0.0	5.3	2.7	2.8	0.4	3.8	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	0.0	40.9	49.6	49.9	0.0	64.5	8.1	8.1	52.7	13.1	13.2
LnGrp LOS	D	A	D	D	D	A	E	A	A	D	B	B
Approach Vol, veh/h	199			7			877			675		
Approach Delay, s/veh	43.3			49.8			19.5			14.2		
Approach LOS	D			D			B			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	6.5	71.2	16.0		16.2	61.4	6.4					
Change Period (Y+Rc), s	4.6	6.0	5.8		4.6	6.0	4.6					
Max Green Setting (Gmax), s	5.0	37.0	27.0		12.8	29.2	10.0					
Max Q Clear Time (g_c+I1), s	2.9	10.1	6.8		11.6	12.4	2.2					
Green Ext Time (p_c), s	0.0	3.9	0.6		0.0	3.3	0.0					

Intersection Summary

HCM 6th Ctrl Delay 20.3

HCM 6th LOS C

Notes

User approved volume balancing among the lanes for turning movement.

Timings

Lake Forest Warehouses (JN 14042/14177)

5: Lake Forest Dr. & Rancho Pkwy.

03/06/2023

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	28	222	178	373	27	102	411	160	106	369
Future Volume (vph)	28	222	178	373	27	102	411	160	106	369
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.8	9.6	36.8	36.8	9.6	37.0	37.0	9.6	37.0
Total Split (s)	10.5	36.8	12.0	38.3	38.3	14.0	37.2	37.2	14.0	37.2
Total Split (%)	10.5%	36.8%	12.0%	38.3%	38.3%	14.0%	37.2%	37.2%	14.0%	37.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	5.0	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	6.0	6.0	4.6	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	5.6	16.8	7.3	22.4	22.4	9.9	44.7	44.7	10.2	44.9
Actuated g/C Ratio	0.06	0.17	0.07	0.22	0.22	0.10	0.45	0.45	0.10	0.45
v/c Ratio	0.30	0.54	0.74	0.49	0.06	0.65	0.28	0.21	0.66	0.28
Control Delay	53.1	30.9	63.3	35.8	0.3	62.4	20.0	4.4	62.2	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.1	30.9	63.3	35.8	0.3	62.4	20.0	4.4	62.2	19.2
LOS	D	C	E	D	A	E	C	A	E	B
Approach Delay		32.7		42.6			22.8			27.8
Approach LOS		C		D			C			C

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 31.0

Intersection LOS: C

Intersection Capacity Utilization 65.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Lake Forest Dr. & Rancho Pkwy.

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	37.2 s	12 s	36.8 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
14 s	37.2 s	10.5 s	38.3 s

HCM 6th Signalized Intersection Summary

5: Lake Forest Dr. & Rancho Pkwy.

Lake Forest Warehouses (JN 14042/14177)

03/06/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	222	103	178	373	27	102	411	160	106	369	53
Future Volume (veh/h)	28	222	103	178	373	27	102	411	160	106	369	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	1.00		0.98
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	1900	1900	1900	1900	1900	1900	1900	1900	1976	1900	1900	1900
Adj Flow Rate, veh/h	30	236	47	189	397	0	109	437	124	113	393	35
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	51	364	71	254	596	266	137	1872	855	141	1744	155
Arrive On Green	0.03	0.12	0.12	0.07	0.17	0.00	0.08	0.52	0.52	0.08	0.52	0.52
Sat Flow, veh/h	1810	3005	588	3510	3610	1610	1810	3610	1650	1810	3349	297
Grp Volume(v), veh/h	30	140	143	189	397	0	109	437	124	113	211	217
Grp Sat Flow(s),veh/h/ln	1810	1805	1787	1755	1805	1610	1810	1805	1650	1810	1805	1840
Q Serve(g_s), s	1.6	7.4	7.6	5.3	10.3	0.0	5.9	6.6	3.9	6.1	6.3	6.4
Cycle Q Clear(g_c), s	1.6	7.4	7.6	5.3	10.3	0.0	5.9	6.6	3.9	6.1	6.3	6.4
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	51	219	216	254	596	266	137	1872	855	141	940	959
V/C Ratio(X)	0.59	0.64	0.66	0.74	0.67	0.00	0.80	0.23	0.14	0.80	0.22	0.23
Avail Cap(c_a), veh/h	107	560	554	260	1173	523	170	1872	855	170	940	959
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	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	41.9	42.0	45.5	39.1	0.0	45.5	13.2	12.5	45.3	13.0	13.0
Incr Delay (d2), s/veh	3.9	3.1	3.4	9.4	1.3	0.0	15.1	0.3	0.4	16.5	0.6	0.5
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	0.8	3.4	3.4	2.5	4.5	0.0	3.1	2.5	1.4	3.3	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	45.0	45.4	54.9	40.4	0.0	60.5	13.5	12.9	61.9	13.5	13.6
LnGrp LOS	D	D	D	D	D	A	E	B	B	E	B	B
Approach Vol, veh/h	313			586			670			541		
Approach Delay, s/veh	45.8			45.1			21.0			23.6		
Approach LOS	D			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	57.8	11.8	17.9	12.2	58.1	7.4	22.3				
Change Period (Y+Rc), s	4.6	6.0	4.6	5.8	4.6	6.0	4.6	5.8				
Max Green Setting (Gmax), s	9.4	31.2	7.4	31.0	9.4	31.2	5.9	32.5				
Max Q Clear Time (g_c+I1), s	8.1	8.6	7.3	9.6	7.9	8.4	3.6	12.3				
Green Ext Time (p_c), s	0.0	2.9	0.0	1.4	0.0	2.1	0.0	2.2				
Intersection Summary												
HCM 6th Ctrl Delay	32.1											
HCM 6th LOS	C											

Lake Forest Warehouses (JN 14042 & 14177)
Existing + Project
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Bake Pkwy. & Commercentre Dr.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.565

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 27 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	1	0	1	0	1	1	0	2

Volume Module:

Base Vol:	78	858	104	11	820	94	87	90	77	300	215	12
Growth 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
Initial Bse:	78	858	104	11	820	94	87	90	77	300	215	12
Added Vol:	0	6	23	0	14	0	0	9	0	42	20	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	78	864	127	11	834	94	87	99	77	342	235	12
User 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
PHF 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
PHF Volume:	78	864	127	11	834	94	87	99	77	342	235	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	864	127	11	834	94	87	99	77	342	235	12
PCE 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
MLF 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
FinalVolume:	78	864	127	11	834	94	87	99	77	342	235	12

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.80	0.20	1.00	1.12	0.88	2.00	0.95	0.05
Final Sat.:	1700	3400	1700	1700	3056	344	1700	1913	1488	3400	1617	83

Capacity Analysis Module:

Vol/Sat:	0.05	0.25	0.07	0.01	0.27	0.27	0.05	0.05	0.05	0.10	0.15	0.15
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing + Project
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Dimension Dr. & Bake Pkwy.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.531
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	1	0	1	0	1	0	1	1	0	1

Volume Module:

Base Vol:	70	99	39	54	57	43	76	953	48	155	841	85
Growth 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
Initial Bse:	70	99	39	54	57	43	76	953	48	155	841	85
Added Vol:	14	1	10	0	1	0	0	0	6	5	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	100	49	54	58	43	76	953	54	160	841	85
User 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
PHF 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
PHF Volume:	84	100	49	54	58	43	76	953	54	160	841	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	100	49	54	58	43	76	953	54	160	841	85
PCE 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
MLF 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
FinalVolume:	84	100	49	54	58	43	76	953	54	160	841	85

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.89	0.11	1.00	1.82	0.18
Final Sat.:	3400	1700	1700	1700	1700	1700	1700	3218	182	1700	3088	312

Capacity Analysis Module:

Vol/Sat:	0.02	0.06	0.03	0.03	0.03	0.03	0.04	0.30	0.30	0.09	0.27	0.27
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing + Project
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Dimension Dr. & Commercentre Dr./Enterprise Wy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.410
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 20 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	113	167	20	18	224	21	29	10	256	60	63	16
Growth 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
Initial Bse:	113	167	20	18	224	21	29	10	256	60	63	16
Added Vol:	0	9	18	8	0	0	0	32	0	61	62	18
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	176	38	26	224	21	29	42	256	121	125	34
User 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
PHF 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
PHF Volume:	113	176	38	26	224	21	29	42	256	121	125	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	176	38	26	224	21	29	42	256	121	125	34
PCE 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
MLF 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
FinalVolume:	113	176	38	26	224	21	29	42	256	121	125	34

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.64	0.36	1.00	1.83	0.17	1.00	1.00	1.00	1.00	0.79	0.21
Final Sat.:	1700	2796	604	1700	3109	291	1700	1700	1700	1700	1336	364

Capacity Analysis Module:

Vol/Sat:	0.07	0.06	0.06	0.02	0.07	0.07	0.02	0.02	0.15	0.07	0.09	0.09
Crit Moves:	****			****					****	****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing + Project
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Lake Forest Dr. & Dimension Dr.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.482

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	0	1	1	0

Volume Module:

Base Vol:	112	655	22	41	650	165	304	12	92	18	1	15
Growth 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
Initial Bse:	112	655	22	41	650	165	304	12	92	18	1	15
Added Vol:	9	0	0	0	0	18	41	0	20	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	121	655	22	41	650	183	345	12	112	18	1	15
User 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
PHF 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
PHF Volume:	121	655	22	41	650	183	345	12	112	18	1	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	655	22	41	650	183	345	12	112	18	1	15
PCE 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
MLF 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
FinalVolume:	121	655	22	41	650	183	345	12	112	18	1	15

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.94	0.06	1.00	1.56	0.44	1.93	0.07	1.00	1.00	0.06	0.94
Final Sat.:	1700	3290	110	1700	2653	747	3286	114	1700	1700	106	1594

Capacity Analysis Module:

Vol/Sat:	0.07	0.20	0.20	0.02	0.25	0.24	0.10	0.11	0.07	0.01	0.01	0.01
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Existing + Project
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Lake Forest Dr. & Rancho Pkwy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.514

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 24 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	1	0	1	0	1	1	0	2
	0	1	0	1	0	1	0	1	0	1	0	1

Volume Module:

Base Vol:	153	505	261	118	454	56	33	502	103	148	341	68
Growth 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
Initial Bse:	153	505	261	118	454	56	33	502	103	148	341	68
Added Vol:	0	14	27	0	6	0	0	0	0	12	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	153	519	288	118	460	56	33	502	103	160	341	68
User 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
PHF 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
PHF Volume:	153	519	288	118	460	56	33	502	103	160	341	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	153	519	288	118	460	56	33	502	103	160	341	68
PCE 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
MLF 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
FinalVolume:	153	519	288	118	460	56	33	502	103	160	341	68

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.78	0.22	1.00	1.66	0.34	2.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	3031	369	1700	2821	579	3400	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.09	0.15	0.17	0.07	0.15	0.15	0.02	0.18	0.18	0.05	0.10	0.04
Crit Moves:	****			****			****			****		

APPENDIX 5.2:

E+P CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Intersection: 1: Bake Pkwy. & Commercentre Dr.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	132	201	177	172	200	211	163	266	266	181	74	336
Average Queue (ft)	58	113	92	62	124	99	70	158	127	58	18	202
95th Queue (ft)	112	178	167	154	184	178	134	244	223	116	52	296
Link Distance (ft)		978	978		895	895		1222	1222			863
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	160			340			290			200	290	
Storage Blk Time (%)	0	2						0	0			1
Queuing Penalty (veh)	0	1						0	2			0

Intersection: 1: Bake Pkwy. & Commercentre Dr.

Movement	SB
Directions Served	TR
Maximum Queue (ft)	288
Average Queue (ft)	168
95th Queue (ft)	268
Link Distance (ft)	863
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T
Maximum Queue (ft)	95	377	374	285	343	368	86	85	137	105	279	246
Average Queue (ft)	32	223	207	157	193	190	25	41	62	49	159	108
95th Queue (ft)	75	334	323	255	309	325	62	76	121	85	252	205
Link Distance (ft)		1737	1737		1315	1315		1021	1021	1021		613
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	290			430			170				165	
Storage Blk Time (%)		3									12	0
Queuing Penalty (veh)		1									28	1

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	SB
Directions Served	R
Maximum Queue (ft)	77
Average Queue (ft)	37
95th Queue (ft)	69
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	165
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	72	106	73	62	72	215	74	191	66	105	138
Average Queue (ft)	29	43	26	21	29	104	24	76	24	45	65
95th Queue (ft)	60	91	56	50	62	172	57	145	51	87	114
Link Distance (ft)	463	463	463		406		1638	1638		1021	1021
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)				150		200			200		
Storage Blk Time (%)						0					
Queuing Penalty (veh)						0					

Intersection: 4: Lake Forest Dr. & Dimension Dr./Driveway

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	171	197	76	22	41	250	210	139	86	207	220
Average Queue (ft)	37	120	32	3	8	130	81	48	19	110	107
95th Queue (ft)	136	184	55	16	31	210	161	112	56	180	191
Link Distance (ft)		409	409	51	51		758	758		892	892
Upstream Blk Time (%)					0						
Queuing Penalty (veh)					0						
Storage Bay Dist (ft)	205					250			110		
Storage Blk Time (%)	0	0				1	0			7	
Queuing Penalty (veh)	0	0				2	0			1	

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	TR	L	L	T	T	R	L	T	T	R
Maximum Queue (ft)	174	198	201	189	224	211	183	23	235	177	156	91
Average Queue (ft)	87	111	99	102	146	114	87	3	111	93	72	40
95th Queue (ft)	154	169	175	194	219	179	155	12	195	153	138	70
Link Distance (ft)		1123	1123			712	712			1184	1184	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			260	260			100	470			200
Storage Blk Time (%)					0		5					
Queuing Penalty (veh)					0		1					

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (ft)	160	194	177
Average Queue (ft)	83	110	87
95th Queue (ft)	138	169	155
Link Distance (ft)		725	725
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	440		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 39

Intersection: 1: Bake Pkwy. & Commercentre Dr.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	154	138	157	263	302	337	200	367	373	250	49	409
Average Queue (ft)	74	71	66	164	203	182	70	203	188	55	13	259
95th Queue (ft)	131	119	127	237	276	287	141	306	303	170	39	375
Link Distance (ft)		978	978		895	895		1222	1222			863
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	160			340			290			200	290	
Storage Blk Time (%)	0				0			1	4			6
Queuing Penalty (veh)	0				0			1	8			1

Intersection: 1: Bake Pkwy. & Commercentre Dr.

