Appendix N

David Evans Traffic Study

TRAFFIC STUDY

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Feasibility Study for Proposed Closure of Via Alcalde Avenue for Intex Corporate Office and Fulfillment Center

Long Beach, California

Prepared by:

DAVID EVANS AND ASSOCIATES INC.

DRAFT REPORT
April 13, 2020

DAVID EVANS AND ASSOCIATES INC.

April 10, 2020 Job No. ITXP0000-3001

Mr. Jeffrey Pierson
Unitex Management Corp.
4001 Via Oro Avenue, Suite 210
Long Beach, CA 90810

RE: Feasibility Study for Proposed Closure of Via Alcalde Avenue for the Development of the Intex Corporate Office and Fulfillment Center - Long Beach, CA

Dear Mr. Pierson,

David Evans and Associates, Inc. is pleased to submit this traffic study to analyze the proposed closure of Via Alcalde Avenue as part of your application to construct a corporate office and fulfillment center on an approximate 26-acre site located in Long Beach, California.

The purpose of this study is to evaluate the feasibility of vacating/closing Via Alcalde Avenue between W. Via Plata Street and W. Carson Street. It does this by assessing existing and future scenarios with and without the street closure to determine if the closure would significantly impact the operation of intersections in the study area. The future condition includes development of the proposed corporate office and fulfillment center. This study is not a traffic impact study, as defined under the California Environmental Quality Act (CEQA), for the purpose of procuring entitlements for the project, but a precursor to any subsequent environmental review required of the project.

If you have any questions or comments, please feel free to contact me at 909-912-7304.

Respectfully submitted,

David Evans and Associates, Inc.

James M. Daisa, P.E.
Senior Project Manager

DAVID EVANS AND ASSOCIATES INC.

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1 EXECUTIVE SUMMARY

1.1 Conclusions

The conclusions of this study to determine the feasibility of closing Via Alcalde Avenue both under existing and existing plus project conditions are summarized in **Table 5-1**.

Table 1-1: Analysis and Performance Measure Summary

Impact Analysis	Performance Measure	Existing Conditions	Existing + Project Conditions
Displaced Average Daily Traffic (ADT) Capacity	Displaced + Project ADT Exceeds Capacity on Remaining Streets	NO	NO
Peak Hour Intersection Capacity	Displaced + Project Peak Hour Traffic Exceeds City's Level of Service Standard	NO	NO
Peak Hour Intersection Queuing	95th Percentile Vehicle Queuing Exceeds Storage Length or Blocks Driveways	NO	NO

Based on the three impact analyses and performance measures criteria summarized above, this study concludes that the closure of Via Alcalde Avenue would not create any significant impacts with or without the proposed Intex Recreation Corporate Office and Fulfillment Center.

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2 INTRODUCTION

2.1 Background and Purpose of Study

Intex is proposing to develop a 525,000 square foot logistics center on six contiguous parcels of land it owns in West Long Beach Business Park located in northwest City of Long Beach. Included in the 25-acre project site is the right of way of an existing street (Via Alcalde Avenue).

The project site is bounded on all four sides by existing fully-improved public streets. Three of the four streets also provide access to developed properties on opposite sides of the streets from the project site. The fourth street is Via Alcalde Avenue, which runs along the east side of the project site, is single loaded and currently provides sole access to one of the six Intex parcels. Via Alcalde Avenue is bounded on its east side by the I-710 Caltrans right of way. Currently, Via Alcalde is used for occasional illegal parking of cars, RV's and container trucks in a posted no parking zone. There is negligible through traffic generated by the businesses within the West Long Beach Business Park.

In April 2018, Intex filed an application with the City of Long Beach for the vacation of Via Alcalde Avenue between Via Plata Street on the north and Carson Street on the south. Cul-de-sacs would be constructed per City standards at the eastern ends of Via Plata Street and Carson Street. Intex is considering, upon approval of Long Beach Police Department, Public Works, other City agencies, and Metro/Caltrans, the construction of a sidewalk connecting Via Plata Street and Carson Street for pedestrian use adjacent to the freeway right of way in a landscape buffer area outside the truck court security walls.

Intex proposes to grant easements to the benefit of the utility agencies that have existing underground public utilities (water, sewer, and electric lines) within the vacated Via Alcalde Avenue right of way. The improvements associated with the proposed logistics center will not conflict with the existing utility locations nor impair the utility agencies' ability to access their facilities for operation and maintenance purposes.

Street vacations are processed in accordance with the State of California Streets and Highways Code. The law requires that the City determine that the street is unnecessary for present or prospective public use before vacating its right of way. The City has an interest in Via Alcalde Avenue because the planned future expansion of the I-710 freeway will require additional freeway right of way. The adopted I-710 freeway widening plan, known as Alternative 5C, approved by the LA Metro Board, indicates that the additional freeway right of way would include some portions of the existing Via Alcalde Street right of way. Other than the area required for the future right of way, LA Metro has no need or use for Via Alcalde Avenue, now or in the future.

The timing for the freeway expansion is indefinite. According to LA Metro, the expansion may not occur for another 20-30 years or more, if at all. In the interim, the vacated Via Alcalde Avenue right of way property could be incorporated into the Intex project and would be used for truck and trailer staging and short-term parking. This study supports two alternative ways of vacating / closuring Via Alcalde Avenue:

1. The City enacts a street closure, abandons the surface improvements and Leases or Licenses Intex the rights for overlying use; and (or)
2. The City approves a street vacation with the provision that Intex would agree to create an easement or other appropriate legal instrument[s] to reserve the rights of LA Metro/Caltrans to allow for the eventual acquisition/utilization of the right of way for the freeway expansion project. It is expected that these conditions would be reflected on the Title and Grant Deeds upon vacation of the street by the City.

For the City to approve any form of vacation or closure of Via Alcalde Avenue they require this feasibility study to determine how the street is currently used and how closure would impact the

existing and prospective land uses and traffic patterns in the study area.

2.2 Scenario Definitions

This study evaluates three scenarios to determine if closure of Via Alcalde Avenue would significantly impact vehicular circulation within the study area and require off-site improvements to mitigate the impacts.

1. **Existing Conditions**. This scenario represents existing transportation conditions at the time this report was prepared. Data includes peak hour intersection turning movement counts and 72-hour bi-directional roadway traffic counts collected in late February and early March 2020 [1] and current roadway and intersection geometries. This scenario is used as the baseline condition from which to measure potential impacts.
2. **Existing Plus Closure of Via Alcalde Avenue.** This scenario measures the direct impact of the proposed street closure without any development on the Intex site. Should impacts occur under this scenario, the impacts would carry over to the subsequent scenario and require mitigation.
3. **Existing Plus Closure of Via Alcalde Avenue Plus Proposed Intex Development.** This scenario reflects conditions as if the project were built and occupied today. This scenario is intended to identify the feasibility of vacating/closure of Via Alcalde Ave between W. Via Plata Street and W. Carson Street with development of the Intex site. Specifically, the analysis in this study will address the following:
    - How the closure of Via Alcalde Avenue affects existing land uses served by the four bounding streets and how the displaced traffic from the street closure affects existing streets and intersections within the study area.
    - It specifically measures Intersection capacity and queuing at the intersection of Carson Street and Via Oro Avenue with consideration of impeding access to/from private driveways on Via Oro Avenue.
    - How the development of the Intex sites affect existing streets and intersections with the closure of Via Alcalde Avenue. If there is an impact, measures are identified to mitigate those impacts.

3 EXISTING CONDITIONS

3.1 Study Area

Currently, the project site is comprised of vacant and undeveloped land. The project site is located immediately west of the I-710 freeway and is bounded by West Carson Street to the south, West Via Plata Street to the north, Via Oro Avenue to the west and Via Alcalde Avenue to the east. **Figure 1** presents the study area and Figure 2 illustrates the proposed site plan for the Intex development. The study area includes the following streets:

- West Carson Street
- Via Oro Avenue
- Via Plata Street
- Via Alcalde Avenue

[1] The traffic counts were completed prior to any announced and/or mandated business shutdowns or stay-at-home orders in the County of Los Angeles due to the Coronavirus pandemic.

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FIGURE 1: VICINITY MAP
INTEX CORPORATE OFFICE AND FULFILLMENT CENTER
LONG BEACH, CALIFORNIA

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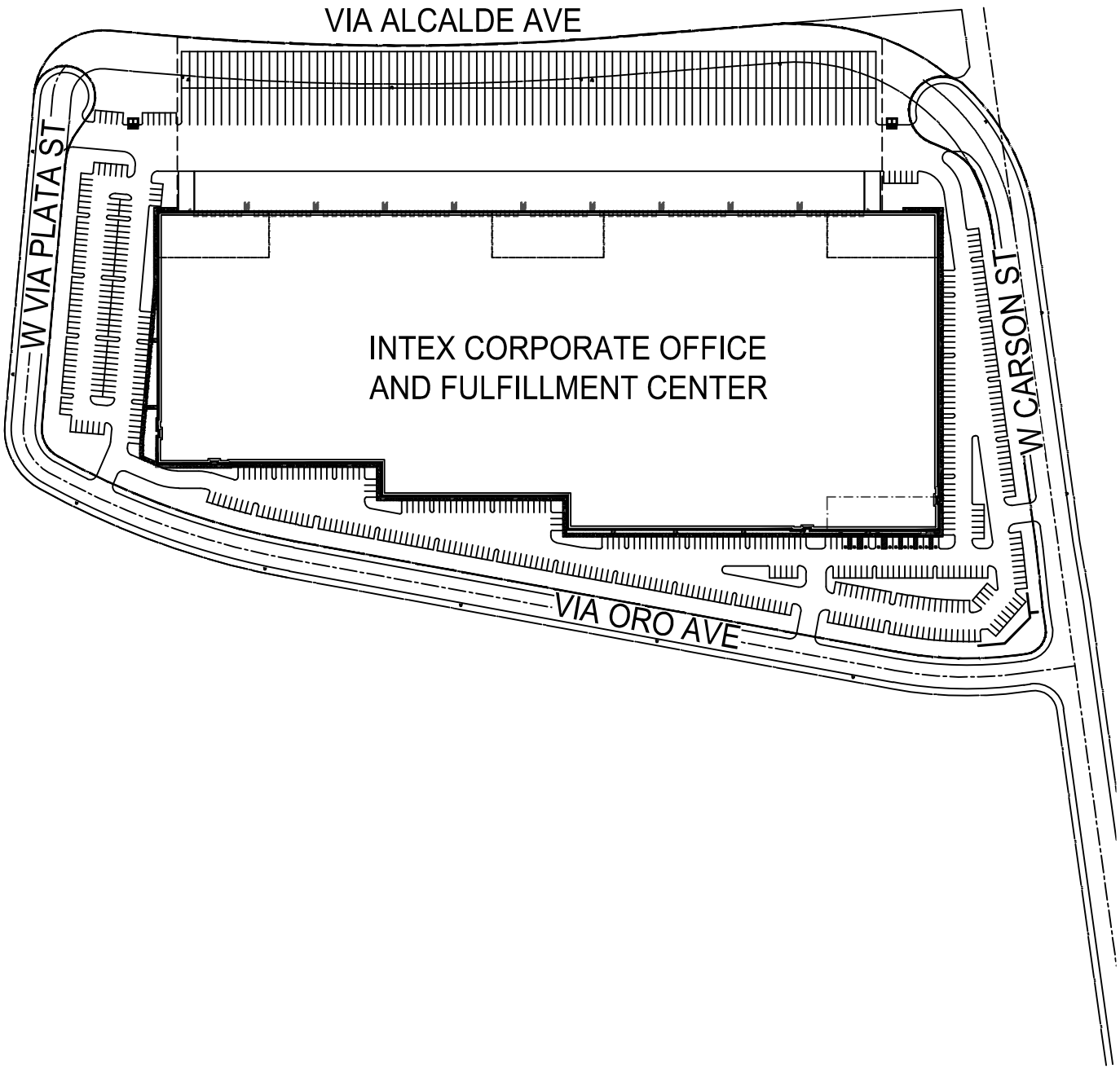

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FIGURE 2: SITE PLAN
INTEX CORPORATE OFFICE AND
FULFILLMENT CENTER
LONG BEACH, CALIFORNIA

In addition, the study area includes the following intersections for detailed operational analysis:

- Santa Fe Avenue and West Carson Street (signalized)
- Via Oro Avenue and West Carson Street (signalized)
- Via Oro Avenue and Hughes Way (signalized)

3.2 Existing Land Uses in Study Area

The project study area is located in the northwest area of Long Beach generally bounded by the I-710 freeway, the I-405 freeway and the City of Carson limits. Within these boundaries the majority of the study area is zoned Planned Development and a small area is zoned Industrial.

The land uses in the immediate vicinity of the project site are within the West Long Beach Business Park and are comprised of light industrial, research and development, and office and distribution-related land uses. South of Carson Street, the land uses are predominantly office and distribution-related land uses. West of the railroad corridor that bisects the study area there are two schools and a community park. Further west in the City of Carson (west of Santa Fe Avenue) the land use is predominantly single-family residential.

3.3 Regulatory Context and Street Classifications

This section identifies the classifications and functional and policy requirements of the streets within the study area based on the City of Long Beach's General Plan Circulation Element (October 2013). The policies in the circulation element identify the hierarchy and importance of the streets within the study area and provide guidance relevant to evaluating street closures and potential improvements. **Table 3-1** presents the designations of the streets in the study area.