Movement	SB
Directions Served	TR
Maximum Queue (ft)	391
Average Queue (ft)	226
95th Queue (ft)	350
Link Distance (ft)	863
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T
Maximum Queue (ft)	312	434	430	285	266	274	89	95	175	95	127	114
Average Queue (ft)	77	250	239	164	164	158	27	46	79	41	61	48
95th Queue (ft)	187	379	375	259	251	253	65	83	142	77	106	95
Link Distance (ft)		1737	1737		1315	1315		1021	1021	1021		613
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	290			430			170				165	
Storage Blk Time (%)		6									0	
Queuing Penalty (veh)		5									0	

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	SB
Directions Served	R
Maximum Queue (ft)	56
Average Queue (ft)	22
95th Queue (ft)	48
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	165
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	95	47	119	154	145	211	155	125	68	154	183
Average Queue (ft)	39	17	54	62	74	93	28	56	18	68	83
95th Queue (ft)	81	45	95	114	124	162	87	107	51	131	152
Link Distance (ft)	463	463	463		406		1638	1638		1021	1021
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)				150		200			200		
Storage Blk Time (%)				0	0	0					
Queuing Penalty (veh)				0	0	0					

Intersection: 4: Lake Forest Dr. & Dimension Dr./Driveway

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	256	292	102	62	49	182	236	201	152	306	308
Average Queue (ft)	124	183	43	18	13	97	130	87	42	173	162
95th Queue (ft)	246	262	80	49	41	164	213	179	105	261	269
Link Distance (ft)		409	409	51	51		758	758		892	892
Upstream Blk Time (%)				3	1						
Queuing Penalty (veh)				0	0						
Storage Bay Dist (ft)	205					250			110		
Storage Blk Time (%)	0	5					0		0	23	
Queuing Penalty (veh)	0	9					0		2	10	

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	TR	L	L	T	T	R	L	T	T	R
Maximum Queue (ft)	126	278	260	179	190	203	160	37	447	447	318	136
Average Queue (ft)	54	179	158	62	114	105	72	8	255	152	110	66
95th Queue (ft)	102	255	239	156	178	173	140	25	433	344	248	114
Link Distance (ft)		1123	1123			712	712			1184	1184	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			260	260			100	470			200
Storage Blk Time (%)		1					3		3	0	0	
Queuing Penalty (veh)		1					3		8	0	0	

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (ft)	157	224	214
Average Queue (ft)	90	138	114
95th Queue (ft)	151	211	194
Link Distance (ft)		725	725
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	440		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 49

APPENDIX 6.1:

OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS

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Timings

Lake Forest Warehouses (JN 14042/14177)

1: Bake Pkwy. & Commercentre Dr.

02/27/2023

									
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	75	202	197	121	86	928	405	19	921
Future Volume (vph)	75	202	197	121	86	928	405	19	921
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.8	9.6	34.8	9.6	29.2	29.2	9.6	29.2
Total Split (s)	17.6	35.0	20.4	37.8	20.0	74.1	74.1	10.5	64.6
Total Split (%)	12.6%	25.0%	14.6%	27.0%	14.3%	52.9%	52.9%	7.5%	46.1%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	14.7	18.1	13.3	16.7	11.6	85.4	85.4	5.9	75.8
Actuated g/C Ratio	0.10	0.13	0.10	0.12	0.08	0.61	0.61	0.04	0.54
v/c Ratio	0.44	0.65	0.70	0.57	0.64	0.48	0.36	0.28	0.58
Control Delay	65.9	56.9	73.8	64.5	81.2	18.2	4.3	74.2	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.9	56.9	73.8	64.5	81.2	18.2	4.3	74.2	24.8
LOS	E	E	E	E	F	B	A	E	C
Approach Delay		58.8		70.1		18.1			25.7
Approach LOS		E		E		B			C

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 10.4 (7%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 30.6

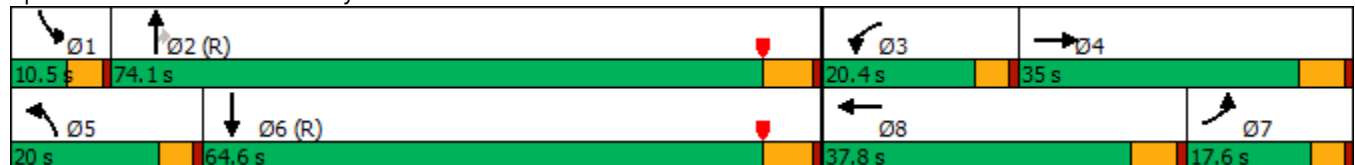
Intersection LOS: C

Intersection Capacity Utilization 65.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Bake Pkwy. & Commercentre Dr.



HCM 6th Signalized Intersection Summary

1: Bake Pkwy. & Commercentre Dr.

Lake Forest Warehouses (JN 14042/14177)

02/27/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	202	76	197	121	11	86	928	405	19	921	83
Future Volume (veh/h)	75	202	76	197	121	11	86	928	405	19	921	83
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		0.99	1.00		0.98
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	1900	1900	1900	1900	1976	1900	1900	1900	1976	1900	1900	1900
Adj Flow Rate, veh/h	83	224	51	219	134	12	96	1031	389	21	1023	71
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	140	296	66	270	164	15	118	2349	1076	36	2069	144
Arrive On Green	0.08	0.10	0.10	0.08	0.09	0.09	0.07	0.65	0.65	0.02	0.61	0.61
Sat Flow, veh/h	1810	2931	654	3510	1787	160	1810	3610	1653	1810	3419	237
Grp Volume(v), veh/h	83	136	139	219	0	146	96	1031	389	21	540	554
Grp Sat Flow(s),veh/h/ln	1810	1805	1780	1755	0	1947	1810	1805	1653	1810	1805	1851
Q Serve(g_s), s	6.2	10.3	10.6	8.6	0.0	10.3	7.3	19.6	15.0	1.6	23.6	23.6
Cycle Q Clear(g_c), s	6.2	10.3	10.6	8.6	0.0	10.3	7.3	19.6	15.0	1.6	23.6	23.6
Prop In Lane	1.00		0.37	1.00		0.08	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	140	182	180	270	0	179	118	2349	1076	36	1092	1120
V/C Ratio(X)	0.59	0.75	0.77	0.81	0.00	0.82	0.81	0.44	0.36	0.58	0.49	0.49
Avail Cap(c_a), veh/h	168	376	371	396	0	445	199	2349	1076	76	1092	1120
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.4	61.2	61.3	63.6	0.0	62.4	64.6	12.0	11.2	68.0	15.6	15.6
Incr Delay (d2), s/veh	1.5	6.0	6.8	4.8	0.0	8.7	5.0	0.6	0.9	5.4	1.6	1.6
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	2.9	4.9	5.1	4.0	0.0	5.4	3.4	7.1	5.4	0.8	9.2	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	67.1	68.2	68.4	0.0	71.1	69.6	12.6	12.1	73.5	17.2	17.1
LnGrp LOS	E	E	E	E	A	E	E	B	B	E	B	B
Approach Vol, veh/h	358			365			1516			1115		
Approach Delay, s/veh	66.8			69.5			16.1			18.2		
Approach LOS	E			E			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	97.3	15.4	20.0	13.7	90.9	16.7	18.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	5.8	* 5.8				
Max Green Setting (Gmax), s	5.9	67.9	15.8	29.2	15.4	58.4	13.0	* 32				
Max Q Clear Time (g_c+I1), s	3.6	21.6	10.6	12.6	9.3	25.6	8.2	12.3				
Green Ext Time (p_c), s	0.0	9.8	0.2	1.2	0.0	7.0	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Lake Forest Warehouses (JN 14042/14177)

2: Dimension Dr. & Bake Pkwy.

02/23/2023

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	33	927	212	988	68	74	143	202	125	110
Future Volume (vph)	33	927	212	988	68	74	143	202	125	110
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.2	9.6	36.2	9.6	35.8	35.8	9.6	35.0	35.0
Total Split (s)	10.0	52.8	26.0	68.8	11.2	35.8	35.8	25.4	50.0	50.0
Total Split (%)	7.1%	37.7%	18.6%	49.1%	8.0%	25.6%	25.6%	18.1%	35.7%	35.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	4.8	3.6	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	5.8	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None
Act Effect Green (s)	6.3	64.8	20.4	80.8	6.2	14.7	14.7	18.9	30.1	30.1
Actuated g/C Ratio	0.04	0.46	0.15	0.58	0.04	0.10	0.10	0.14	0.22	0.22
v/c Ratio	0.42	0.62	0.84	0.59	0.45	0.38	0.46	0.86	0.32	0.25
Control Delay	80.3	32.5	83.4	22.4	74.4	61.7	9.2	88.8	47.3	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.3	32.5	83.4	22.4	74.4	61.7	9.2	88.8	47.3	5.0
LOS	F	C	F	C	E	E	A	F	D	A
Approach Delay		34.0		31.8		38.4			55.9	
Approach LOS		C		C		D			E	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 36.4

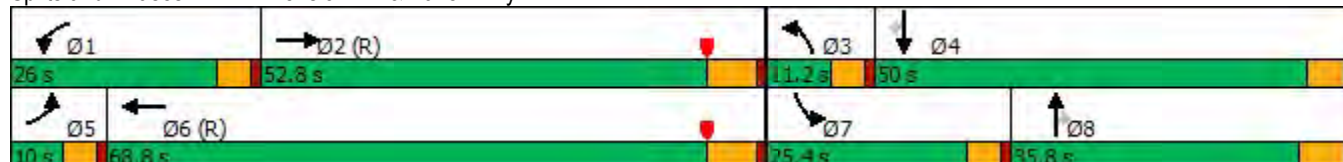
Intersection LOS: D

Intersection Capacity Utilization 77.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Dimension Dr. & Bake Pkwy.



HCM 6th Signalized Intersection Summary 2: Dimension Dr. & Bake Pkwy.

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	927	73	212	988	188	68	74	143	202	125	110
Future Volume (veh/h)	33	927	73	212	988	188	68	74	143	202	125	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	34	956	75	219	1019	194	70	76	147	208	129	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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	47	1613	127	243	1766	336	117	210	178	232	390	331
Arrive On Green	0.03	0.48	0.48	0.13	0.58	0.58	0.03	0.11	0.11	0.13	0.21	0.21
Sat Flow, veh/h	1810	3391	266	1810	3026	575	3510	1900	1606	1810	1900	1610
Grp Volume(v), veh/h	34	509	522	219	607	606	70	76	147	208	129	113
Grp Sat Flow(s),veh/h/ln	1810	1805	1852	1810	1805	1796	1755	1900	1606	1810	1900	1610
Q Serve(g_s), s	2.6	28.8	28.8	16.7	29.5	29.7	2.8	5.2	12.5	15.9	8.1	8.4
Cycle Q Clear(g_c), s	2.6	28.8	28.8	16.7	29.5	29.7	2.8	5.2	12.5	15.9	8.1	8.4
Prop In Lane	1.00		0.14	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	47	859	881	243	1053	1048	117	210	178	232	390	331
V/C Ratio(X)	0.72	0.59	0.59	0.90	0.58	0.58	0.60	0.36	0.83	0.90	0.33	0.34
Avail Cap(c_a), veh/h	70	859	881	277	1053	1048	165	407	344	269	611	518
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	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.7	26.8	26.8	59.7	18.3	18.3	66.7	57.7	60.9	60.1	47.4	47.5
Incr Delay (d2), s/veh	7.3	3.0	2.9	26.5	2.3	2.3	1.8	1.0	9.2	25.5	0.5	0.6
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	1.3	12.3	12.7	9.2	11.8	11.9	1.2	2.5	5.5	8.9	3.9	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.0	29.8	29.7	86.2	20.6	20.6	68.5	58.7	70.2	85.6	47.9	48.1
LnGrp LOS	E	C	C	F	C	C	E	E	E	F	D	D
Approach Vol, veh/h	1065			1432			293			450		
Approach Delay, s/veh	31.2			30.6			66.8			65.4		
Approach LOS	C			C			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.4	72.8	9.3	34.6	8.3	87.9	22.5	21.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	21.4	46.6	6.6	* 45	5.4	62.6	20.8	30.0				
Max Q Clear Time (g_c+I1), s	18.7	30.8	4.8	10.4	4.6	31.7	17.9	14.5				
Green Ext Time (p_c), s	0.1	5.2	0.0	1.1	0.0	8.2	0.1	0.7				

Intersection Summary

HCM 6th Ctrl Delay 38.9

HCM 6th LOS D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

02/27/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	53	109	192	34	32	278	180	40	176
Future Volume (vph)	53	109	192	34	32	278	180	40	176
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	33.6	9.6	27.8	9.6	27.8
Total Split (s)	13.9	36.0	36.0	12.0	34.1	39.0	60.0	12.0	33.0
Total Split (%)	11.6%	30.0%	30.0%	10.0%	28.4%	32.5%	50.0%	10.0%	27.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	8.2	16.1	16.1	7.2	13.4	16.0	27.9	6.5	12.8
Actuated g/C Ratio	0.12	0.24	0.24	0.11	0.20	0.24	0.42	0.10	0.19
v/c Ratio	0.26	0.25	0.38	0.20	0.11	0.69	0.21	0.24	0.39
Control Delay	37.4	25.9	6.9	39.2	22.5	34.5	10.6	40.0	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	25.9	6.9	39.2	22.5	34.5	10.6	40.0	23.7
LOS	D	C	A	D	C	C	B	D	C
Approach Delay		17.3			30.1		22.3		25.9
Approach LOS		B			C		C		C

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 66.6

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 22.2

Intersection LOS: C

Intersection Capacity Utilization 47.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.



HCM 6th Signalized Intersection Summary

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

02/27/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	109	192	34	32	10	278	180	109	40	176	78
Future Volume (veh/h)	53	109	192	34	32	10	278	180	109	40	176	78
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		0.98	1.00		0.97
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	1900	1900	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	57	117	102	37	34	8	299	194	111	43	189	74
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	238	340	287	71	133	31	361	802	435	79	460	173
Arrive On Green	0.13	0.18	0.18	0.04	0.09	0.09	0.20	0.36	0.36	0.04	0.18	0.18
Sat Flow, veh/h	1810	1900	1608	1810	1547	364	1810	2236	1214	1810	2545	956
Grp Volume(v), veh/h	57	117	102	37	0	42	299	155	150	43	132	131
Grp Sat Flow(s),veh/h/ln	1810	1900	1608	1810	0	1910	1810	1805	1646	1810	1805	1697
Q Serve(g_s), s	1.5	3.0	1.5	1.1	0.0	1.1	8.7	3.3	3.5	1.3	3.5	3.8
Cycle Q Clear(g_c), s	1.5	3.0	1.5	1.1	0.0	1.1	8.7	3.3	3.5	1.3	3.5	3.8
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.74	1.00		0.56
Lane Grp Cap(c), veh/h	238	340	287	71	0	165	361	647	590	79	326	307
V/C Ratio(X)	0.24	0.34	0.36	0.52	0.00	0.26	0.83	0.24	0.25	0.54	0.40	0.43
Avail Cap(c_a), veh/h	307	1047	886	244	0	1028	1136	1785	1627	244	896	842
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	19.7	4.9	25.8	0.0	23.4	21.0	12.3	12.4	25.7	19.8	19.9
Incr Delay (d2), s/veh	0.5	0.6	0.7	5.8	0.0	0.8	1.9	0.2	0.2	2.1	0.8	0.9
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	0.6	1.2	1.1	0.6	0.0	0.5	3.3	1.1	1.1	0.5	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.8	20.3	5.7	31.6	0.0	24.2	22.9	12.5	12.6	27.8	20.6	20.9
LnGrp LOS	C	C	A	C	A	C	C	B	B	C	C	C
Approach Vol, veh/h		276			79			604			306	
Approach Delay, s/veh		15.2			27.7			17.7			21.7	
Approach LOS		B			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	25.5	6.8	15.6	16.7	15.7	13.0	9.3				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	5.8	* 5.8	5.8	* 4.6				
Max Green Setting (Gmax), s	7.4	54.2	7.4	30.2	34.4	* 27	9.3	* 30				
Max Q Clear Time (g_c+I1), s	3.3	5.5	3.1	5.0	10.7	5.8	3.5	3.1				
Green Ext Time (p_c), s	0.0	1.8	0.0	0.8	0.4	1.3	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			18.7									
HCM 6th LOS			B									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

Lake Forest Warehouses (JN 14042/14177)

4: Lake Forest Dr. & Dimension Dr./Driveway

02/23/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	216	12	114	3	4	219	722	17	520
Future Volume (vph)	216	12	114	3	4	219	722	17	520
Turn Type	Split	NA	Perm	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4		8	8	5	2	1	6
Permitted Phases			4						
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	32.8	32.8	32.8	14.6	14.6	9.6	35.0	9.6	35.0
Total Split (s)	32.8	32.8	32.8	14.6	14.6	17.4	42.8	9.8	35.2
Total Split (%)	32.8%	32.8%	32.8%	14.6%	14.6%	17.4%	42.8%	9.8%	35.2%
Yellow Time (s)	4.8	4.8	4.8	3.6	3.6	3.6	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.6	4.6	4.6	6.0	4.6	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	14.8	14.8	14.8	10.0	10.0	17.9	66.4	5.3	48.0
Actuated g/C Ratio	0.15	0.15	0.15	0.10	0.10	0.18	0.66	0.05	0.48
v/c Ratio	0.47	0.47	0.31	0.02	0.04	0.72	0.32	0.19	0.51
Control Delay	43.7	43.6	3.0	41.0	32.5	53.2	11.0	49.9	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	43.6	3.0	41.0	32.5	53.2	11.0	49.9	18.7
LOS	D	D	A	D	C	D	B	D	B
Approach Delay		30.1			34.8		20.7		19.3
Approach LOS		C			C		C		B

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 21.7

Intersection LOS: C

Intersection Capacity Utilization 64.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Lake Forest Dr. & Dimension Dr./Driveway

			
Ø1	Ø2 (R)	Ø4	Ø8
9.8 s	42.8 s	32.3 s	14.6 s
			
Ø5	Ø6 (R)		
17.4 s	35.2 s		

HCM 6th Signalized Intersection Summary

4: Lake Forest Dr. & Dimension Dr./Driveway

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	12	114	3	4	4	219	722	12	17	520	298
Future Volume (veh/h)	216	12	114	3	4	4	219	722	12	17	520	298
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	236	0	54	3	4	0	231	760	13	18	547	257
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	404	0	177	32	34	0	232	2328	40	36	1269	595
Arrive On Green	0.11	0.00	0.11	0.02	0.02	0.00	0.13	0.64	0.64	0.02	0.53	0.53
Sat Flow, veh/h	3619	0	1589	1810	1900	0	1810	3631	62	1810	2382	1116
Grp Volume(v), veh/h	236	0	54	3	4	0	231	378	395	18	414	390
Grp Sat Flow(s),veh/h/ln	1810	0	1589	1810	1900	0	1810	1805	1889	1810	1805	1693
Q Serve(g_s), s	6.2	0.0	3.1	0.2	0.2	0.0	12.8	9.5	9.5	1.0	13.9	14.0
Cycle Q Clear(g_c), s	6.2	0.0	3.1	0.2	0.2	0.0	12.8	9.5	9.5	1.0	13.9	14.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.03	1.00		0.66
Lane Grp Cap(c), veh/h	404	0	177	32	34	0	232	1157	1211	36	962	902
V/C Ratio(X)	0.58	0.00	0.30	0.09	0.12	0.00	1.00	0.33	0.33	0.51	0.43	0.43
Avail Cap(c_a), veh/h	977	0	429	181	190	0	232	1157	1211	94	962	902
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	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	0.0	40.9	48.3	48.4	0.0	43.6	8.1	8.1	48.5	14.2	14.2
Incr Delay (d2), s/veh	1.3	0.0	1.0	1.3	1.6	0.0	58.3	0.8	0.7	4.1	1.4	1.5
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	2.7	0.0	1.3	0.1	0.1	0.0	9.2	3.2	3.3	0.5	5.3	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	0.0	41.8	49.6	49.9	0.0	101.9	8.9	8.9	52.6	15.6	15.7
LnGrp LOS	D	A	D	D	D	A	F	A	A	D	B	B
Approach Vol, veh/h	290			7			1004			822		
Approach Delay, s/veh	43.2			49.8			30.3			16.4		
Approach LOS	D			D			C			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	70.1		17.0	17.4	59.3		6.4				
Change Period (Y+Rc), s	4.6	6.0		5.8	4.6	6.0		4.6				
Max Green Setting (Gmax), s	5.2	36.8		27.0	12.8	29.2		10.0				
Max Q Clear Time (g_c+I1), s	3.0	11.5		8.2	14.8	16.0		2.2				
Green Ext Time (p_c), s	0.0	4.3		0.9	0.0	3.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay 26.8

HCM 6th LOS C

Notes

User approved volume balancing among the lanes for turning movement.

Timings

Lake Forest Warehouses (JN 14042/14177)

5: Lake Forest Dr. & Rancho Pkwy.

02/23/2023

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	111	349	226	465	32	164	461	197	122	418
Future Volume (vph)	111	349	226	465	32	164	461	197	122	418
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.8	9.6	36.8	36.8	9.6	37.0	37.0	9.6	37.0
Total Split (s)	11.0	36.8	11.0	36.8	36.8	14.0	38.9	38.9	13.3	38.2
Total Split (%)	11.0%	36.8%	11.0%	36.8%	36.8%	14.0%	38.9%	38.9%	13.3%	38.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	5.0	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	6.0	6.0	4.6	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	6.4	20.9	6.4	20.9	20.9	16.8	39.7	39.7	12.1	34.9
Actuated g/C Ratio	0.06	0.21	0.06	0.21	0.21	0.17	0.40	0.40	0.12	0.35
v/c Ratio	1.05	0.67	1.10	0.67	0.08	0.63	0.36	0.27	0.66	0.48
Control Delay	145.7	36.6	133.6	40.3	0.3	51.8	23.4	4.4	59.1	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	145.7	36.6	133.6	40.3	0.3	51.8	23.4	4.4	59.1	25.6
LOS	F	D	F	D	A	D	C	A	E	C
Approach Delay		57.5		67.7			24.5			31.7
Approach LOS		E		E			C			C

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 44.3

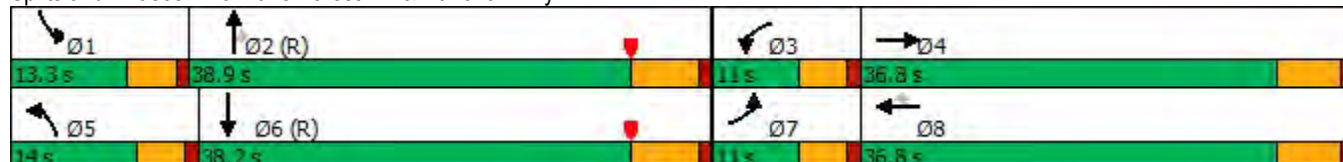
Intersection LOS: D

Intersection Capacity Utilization 73.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Lake Forest Dr. & Rancho Pkwy.



HCM 6th Signalized Intersection Summary
5: Lake Forest Dr. & Rancho Pkwy.

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	349	120	226	465	32	164	461	197	122	418	125
Future Volume (veh/h)	111	349	120	226	465	32	164	461	197	122	418	125
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		0.99	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1976	1900	1900	1900
Adj Flow Rate, veh/h	121	379	103	246	505	15	178	501	181	133	454	121
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	116	512	137	225	657	293	170	1650	754	157	1267	335
Arrive On Green	0.06	0.18	0.18	0.06	0.18	0.18	0.09	0.46	0.46	0.09	0.45	0.45
Sat Flow, veh/h	1810	2811	755	3510	3610	1608	1810	3610	1650	1810	2815	744
Grp Volume(v), veh/h	121	242	240	246	505	15	178	501	181	133	290	285
Grp Sat Flow(s),veh/h/ln	1810	1805	1761	1755	1805	1608	1810	1805	1650	1810	1805	1754
Q Serve(g_s), s	6.4	12.6	12.9	6.4	13.3	0.8	9.4	8.8	6.7	7.2	10.5	10.7
Cycle Q Clear(g_c), s	6.4	12.6	12.9	6.4	13.3	0.8	9.4	8.8	6.7	7.2	10.5	10.7
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		0.42
Lane Grp Cap(c), veh/h	116	329	321	225	657	293	170	1650	754	157	812	789
V/C Ratio(X)	1.04	0.74	0.75	1.09	0.77	0.05	1.05	0.30	0.24	0.84	0.36	0.36
Avail Cap(c_a), veh/h	116	560	546	225	1119	498	170	1650	754	157	812	789
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	38.6	38.7	46.8	38.9	33.8	45.3	17.1	16.6	45.0	18.0	18.1
Incr Delay (d2), s/veh	96.2	3.2	3.5	87.7	1.9	0.1	81.8	0.5	0.8	30.9	1.2	1.3
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	5.9	5.6	5.6	5.4	5.8	0.3	7.9	3.4	2.5	4.4	4.3	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	143.0	41.8	42.3	134.5	40.8	33.8	127.1	17.6	17.3	75.8	19.2	19.4
LnGrp LOS	F	D	D	F	D	C	F	B	B	E	B	B
Approach Vol, veh/h		603			766			860			708	
Approach Delay, s/veh		62.3			70.8			40.2			29.9	
Approach LOS		E			E			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	51.7	11.0	24.0	14.0	51.0	11.0	24.0				
Change Period (Y+Rc), s	4.6	6.0	4.6	5.8	4.6	6.0	4.6	5.8				
Max Green Setting (Gmax), s	8.7	32.9	6.4	31.0	9.4	32.2	6.4	31.0				
Max Q Clear Time (g_c+I1), s	9.2	10.8	8.4	14.9	11.4	12.7	8.4	15.3				
Green Ext Time (p_c), s	0.0	3.5	0.0	2.3	0.0	2.9	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			50.2									
HCM 6th LOS			D									

Timings

Lake Forest Warehouses (JN 14042/14177)

1: Bake Pkwy. & Commercentre Dr.