Table 3-1: Street Classifications and Functional Requirements

Street	Classification	Description	Other Designated Functions
Santa Fe Ave	Major Avenue	A major avenue serves as the major route for the movement of traffic within the City as well as a connector to neighboring cities. Most traffic using a major avenue will end the trip within the City (as opposed to through-traffic). As such, design treatment and traffic operation should give preference to this type of traffic	• Proposed Class II bicycle lanes • Existing bus routes but not a designated primary or secondary Transit Priority Street • Signal synchronization
Carson St	Neighborhood Connector	A neighborhood connector street serves trips generated in surrounding or adjacent neighborhoods and should discourage through-trips that do not end within the neighborhood.	• Signal synchronization
Hughes Way (west of Via Oro)	Neighborhood Connector		
Via Oro Ave (south of Carson)	Neighborhood Connector		
Via Oro Ave (north of Carson)	Local Street	Local streets primarily provide access to individual parcels. The streets are generally two lanes with on-street parking, tree planting strips, and sidewalks. Traffic on a local street should have a trip end on that street, or on a connecting local street, or to a connector.	• Driveway access to land uses
Via Plata St	Local Street		
Via Alcalde Ave	Local Street		

Source: City of Long Beach General Plan Mobility Element (October 2013).

3.4 Description of Existing Street Network

West Carson Street is an east-west four-lane street (two lanes in each direction with turn pockets at key intersections. The posted speed limit within the project area is 35 mph.

Santa Fe Avenue is a north-south three-lane street (a single lane in each direction with a two-way-

left turn lane) with turn pockets at key intersections. This street provides indirect access to the I-710 freeway. The posted speed limit within the study area is 40 mph.

Hughes Way is an east-west five-lane road (two lanes in each direction with a two-way-left turn lane and turn pockets at key intersections). Hughes Way provides access between I-405 freeway. The posted speed limit within the project area is 30 mph.

Via Oro Avenue is a north-south three-lane road (a single lane in each direction with a two-way-left turn lane, and with turn pockets at key intersections). The posted speed limit within the project area is 45 mph.

3.5 Existing Traffic Volumes

Average Daily Traffic

Figure 3 presents the average daily traffic (ADT) counts conducted in March 2020 by Newport Traffic Studies, an independent traffic data collection company. ADT counts were collected during a 72-hour period on a Tuesday, Wednesday, and Thursday during a typical work week with local schools in session. The 72-hour bi-directional counts were collected at the following five locations:

- 72-hour bi-directional vehicle classification counts (by axle) on Via Oro Avenue (between Carson Street and Via Plata Street) and on West Carson Street (between Via Oro Avenue and Via Alcalde Avenue).
- The 72-hour bi-directional vehicle non-classification counts on Via Oro Avenue (between Carson Street and Via Plata Street), West Via Plata Street (between Via Oro Avenue and Via Alcalde Avenue), and on Via Alcalde Avenue (between Carson Street and West Via Plata Street).

The average daily traffic counts are provided in Appendix A. The **Table 3-2** summarizes the average daily traffic volumes.

Table 3-2: Summary of Daily Traffic Counts (Totals by Day and Average)

Location	Day	Autos	Trucks	Total
Via Oro Avenue	Tuesday	858	-	858
	Wednesday	361	389	750
	Thursday	149	201	350
	Average			**653**
W. Carson Street	Tuesday	880	138	1,018
	Wednesday	1,076	86	1,162
	Thursday	1,098	121	1,219
	Average	1,018	115	**1,133**
W. Via Plata Street	Tuesday	470	157	627
	Wednesday	372	124	496
	Thursday	154	51	205
	Average	**332**	**111**	**443**
Via Alcalde Avenue	Tuesday	763	255	1,018
	Wednesday	871	291	1,162
	Thursday	915	305	1,220
	Average	**825**	**275**	**1,100**

Note: Truck volumes for W. Via Plata Street and Via Alcalde Avenue have been estimated based on the average truck volumes on Via Oro Avenue and W. Carson Street (25%).

Figure 4 through Figure 7 illustrate the average daily traffic volumes by time of day.

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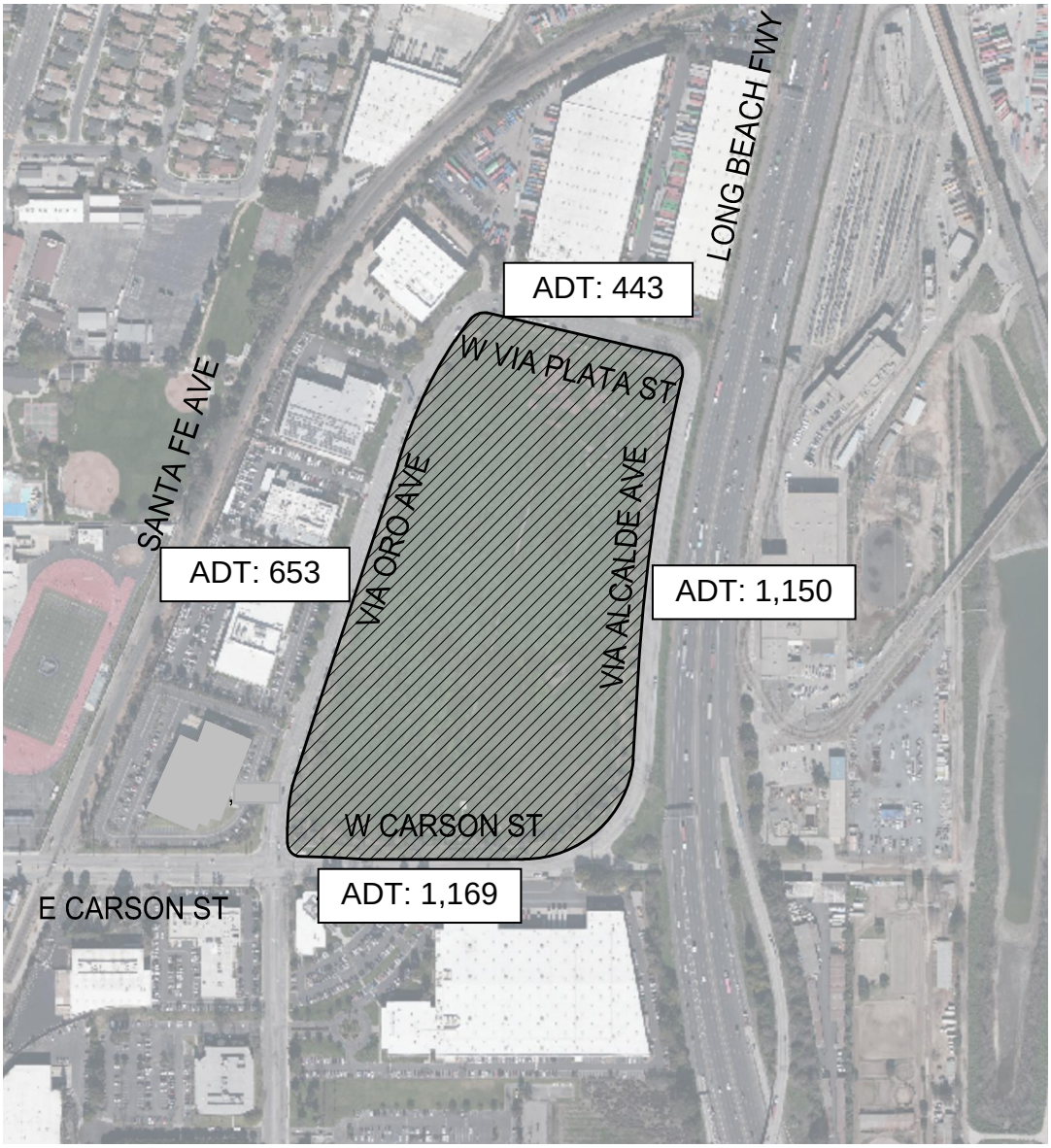

FIGURE 3: EXISTING AVERAGE DAILY TRAFFIC VOLUMES
INTEX CORPORATE OFFICE AND FULFILLMENT CENTER
LONG BEACH, CALIFORNIA

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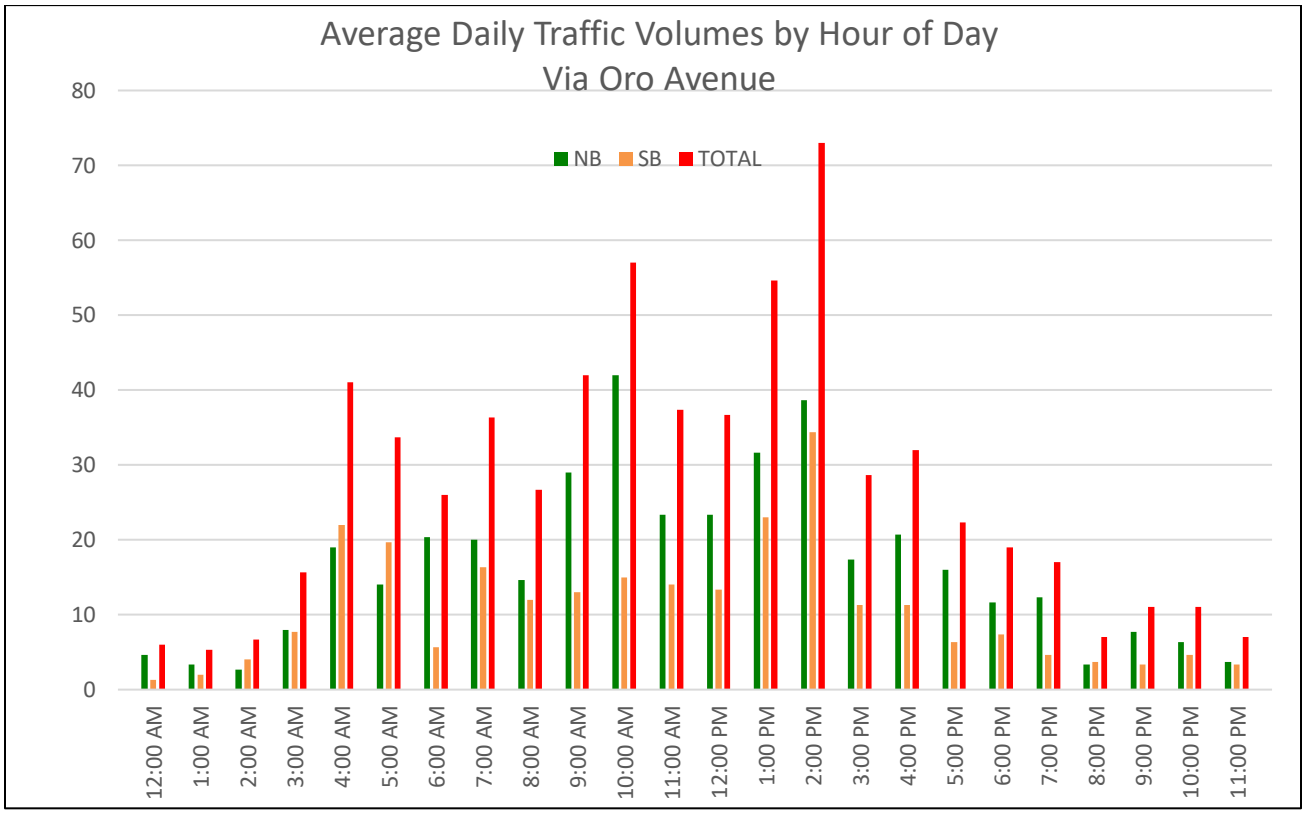

Figure 4: Average Daily Traffic by Time of Day (Via Oro Avenue)

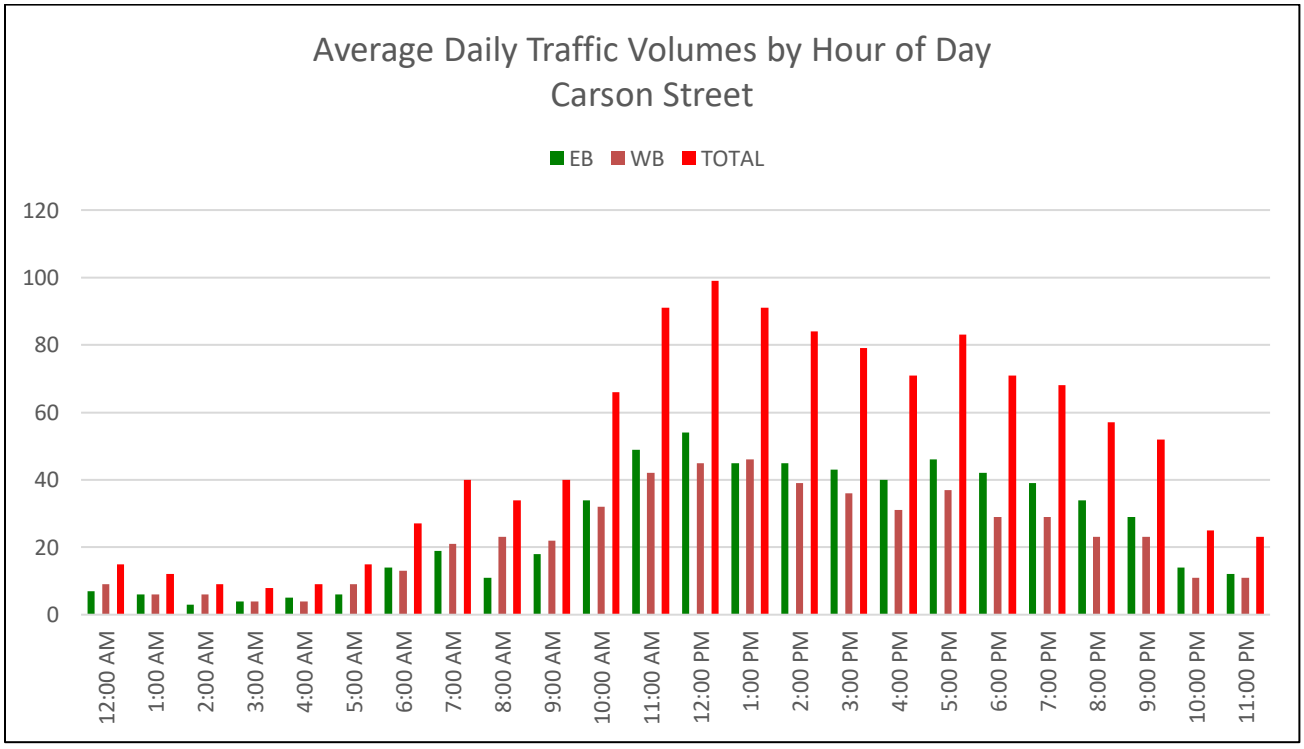

Figure 5: Average Daily Traffic by Time of Day (W. Carson Street)