02/27/2023



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	97	145	437	289	86	1048	208	15	971
Future Volume (vph)	97	145	437	289	86	1048	208	15	971
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8	5	2		1	6
Permitted Phases							2		
Detector Phase	7	4	3	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.8	9.6	34.8	9.6	29.2	29.2	9.6	29.2
Total Split (s)	19.8	34.8	27.0	42.0	14.0	58.6	58.6	9.6	54.2
Total Split (%)	15.2%	26.8%	20.8%	32.3%	10.8%	45.1%	45.1%	7.4%	41.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	12.9	17.2	21.5	25.8	10.4	70.5	70.5	5.4	59.6
Actuated g/C Ratio	0.10	0.13	0.17	0.20	0.08	0.54	0.54	0.04	0.46
v/c Ratio	0.60	0.49	0.90	0.80	0.67	0.61	0.22	0.23	0.73
Control Delay	69.6	35.7	73.5	63.0	79.7	24.9	7.6	67.6	33.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.6	35.7	73.5	63.0	79.7	24.9	7.6	67.6	33.4
LOS	E	D	E	E	E	C	A	E	C
Approach Delay		45.7		69.2		25.7			33.9
Approach LOS		D		E		C			C

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 10 (8%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 39.4

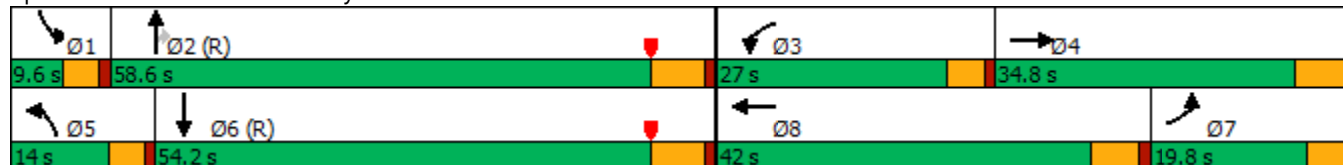
Intersection LOS: D

Intersection Capacity Utilization 74.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Bake Pkwy. & Commercentre Dr.



HCM 6th Signalized Intersection Summary

1: Bake Pkwy. & Commercentre Dr.

Lake Forest Warehouses (JN 14042/14177)

02/27/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	145	86	437	289	16	86	1048	208	15	971	103
Future Volume (veh/h)	97	145	86	437	289	16	86	1048	208	15	971	103
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		0.99	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	1900	1900	1900	1900	1976	1900	1900	1900	1976	1900	1900	1900
Adj Flow Rate, veh/h	108	161	58	486	321	17	96	1164	208	17	1079	83
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	132	322	112	540	361	19	119	1959	898	32	1681	129
Arrive On Green	0.07	0.12	0.12	0.15	0.19	0.19	0.07	0.54	0.54	0.02	0.49	0.49
Sat Flow, veh/h	1810	2628	913	3510	1860	98	1810	3610	1654	1810	3397	261
Grp Volume(v), veh/h	108	109	110	486	0	338	96	1164	208	17	573	589
Grp Sat Flow(s),veh/h/ln	1810	1805	1736	1755	0	1958	1810	1805	1654	1810	1805	1853
Q Serve(g_s), s	7.6	7.3	7.7	17.7	0.0	21.9	6.8	28.3	8.6	1.2	30.6	30.6
Cycle Q Clear(g_c), s	7.6	7.3	7.7	17.7	0.0	21.9	6.8	28.3	8.6	1.2	30.6	30.6
Prop In Lane	1.00		0.53	1.00		0.05	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	132	222	213	540	0	380	119	1959	898	32	893	917
V/C Ratio(X)	0.82	0.49	0.52	0.90	0.00	0.89	0.81	0.59	0.23	0.53	0.64	0.64
Avail Cap(c_a), veh/h	212	403	387	605	0	545	131	1959	898	70	893	917
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	53.2	53.4	54.0	0.0	51.0	59.9	20.1	15.5	63.3	24.3	24.3
Incr Delay (d2), s/veh	5.6	1.7	1.9	14.5	0.0	12.3	25.2	1.3	0.6	5.0	3.5	3.5
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	3.6	3.4	3.4	8.7	0.0	11.7	3.8	11.1	3.2	0.6	12.8	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.0	54.9	55.4	68.5	0.0	63.3	85.1	21.4	16.1	68.4	27.8	27.8
LnGrp LOS	E	D	E	E	A	E	F	C	B	E	C	C
Approach Vol, veh/h	327		824				1468		1179			
Approach Delay, s/veh	58.4		66.4				24.8		28.4			
Approach LOS	E		E				C		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	76.8	24.6	21.8	13.1	70.5	15.3	31.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	5.8	* 5.8				
Max Green Setting (Gmax), s	5.0	52.4	22.4	29.0	9.4	48.0	15.2	* 36				
Max Q Clear Time (g_c+I1), s	3.2	30.3	19.7	9.7	8.8	32.6	9.6	23.9				
Green Ext Time (p_c), s	0.0	8.5	0.3	1.0	0.0	5.9	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			37.8									
HCM 6th LOS			D									
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.												

Timings

Lake Forest Warehouses (JN 14042/14177)

2: Dimension Dr. & Bake Pkwy.

02/23/2023

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	81	1151	216	986	88	106	105	77	61	46
Future Volume (vph)	81	1151	216	986	88	106	105	77	61	46
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2	1	6	3	8		7	4	
Permitted Phases							8			4
Detector Phase	5	2	1	6	3	8	8	7	4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	36.2	9.6	36.2	9.6	35.8	35.8	9.6	35.0	35.0
Total Split (s)	11.2	49.1	24.0	61.9	10.4	35.9	35.9	21.0	46.5	46.5
Total Split (%)	8.6%	37.8%	18.5%	47.6%	8.0%	27.6%	27.6%	16.2%	35.8%	35.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.6	4.8	4.8	3.6	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.6	5.8	5.8	4.6	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None	None
Act Effect Green (s)	10.7	62.8	20.2	72.2	9.0	15.7	15.7	10.1	20.7	20.7
Actuated g/C Ratio	0.08	0.48	0.16	0.56	0.07	0.12	0.12	0.08	0.16	0.16
v/c Ratio	0.57	0.73	0.80	0.58	0.38	0.48	0.31	0.57	0.21	0.13
Control Delay	72.5	31.8	74.2	22.0	64.9	58.5	2.3	72.8	45.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.5	31.8	74.2	22.0	64.9	58.5	2.3	72.8	45.3	0.7
LOS	E	C	E	C	E	E	A	E	D	A
Approach Delay		34.4		30.6		40.7			45.6	
Approach LOS		C		C		D			D	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 34.1

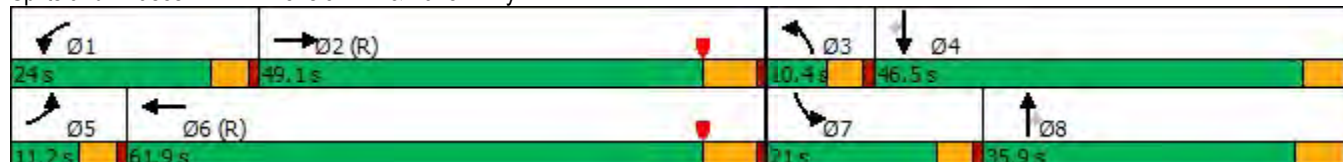
Intersection LOS: C

Intersection Capacity Utilization 71.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Dimension Dr. & Bake Pkwy.



HCM 6th Signalized Intersection Summary 2: Dimension Dr. & Bake Pkwy.

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	1151	57	216	986	110	88	106	105	77	61	46
Future Volume (veh/h)	81	1151	57	216	986	110	88	106	105	77	61	46
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		0.98	1.00		1.00	1.00		0.99
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	84	1199	59	225	1027	115	92	110	109	80	64	48
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, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	92	1935	95	250	2089	234	140	171	145	102	202	169
Arrive On Green	0.05	0.55	0.55	0.14	0.64	0.64	0.04	0.09	0.09	0.06	0.11	0.11
Sat Flow, veh/h	1810	3502	172	1810	3265	365	3510	1900	1605	1810	1900	1588
Grp Volume(v), veh/h	84	618	640	225	567	575	92	110	109	80	64	48
Grp Sat Flow(s),veh/h/ln	1810	1805	1869	1810	1805	1825	1755	1900	1605	1810	1900	1588
Q Serve(g_s), s	6.0	30.3	30.3	15.9	21.5	21.5	3.4	7.3	8.6	5.7	4.0	3.6
Cycle Q Clear(g_c), s	6.0	30.3	30.3	15.9	21.5	21.5	3.4	7.3	8.6	5.7	4.0	3.6
Prop In Lane	1.00		0.09	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	997	1033	250	1155	1168	140	171	145	102	202	169
V/C Ratio(X)	0.91	0.62	0.62	0.90	0.49	0.49	0.66	0.64	0.75	0.79	0.32	0.28
Avail Cap(c_a), veh/h	92	997	1033	270	1155	1168	157	440	372	228	607	507
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	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.4	19.8	19.8	55.1	12.3	12.3	61.5	57.1	57.7	60.6	53.7	53.5
Incr Delay (d2), s/veh	65.4	2.9	2.8	27.8	1.5	1.5	5.7	3.9	7.6	5.0	0.9	0.9
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	4.3	12.2	12.6	8.9	8.0	8.0	1.6	3.6	3.7	2.7	2.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	126.8	22.7	22.6	83.0	13.8	13.8	67.3	61.0	65.3	65.6	54.6	54.4
LnGrp LOS	F	C	C	F	B	B	E	E	E	E	D	D
Approach Vol, veh/h	1342		1367				311		192			
Approach Delay, s/veh	29.2		25.2				64.4		59.1			
Approach LOS	C		C				E		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.6	78.0	9.8	19.7	11.2	89.4	11.9	17.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	* 5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	19.4	42.9	5.8	* 42	6.6	55.7	16.4	30.1				
Max Q Clear Time (g_c+I1), s	17.9	32.3	5.4	6.0	8.0	23.5	7.7	10.6				
Green Ext Time (p_c), s	0.0	5.2	0.0	0.5	0.0	7.5	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

02/27/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	85	43	339	125	128	187	186	27	238
Future Volume (vph)	85	43	339	125	128	187	186	27	238
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	4	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	34.8	34.8	9.6	33.6	9.6	27.8	9.6	27.8
Total Split (s)	18.0	36.0	36.0	24.0	42.0	29.0	49.0	11.0	31.0
Total Split (%)	15.0%	30.0%	30.0%	20.0%	35.0%	24.2%	40.8%	9.2%	25.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	3.6	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	4.6	4.6	5.8	4.6	5.8
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	11.6	13.2	13.2	12.2	18.0	14.0	28.9	6.0	13.7
Actuated g/C Ratio	0.15	0.18	0.18	0.16	0.24	0.19	0.38	0.08	0.18
v/c Ratio	0.35	0.15	0.64	0.52	0.39	0.64	0.19	0.22	0.53
Control Delay	35.9	30.6	9.2	39.6	29.3	39.9	16.9	44.0	31.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.9	30.6	9.2	39.6	29.3	39.9	16.9	44.0	31.0
LOS	D	C	A	D	C	D	B	D	C
Approach Delay		16.0			33.8		27.4		32.1
Approach LOS		B			C		C		C

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 75.2

Natural Cycle: 85

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 26.1

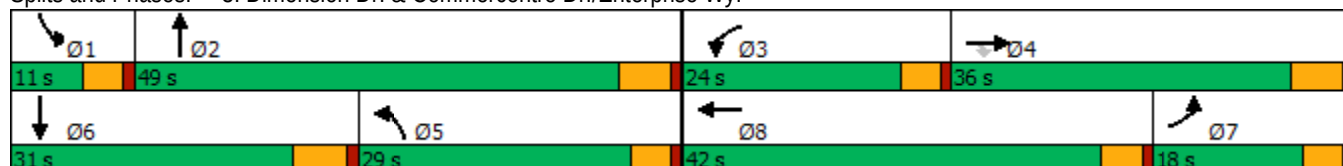
Intersection LOS: C

Intersection Capacity Utilization 53.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.



HCM 6th Signalized Intersection Summary

Lake Forest Warehouses (JN 14042/14177)

3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

02/27/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	43	339	125	128	35	187	186	39	27	238	69
Future Volume (veh/h)	85	43	339	125	128	35	187	186	39	27	238	69
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		0.99
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	1900	1900	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	97	49	219	142	145	35	212	211	42	31	270	73
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	208	337	285	189	256	62	266	951	186	62	511	135
Arrive On Green	0.11	0.18	0.18	0.10	0.17	0.17	0.15	0.32	0.32	0.03	0.18	0.18
Sat Flow, veh/h	1810	1900	1607	1810	1538	371	1810	3009	588	1810	2817	746
Grp Volume(v), veh/h	97	49	219	142	0	180	212	125	128	31	171	172
Grp Sat Flow(s),veh/h/ln	1810	1900	1607	1810	0	1909	1810	1805	1792	1810	1805	1758
Q Serve(g_s), s	2.8	1.2	4.2	4.3	0.0	4.9	6.4	2.9	3.0	1.0	4.8	5.0
Cycle Q Clear(g_c), s	2.8	1.2	4.2	4.3	0.0	4.9	6.4	2.9	3.0	1.0	4.8	5.0
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.33	1.00		0.42
Lane Grp Cap(c), veh/h	208	337	285	189	0	318	266	570	566	62	328	319
V/C Ratio(X)	0.47	0.15	0.77	0.75	0.00	0.57	0.80	0.22	0.23	0.50	0.52	0.54
Avail Cap(c_a), veh/h	430	1017	860	622	0	1265	782	1382	1372	205	806	785
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	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	19.6	7.2	24.6	0.0	21.6	23.2	14.2	14.2	26.8	20.9	21.0
Incr Delay (d2), s/veh	1.6	0.2	4.4	6.0	0.0	1.6	2.1	0.2	0.2	2.3	1.3	1.4
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	1.2	0.5	2.7	2.1	0.0	2.2	2.5	1.0	1.0	0.4	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	19.8	11.6	30.5	0.0	23.2	25.3	14.4	14.4	29.1	22.2	22.4
LnGrp LOS	C	B	B	C	A	C	C	B	B	C	C	C
Approach Vol, veh/h	365			322			465			374		
Approach Delay, s/veh	16.2			26.4			19.4			22.8		
Approach LOS	B			C			B			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.5	23.6	10.5	15.8	14.1	16.0	12.3	14.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	5.8	* 5.8	5.8	* 4.6				
Max Green Setting (Gmax), s	6.4	43.2	19.4	30.2	24.4	* 25	13.4	* 37				
Max Q Clear Time (g_c+I1), s	3.0	5.0	6.3	6.2	8.4	7.0	4.8	6.9				
Green Ext Time (p_c), s	0.0	1.4	0.3	0.9	0.2	1.6	0.1	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			21.0									
HCM 6th LOS			C									
Notes												

Timings

Lake Forest Warehouses (JN 14042/14177)

4: Lake Forest Dr. & Dimension Dr./Driveway

02/23/2023

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	399	13	151	19	1	161	746	44	743
Future Volume (vph)	399	13	151	19	1	161	746	44	743
Turn Type	Split	NA	Perm	Split	NA	Prot	NA	Prot	NA
Protected Phases	4	4		8	8	5	2	1	6
Permitted Phases			4						
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	32.8	32.8	32.8	14.6	14.6	9.6	35.0	9.6	35.0
Total Split (s)	32.8	32.8	32.8	14.6	14.6	17.4	43.0	9.6	35.2
Total Split (%)	32.8%	32.8%	32.8%	14.6%	14.6%	17.4%	43.0%	9.6%	35.2%
Yellow Time (s)	4.8	4.8	4.8	3.6	3.6	3.6	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.6	4.6	4.6	6.0	4.6	6.0
Lead/Lag						Lead	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effect Green (s)	19.1	19.1	19.1	10.0	10.0	13.1	51.3	6.3	42.6
Actuated g/C Ratio	0.19	0.19	0.19	0.10	0.10	0.13	0.51	0.06	0.43
v/c Ratio	0.69	0.67	0.36	0.12	0.10	0.74	0.45	0.42	0.71
Control Delay	48.0	47.1	5.8	42.7	20.8	61.0	19.9	57.1	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	47.1	5.8	42.7	20.8	61.0	19.9	57.1	29.7
LOS	D	D	A	D	C	E	B	E	C
Approach Delay		36.4			32.9		27.0		30.9
Approach LOS		D			C		C		C

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 30.7

Intersection LOS: C

Intersection Capacity Utilization 68.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Lake Forest Dr. & Dimension Dr./Driveway



HCM 6th Signalized Intersection Summary

4: Lake Forest Dr. & Dimension Dr./Driveway

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	399	13	151	19	1	15	161	746	23	44	743	228
Future Volume (veh/h)	399	13	151	19	1	15	161	746	23	44	743	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		0.98	1.00		0.97
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	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	444	0	96	21	1	12	175	811	22	48	808	193
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	563	0	250	111	8	92	207	1925	52	67	1318	315
Arrive On Green	0.16	0.00	0.16	0.06	0.06	0.06	0.11	0.54	0.54	0.04	0.46	0.46
Sat Flow, veh/h	3619	0	1607	1810	125	1504	1810	3588	97	1810	2871	686
Grp Volume(v), veh/h	444	0	96	21	0	13	175	408	425	48	508	493
Grp Sat Flow(s),veh/h/ln	1810	0	1607	1810	0	1629	1810	1805	1880	1810	1805	1752
Q Serve(g_s), s	11.8	0.0	5.4	1.1	0.0	0.8	9.5	13.5	13.5	2.6	21.2	21.2
Cycle Q Clear(g_c), s	11.8	0.0	5.4	1.1	0.0	0.8	9.5	13.5	13.5	2.6	21.2	21.2
Prop In Lane	1.00		1.00	1.00		0.92	1.00		0.05	1.00		0.39
Lane Grp Cap(c), veh/h	563	0	250	111	0	100	207	969	1009	67	829	805
V/C Ratio(X)	0.79	0.00	0.38	0.19	0.00	0.13	0.85	0.42	0.42	0.72	0.61	0.61
Avail Cap(c_a), veh/h	977	0	434	181	0	163	232	969	1009	90	829	805
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.6	0.0	37.9	44.6	0.0	44.4	43.4	13.9	13.9	47.6	20.4	20.4
Incr Delay (d2), s/veh	2.5	0.0	1.0	0.8	0.0	0.6	20.4	1.3	1.3	8.9	3.4	3.5
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	5.2	0.0	2.2	0.5	0.0	0.3	5.2	5.1	5.3	1.3	8.7	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	0.0	38.9	45.4	0.0	45.0	63.8	15.2	15.2	56.5	23.7	23.8
LnGrp LOS	D	A	D	D	A	D	E	B	B	E	C	C
Approach Vol, veh/h		540			34			1008			1049	
Approach Delay, s/veh		42.4			45.3			23.6			25.3	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.3	59.7		21.4	16.0	51.9		10.7				
Change Period (Y+Rc), s	4.6	6.0		5.8	4.6	6.0		4.6				
Max Green Setting (Gmax), s	5.0	37.0		27.0	12.8	29.2		10.0				
Max Q Clear Time (g_c+I1), s	4.6	15.5		13.8	11.5	23.2		3.1				
Green Ext Time (p_c), s	0.0	4.6		1.6	0.0	2.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			28.4									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Timings

Lake Forest Warehouses (JN 14042/14177)

5: Lake Forest Dr. & Rancho Pkwy.

02/23/2023

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	71	594	190	455	82	216	568	319	130	512
Future Volume (vph)	71	594	190	455	82	216	568	319	130	512
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	36.8	9.6	36.8	36.8	9.6	37.0	37.0	9.6	37.0
Total Split (s)	10.5	36.8	12.0	38.3	38.3	14.0	37.2	37.2	14.0	37.2
Total Split (%)	10.5%	36.8%	12.0%	38.3%	38.3%	14.0%	37.2%	37.2%	14.0%	37.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	5.0	5.0	3.6	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	6.0	6.0	4.6	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Act Effect Green (s)	5.8	26.8	7.4	30.4	30.4	13.6	34.0	34.0	10.8	31.2
Actuated g/C Ratio	0.06	0.27	0.07	0.30	0.30	0.14	0.34	0.34	0.11	0.31
v/c Ratio	0.72	0.80	0.78	0.44	0.15	1.01	0.51	0.48	0.76	0.59
Control Delay	82.9	39.3	66.8	29.4	1.9	108.4	29.0	12.5	70.8	30.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.9	39.3	66.8	29.4	1.9	108.4	29.0	12.5	70.8	30.5
LOS	F	D	E	C	A	F	C	B	E	C
Approach Delay		43.3		36.1			39.8			37.5
Approach LOS		D		D			D			D

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 39.3

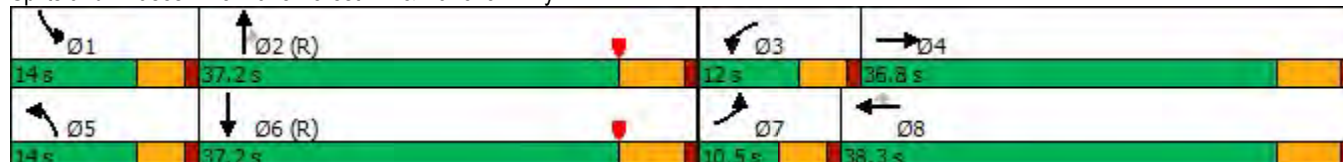
Intersection LOS: D

Intersection Capacity Utilization 81.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Lake Forest Dr. & Rancho Pkwy.



HCM 6th Signalized Intersection Summary

5: Lake Forest Dr. & Rancho Pkwy.

Lake Forest Warehouses (JN 14042/14177)

02/23/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	594	123	190	455	82	216	568	319	130	512	108
Future Volume (veh/h)	71	594	123	190	455	82	216	568	319	130	512	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.98
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	1900	1900	1900	1900	1900	1900	1900	1900	1976	1900	1900	1900
Adj Flow Rate, veh/h	76	632	68	202	484	58	230	604	293	138	545	94
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	98	775	83	260	923	411	170	1398	639	168	1186	204
Arrive On Green	0.05	0.24	0.24	0.07	0.26	0.26	0.09	0.39	0.39	0.09	0.39	0.39
Sat Flow, veh/h	1810	3286	353	3510	3610	1608	1810	3610	1648	1810	3070	527
Grp Volume(v), veh/h	76	347	353	202	484	58	230	604	293	138	320	319
Grp Sat Flow(s),veh/h/ln	1810	1805	1834	1755	1805	1608	1810	1805	1648	1810	1805	1792
Q Serve(g_s), s	4.1	18.2	18.2	5.7	11.5	2.8	9.4	12.3	13.2	7.5	13.2	13.3
Cycle Q Clear(g_c), s	4.1	18.2	18.2	5.7	11.5	2.8	9.4	12.3	13.2	7.5	13.2	13.3
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	98	426	432	260	923	411	170	1398	639	168	697	692
V/C Ratio(X)	0.78	0.81	0.82	0.78	0.52	0.14	1.35	0.43	0.46	0.82	0.46	0.46
Avail Cap(c_a), veh/h	107	560	569	260	1173	523	170	1398	639	170	697	692
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	36.1	36.2	45.5	32.0	28.7	45.3	22.5	22.8	44.5	22.9	22.9
Incr Delay (d2), s/veh	24.3	6.9	7.0	12.7	0.5	0.2	192.0	1.0	2.4	24.6	2.2	2.2
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	2.5	8.4	8.6	2.8	4.8	1.0	13.1	5.0	5.2	4.3	5.6	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	43.1	43.1	58.2	32.4	28.9	237.3	23.5	25.2	69.2	25.1	25.1
LnGrp LOS	E	D	D	E	C	C	F	C	C	E	C	C
Approach Vol, veh/h	776			744			1127			777		
Approach Delay, s/veh	45.8			39.2			67.6			32.9		
Approach LOS	D			D			E			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	44.7	12.0	29.4	14.0	44.6	10.0	31.4				
Change Period (Y+Rc), s	4.6	6.0	4.6	5.8	4.6	6.0	4.6	5.8				
Max Green Setting (Gmax), s	9.4	31.2	7.4	31.0	9.4	31.2	5.9	32.5				
Max Q Clear Time (g_c+I1), s	9.5	15.2	7.7	20.2	11.4	15.3	6.1	13.5				
Green Ext Time (p_c), s	0.0	4.2	0.0	2.9	0.0	3.1	0.0	2.9				
Intersection Summary												
HCM 6th Ctrl Delay	48.6											
HCM 6th LOS	D											

Lake Forest Warehouses (JN 14042 & 14177)
Opening Year Cumulative (2023) With Project
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Bake Pkwy. & Commercentre Dr.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.556

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	1	1	0	1	0	1	1	0

Volume Module:

Base Vol:	84	898	358	19	902	82	74	178	74	177	113	11
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	89	953	380	20	957	87	79	189	79	188	120	12
Added Vol:	0	14	41	0	4	0	0	21	0	18	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	967	421	20	961	87	79	210	79	206	127	12
User 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
PHF 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
PHF Volume:	89	967	421	20	961	87	79	210	79	206	127	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	967	421	20	961	87	79	210	79	206	127	12
PCE 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
MLF 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
FinalVolume:	89	967	421	20	961	87	79	210	79	206	127	12

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.83	0.17	1.00	1.46	0.54	2.00	0.92	0.08
Final Sat.:	1700	3400	1700	1700	3118	282	1700	2474	926	3400	1557	143

Capacity Analysis Module:

Vol/Sat:	0.05	0.28	0.25	0.01	0.31	0.31	0.05	0.08	0.08	0.06	0.08	0.08
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Opening Year Cumulative (2023) With Project
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Dimension Dr. & Bake Pkwy.