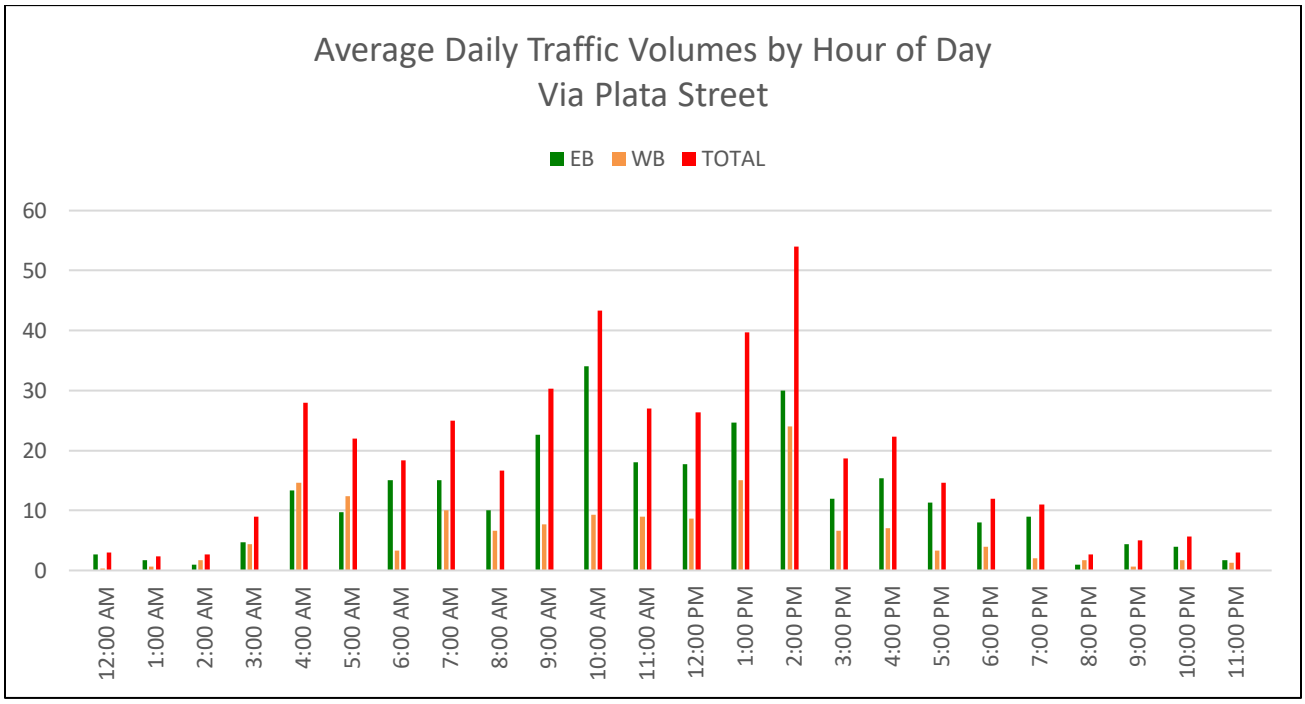

Figure 6: Average Daily Traffic by Time of Day (W. Via Plata Street)

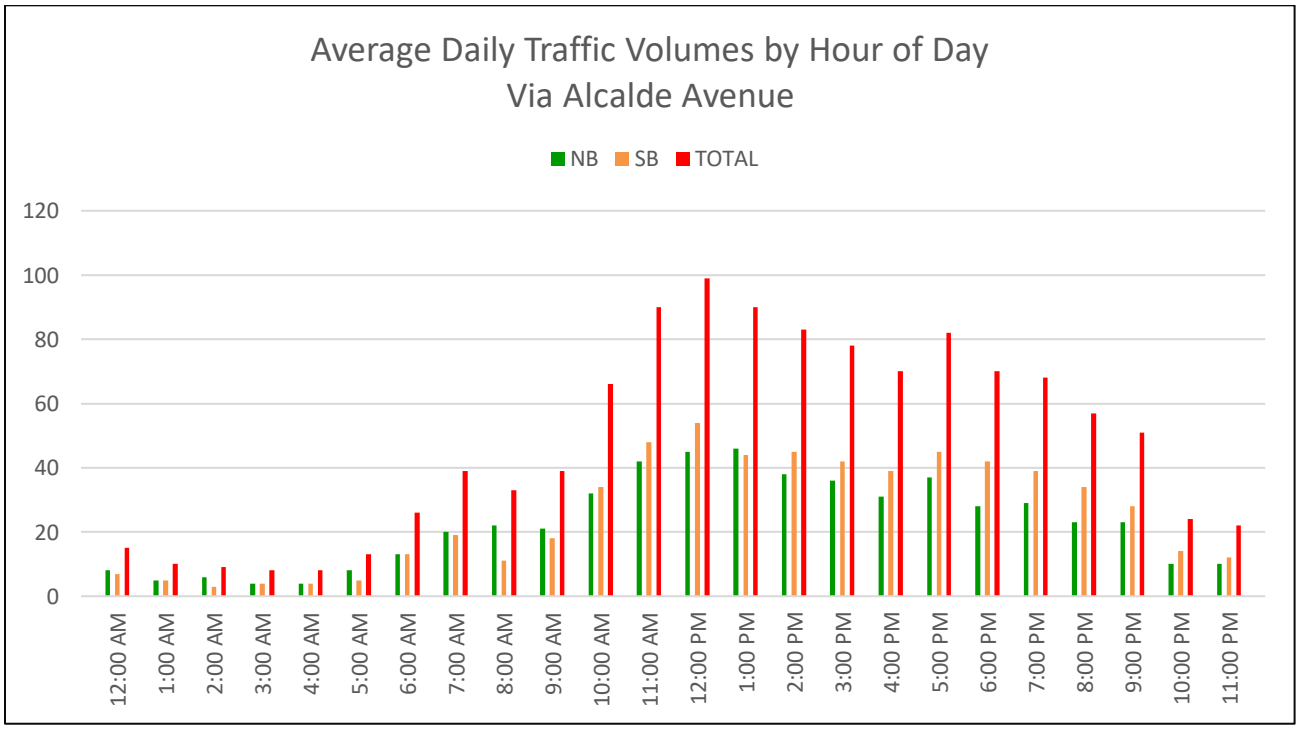

Figure 7: Average Daily Traffic by Time of Day (Via Alcalde Avenue)

Findings from the average daily counts include:

- All of the streets within the study area adjacent to the Intex development site have daily volumes less than 2,000 vehicles per day which define these streets as very low volume streets.
- The percent of trucks currently using these streets ranges from an average of 41% on Carson Street to 54% on Via Oro Avenue characterizing the area as industrial.
- The peak periods for the study area streets are characteristically different than streets that carry high volumes of commuter traffic which typically show high peaks in the AM peak (7:00 to 9:00 AM), mid-day (11:00 AM to 1:00 pm) and in the PM peak (4:00 to 6:00 PM). The highest peak periods for the study area street generally occur:
    - Via Oro Avenue: 9:00 to 10:00 AM and 1:00 to 2:00 PM
    - Carson Street: 10:00 AM to 2:00 PM and 4:00 PM to 7:00 PM
    - Via Plata Street: 9:00 AM to 10:00 AM and 1:00 PM to 2:00 PM
    - Via Alcalde Avenue: 10:00 AM to 7:00 PM

  These peak periods would indicate an area characterized by shift employment and land uses with varying truck loading schedules which don't experience typical 9 AM to 5 PM work shifts and typical commute peaks.
- The similarity in average daily traffic volumes between Carson Street and Via Alcalde Avenue would indicate that much of the traffic on Via Alcalde Avenue is coming from and going to Carson Street. This also indicates the land uses accessing the West Long Beach Business Park use Via Alcalde Avenue rather than Via Oro Avenue.

Average Daily Capacity

The daily traffic volume capacity of the two-lane streets in the study area are characterized in **Table 3-3**. Daily traffic volumes are often used to determine lane requirements for planning purposes. Based on the daily traffic volumes representing varying levels of service in the table the capacity (the maximum number of vehicles per day) is about 14,000 vehicles per day.

Table 3-3: Generalized Average Daily Traffic Capacities of Bi-Directional Two-Lane Roads

Number of Lanes	Type of Median	Generalized Roadway Level of Service		
		C	D	E
2	Undivided (no raised median)	6,570	13,320	14,040
Source: Generalized Annual Average Daily Volumes for Urbanized Areas for Class II signalized roadways (35 mph or slower posted speed limits) based on planning applications of the Highway Capacity Manual. Florida Department of Transportation, 2012.				

The existing daily traffic volumes measured on the streets within the study area (ranging from about 650 to 1,100 vehicles per day) are well below the maximum capacity of a two-lane street and are even below the minimum capacity for Level of Service (LOS) C. This analysis concludes that streets within the study are operating well under capacity from an average daily volume perspective leading to the next step of analysis—intersection capacity analysis—as described below.

Intersection Turning Movement Counts

Intersection turning movement counts were conducted in early March 2020 by Newport Traffic Studies, an independent traffic data collection company. Turning movement counts were collected during the AM (7:00-9:00 AM) and PM (4:00-6:00 PM) peak periods during a typical work week with

local schools in session. **Figure 8** presents the existing peak hour intersection traffic volumes in the study area and *Appendix A* provides the turning movement counts. Turning movement counts were collected at the following locations:

1. Santa Fe Avenue and West Carson Street
2. Via Oro Avenue and West Carson Street
3. Via Oro Avenue and Hughes Way

3.6 Intersection Capacity Analysis

Intersection Capacity Utilization (ICU) Methodology

The Intersection Capacity Utilization (ICU) methodology expresses the Level of Service (LOS) of an intersection in terms of the remaining capacity at an intersection (or lack thereof). The ICU methodology compares the volume-to-capacity (V/C) ratios of conflicting turn movements at an intersection, sums the critical conflicting V/C ratios for each intersection approach, and determines the intersection's overall capacity utilization. LOS is used to qualitatively describe the performance of an intersection, ranging from LOS A (free-flow conditions) to Level of Service F (extreme congestion). The V/C ratio is correlated to LOS as follows:

Table 3-4: ICU – LOS Criteria & V/C ranges for Signalized Intersections

Level of Service	Critical Volume to Capacity Ratio (V/C)
A	0.00 - 0.60
B	>0.60 - 0.70
C	>0.70 - 0.80
D	>0.80 - 0.90
E	>0.90 - 1.00
F	>1.00

Key parameters used in this study for calculating the V/C ratio include a "saturation flow rate" of 1,600 vehicles per lane per hour and a yellow clearance interval time of ten percent.

City Level of Service Standards and Significance Standards

Although this study is not an assessment of potential project impacts under California Environmental Quality Act (CEQA) review for entitlements, the City's policies related to intersection Level of Service (LOS) and criteria related to significant impacts are applicable to studying the effect of street closures.

According to the City of Long Beach's General Plan Mobility Element (October 2013) and the City's traffic impact analysis guidelines (Public Works Development Guidelines, Page 56) level of service graded at D is generally considered to be the lowest acceptable level. Levels of service E and F are considered to be in need of improvement. According to the City of Long Beach significant impact criteria, impacts to local and regional transportation systems are considered significant if:

Signalized Intersections:

- The project causes a study intersection to deteriorate from LOS D to LOS E or F. The City of Long Beach considers LOS D to be the minimum acceptable LOS for all intersections; or
- The project increases traffic demand at the study intersection by 2% of capacity (e.g., Intersection Capacity Utilization (ICU) or Volume to Capacity Ratio (V/C) increase ≥ 0.020), causing or worsening LOS E or F when an intersection is operating at LOS E or F in the baseline condition.

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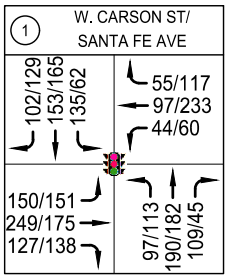

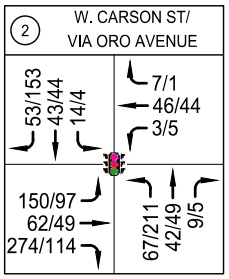

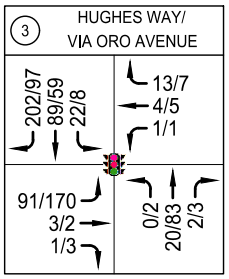

LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

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FIGURE 8: EXISTING TRAFFIC VOLUMES
INTEX CORPORATE OFFICE AND FULFILLMENT CENTER
LONG BEACH, CALIFORNIA

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Unsignalized Intersections: For unsignalized intersections, an impact is defined to be significant if:

- The project causes an intersection operating at LOS D or better to degrade to LOS E or F, and a traffic signal warrant analysis determines that a traffic signal is justified.