Cycle (sec): 140 Critical Vol./Cap.(X): 0.684

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 37 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	2	0	1	0	1	0	1	0	1	1	0	1	0

Volume Module:

Base Vol:	63	72	138	199	121	108	32	911	58	197	972	186
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	67	76	146	211	128	115	34	967	62	209	1031	197
Added Vol:	4	0	3	0	1	0	0	0	14	12	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	76	149	211	129	115	34	967	76	221	1031	197
User 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
PHF 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
PHF Volume:	71	76	149	211	129	115	34	967	76	221	1031	197
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	76	149	211	129	115	34	967	76	221	1031	197
PCE 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
MLF 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
FinalVolume:	71	76	149	211	129	115	34	967	76	221	1031	197

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.86	0.14	1.00	1.68	0.32
Final Sat.:	3400	1700	1700	1700	1700	1700	1700	3154	246	1700	2854	546

Capacity Analysis Module:

Vol/Sat:	0.02	0.04	0.09	0.12	0.08	0.07	0.02	0.31	0.31	0.13	0.36	0.36
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****

Lake Forest Warehouses (JN 14042 & 14177)
Opening Year Cumulative (2023) With Project
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Dimension Dr. & Commercentre Dr./Enterprise Wy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.438

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 21 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	274	156	67	22	173	77	53	46	189	14	8	4
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	291	166	71	23	184	82	56	49	201	15	8	4
Added Vol:	0	21	41	18	0	0	0	62	0	20	24	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	291	187	112	41	184	82	56	111	201	35	32	10
User 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
PHF 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
PHF Volume:	291	187	112	41	184	82	56	111	201	35	32	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	291	187	112	41	184	82	56	111	201	35	32	10
PCE 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
MLF 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
FinalVolume:	291	187	112	41	184	82	56	111	201	35	32	10

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.25	0.75	1.00	1.38	0.62	1.00	1.00	1.00	1.00	0.76	0.24
Final Sat.:	1700	2124	1276	1700	2353	1047	1700	1700	1700	1700	1292	408

Capacity Analysis Module:

Vol/Sat:	0.17	0.09	0.09	0.02	0.08	0.08	0.03	0.07	0.12	0.02	0.03	0.03
Crit Moves:	****			****					****	****		

Lake Forest Warehouses (JN 14042 & 14177)
Opening Year Cumulative (2023) With Project
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Lake Forest Dr. & Dimension Dr.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.509

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 24 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	0	1	1	0

Volume Module:

Base Vol:	194	709	11	17	511	253	200	11	105	3	4	4
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	206	752	12	18	542	268	212	12	111	3	4	4
Added Vol:	21	0	0	0	0	41	13	0	7	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	227	752	12	18	542	309	225	12	118	3	4	4
User 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
PHF 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
PHF Volume:	227	752	12	18	542	309	225	12	118	3	4	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	227	752	12	18	542	309	225	12	118	3	4	4
PCE 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
MLF 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
FinalVolume:	227	752	12	18	542	309	225	12	118	3	4	4

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.97	0.03	1.00	1.27	0.73	1.90	0.10	1.00	1.00	0.50	0.50
Final Sat.:	1700	3348	52	1700	2165	1235	3232	168	1700	1700	850	850

Capacity Analysis Module:

Vol/Sat:	0.13	0.22	0.22	0.01	0.25	0.25	0.07	0.07	0.07	0.00	0.00	0.00
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Opening Year Cumulative (2023) With Project
AM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Lake Forest Dr. & Rancho Pkwy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.530

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 25 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	1	1	0	1	0	1	1	0

Volume Module:

Base Vol:	162	448	185	120	396	124	111	344	119	196	458	31
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	172	475	196	127	420	132	118	365	126	208	486	33
Added Vol:	0	4	9	0	14	0	0	0	0	27	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	172	479	205	127	434	132	118	365	126	235	486	33
User 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
PHF 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
PHF Volume:	172	479	205	127	434	132	118	365	126	235	486	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	172	479	205	127	434	132	118	365	126	235	486	33
PCE 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
MLF 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
FinalVolume:	172	479	205	127	434	132	118	365	126	235	486	33

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.53	0.47	1.00	1.49	0.51	2.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	2609	791	1700	2526	874	3400	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.10	0.14	0.12	0.07	0.17	0.17	0.07	0.14	0.14	0.07	0.14	0.02
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Opening Year Cumulative (2023) With Project
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #1 Bake Pkwy. & Commercentre Dr.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.678

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 35 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	1	1	0	1	0	1	1	0

Volume Module:

Base Vol:	84	1024	183	15	940	101	95	134	85	389	265	16
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	89	1087	194	16	998	107	101	142	90	413	281	17
Added Vol:	0	6	23	0	14	0	0	9	0	42	20	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	1093	217	16	1012	107	101	151	90	455	301	17
User 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
PHF 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
PHF Volume:	89	1093	217	16	1012	107	101	151	90	455	301	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	1093	217	16	1012	107	101	151	90	455	301	17
PCE 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
MLF 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
FinalVolume:	89	1093	217	16	1012	107	101	151	90	455	301	17

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.81	0.19	1.00	1.25	0.75	2.00	0.95	0.05
Final Sat.:	1700	3400	1700	1700	3074	326	1700	2130	1270	3400	1609	91

Capacity Analysis Module:

Vol/Sat:	0.05	0.32	0.13	0.01	0.33	0.33	0.06	0.07	0.07	0.13	0.19	0.19
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Opening Year Cumulative (2023) With Project
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Dimension Dr. & Bake Pkwy.

Cycle (sec): 130 Critical Vol./Cap.(X): 0.654
Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	1	0	1	0	1	0	1	1	0	1

Volume Module:

Base Vol:	73	103	95	76	59	45	79	1131	50	208	969	108
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	77	109	101	81	63	48	84	1200	53	221	1028	115
Added Vol:	14	1	10	0	1	0	0	0	6	5	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	91	110	111	81	64	48	84	1200	59	226	1028	115
User 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
PHF 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
PHF Volume:	91	110	111	81	64	48	84	1200	59	226	1028	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	110	111	81	64	48	84	1200	59	226	1028	115
PCE 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
MLF 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
FinalVolume:	91	110	111	81	64	48	84	1200	59	226	1028	115

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.91	0.09	1.00	1.80	0.20
Final Sat.:	3400	1700	1700	1700	1700	1700	1700	3241	159	1700	3059	341

Capacity Analysis Module:

Vol/Sat:	0.03	0.06	0.07	0.05	0.04	0.03	0.05	0.37	0.37	0.13	0.34	0.34
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****

Lake Forest Warehouses (JN 14042 & 14177)
Opening Year Cumulative (2023) With Project
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #3 Dimension Dr. & Commercentre Dr./Enterprise Wy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.543

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module:

Base Vol:	185	174	21	19	233	68	84	10	334	62	65	17
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	196	185	22	20	247	72	89	11	354	66	69	18
Added Vol:	0	9	18	8	0	0	0	32	0	61	62	18
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	196	194	40	28	247	72	89	43	354	127	131	36
User 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
PHF 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
PHF Volume:	196	194	40	28	247	72	89	43	354	127	131	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	196	194	40	28	247	72	89	43	354	127	131	36
PCE 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
MLF 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
FinalVolume:	196	194	40	28	247	72	89	43	354	127	131	36

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.66	0.34	1.00	1.55	0.45	1.00	1.00	1.00	1.00	0.78	0.22
Final Sat.:	1700	2814	586	1700	2632	768	1700	1700	1700	1700	1333	367

Capacity Analysis Module:

Vol/Sat:	0.12	0.07	0.07	0.02	0.09	0.09	0.05	0.03	0.21	0.07	0.10	0.10
Crit Moves:	****			****					****	****		

Lake Forest Warehouses (JN 14042 & 14177)
Opening Year Cumulative (2023) With Project
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Lake Forest Dr. & Dimension Dr.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.584

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 28 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	1	0	0	1	1	0

Volume Module:

Base Vol:	150	732	23	43	729	207	352	12	129	19	1	15
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	159	777	24	46	774	220	374	13	137	20	1	16
Added Vol:	9	0	0	0	0	18	41	0	20	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	168	777	24	46	774	238	415	13	157	20	1	16
User 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
PHF 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
PHF Volume:	168	777	24	46	774	238	415	13	157	20	1	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	168	777	24	46	774	238	415	13	157	20	1	16
PCE 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
MLF 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
FinalVolume:	168	777	24	46	774	238	415	13	157	20	1	16

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.94	0.06	1.00	1.53	0.47	1.94	0.06	1.00	1.00	0.06	0.94
Final Sat.:	1700	3296	104	1700	2601	799	3299	101	1700	1700	106	1594

Capacity Analysis Module:

Vol/Sat:	0.10	0.24	0.24	0.03	0.30	0.30	0.13	0.13	0.09	0.01	0.01	0.01
Crit Moves:	****			****			****			****		

Lake Forest Warehouses (JN 14042 & 14177)
Opening Year Cumulative (2023) With Project
PM Peak Hour

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Lake Forest Dr. & Rancho Pkwy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.651

Loss Time (sec): 5 Average Delay (sec/veh): xxxxxx

Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	1	1	0	1	0	1	1	0

Volume Module:

Base Vol:	213	544	287	127	497	107	71	583	121	174	448	81
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	226	577	305	135	527	114	75	619	128	185	475	86
Added Vol:	0	14	27	0	6	0	0	0	0	12	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	226	591	332	135	533	114	75	619	128	197	475	86
User 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
PHF 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
PHF Volume:	226	591	332	135	533	114	75	619	128	197	475	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	226	591	332	135	533	114	75	619	128	197	475	86
PCE 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
MLF 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
FinalVolume:	226	591	332	135	533	114	75	619	128	197	475	86

Saturation Flow Module:

Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.65	0.35	1.00	1.66	0.34	2.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	2803	597	1700	2816	584	3400	3400	1700

Capacity Analysis Module:

Vol/Sat:	0.13	0.17	0.20	0.08	0.19	0.19	0.04	0.22	0.22	0.06	0.14	0.05
Crit Moves:	****			****			****			****		

APPENDIX 6.2:

OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Intersection: 1: Bake Pkwy. & Commercentre Dr.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	150	179	171	163	198	183	161	258	225	177	60	351
Average Queue (ft)	62	105	82	72	122	94	81	158	130	54	18	213
95th Queue (ft)	119	164	150	160	181	168	138	236	219	111	47	318
Link Distance (ft)		978	978		895	895		1222	1222			863
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	160			340			290			200	290	
Storage Blk Time (%)	0	1						0	1			1
Queuing Penalty (veh)	0	1						0	3			0

Intersection: 1: Bake Pkwy. & Commercentre Dr.

Movement	SB
Directions Served	TR
Maximum Queue (ft)	318
Average Queue (ft)	178
95th Queue (ft)	292
Link Distance (ft)	863
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T
Maximum Queue (ft)	104	336	328	285	310	300	59	74	137	123	272	308
Average Queue (ft)	35	217	205	163	177	176	20	39	63	48	160	111
95th Queue (ft)	81	319	304	247	278	277	51	72	120	90	256	216
Link Distance (ft)		1737	1737		1315	1315		1021	1021	1021		613
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	290			430			170				165	
Storage Blk Time (%)		2									14	1
Queuing Penalty (veh)		1									32	3

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	SB
Directions Served	R
Maximum Queue (ft)	77
Average Queue (ft)	38
95th Queue (ft)	66
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	165
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	83	94	49	73	61	233	180	192	88	97	142
Average Queue (ft)	31	37	24	23	25	114	21	83	30	41	69
95th Queue (ft)	62	74	46	53	52	194	90	159	66	88	123
Link Distance (ft)	463	463	463		406		1638	1638		1021	1021
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)				150		200			200		
Storage Blk Time (%)						1					
Queuing Penalty (veh)						1					

Intersection: 4: Lake Forest Dr. & Dimension Dr./Driveway

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	178	222	60	30	35	255	171	138	51	242	282
Average Queue (ft)	42	127	32	3	6	126	77	48	20	122	124
95th Queue (ft)	144	197	53	16	25	218	151	110	48	196	230
Link Distance (ft)		409	409	51	51		758	758		892	892
Upstream Blk Time (%)					1						
Queuing Penalty (veh)					0						
Storage Bay Dist (ft)	205					250			110		
Storage Blk Time (%)	0	1				0				9	
Queuing Penalty (veh)	0	1				1				2	

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	TR	L	L	T	T	R	L	T	T	R
Maximum Queue (ft)	218	207	180	187	238	216	161	24	210	170	155	73
Average Queue (ft)	103	110	90	100	148	116	84	4	100	99	71	39
95th Queue (ft)	194	175	161	199	218	179	151	14	178	154	134	65
Link Distance (ft)		1123	1123			712	712			1184	1184	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			260	260			100	470			200
Storage Blk Time (%)	1	0			1	0	5					
Queuing Penalty (veh)	1	0			1	0	2					

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (ft)	187	206	198
Average Queue (ft)	86	111	93
95th Queue (ft)	158	177	175
Link Distance (ft)		725	725
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	440		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 49

Intersection: 1: Bake Pkwy. & Commercentre Dr.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	144	135	164	261	283	340	207	349	329	250	55	397
Average Queue (ft)	72	71	66	163	201	181	68	198	182	54	13	255
95th Queue (ft)	130	118	125	237	269	291	137	300	295	169	42	362
Link Distance (ft)		978	978		895	895		1222	1222			863
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	160			340			290			200	290	
Storage Blk Time (%)	0							1	4			5
Queuing Penalty (veh)	0							1	8			1

Intersection: 1: Bake Pkwy. & Commercentre Dr.

Movement	SB
Directions Served	TR
Maximum Queue (ft)	397
Average Queue (ft)	225
95th Queue (ft)	342
Link Distance (ft)	863
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	L	T	R	L	T
Maximum Queue (ft)	301	429	437	277	281	277	92	102	176	95	114	115
Average Queue (ft)	77	255	249	165	172	162	31	49	75	43	59	46
95th Queue (ft)	185	379	377	256	261	254	68	85	138	79	106	95
Link Distance (ft)		1737	1737		1315	1315		1021	1021	1021		613
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	290			430			170				165	
Storage Blk Time (%)		6										
Queuing Penalty (veh)		4										

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	SB
Directions Served	R
Maximum Queue (ft)	57
Average Queue (ft)	21
95th Queue (ft)	47
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	165
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Dimension Dr. & Commercentre Dr./Enterprise Wy.

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	103	60	100	154	138	219	157	118	75	155	181
Average Queue (ft)	44	19	50	59	74	94	29	58	21	71	92
95th Queue (ft)	87	50	84	108	123	167	89	107	56	136	158
Link Distance (ft)	463	463	463		406		1638	1638		1021	1021
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)				150		200			200		
Storage Blk Time (%)				0	0	0					
Queuing Penalty (veh)				0	0	0					

Intersection: 4: Lake Forest Dr. & Dimension Dr./Driveway

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	271	316	103	66	42	192	248	208	152	338	351
Average Queue (ft)	125	189	45	18	13	103	133	82	45	182	170
95th Queue (ft)	253	280	81	49	41	170	217	180	110	285	290
Link Distance (ft)		409	409	51	51		758	758		892	892
Upstream Blk Time (%)				3	1						
Queuing Penalty (veh)				0	0						
Storage Bay Dist (ft)	205					250			110		
Storage Blk Time (%)	0	6					0		0	24	
Queuing Penalty (veh)	0	11					0		1	11	

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	TR	L	L	T	T	R	L	T	T	R
Maximum Queue (ft)	125	277	266	187	198	210	160	44	464	440	325	160
Average Queue (ft)	57	176	153	73	123	107	70	9	257	153	113	69
95th Queue (ft)	109	252	233	170	187	175	141	29	444	344	251	122
Link Distance (ft)		1123	1123			712	712			1184	1184	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			260	260			100	470			200
Storage Blk Time (%)		1					4		3	0	0	0
Queuing Penalty (veh)		0					3		8	0	0	0

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (ft)	172	223	205
Average Queue (ft)	93	136	111
95th Queue (ft)	159	207	186
Link Distance (ft)		725	725
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	440		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 50

APPENDIX 6.3:

OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS QUEUING ANALYSIS WORKSHEETS WITH ALTERNATIVE IMPROVEMENTS

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Queuing and Blocking Report

Opening Year Cumulative (2024) With Project Alternative Imp. - AM Peak Hour

02/27/2023

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	L	T	TR	L	L	T	R	L
Maximum Queue (ft)	94	340	356	176	189	319	331	93	99	134	118	249
Average Queue (ft)	33	206	191	74	118	181	180	22	46	58	49	152
95th Queue (ft)	70	304	306	158	178	274	282	63	82	117	89	247
Link Distance (ft)		1738	1738			1316	1316		1015	1015	1015	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	290			430	430			170				165
Storage Blk Time (%)		2										11
Queuing Penalty (veh)		1										26

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	227	91
Average Queue (ft)	105	38
95th Queue (ft)	199	69
Link Distance (ft)	607	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		165
Storage Blk Time (%)	1	
Queuing Penalty (veh)	3	

Queuing and Blocking Report

Opening Year Cumulative (2024) With Project Alternative Imp. - AM Peak Hour

02/27/2023

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	TR	L	L	T	T	R	L	L	T	T
Maximum Queue (ft)	176	183	191	165	223	207	170	17	131	157	163	144
Average Queue (ft)	79	114	96	79	132	118	85	3	24	76	99	69
95th Queue (ft)	140	166	169	171	199	186	155	10	86	135	160	134
Link Distance (ft)		1118	1118			707	707				1184	1184
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			260	260			100	470	470		
Storage Blk Time (%)							5					
Queuing Penalty (veh)							1					

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	TR
Maximum Queue (ft)	92	114	159	202	187
Average Queue (ft)	42	18	76	108	89
95th Queue (ft)	74	69	134	177	159
Link Distance (ft)				726	726
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	200	440	440		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report

Opening Year Cumulative (2024) With Project Alternative Imp. - PM Peak Hour

02/27/2023

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	L	T	TR	L	L	T	R	L
Maximum Queue (ft)	160	381	382	173	197	282	288	89	99	195	104	118
Average Queue (ft)	74	220	208	67	118	166	158	31	50	81	45	65
95th Queue (ft)	137	322	309	150	179	254	263	69	89	155	87	106
Link Distance (ft)		1738	1738			1316	1316		1015	1015	1015	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	290			430	430			170				165
Storage Blk Time (%)		2										
Queuing Penalty (veh)		2										

Intersection: 2: Dimension Dr. & Bake Pkwy.

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	142	59
Average Queue (ft)	51	21
95th Queue (ft)	110	50
Link Distance (ft)	607	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		165
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Queuing and Blocking Report

Opening Year Cumulative (2024) With Project Alternative Imp. - PM Peak Hour

02/27/2023

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	TR	L	L	T	T	R	L	L	T	T
Maximum Queue (ft)	112	246	229	171	204	199	167	46	156	181	236	208
Average Queue (ft)	50	161	146	66	119	116	77	8	53	109	120	99
95th Queue (ft)	94	222	214	163	190	179	153	30	136	172	196	175
Link Distance (ft)		1118	1118			707	707				1184	1184
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250			260	260			100	470	470		
Storage Blk Time (%)		0			0		2	0				0
Queuing Penalty (veh)		0			0		2	0				1

Intersection: 5: Lake Forest Dr. & Rancho Pkwy.

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	TR
Maximum Queue (ft)	190	137	170	215	210
Average Queue (ft)	72	18	81	133	113
95th Queue (ft)	135	75	145	200	189
Link Distance (ft)				726	726
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	200	440	440		
Storage Blk Time (%)					
Queuing Penalty (veh)					

G-2: Lake Forest Warehouse Vehicle Miles Traveled Screening Evaluation

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DATE: May 17, 2023
TO: Christopher Sanford, IPT Enterprise Business Center LLC
FROM: Alex So, Urban Crossroads, Inc.
JOB NO: 14042-07 VMT

LAKE FOREST WAREHOUSE VEHICLE MILES TRAVELED (VMT) SCREENING EVALUATION

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Screening Evaluation for the Lake Forest Warehouse (**Project**), which is located at 26200 Enterprise Way in the City of Lake Forest.

PROJECT OVERVIEW

The Project proposes to demolish a 144,906 square foot office building and construct one 165,803 square foot warehouse building, which is comprised of 155,803 square feet of warehousing space, 5,000 square foot office (1st floor), and 5,000 square foot office (2nd floor). However, in an effort to conduct a conservative analysis we will evaluate this building assuming a manufacturing facility. A preliminary site plan for the proposed Project is found in Attachment A.

The Project applicant also proposes to install various off-site improvements to enhance public safety and address concerns over pre-existing and future turning movements at five intersections within the city. The Project proposes to install these project features as a community benefit at the following five intersections: Improvements will occur at the intersections of Bake Parkway & Commercentre Drive, Dimension Drive & Commercentre Dr./Enterprise Way, Rancho Parkway & Lake Forest Drive, Bake Parkway & Dimension Drive and Dimension Drive & Lake Forest Drive.

BACKGROUND

The California Environmental Quality Act (CEQA) requires all lead agencies to adopt VMT as the measure for identifying transportation impacts for land use projects. To comply with CEQA, in July of 2020 the City of Lake Forest published CEQA Significance Thresholds Guide (City Guidelines) (1). This VMT screening evaluation has been developed based on the adopted City Guidelines.

VMT SCREENING

The City Guidelines provides details on appropriate “screening criteria” that can be used to identify when a proposed land use project is anticipated to result in a less than significant impact, thereby eliminating the need to conduct a full VMT analysis. The screening criteria are broken into the following categories:

- Small Project Screening
- Map-based Screening for Residential and Office/Employment Projects
- Proximity to High-Quality Transit Screening
- Locally-Serving Retail Screening
- Locally-Serving Public Facility Screening
- Affordable Residential Development Screening

A land use project need only to meet one of the above screening criteria to result in a less than significant impact.

SMALL PROJECT SCREENING

Consistent with City Guidelines, projects that generate fewer than 110 additional daily vehicle trips above baseline conditions are presumed to have a less than significant impact. This is because the addition of a nominal level of vehicle trips would not alter the level of VMT attributed to a specific development project. Vehicle trip generation was estimated for the proposed Project and was then compared to the existing uses (i.e., office buildings) located on the Project site. The proposed Project was found to result in a net reduction 672 daily vehicle trips as compared to the existing office building uses (see Attachment B for trip generation discussion). The proposed Project meets the VMT screening criteria based on the net reduction in daily vehicle trips as compared to the baseline condition.

Small Project screening is met.

MAP-BASED SCREENING FOR RESIDENTIAL AND OFFICE/EMPLOYMENT PROJECTS

As described in the City Guidelines, “proposed projects that are located in geographic areas (e.g., traffic analysis zones) that are low VMT generating based on travel demand model data are presumed to exhibit similar VMT and can be presumed to cause a less-than-significant transportation impact.”¹ The City Guidelines contain a screening map that can be used to determine if a project resides within a low VMT area.² The screening map is based on the OCTA maintained OCTAM travel forecasting model. The screening map was reviewed, and it was determined that the Project does not appear to reside in an area of low VMT (see Attachment C).

Numerous factors influence model based VMT calculations; most important of which is the mix of land uses represented within a particular TAZ. In addition, as typical TAZ is far larger than a

¹ City Guidelines; Appendix 2; Page 5.

² City Guidelines; Appendix 2; Attachment A-2.

single development project, isolating the effect of a single project can result in a different (albeit more accurate) VMT result as compared to the larger TAZ. Within the OCTAM 5.0 model, the proposed Project was found to reside within TAZ 1323, which contains high levels of service employment (i.e., office employment) and moderate/lower levels of basic employment (i.e., production/distribution employment). It is important to note that the VMT generated by the implementation of the proposed Project as estimated by TAZ 1323 may not accurately represent baseline or cumulative VMT contributed by the proposed Project. As such, the use of map-based screening as an initial screening tool should be used with caution for the purposes of assessing the project's potential impact to VMT.

Map-based screening is not met.

PROXIMITY TO HIGH-QUALITY TRANSIT SCREENING

The City Guidelines note that projects located within ½ mile of an existing “major transit stop”³ or an existing stop along a “high-quality transit corridor”⁴ will have a less than significant impact on VMT. The City Guidelines and OPR's Technical Advisory caution that this presumption may not be appropriate if a project meets any of the following sub-criteria:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The Project is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

Proximity to High-Quality Transit screening is not met.

LOCALLY-SERVING RETAIL SCREENING

Consistent with City Guidelines, “retail projects that serve the local community and generally have local trip-making characteristics are presumed to have a less-than-significant impact on transportation.”⁵ A retail store with a building square footage of 50,000 square feet or less is generally considered to be local serving in nature. Since the Project does not have a retail component, locally-serving retail screening is not applicable.

³ Pub. Resources Code, § 21064.3 (“‘Major transit stop’ means a site containing an existing 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.”).

⁴ Pub. Resources Code, § 21155 (“For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.”).

⁵ City Guidelines; Appendix 2; Page 5.

Locally-serving retail screening is not met.

LOCALLY-SERVING PUBLIC FACILITY SCREENING

Consistent with City Guidelines, public facility projects that serve the local community and generally have local trip-making characteristics are presumed to have a less-than-significant impact on transportation. Since the Project does not have a public facility component, locally-serving public facility screening is not applicable.

Locally-serving public facility screening is not met.

AFFORDABLE RESIDENTIAL DEVELOPMENT SCREENING

Consistent with City Guidelines, residential projects that “consist of 100% affordable housing units may be presumed to have a less-than-significant impact on transportation.”⁶ Since the Project does not have a residential component, affordable residential development screening is not applicable.

Affordable Residential Development screening is not met.

CIRCULATION AND PEDESTRIAN CONNECTIVITY

There is currently an existing sidewalk on the north side of Enterprise Way. An existing striped crosswalk on Enterprise Way located at the northeasterly driveway has a ramp and walkway on the south side of Enterprise Way that leads to a ramp into the proposed Project parking lot (existing). A crosswalk is proposed through the parking lot that leads to a paved walkway along the north side of the building, which leads to the secondary office area in the northeast corner of the building. A walkway is proposed through the existing landscaping fronting Enterprise Way, just east of the northwesterly driveway. The walkway will lead to a proposed crosswalk through the parking lot and to a paved walkway along the north side of the building which will provide access to the primary office area in the northwest corner of the building. Bike racks will be accommodated on the site and will be located near the northwest corner of the building, closest to the primary office area, and also along the north side of the building to the east of the parking spaces, closest to the secondary office area located in the northeast corner of the building. A total of 10 bike parking spaces are to be accommodated on-site.