Existing Intersection Capacity Analysis and Level of Service

Existing intersection geometrics and existing AM and PM peak hour traffic counts are used in analyzing existing intersection capacity. For the capacity and queuing analyses, truck volumes from the traffic counts were converted to "passenger car equivalents" with each truck equaling approximately 2 to 3 passenger cars (depending on the number of axles) from the perspective of intersection operations and queue lengths. **Table 3-5** and *Appendix B* provide the results of the analysis. **Figure 9** illustrates the existing intersection geometrics utilized in the capacity analysis.

Table 3-5: Intersection Capacity Analysis – Existing Conditions

Intersection		AM Peak Hour		PM Peak Hour	
		V/C (1)	LOS (2)	V/C (1)	LOS (2)
1	Santa Fe Ave and West Carson St	0.499	A	0.558	B
2	Via Oro Ave and West Carson St	0.031	A	0.317	A
3	Via Oro Ave and Hughes Way	0.333	A	0.300	A

(1) V/C = Volume / Capacity ratio

(2) LOS = Level of Service

Source: David Evans and Associates, Inc.

As presented in *Table 3-5,* under Existing Conditions, the study intersections are currently operating at LOS B or better.

Queuing Analysis

Long vehicular queues at signalized intersections can impede traffic from entering turn lanes, block through lanes, or block access to private driveways and potentially impede traffic flow in the opposite direction. Existing intersection geometrics and existing AM and PM peak hour traffic volumes are used in analyzing existing queuing. **Table 3-6** and *Appendix C* provide the results of the queuing analysis completed for the intersection of West Carson Street and Via Oro Avenue.

Table 3-6: Vehicle Queuing Length – Existing Conditions

Intersection/Movement		Storage Length (feet)	AM Peak Hour	PM Peak Hour
West Carson Street / Via Oro Avenue	EBL	460	190	142
	EBTHR	540	107	85
	EBR	170	82	62
	WBL	190	18	24
	WBTH	540	107	104
	WBTHR	75	20	11
	NBL	460	58	125
	NBTH	540	28	32
	NBTHR	540	26	24
	SBL	170	21	10
	SBTHR	240	84	123
	SBR	240	0	33

Table shows the 95th percentile queue length in feet.

Source: David Evans and Associates, Inc.

DAVID EVANS AND ASSOCIATES INC.

FIGURE 9: EXISTING INTERSECTION GEOMETRICS
INTEX CORPORATE OFFICE AND FULFILLMENT CENTER
LONG BEACH, CALIFORNIA

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As presented in **Table 3-6**, the existing storage lengths provided at each approach and lane group at the intersection of West Carson Street and Via Oro Avenue currently accommodates the calculated 95th percentile vehicle queues. Error! Reference source not found. illustrates the queue lengths at each approach graphically.

4 PROJECT DESCRIPTION

Intex proposes to develop a 517,437 square foot corporate office and fulfillment center at the project site. The development includes the closure of Val Alcalde Avenue and the creation of cul de sacs at the eastern ends of West Carson Street and Via Plata Street. Trucks and passenger cars access the site from driveways located on the cul de sacs. An additional driveway on West Carson Street (located approximately 260 feet east of Via Oro Avenue) provides passenger car only access to the site.

4.1 Project Trip Generation and Distribution

The Institute of Transportation Engineers (ITE) 10th Edition Trip Generation manual provides trip generation rates for Warehousing (ITE land use code ITE 150) but does not include vehicle mix breakdowns. As such, this study augments the ITE trip generation data with data from the Truck Trip Generation Study (City of Fontana, Transportation Engineering and Planning Inc., August 2003) to obtain vehicle mix percentages to estimate the number of trucks generated by the project and for use in calculating passenger car equivalents (PCE) for the operational analyses.

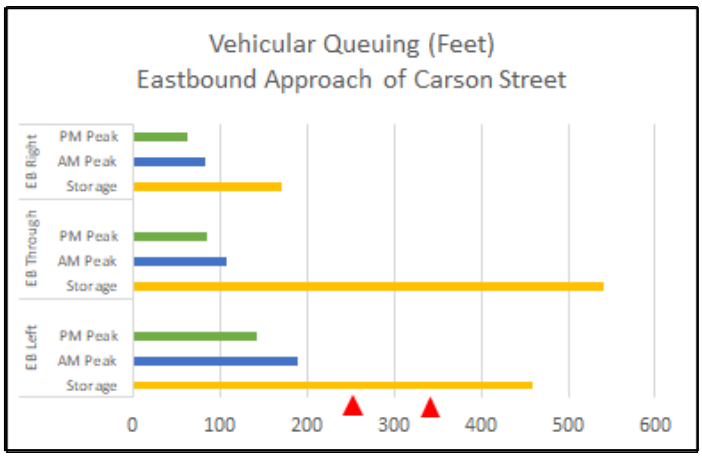
Table 4-1 summarizes the estimated trip generation for the proposed project for the AM (7-9 AM) and PM (4-6 PM) peak. The trip generation factors for the Warehouse were obtained from the (ITE) 10th Edition Trip Generation Manual. The vehicle mix factors for the Warehouse were obtained from the Fontana Truck Study. An excerpt of the referenced report is provided with *Appendix D.*

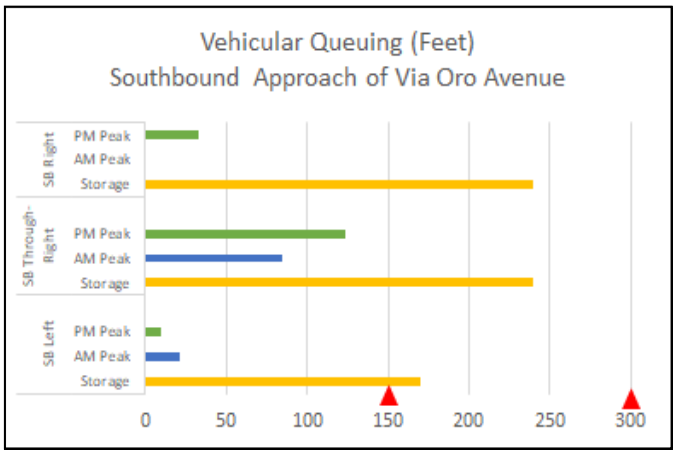
Table 4-1: Project Trip Generation

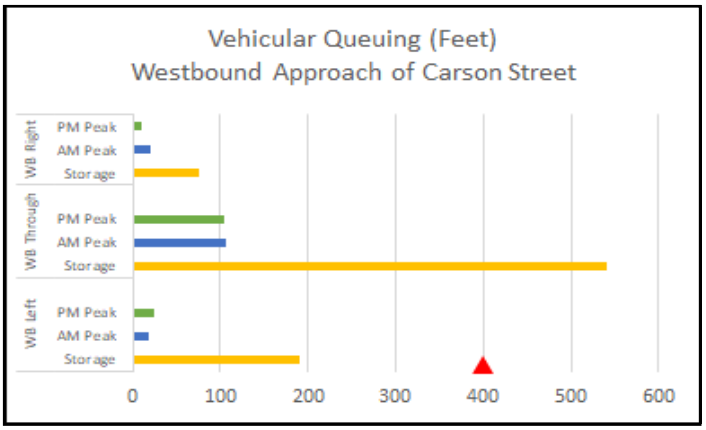
Land Use	Size	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Warehouse - Land Use Category (ITE 150)								
Rates (Trips per 1,000 Sq. Feet Gross Floor Area)	517,437	1.74	0.13	0.04	0.17	0.05	0.14	0.19
Trips		900	68	20	88	27	72	99
Passenger Cars (79.57%)		717	54	17	71	22	58	80
Truck: Large 2 Axle (3.46%)		32	3	1	4	1	3	4
Truck: 3 Axle (4.64%)		42	4	1	5	2	4	6
Truck: 4+ Axle (12.33%)		112	9	3	12	4	9	13
Passenger Car Equivalents								
Passenger Car (PCE 1)		717	54	17	71	22	58	80
Truck: Large 2 Axle (PCE 2)		64	6	2	8	2	6	8
Truck: 3 Axle (PCE 2)		84	8	2	10	4	8	12
Truck: 4+ Axle (PCE 3)		336	27	9	36	12	27	39
Total PCE Trips		**1,201**	95	30	**125**	40	99	**139**

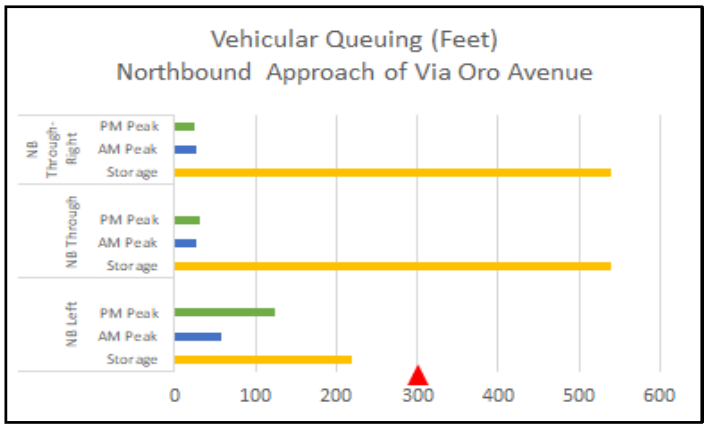
Source: "Trip Generation Manual, Institute of Transportation Engineers", 10th Edition

The estimated vehicle mix percentages were obtained from the Fontana Truck Study. The vehicle mix break down will consist of approximately 80% auto trips and 20% truck trips. The truck trip percentage can be further broken down to 3.46% - 2 axle truck trips, 4.64% - 3 axle truck trips, and 12.33% - 4+ axle truck trips. The project truck trips are converted into passenger car equivalents (PCE) for the capacity analysis. A PCE factor of 2 is applied to 2 axle trucks and 3 axle trucks. A PCE factor of 3 is applied to 4+ axle trucks.









Location of Existing Driveways

FIGURE 10: EXISTING VEHICULAR QUEUING AT W. CARSON STREET AND VIA ORO AVENUE

INTEX CORPORATE OFFICE AND FULFILLMENT CENTER
LONG BEACH, CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.

As presented in *Table 4-1,* the proposed project is anticipated to generate 1,201 daily PCE trips, 125 AM peak hour PCE trips, and 139 PM peak hour PCE trips.

Project Trip Distribution and Assignment

To address the impacts of the estimated project traffic, the trips were distributed and assigned to the surrounding streets and study intersections. The project traffic was distributed based on the anticipated travel by direction and freeway access. Once the distribution pattern was established, project trips were assigned to the surrounding street network and study intersections.

The project trips are assigned based on the local street network and proposed driveway locations. The distribution of the project trips is illustrated in **Figure 11**. The regional trip distribution is estimated as 20% from the North, 20% from the South, 25% from the West, and 35% from the East. The project trip assignment to the adjoining intersections is illustrated in **Figure 12**.

4.2 Existing Plus Project Conditions

This scenario evaluates conditions with the proposed development project and the closure of Via Alcalde Avenue.

Existing plus Project Traffic Analysis

Redistribution of Displaced Via Alcalde Avenue Average Daily Traffic (Without Project)

This analysis first looks at the redistribution of the average daily traffic volumes displaced by the closure of Via Alcalde Avenue. As presented earlier in Table 3-2: Summary of Daily Traffic Counts (Totals by Day and Average), the daily traffic using Via Alcalde Avenue has a directional breakdown of 47% northbound and 53% southbound of the 1,100 trips using the street on an average weekday. **Table 4-2** shows compares the existing and redistributed average daily volumes on the streets surround the project site.

Table 4-2: Existing and Existing Plus Redistributed Daily Traffic Volumes (Without Project)

Street	Existing			Existing Plus Project With Redistributed Traffic (Without Project)			Capacity at LOS C [1]
	Northbound / Eastbound	Southbound / Westbound	Total	Northbound / Eastbound	Southbound / Westbound	Total	
Via Oro Ave	394	259	653	911	842	1,753	6,570
W. Carson St	600	533	1,133	83	[2]	83	
Via Plata St	287	156	443	804	739	1,543	
Via Alcalde Ave	517	583	1,100	0	0	0	

Notes:

[1] The capacity of a two-lane street operating at LOS C from Table 3-2 of this study.

[2] Redistribution of Via Alcalde Avenue's average daily traffic (without development of the project site) results in a negative westbound traffic volume on West Carson Street east of Via Oro Avenue. In actuality, there will be traffic on West Carson east of Via Oro Avenue, from the single existing land use accessing West Carson Street (that also has its primary access on Via Oro Avenue south of Carson Street).

Source: David Evans and Associates, Inc.

The proposed closure causes a shift of traffic between the existing streets with Via Oro Avenue and Via Plata Street increasing substantially and West Carson Street decreasing substantially. However, from the perspective of average daily traffic, the study area streets would have traffic volumes well under the capacity of a two-lane street reflecting LOS C operating conditions.

LEGEND

XX% - GENERAL PROJECT TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 11: PROJECT TRIP DISTRIBUTION
INTEX CORPORATE OFFICE AND FULFILLMENT CENTER
LONG BEACH, CALIFORNIA

PRIMARY TRIPS

AM PEAK PERIOD - 68 IN / 20 OUT
PM PEAK PERIOD - 27 IN / 72 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP
(#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 12: PROJECT TRIPS
INTEX CORPORATE OFFICE AND FULFILLMENT CENTER
LONG BEACH, CALIFORNIA

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Redistribution of Displaced Via Alcalde Avenue Average Daily Traffic (With Project)

This analysis compares the existing conditions with existing plus the closure of Via Alcalde Avenue plus the addition of the average daily traffic generated by the Intex development. The project's daily traffic volumes were distributed and assigned based on the same percentages as the peak hour traffic volumes described earlier. **Table 4-3** shows the resulting average daily traffic volumes on the study area streets.

Table 4-3: Existing and Existing Plus Redistributed Daily Traffic Volumes (With Project)

Street	Existing			Existing Plus Project With Redistributed Traffic (With Project)			Capacity at LOS C [1]
	Northbound / Eastbound	Southbound / Westbound	Total	Northbound / Eastbound	Southbound / Westbound	Total	
Via Oro Ave	394	259	653	1,293	1,185	2,478	6,570
W. Carson St	600	533	1,133	278	281	559	
Via Plata St	287	156	443	1,186	1,082	2,268	
Via Alcalde Ave	517	583	1,100	0	0	0	

Notes:

[1] The capacity of a two-lane street operating at LOS C from Table 3-2 of this study.

Source: David Evans and Associates, Inc.

The addition of the project's average daily traffic (1.200 daily trips) increases the daily traffic volume on the study area streets, but as with the without project scenario, the study area streets would have traffic volumes well under the capacity of a two-lane street reflecting LOS C operating conditions.

Existing Plus Project Intersection Operations Analysis

Redistribution of Displaced Via Alcalde Avenue Peak Hour Traffic (With and Without Project)

The existing and existing plus project scenarios have been analyzed with redistributed peak hour traffic volumes due to the proposed closure of Via Alcalde Avenue. For conservative purposes, this analysis redistributes the highest hourly volume on Via Alcalde Avenue which equals about 100 trips (45 trips northbound and 55 trips southbound) occurring between 12:00 noon and 1:00 PM. These trips were redistributed to the study intersections based on the intersection's current AM and PM peak hour movements.

Table 4-4 compares existing conditions with the redistribution of traffic under existing and existing plus project conditions. Detailed level of service worksheets are provided in Appendix B.

Table 4-4: Intersection Capacity Analysis – Existing and Existing Plus Project Conditions

		Existing Conditions with Redistribution of Existing Traffic Volumes				Existing Plus Project Conditions with Redistribution of Existing Traffic Volumes			
Intersection		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		V/C (1)	LOS (2)	V/C (1)	LOS (2)	V/C (1)	LOS (2)	V/C (1)	LOS (2)
1	Santa Fe Ave and West Carson St	0.499	A	0.558	B	0.502	A	0.570	B
2	Via Oro Ave and West Carson St	0.292	A	0.342	A	0.316	A	0.410	A
3	Via Oro Ave and Hughes Way	0.333	A	0.300	A	0.337	A	0.300	A

(1) V/C = Volume / Capacity ratio

(2) LOS = Level of Service

Source: David Evans and Associates, Inc.

Figure 13 illustrates the Existing Plus Project the AM and PM peak hour traffic volumes redistributed due to the closure Via Alcalde Avenue. **Figure 14** illustrates the existing plus project intersection geometrics. As shown in the table the study intersections will experience a slight increase in volume to capacity ratio, but all would continue to operate at LOS B or better.

Queuing Analysis

Existing intersection geometrics and existing plus redistributed traffic plus project AM and PM peak hour traffic volumes are used in analyzing existing queuing. **Table 4-5** compares existing conditions to project conditions and *Appendix C* provides the results of the queuing analysis completed for the intersection of West Carson Street and Via Oro Avenue. **Figure 15** illustrates the queuing graphically.

Table 4-5: Vehicle Queuing Length – Existing Plus Redistributed Traffic Plus Project Conditions

			Existing		Existing + Project + Redistributed Traffic	
Intersection/Movement		Storage Length (feet)	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
West Carson Street / Via Oro Avenue	EBL	460	190	142	222	153
	EBTHR	540	107	85	121	89
	EBR	170	82	62	87	62
	WBL	190	18	24	27	50
	WBTH	540	107	104	69	73
	WBTHR	75	20	11	18	8
	NBL	460	58	125	64	136
	NBTH	540	28	32	36	34
	NBTHR	540	26	24	38	30
	SBL	170	21	10	21	11
	SBTHR	240	84	123	86	157
	SBR	240	0	33	4	72

Table shows the 95th percentile queue length in feet.

Source: David Evans and Associates, Inc.

The table shows that the projected 95th percentile vehicle queues would be accommodated by existing storage lengths at the intersection of West Carson Street and Via Oro Avenue.

5 CONCLUSIONS

The conclusions of this study to determine the feasibility of closing Via Alcalde Avenue both under existing and existing plus project conditions are summarized in **Table 5-1**.

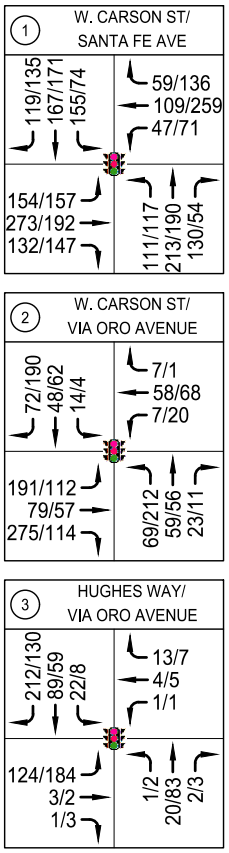
Table 5-1: Analysis and Performance Measure Summary

Impact Analysis	Performance Measure	Existing Conditions	Existing + Project Conditions
Displaced Average Daily Traffic (ADT) Capacity	Displaced + Project ADT Exceeds Capacity on Remaining Streets	NO	NO
Peak Hour Intersection Capacity	Displaced + Project Peak Hour Traffic Exceeds City's Level of Service Standard	NO	NO
Peak Hour Intersection Queuing	95th Percentile Vehicle Queuing Exceeds Storage Length or Blocks Driveways	NO	NO

Based on the three impact analyses and performance measures criteria summarized above, this study concludes that the closure of Via Alcalde Avenue would not create any significant impacts with or without the proposed Intex Recreation Corporate Office and Fulfillment Center.

N

NOT TO SCALE



LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 13: EXISTING PLUS PROJECT REDISTRIBUTED TRAFFIC VOLUMES

INTEX CORPORATE OFFICE AND FULFILLMENT CENTER LONG BEACH, CALIFORNIA

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DAVID EVANS AND ASSOCIATES INC.

FIGURE 14: EXISTING PLUS PROJECT GEOMETRICS

INTEX CORPORATE OFFICE AND FULFILLMENT CENTER
LONG BEACH, CALIFORNIA

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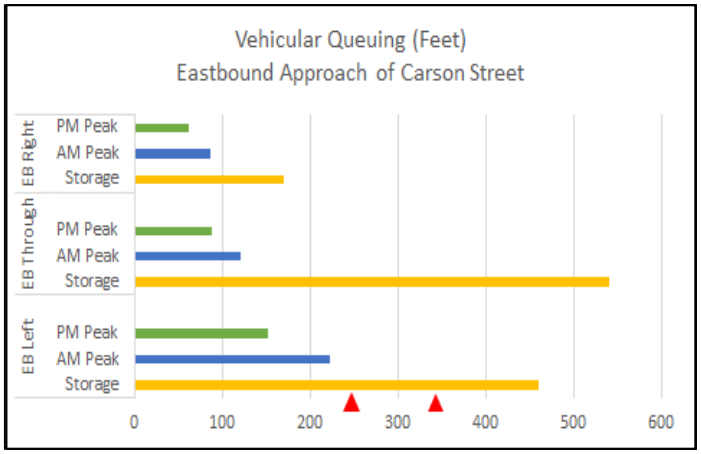

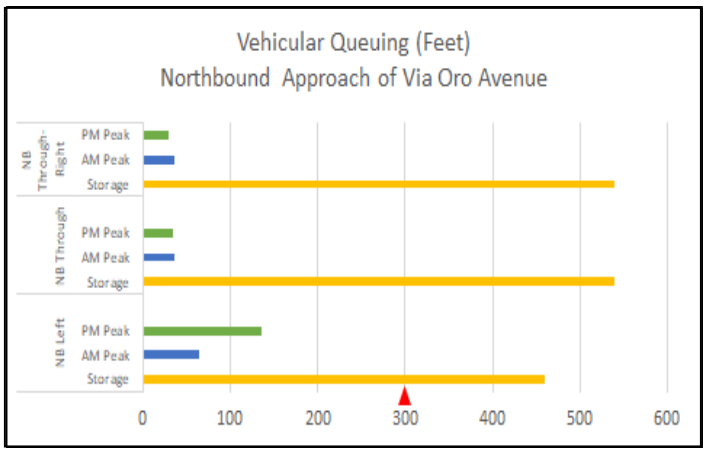

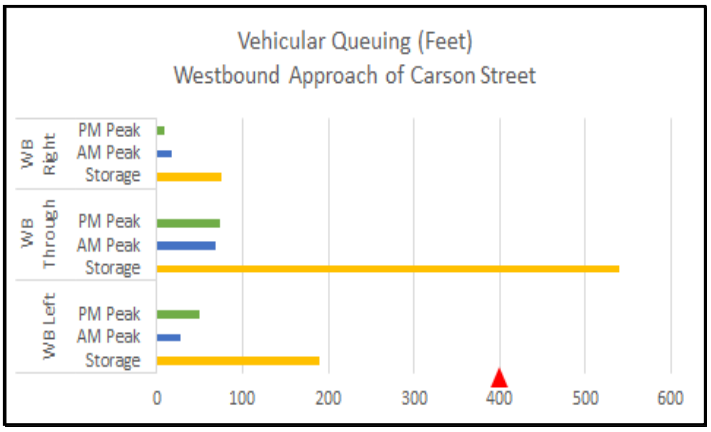

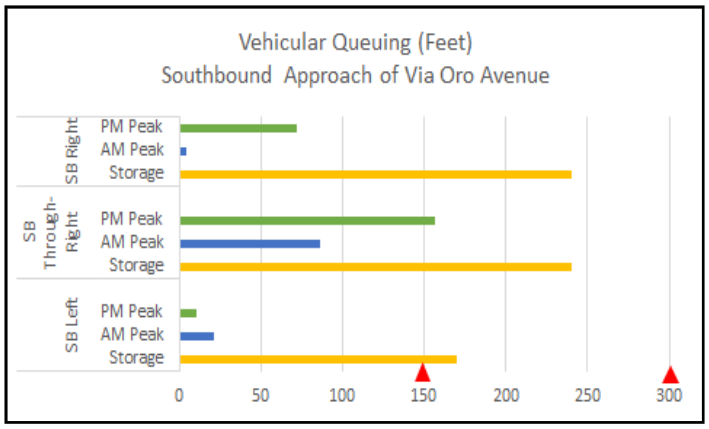

▲ Location of Existing Driveways

FIGURE 15: EXISTING PLUS PROJECT VEHICULAR QUEUING AT W. CARSON STREET AND VIA ORO AVENUE

INTEX CORPORATE OFFICE AND FULFILLMENT CENTER
LONG BEACH, CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.