Truck circulation could be accommodated from the west and east sides of the building. Trucks and passenger cars are likely to use to the two access points on Enterprise Way. However, there is also a reciprocal access in the northeast corner of the site that could be utilized by passenger cars.

CONCLUSION

Based on our review of applicable VMT screening thresholds, the Project meets the Small Project screening criteria and is presumed to result in a less than significant impact. Since a land use project need only to meet one of the previously evaluated screening criteria to result in a less

⁶ City Guidelines; Appendix 2; Page 5.

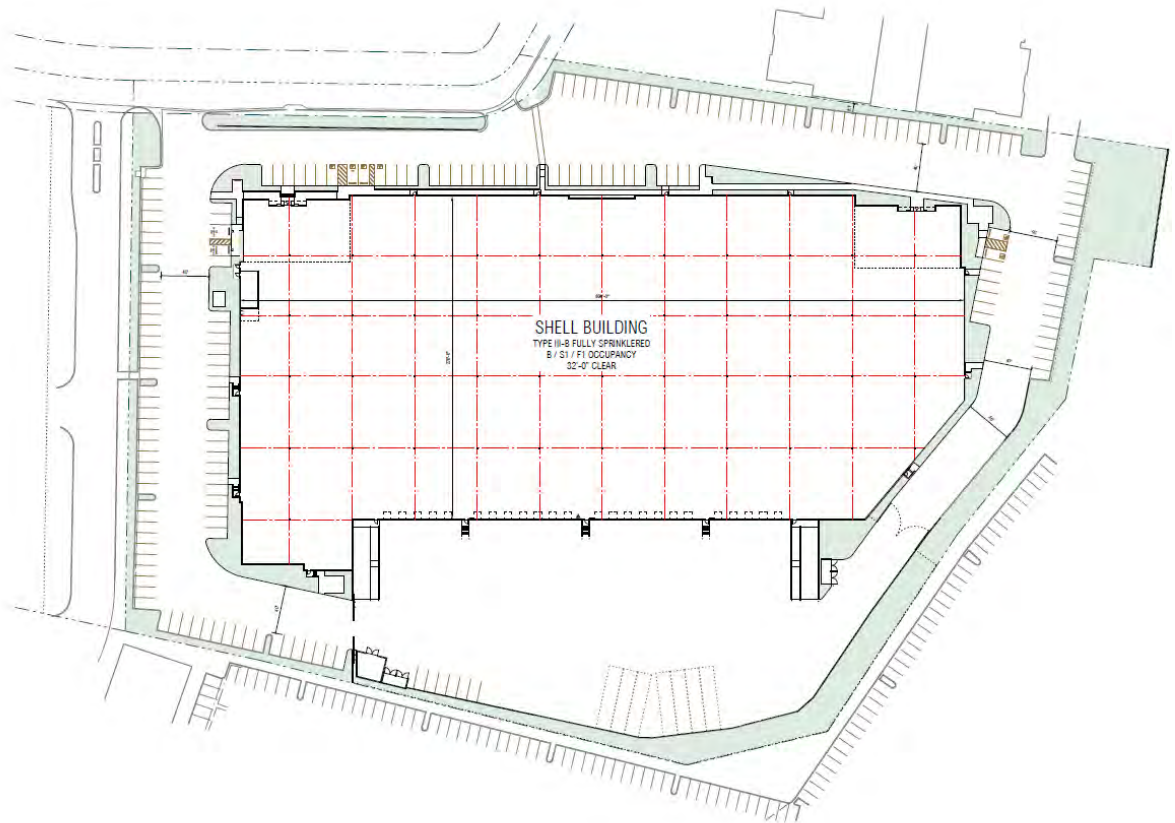
than significant impact, meeting the Small Project screening criteria alone is sufficient to determine a less than significant impact; no additional VMT analysis is required.

If you have any questions, please contact me directly at aso@urbanxroads.com.

REFERENCES

1. *City of Lake Forest CEQA Significance Thresholds Guide*. City of Lake Forest : s.n., July 2020.

ATTACHMENT A
PRELIMINARY SITE PLAN



ATTACHMENT B
PROJECT TRIP GENERATION

EXISTING USE

Trip generation rates for the existing and proposed uses are shown on Table 1. The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation Manual (11th Edition, 2021). For purposes of the trip generation assessment, the following ITE land use codes and vehicle mixes have been utilized for the existing and proposed uses (see Table 1):

- ITE land use code 140 (Manufacturing) has been used to derive site specific trip generation estimates for the proposed Project. It should be noted that the Manufacturing use has been utilized for the proposed Project in an effort to conduct a conservative trip generation assessment as the Manufacturing use generates more trips than a typical Warehouse (ITE land use code 150). The ITE Trip Generation Handbook (3rd Edition, 2017) identifies a 7-10% mix of heavy trucks, however, does not provide a breakdown of the 7-10% of trucks further by axle type. As such, the South Coast Air Quality Management District (SCAQMD) Warehouse Truck Trip Study Data Results and Usage (2014) for trucks has been utilized for the truck mix: 16.7% 2-axle trucks, 20.7% 3-axle trucks, and 62.6% 4+-axle trucks.
- ITE land use code 710 (General Office) has been used to derive the site-specific trip generation estimates for the existing use.

TABLE 1: TRIP GENERATION RATES

Land Use ¹	ITE LU Code	Units ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Actual Vehicles:									
Manufacturing ³	140	TSF	0.517	0.163	0.680	0.229	0.511	0.740	4.750
Passenger Cars:			0.494	0.156	0.650	0.220	0.490	0.710	4.300
2-Axle Trucks:			0.003	0.002	0.005	0.002	0.003	0.005	0.075
3-Axle Trucks:			0.003	0.003	0.006	0.003	0.004	0.006	0.093
4+-Axle Trucks:			0.011	0.008	0.019	0.008	0.011	0.019	0.282
General Office	710	TSF	1.338	0.182	1.520	0.245	1.195	1.440	10.840
Passenger Car Equivalent (PCE):⁴									
Manufacturing ³	140	TSF	0.517	0.163	0.680	0.229	0.511	0.740	4.750
Passenger Cars:			0.494	0.156	0.650	0.220	0.490	0.710	4.300
2-Axle Trucks (PCE = 1.5):			0.005	0.003	0.008	0.003	0.004	0.007	0.113
3-Axle Trucks (PCE = 2.0):			0.006	0.006	0.012	0.005	0.007	0.012	0.186
4+-Axle Trucks (PCE = 3.0):			0.033	0.023	0.056	0.023	0.033	0.056	0.845

¹ Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

² TSF = Thousand Square Feet

³ Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

SCAQMD Source: Warehouse Truck Trip Study Data Results and Usage.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

⁴ PCE rates: 1.5 for 2-axle, 2.0 for 3-axle, and 3.0 for 4+-axle.

The site is currently occupied by a 144,906 square foot 2-story office building. Access to the Project site is currently provided by two driveways on Enterprise Way and one reciprocal access in the northeast corner. Trip generation rates for the existing use are shown on Table 1. The trip

generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are shown on Table 2 for the existing 144,906 square foot office building. As shown on Table 2, the existing use generates 1,572 two-way trips per day with 220 AM peak hour trips and 208 PM peak hour trips.

TABLE 2: EXISTING TRIP GENERATION

Existing Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
General Office: 26200 Enterprise Way	144.906 TSF	194	26	220	35	173	208	1,572

¹ TSF = thousand square feet

PROPOSED PROJECT

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are shown on Table 3 based on the trip generation rates previously identified on Table 1. As shown on Table 3, the proposed Project is anticipated to generate 792 two-way trips per day with 103 AM peak hour trips and 113 PM peak hour trips. Passenger car equivalent (PCE) trip generation is also summarized on Table 3.

TABLE 3: PROPOSED PROJECT TRIP

Proposed Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Manufacturing	165.803 TSF							
Passenger Cars:		82	26	108	36	81	117	714
2-Axle Trucks:		0	0	0	0	0	0	14
3-Axle Trucks:		0	1	1	0	1	1	16
4+-Axle Trucks:		2	1	3	1	2	3	48
Total Truck Trips		2	2	4	1	3	4	78
Total Trips (Actual Vehicles)²		84	28	112	37	84	121	792
Passenger Car Equivalent (PCE):								
Manufacturing	165.803 TSF							
Passenger Cars:		82	26	108	36	81	117	714
2-Axle Trucks:		1	0	1	0	1	1	20
3-Axle Trucks:		1	1	2	1	1	2	32
4+-Axle Trucks:		5	4	9	4	5	9	142
Total Truck Trips		7	5	12	5	7	12	194
Total Trips (PCE)²		89	31	120	41	88	129	908

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

TRIP GENERATION COMPARISON

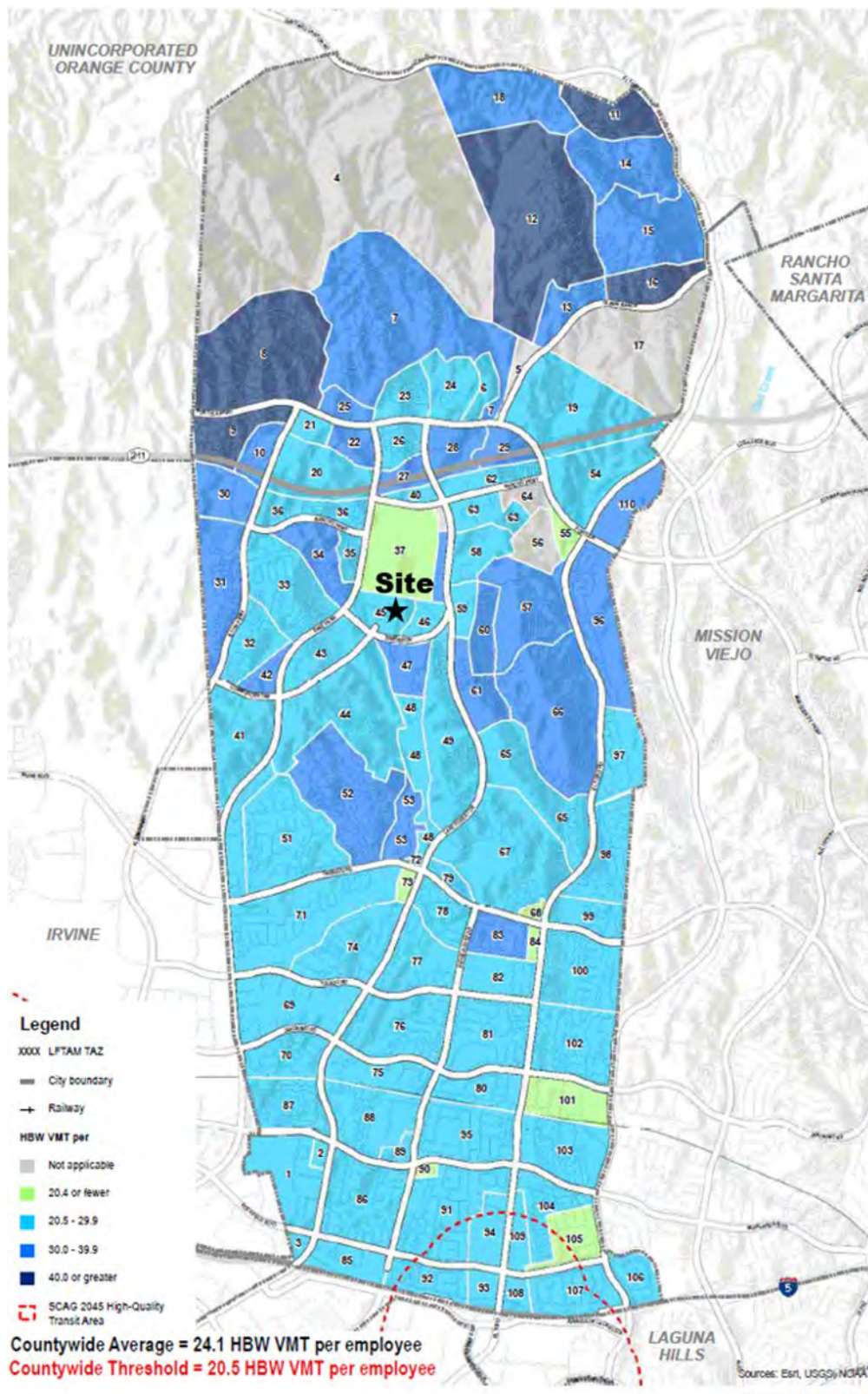
Table 4 shows the trip generation comparison and the resulting net change in trips between the existing use and the proposed Project. In an effort to conduct a conservative comparison, the trip generation based on PCE has been utilized for the proposed Project. As shown on Table 4, the proposed Project would result in a net decrease of 664 two-way trips per day and 10 fewer AM peak hour trips and 79 fewer PM peak hour trips (in PCE).

TABLE 4: TRIP GENERATION COMPARISON

Land Use	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
26200 Enterprise Way							
Existing Use (General Office)	194	26	220	35	173	208	1572
Proposed Project (Manufacturing in PCE)	89	31	120	41	88	129	908
Variance	-105	5	-100	6	-85	-79	-664

The development of the proposed manufacturing use, in lieu of the existing office building, is anticipated to result in a net reduction in overall trips.

ATTACHMENT C
CITY OF LAKE FOREST LOW VMT MAP



ATTACHMENT A-2
 Map-Based (Low VMT) Screening - Non-Residential Project

Source: LFTAM & OCTAM