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6 APPENDICES

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Appendix A: Average Daily and Intersection turning movement Traffic Counts

24 HOUR CLASSIFICATION COUNT

STREET : VIA ORO
LOCATION : N/O W CARSON

DATE : 03-11-20
NORTHBOUND

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00														
1:00	0	0	0	0	0	0	0	0	2	0	0	0	0	2
2:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
3:00	0	2	0	0	1	0	0	0	2	0	0	0	0	5
4:00	0	1	0	0	0	0	0	0	1	0	0	0	0	2
5:00	0	33	5	0	0	0	0	0	1	0	0	0	0	39
6:00	0	9	2	0	1	0	0	1	0	0	0	0	0	13
7:00	0	6	4	0	0	0	1	0	3	0	0	0	0	14
8:00	0	5	2	0	2	0	0	1	4	0	0	0	0	14
9:00	0	8	6	0	1	0	0	3	9	0	0	0	0	27
10:00	0	6	4	0	3	0	0	2	3	0	0	0	0	18
11:00	3	5	4	0	0	3	1	4	15	0	0	0	0	35
12:00	0	2	1	0	2	0	0	2	6	0	0	0	0	13
1:00	0	6	2	0	1	0	0	7	11	1	0	0	0	28
2:00	0	16	7	0	0	0	0	4	3	0	0	0	0	30
3:00	0	33	4	0	0	0	0	5	9	0	0	0	0	51
4:00	0	4	2	0	1	0	0	5	6	1	0	0	0	19
5:00	0	1	2	0	1	0	0	7	6	0	0	0	0	17
6:00	0	1	0	0	0	1	0	1	9	0	0	0	0	12
7:00	0	3	0	0	2	1	0	4	3	0	0	0	0	13
8:00	0	4	0	0	1	0	0	3	0	0	0	0	0	8
9:00	0	0	0	0	0	0	0	2	1	1	0	0	0	4
10:00	0	1	0	0	0	0	0	6	13	0	0	0	0	20
11:00	0	2	0	0	1	2	0	5	4	0	0	0	0	14
12:00	0	2	0	0	0	0	0	3	3	0	0	0	0	8
TOTAL	3	150	46	0	17	7	2	65	114	3	0	0	0	407

BIN LEGEND

1. MOTORCYCLES
2. CAR, CAR WITH TRAILER
3. PICK-UP, PICK-UP WITH TRAILER
4. BUS
5. 2 AXLE LONG
6. 3 AXLE SINGLE
7. 4 AXLE SINGLE
8. 4 AXLE WITH TRAILER
9. 5 AXLE SINGLE TRAILER
10. 6 AXLE SINGLE TRAILER
11. 5 AXLE DUAL TRAILER
12. 6 AXLE DUAL TRAILER
13. 7 AXLE MULTI TRAILER

24 HOUR CLASSIFICATION COUNT

STREET : VIA ORO
LOCATION : N/O W CARSON

DATE : 03-11-20
SOUTHBOUND

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00														
1:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1
2:00	0	1	0	0	0	0	0	0	2	0	0	0	0	3
3:00	0	0	0	0	0	1	0	2	6	0	0	0	0	9
4:00	0	13	2	0	0	2	0	1	1	0	0	0	0	19
5:00	1	4	2	0	2	0	0	2	1	0	0	0	0	12
6:00	0	16	7	0	4	0	0	0	2	0	0	0	0	29
7:00	0	2	1	0	1	0	0	0	3	0	1	0	0	8
8:00	0	7	1	0	0	2	0	4	6	0	0	0	0	20
9:00	0	6	3	0	0	0	0	3	6	0	0	0	0	18
10:00	0	4	1	0	2	1	0	2	4	0	0	0	0	14
11:00	0	7	8	0	1	0	0	6	3	0	0	0	0	25
12:00	0	2	1	0	2	1	0	6	5	0	0	0	0	17
1:00	0	4	3	0	0	0	0	8	5	0	0	0	0	20
2:00	0	15	1	0	1	0	0	4	5	0	0	0	0	26
3:00	0	29	3	0	1	0	0	8	10	0	0	0	0	51
4:00	0	1	2	0	1	1	0	4	2	0	0	0	0	11
5:00	0	3	0	0	1	1	0	5	6	0	0	0	0	16
6:00	0	0	0	0	2	0	0	2	4	0	0	0	0	8
7:00	0	4	0	0	1	2	0	4	2	0	0	0	0	13
8:00	0	2	1	0	0	0	0	1	1	0	0	0	0	5
9:00	0	0	0	0	1	0	0	2	1	0	0	0	0	4
10:00	0	0	0	0	0	0	0	1	1	0	0	0	0	2
11:00	0	1	0	0	1	0	0	2	3	0	0	0	0	7
12:00	0	4	0	0	0	0	0	1	0	0	0	0	0	5
TOTAL	1	125	36	0	21	11	0	68	80	0	1	0	0	343

BIN LEGEND

1. MOTORCYCLES
2. CAR, CAR WITH TRAILER
3. PICK-UP, PICK-UP WITH TRAILER
4. BUS
5. 2 AXLE LONG
6. 3 AXLE SINGLE
7. 4 AXLE SINGLE
8. 4 AXLE WITH TRAILER
9. 5 AXLE SINGLE TRAILER
10. 6 AXLE SINGLE TRAILER
11. 5 AXLE DUAL TRAILER
12. 6 AXLE DUAL TRAILER
13. 7 AXLE MULTI TRAILER

24 HOUR CLASSIFICATION COUNT

STREET : VIA ORO
LOCATION : N/O W CARSON

DATE : 03-12-20
NORTHBOUND

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00														
1:00	0	0	0	0	0	0	0	1	2	0	0	0	0	3
2:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
3:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1
4:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
5:00	0	8	0	0	1	1	0	1	0	0	0	0	0	11
6:00	0	2	5	0	4	0	0	2	0	0	0	0	0	13
7:00	0	1	0	0	3	0	0	1	3	0	0	0	0	8
8:00	0	3	0	0	5	0	0	0	1	0	0	0	0	9
9:00	0	0	0	0	0	0	0	5	1	0	0	0	0	6
10:00	0	2	1	0	0	0	0	4	0	0	0	0	0	7
11:00	0	0	1	0	1	1	0	5	6	0	0	0	0	14
12:00	0	2	0	0	1	2	0	5	8	0	0	0	0	18
1:00	0	2	0	0	0	0	0	4	3	0	0	0	0	9
2:00	0	3	1	0	1	0	0	7	2	0	0	0	0	14
3:00	0	18	5	0	0	0	0	4	2	0	0	0	0	29
4:00	0	1	1	0	2	1	0	5	2	0	0	0	0	12
5:00	0	1	0	0	1	0	0	4	4	0	0	0	0	10
6:00	0	1	2	0	1	0	0	5	6	0	0	0	0	15
7:00	0	0	0	0	0	1	0	0	2	0	0	0	0	3
8:00	0	3	3	0	0	0	0	0	0	0	0	0	0	6
9:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
10:00	0	0	0	0	0	0	0	2	1	0	0	0	0	3
11:00	0	1	0	0	0	0	0	3	0	0	0	0	0	4
12:00	0	2	0	0	0	0	0	0	1	0	0	0	0	3
TOTAL	0	63	19	0	22	6	0	58	45	0	0	0	0	213

BIN LEGEND

1. MOTORCYCLES
2. CAR, CAR WITH TRAILER
3. PICK-UP, PICK-UP WITH TRAILER
4. BUS
5. 2 AXLE LONG
6. 3 AXLE SINGLE
7. 4 AXLE SINGLE
8. 4 AXLE WITH TRAILER
9. 5 AXLE SINGLE TRAILER
10. 6 AXLE SINGLE TRAILER
11. 5 AXLE DUAL TRAILER
12. 6 AXLE DUAL TRAILER
13. 7 AXLE MULTI TRAILER

24 HOUR CLASSIFICATION COUNT

STREET : VIA ORO
LOCATION : N/O W CARSON

DATE : 03-12-20
SOUTHBOUND

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00														
1:00	0	1	0	0	0	0	0	2	0	0	0	0	0	3
2:00	0	0	0	0	1	1	0	0	0	0	0	0	0	2
3:00	0	0	0	0	0	0	0	1	0	0	0	0	0	1
4:00	0	1	0	0	1	0	0	1	1	0	0	0	0	4
5:00	0	21	2	0	0	1	0	0	0	0	0	0	0	24
6:00	0	2	1	0	0	0	0	0	1	0	0	0	0	4
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	3	0	0	0	0	0	3	0	0	0	0	0	6
9:00	0	0	0	0	0	1	0	2	2	0	0	0	0	5
10:00	1	3	3	1	0	0	0	0	1	0	0	0	0	9
11:00	0	0	0	0	1	0	0	3	1	0	0	0	0	5
12:00	0	0	0	0	1	0	0	2	1	0	0	0	0	4
1:00	0	3	0	0	0	1	0	5	1	0	0	0	0	10
2:00	0	1	2	0	0	0	0	3	3	0	0	0	0	9
3:00	0	13	3	0	0	1	0	4	0	0	0	0	0	21
4:00	0	1	1	0	1	1	0	2	4	0	0	0	0	10
5:00	0	1	0	0	1	0	0	2	0	0	0	0	0	4
6:00	0	1	0	0	0	0	0	0	3	0	0	0	0	4
7:00	0	0	0	0	0	0	0	1	2	0	0	0	0	3
8:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
9:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
10:00	0	1	0	0	0	0	0	2	2	0	0	0	0	5
11:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1
12:00	0	0	0	0	0	0	0	1	0	0	0	0	0	1
TOTAL	1	54	12	1	7	6	0	34	23	0	0	0	0	138

BIN LEGEND

1. MOTORCYCLES
2. CAR, CAR WITH TRAILER
3. PICK-UP, PICK-UP WITH TRAILER
4. BUS
5. 2 AXLE LONG
6. 3 AXLE SINGLE
7. 4 AXLE SINGLE
8. 4 AXLE WITH TRAILER
9. 5 AXLE SINGLE TRAILER
10. 6 AXLE SINGLE TRAILER
11. 5 AXLE DUAL TRAILER
12. 6 AXLE DUAL TRAILER
13. 7 AXLE MULTI TRAILER

24 HOUR CLASSIFICATION COUNT

STREET : W CARSON
LOCATION : E/O VIA ORO

DATE : 03-10-20
EASTBOUND

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00														
1:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
2:00	0	1	0	0	0	0	0	0	0	0	0	1	0	2
3:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:00	1	2	0	0	0	0	0	0	0	0	0	0	0	3
5:00	0	0	2	0	0	0	0	0	0	0	0	0	0	2
6:00	0	4	3	0	0	0	0	0	0	0	1	0	0	8
7:00	1	10	2	0	0	0	0	0	0	0	0	1	0	14
8:00	1	10	6	0	1	0	0	1	0	0	0	1	0	20
9:00	2	4	4	0	0	0	0	1	0	0	1	0	0	12
10:00	1	12	7	0	0	0	0	1	0	0	0	3	0	24
11:00	0	25	9	0	0	0	0	0	0	0	0	3	0	37
12:00	0	37	10	0	0	0	0	0	2	0	1	2	0	52
1:00	0	32	8	0	0	0	0	0	1	0	0	2	0	43
2:00	0	23	7	0	0	1	0	1	3	0	0	4	0	39
3:00	1	19	5	0	0	0	0	0	0	0	0	2	0	27
4:00	0	15	9	0	1	0	0	1	2	0	0	2	0	30
5:00	0	26	5	0	0	0	0	1	1	0	0	2	0	35
6:00	0	12	3	0	0	0	0	0	0	0	0	2	0	17
7:00	0	16	0	0	0	0	0	0	1	0	0	2	0	19
8:00	0	27	5	0	0	0	0	2	0	0	0	3	0	37
9:00	0	14	5	0	0	0	0	0	0	0	1	0	0	20
10:00	0	12	1	0	0	0	0	2	0	0	0	6	0	21
11:00	0	7	2	0	0	0	0	0	0	0	0	4	0	13
12:00	0	11	2	0	0	0	0	0	1	0	1	1	0	16
TOTAL	7	320	97	0	2	1	0	10	11	0	5	41	0	494

BIN LEGEND

1. MOTORCYCLES
2. CAR, CAR WITH TRAILER
3. PICK-UP, PICK-UP WITH TRAILER
4. BUS
5. 2 AXLE LONG
6. 3 AXLE SINGLE
7. 4 AXLE SINGLE
8. 4 AXLE WITH TRAILER
9. 5 AXLE SINGLE TRAILER
10. 6 AXLE SINGLE TRAILER
11. 5 AXLE DUAL TRAILER
12. 6 AXLE DUAL TRAILER
13. 7 AXLE MULTI TRAILER

24 HOUR CLASSIFICATION COUNT

STREET : W CARSON
LOCATION : E/O VIA ORO

DATE : 03-10-20
WESTBOUND

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00														
1:00	0	4	4	0	0	0	0	0	0	0	0	0	0	8
2:00	0	5	1	0	0	0	0	0	1	0	0	0	0	7
3:00	0	8	2	0	0	0	0	0	0	0	0	3	0	13
4:00	0	3	0	0	0	0	0	0	0	0	0	1	0	4
5:00	0	1	3	0	0	0	0	0	0	0	0	0	0	4
6:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
7:00	0	10	3	0	1	0	0	0	0	0	0	1	0	15
8:00	0	17	7	0	2	0	0	0	0	0	0	1	0	27
9:00	1	12	6	0	0	0	0	3	0	0	0	0	0	22
10:00	1	10	4	0	1	0	0	0	0	0	0	5	0	21
11:00	1	14	8	0	1	1	1	0	1	0	1	3	0	31
12:00	0	32	11	0	0	0	0	0	0	0	0	0	0	43
1:00	0	32	7	0	0	0	0	0	0	0	0	2	0	41
2:00	0	44	3	0	0	0	0	1	0	0	0	3	0	51
3:00	1	26	9	0	0	0	0	1	1	0	0	0	0	38
4:00	1	27	3	0	2	0	0	0	1	0	0	5	0	39
5:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
6:00	0	21	3	0	1	0	0	0	2	0	0	4	0	31
7:00	0	24	4	0	0	0	0	0	1	0	1	2	0	32
8:00	0	19	7	0	1	0	0	0	3	0	0	0	0	30
9:00	0	11	2	0	1	0	0	1	0	0	0	3	0	18
10:00	1	16	1	0	0	0	0	1	0	0	0	2	0	21
11:00	0	5	1	0	0	0	0	0	0	0	0	1	0	7
12:00	0	4	1	0	0	0	0	0	0	0	0	1	0	6
TOTAL	6	360	90	0	10	1	1	7	10	0	2	37	0	524

BIN LEGEND

1. MOTORCYCLES
2. CAR, CAR WITH TRAILER
3. PICK-UP, PICK-UP WITH TRAILER
4. BUS
5. 2 AXLE LONG
6. 3 AXLE SINGLE
7. 4 AXLE SINGLE
8. 4 AXLE WITH TRAILER
9. 5 AXLE SINGLE TRAILER
10. 6 AXLE SINGLE TRAILER
11. 5 AXLE DUAL TRAILER
12. 6 AXLE DUAL TRAILER
13. 7 AXLE MULTI TRAILER

24 HOUR CLASSIFICATION COUNT

STREET : W CARSON
LOCATION : E/O VIA ORO

DATE : 03-11-20
EASTBOUND

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00														
1:00	0	7	2	0	0	0	0	0	0	0	0	1	0	10
2:00	0	4	1	0	0	0	0	0	0	0	0	2	0	7
3:00	0	2	0	0	0	0	0	0	0	0	0	2	0	4
4:00	1	0	0	0	0	0	0	0	0	0	0	1	0	2
5:00	1	4	1	0	0	0	0	0	0	0	1	0	0	7
6:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
7:00	0	9	7	0	0	0	0	0	0	0	0	1	0	17
8:00	0	13	7	0	0	0	0	0	0	0	0	0	0	20
9:00	0	4	6	0	1	0	0	0	1	0	0	1	0	13
10:00	0	12	4	0	0	0	0	0	1	0	0	0	0	17
11:00	0	17	11	0	0	0	0	0	1	0	0	2	0	31
12:00	2	42	10	0	0	0	0	0	2	0	0	1	0	57
1:00	0	47	12	0	0	0	0	1	2	0	0	3	0	65
2:00	0	36	5	0	1	0	0	0	2	0	0	1	0	45
3:00	1	40	8	0	0	0	0	0	2	0	0	1	0	52
4:00	1	30	8	0	0	0	0	1	0	0	0	1	0	41
5:00	0	23	3	0	0	0	0	0	1	0	1	0	0	28
6:00	0	39	6	0	0	0	0	0	1	0	0	2	1	49
7:00	0	39	10	0	0	0	0	0	2	0	0	3	1	55
8:00	0	32	5	0	0	0	0	0	1	0	0	0	0	38
9:00	0	27	7	0	0	0	0	0	0	0	0	1	0	35
10:00	0	21	8	0	0	0	0	0	0	0	0	0	0	29
11:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
12:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
TOTAL	6	473	125	0	2	0	0	2	16	0	2	23	2	651

BIN LEGEND

1. MOTORCYCLES
2. CAR, CAR WITH TRAILER
3. PICK-UP, PICK-UP WITH TRAILER
4. BUS
5. 2 AXLE LONG
6. 3 AXLE SINGLE
7. 4 AXLE SINGLE
8. 4 AXLE WITH TRAILER
9. 5 AXLE SINGLE TRAILER
10. 6 AXLE SINGLE TRAILER
11. 5 AXLE DUAL TRAILER
12. 6 AXLE DUAL TRAILER
13. 7 AXLE MULTI TRAILER

24 HOUR CLASSIFICATION COUNT

STREET : W CARSON
LOCATION : E/O VIA ORO

DATE : 03-11-20
WESTBOUND

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00														
1:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
2:00	0	4	4	0	0	0	0	0	0	0	0	0	0	8
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
5:00	0	0	1	0	0	0	0	1	0	0	0	2	0	4
6:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
7:00	0	3	2	0	0	0	0	0	1	0	0	1	0	7
8:00	0	9	3	0	0	0	0	0	0	0	0	0	0	12
9:00	1	10	0	0	1	0	0	1	1	0	0	1	0	15
10:00	1	12	3	0	0	0	0	0	0	0	0	0	0	16
11:00	0	17	6	0	1	0	0	1	0	0	0	1	0	26
12:00	0	23	4	0	0	0	0	0	0	0	0	1	0	28
1:00	0	29	2	0	1	0	0	0	0	0	0	0	0	32
2:00	1	31	4	0	1	0	0	0	2	0	0	0	0	39
3:00	1	35	6	0	2	0	0	0	2	0	0	1	0	47
4:00	0	22	8	0	1	0	0	0	0	0	0	2	0	33
5:00	0	27	7	0	1	0	0	2	0	0	0	2	0	39
6:00	0	41	10	0	0	0	0	0	0	0	0	0	0	51
7:00	0	29	2	0	0	0	0	0	1	0	0	1	0	33
8:00	0	25	6	0	0	0	0	0	0	0	1	3	0	35
9:00	0	16	5	0	0	0	0	0	2	0	0	0	0	23
10:00	0	21	7	0	0	0	0	0	0	0	0	0	0	28
11:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
12:00	0	7	4	0	0	0	0	0	0	0	0	1	0	12
TOTAL	4	380	88	0	8	0	0	5	9	0	1	16	0	511

BIN LEGEND

1. MOTORCYCLES
2. CAR, CAR WITH TRAILER
3. PICK-UP, PICK-UP WITH TRAILER
4. BUS
5. 2 AXLE LONG
6. 3 AXLE SINGLE
7. 4 AXLE SINGLE
8. 4 AXLE WITH TRAILER
9. 5 AXLE SINGLE TRAILER
10. 6 AXLE SINGLE TRAILER
11. 5 AXLE DUAL TRAILER
12. 6 AXLE DUAL TRAILER
13. 7 AXLE MULTI TRAILER

24 HOUR CLASSIFICATION COUNT

STREET : W CARSON
LOCATION : E/O VIA ORO

DATE : 03-12-20
EASTBOUND

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00														
1:00	0	3	1	0	0	0	0	0	0	0	0	3	0	7
2:00	0	3	1	0	1	0	0	0	0	0	0	0	0	5
3:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
4:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5
5:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
6:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
7:00	0	4	2	0	0	0	0	0	0	0	0	2	0	8
8:00	0	9	5	0	1	0	0	0	1	0	0	0	0	16
9:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6
10:00	0	7	4	0	0	0	0	0	0	0	0	1	0	12
11:00	3	18	7	0	0	0	0	0	1	0	1	2	0	32
12:00	1	30	2	0	0	0	0	0	0	0	0	1	1	35
1:00	1	42	7	0	0	0	0	1	0	0	0	1	0	52
2:00	0	46	1	0	0	0	0	0	0	0	0	0	0	47
3:00	0	46	5	0	0	0	0	0	3	0	0	0	0	54
4:00	0	44	8	0	0	0	0	0	1	0	0	1	0	54
5:00	0	50	3	0	0	0	0	0	1	0	0	0	0	54
6:00	0	58	9	0	0	0	0	0	2	0	0	0	0	69
7:00	0	44	4	0	0	0	0	2	1	0	0	0	0	51
8:00	0	33	2	0	0	0	0	0	3	0	0	2	1	41
9:00	2	37	4	0	1	0	0	0	1	0	0	0	0	45
10:00	1	24	6	0	0	0	0	0	0	0	0	3	0	34
11:00	0	13	2	0	0	0	0	1	0	0	0	1	0	17
12:00	0	3	3	0	0	0	0	0	0	0	0	0	0	6
TOTAL	8	526	81	0	5	0	0	4	14	0	1	17	2	658

BIN LEGEND

1. MOTORCYCLES
2. CAR, CAR WITH TRAILER
3. PICK-UP, PICK-UP WITH TRAILER
4. BUS
5. 2 AXLE LONG
6. 3 AXLE SINGLE
7. 4 AXLE SINGLE
8. 4 AXLE WITH TRAILER
9. 5 AXLE SINGLE TRAILER
10. 6 AXLE SINGLE TRAILER
11. 5 AXLE DUAL TRAILER
12. 6 AXLE DUAL TRAILER
13. 7 AXLE MULTI TRAILER

24 HOUR CLASSIFICATION COUNT

STREET : W CARSON
LOCATION : E/O VIA ORO

DATE : 03-12-20
WESTBOUND

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
12:00														
1:00	0	3	2	0	0	0	0	0	1	0	0	0	0	6
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	1	1	0	0	0	0	2
4:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
5:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
6:00	0	3	5	0	3	0	0	0	0	0	4	0	0	15
7:00	0	9	5	0	0	0	0	0	1	0	0	0	0	15
8:00	1	5	13	0	1	1	0	0	0	0	0	0	0	21
9:00	0	4	18	0	3	1	0	0	2	0	0	0	0	28
10:00	0	14	6	0	0	3	0	0	3	0	0	0	0	26
11:00	0	15	14	0	2	3	0	3	2	0	0	0	0	39
12:00	1	32	15	0	1	0	0	2	2	0	0	0	0	53
1:00	0	37	18	0	2	0	0	1	2	0	0	0	0	60
2:00	0	24	19	0	1	0	0	0	3	0	0	0	0	47
3:00	0	23	6	0	0	0	0	0	0	0	0	0	0	29
4:00	0	21	8	0	1	0	1	1	3	0	0	0	0	35
5:00	0	25	14	0	0	0	0	0	1	0	0	0	0	40
6:00	0	22	2	0	1	0	0	0	2	0	0	0	0	27
7:00	1	9	1	0	2	1	0	0	3	0	0	0	0	17
8:00	0	14	4	0	0	0	1	1	2	0	0	0	0	22
9:00	0	18	6	1	1	0	0	0	0	0	0	0	0	26
10:00	0	10	6	0	1	0	0	0	2	0	0	0	0	19
11:00	0	11	3	0	1	0	0	0	2	0	0	0	0	17
12:00	0	7	2	0	0	0	0	0	2	0	0	0	0	11
TOTAL	3	310	170	1	20	9	2	9	34	0	4	0	0	562

BIN LEGEND

1. MOTORCYCLES
2. CAR, CAR WITH TRAILER
3. PICK-UP, PICK-UP WITH TRAILER
4. BUS
5. 2 AXLE LONG
6. 3 AXLE SINGLE
7. 4 AXLE SINGLE
8. 4 AXLE WITH TRAILER
9. 5 AXLE SINGLE TRAILER
10. 6 AXLE SINGLE TRAILER
11. 5 AXLE DUAL TRAILER
12. 6 AXLE DUAL TRAILER
13. 7 AXLE MULTI TRAILER

24 HOUR VOLUMES

STREET : VIA ORO AVE
LOCATION : CARSON/VIA PLATA

LONG BEACH
DATE : 03-10-20

		NORTHBOUND	SOUTHBOUND	TOTAL
AM	12:00	9	0	9
	1:00	7	1	8
	2:00	2	2	4
	3:00	10	0	10
	4:00	7	30	37
	5:00	16	26	42
	6:00	39	9	48
	7:00	37	23	60
	8:00	11	13	24
	9:00	62	16	78
	10:00	77	15	92
	11:00	39	21	60
	12:00	33	10	43
PM	1:00	51	34	85
	2:00	36	31	67
	3:00	21	13	34
	4:00	35	14	49
	5:00	21	7	28
	6:00	19	6	25
	7:00	23	8	31
	8:00	5	5	10
	9:00	0	3	3
	10:00	1	6	7
	11:00	0	4	4
	12:00	561	297	858

Prepared by NEWPORT TRAFFIC STUDIES

15 MINUTE COUNTS

STREET : VIA ORO AVE
LOCATION : CARSON/VIA PLATA

LONG BEACH
DATE : 03-10-20

AM				PM		
NORTH BOUND	SOUTH BOUND	TOTAL TOTAL		NORTH BOUND	SOUTH BOUND	TOTAL TOTAL
3	0	3	12:00	7	3	10
2	0	2		8	1	9
3	0	3		2	3	5
1	0	1		16	3	19
4	0	4	1:00	16	5	21
0	0	0		12	8	20
3	1	4		13	12	25
0	0	0		10	9	19
0	1	1	2:00	10	9	19
0	1	1		3	7	10
2	0	2		11	10	21
0	0	0		12	5	17
1	0	1	3:00	8	4	12
1	0	1		1	2	3
4	0	4		3	2	5
4	0	4		9	5	14
4	0	4	4:00	3	4	7
0	2	2		9	2	11
0	18	18		15	5	20
3	10	13		8	3	11
6	8	14	5:00	6	3	9
3	1	4		6	1	7
4	9	13		3	0	3
3	8	11		6	3	9
10	0	10	6:00	3	0	3
10	2	12		4	2	6
1	4	5		3	2	5
18	3	21		9	2	11
9	4	13	7:00	7	0	7
15	5	20		8	1	9
8	5	13		7	4	11
5	9	14		1	3	4
6	4	10	8:00	3	1	4
3	1	4		2	1	3
0	6	6		0	0	0
2	2	4		0	3	3
3	1	4	9:00	0	0	0
5	5	10		0	0	0
19	8	27		0	1	1
35	2	37		0	2	2
25	2	27	10:00	0	1	1
31	8	39		0	2	2
13	4	17		0	2	2
8	1	9		1	1	2
3	10	13	11:00	0	3	3
12	2	14		0	0	0
5	6	11		0	0	0
19	3	22		0	1	1

Prepared by NEWPORT TRAFFIC STUDIES

24 HOUR VOLUMES

STREET : VIA ORO AVE
LOCATION : CARSON/VIA PLATA

LONG BEACH
DATE : 03-11-20

		NORTHBOUND	SOUTHBOUND	TOTAL
AM	12:00	2	1	3
	1:00	1	3	4
	2:00	5	9	14
	3:00	2	19	21
	4:00	39	12	51
	5:00	13	29	42
	6:00	14	8	22
	7:00	14	20	34
	8:00	27	18	45
	9:00	18	14	32
	10:00	35	25	60
	11:00	13	17	30
PM	12:00	28	20	48
	1:00	30	26	56
	2:00	51	51	102
	3:00	19	11	30
	4:00	17	16	33
	5:00	12	8	20
	6:00	13	13	26
	7:00	8	5	13
	8:00	4	4	8
	9:00	20	2	22
	10:00	14	7	21
	11:00	8	5	13
	12:00	407	343	750

Prepared by NEWPORT TRAFFIC STUDIES

15 MINUTE COUNTS

STREET : VIA ORO AVE
LOCATION : CARSON/VIA PLATA

LONG BEACH
DATE : 03-11-20

AM				PM		
NORTH BOUND	SOUTH BOUND	TOTAL TOTAL		NORTH BOUND	SOUTH BOUND	TOTAL TOTAL
0	0	0	12:00	7	0	7
0	1	1		9	6	15
2	0	2		5	6	11
0	0	0		7	8	15
0	0	0	1:00	6	6	12
0	2	2		6	5	11
1	0	1		8	14	22
0	1	1		10	1	11
0	2	2	2:00	3	15	18
2	2	4		9	13	22
2	4	6		22	11	33
1	1	2		17	12	29
1	1	2	3:00	5	3	8
0	2	2		5	4	9
0	9	9		6	2	8
1	7	8		3	2	5
0	1	1	4:00	4	3	7
7	2	9		1	7	8
17	2	19		5	3	8
15	7	22		7	3	10
2	5	7	5:00	4	3	7
0	3	3		5	0	5
6	7	13		1	2	3
5	14	19		2	3	5
2	0	2	6:00	3	4	7
2	1	3		3	2	5
3	4	7		4	4	8
7	3	10		3	3	6
3	5	8	7:00	1	0	1
2	2	4		3	2	5
5	7	12		3	1	4
4	6	10		1	2	3
9	5	14	8:00	1	2	3
5	6	11		1	2	3
6	2	8		1	0	1
7	5	12		1	0	1
2	4	6	9:00	7	0	7
7	6	13		7	1	8
6	3	9		1	1	2
3	1	4		5	0	5
13	3	16	10:00	0	1	1
7	6	13		7	2	9
0	8	8		4	1	5
15	8	23		3	3	6
4	6	10	11:00	3	2	5
2	3	5		1	2	3
4	5	9		3	0	3
3	3	6		1	1	2

Prepared by NEWPORT TRAFFIC STUDIES

24 HOUR VOLUMES

STREET : VIA ORO
LOCATION : CARSON/VIA PLATA

LONG BEACH
DATE : 03-12-20

		NORTHBOUND	SOUTHBOUND	TOTAL
AM	12:00	3	3	6
	1:00	2	2	4
	2:00	1	1	2
	3:00	12	4	16
	4:00	11	24	35
	5:00	13	4	17
	6:00	8	0	8
	7:00	9	6	15
	8:00	6	5	11
	9:00	7	9	16
	10:00	14	5	19
	11:00	18	4	22
PM	12:00	9	10	19
	1:00	14	9	23
	2:00	29	21	50
	3:00	12	10	22
	4:00	10	4	14
	5:00	15	4	19
	6:00	3	3	6
	7:00	6	1	7
	8:00	1	2	3
	9:00	3	5	8
	10:00	4	1	5
	11:00	3	1	4
	12:00	213	138	351

Prepared by NEWPORT TRAFFIC STUDIES

15 MINUTE COUNTS

STREET : VIA ORO
LOCATION : CARSON/VIA PLATA

LONG BEACH
DATE : 03-12-20

AM				PM		
NORTH BOUND	SOUTH BOUND	TOTAL TOTAL		NORTH BOUND	SOUTH BOUND	TOTAL TOTAL
0	0	0	12:00	6	3	9
3	0	3		0	1	1
0	2	2		1	4	5
0	1	1		2	2	4
0	0	0	1:00	4	2	6
1	0	1		3	4	7
1	0	1		5	3	8
0	2	2		2	0	2
0	0	0	2:00	4	2	6
0	0	0		3	3	6
0	1	1		12	10	22
1	0	1		10	6	16
0	1	1	3:00	4	2	6
1	1	2		4	4	8
7	2	9		1	1	2
4	0	4		3	3	6
1	0	1	4:00	4	3	7
2	7	9		2	1	3
7	11	18		1	0	1
1	6	7		3	0	3
3	1	4	5:00	6	2	8
2	1	3		4	0	4
3	0	3		3	1	4
5	2	7		2	1	3
1	0	1	6:00	1	1	2
4	0	4		0	1	1
3	0	3		0	0	0
0	0	0		2	1	3
3	1	4	7:00	0	0	0
3	0	3		4	1	5
2	3	5		2	0	2
1	2	3		0	0	0
0	0	0	8:00	1	2	3
2	3	5		0	0	0
3	1	4		0	0	0
1	1	2		0	0	0
0	2	2	9:00	0	1	1
2	5	7		1	1	2
1	0	1		1	1	2
4	2	6		1	2	3
6	1	7	10:00	0	1	1
4	1	5		2	0	2
1	0	1		0	0	0
3	3	6		2	0	2
4	0	4	11:00	1	0	1
2	1	3		0	0	0
4	3	7		0	0	0
8	0	8		2	1	3

Prepared by NEWPORT TRAFFIC STUDIES

24 HOUR VOLUMES

STREET : VIA PLATA
LOCATION : VIOA ORO/VIA ALCALDE

LONG BEACH
DATE : 03-10-20

		EASTBOUND	WESTBOUND	TOTAL
AM	12:00	5	0	5
	1:00	5	0	5
	2:00	1	0	1
	3:00	6	0	6
	4:00	5	20	25
	5:00	12	16	28
	6:00	31	5	36
	7:00	31	14	45
	8:00	8	7	15
	9:00	52	9	61
	10:00	67	8	75
	11:00	32	14	46
PM	12:00	28	6	34
	1:00	43	22	65
	2:00	29	20	49
	3:00	16	7	23
	4:00	29	8	37
	5:00	17	4	21
	6:00	14	3	17
	7:00	19	4	23
	8:00	3	2	5
	9:00	0	1	1
	10:00	0	2	2
	11:00	0	2	2
	12:00	453	174	627

Prepared by NEWPORT TRAFFIC STUDIES

15 MINUTE COUNTS

STREET : VIA PLATA
LOCATION : VIOA ORO/VIA ALCALDE

LONG BEACH
DATE : 03-10-20

AM				PM		
EAST BOUND	WEST BOUND	TOTAL TOTAL		EAST BOUND	WEST BOUND	TOTAL TOTAL
2	0	2	12:00	6	2	8
1	0	1		7	0	7
2	0	2		1	2	3
0	0	0		14	2	16
3	0	3	1:00	14	3	17
0	0	0		10	5	15
2	0	2		11	8	19
0	0	0		8	6	14
0	0	0	2:00	8	6	14
0	0	0		2	4	6
1	0	1		9	7	16
0	0	0		10	3	13
0	0	0	3:00	7	2	9
0	0	0		0	1	1
3	0	3		2	1	3
3	0	3		7	3	10
3	0	3	4:00	2	2	4
0	1	1		7	1	8
0	12	12		13	3	16
2	7	9		7	2	9
5	5	10	5:00	5	2	7
2	0	2		5	0	5
3	6	9		2	0	2
2	5	7		5	2	7
8	0	8	6:00	2	0	2
8	1	9		3	1	4
0	2	2		2	1	3
15	2	17		7	1	8
7	2	9	7:00	6	0	6
13	3	16		7	0	7
7	3	10		6	2	8
4	6	10		0	2	2
5	2	7	8:00	2	0	2
2	0	2		1	0	1
0	4	4		0	0	0
1	1	2		0	2	2
2	0	2	9:00	0	0	0
4	3	7		0	0	0
16	5	21		0	0	0
30	1	31		0	1	1
22	1	23	10:00	0	0	0
27	5	32		0	1	1
11	2	13		0	1	1
7	0	7		0	0	0
2	7	9	11:00	0	2	2
10	1	11		0	0	0
4	4	8		0	0	0
16	2	18		0	0	0

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24 HOUR VOLUMES

STREET : VIA PLATA
LOCATION : VIA ORO/VIA CAALCALDE

LONG BEACH
DATE : 03-11-20

		EASTBOUND	WESTBOUND	TOTAL
AM	12:00	1	0	1
	1:00	0	1	1
	2:00	2	5	7
	3:00	0	12	12
	4:00	29	7	36
	5:00	8	20	28
	6:00	9	5	14
	7:00	9	13	22
	8:00	19	11	30
	9:00	12	9	21
	10:00	26	18	44
	11:00	9	11	20
PM	12:00	20	14	34
	1:00	21	17	38
	2:00	39	38	77
	3:00	12	7	19
	4:00	11	11	22
	5:00	7	5	12
	6:00	9	9	18
	7:00	4	2	6
	8:00	0	2	2
	9:00	13	0	13
	10:00	10	3	13
	11:00	4	2	6
	12:00	274	222	496

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15 MINUTE COUNTS

STREET : VIA PLATA
LOCATION : VIA ORO/VIA CAALCALDE

LONG BEACH
DATE : 03-11-20

AM				PM		
EAST BOUND	WEST BOUND	TOTAL TOTAL		EAST BOUND	WEST BOUND	TOTAL TOTAL
0	0	0	12:00	5	0	5
0	0	0		7	4	11
1	0	1		3	4	7
0	0	0		5	6	11
0	0	0	1:00	4	4	8
0	1	1		4	3	7
0	0	0		6	10	16
0	0	0		7	0	7
0	1	1	2:00	2	11	13
1	1	2		7	10	17
1	3	4		17	8	25
0	0	0		13	9	22
0	0	0	3:00	3	2	5
0	1	1		3	3	6
0	6	6		4	1	5
0	5	5		2	1	3
0	0	0	4:00	3	2	5
5	1	6		0	5	5
13	1	14		3	2	5
11	5	16		5	2	7
1	3	4	5:00	3	2	5
0	2	2		3	0	3
4	5	9		0	1	1
3	10	13		1	2	3
1	0	1	6:00	2	3	5
1	0	1		2	1	3
2	3	5		3	3	6
5	2	7		2	2	4
2	3	5	7:00	0	0	0
1	1	2		2	1	3
3	5	8		2	0	2
3	4	7		0	1	1
7	3	10	8:00	0	1	1
3	4	7		0	1	1
4	1	5		0	0	0
5	3	8		0	0	0
1	3	4	9:00	5	0	5
5	4	9		5	0	5
4	2	6		0	0	0
2	0	2		3	0	3
10	2	12	10:00	0	0	0
5	4	9		5	1	6
0	6	6		3	0	3
11	6	17		2	2	4
3	4	7	11:00	2	1	3
1	2	3		0	1	1
3	3	6		2	0	2
2	2	4		0	0	0

Prepared by NEWPORT TRAFFIC STUDIES

24 HOUR VOLUMES

STREET : VIA PLATA
LOCATION : VIA ORO/VIA ALCALDE

LONG BEACH
DATE : 03-12-20

		REASTBOUND	WESTBOUND	TOTAL
AM	12:00	2	1	3
	1:00	0	1	1
	2:00	0	0	0
	3:00	8	1	9
	4:00	6	17	23
	5:00	9	1	10
	6:00	5	0	5
	7:00	5	3	8
	8:00	3	2	5
	9:00	4	5	9
	10:00	9	2	11
	11:00	13	2	15
PM	12:00	5	6	11
	1:00	10	6	16
	2:00	22	14	36
	3:00	8	6	14
	4:00	6	2	8
	5:00	10	1	11
	6:00	1	0	1
	7:00	4	0	4
	8:00	0	1	1
	9:00	0	1	1
	10:00	2	0	2
	11:00	1	0	1
	12:00	133	72	205

Prepared by NEWPORT TRAFFIC STUDIES

15 MINUTE COUNTS

STREET : VIA PLATA
LOCATION : VIA ORO/VIA ALCALDE

LONG BEACH
DATE : 03-12-20

AM				PM		
REAST BOUND	WEST BOUND	TOTAL TOTAL		REAST BOUND	WEST BOUND	TOTAL TOTAL
0	0	0	12:00	4	2	6
2	0	2		0	0	0
0	1	1		0	3	3
0	0	0		1	1	2
0	0	0	1:00	3	1	4
0	0	0		2	3	5
0	0	0		4	2	6
0	1	1		1	0	1
0	0	0	2:00	3	1	4
0	0	0		2	2	4
0	0	0		9	7	16
0	0	0		8	4	12
0	0	0	3:00	3	1	4
0	0	0		3	3	6
5	1	6		0	0	0
3	0	3		2	2	4
0	0	0	4:00	3	2	5
1	5	6		1	0	1
5	8	13		0	0	0
0	4	4		2	0	2
2	0	2	5:00	4	1	5
1	0	1		3	0	3
2	0	2		2	0	2
4	1	5		1	0	1
0	0	0	6:00	0	0	0
3	0	3		0	0	0
2	0	2		0	0	0
0	0	0		1	0	1
2	0	2	7:00	0	0	0
2	0	2		3	0	3
1	2	3		1	0	1
0	1	1		0	0	0
0	0	0	8:00	0	1	1
1	2	3		0	0	0
2	0	2		0	0	0
0	0	0		0	0	0
0	1	1	9:00	0	0	0
1	3	4		0	0	0
0	0	0		0	0	0
3	1	4		0	1	1
4	0	4	10:00	0	0	0
3	0	3		1	0	1
0	0	0		0	0	0
2	2	4		1	0	1
3	0	3	11:00	0	0	0
1	0	1		0	0	0
3	2	5		0	0	0
6	0	6		1	0	1

Prepared by NEWPORT TRAFFIC STUDIES

24 HOUR VOLUMES

STREET : VIA ALCALDE
LOCATION : VIA PLATA/CARSON

LONG BEACH
DATE : 03-10-20

		NORTHBOUND	SOUTHBOUND	TOTAL
AM	12:00	8	2	10
	1:00	7	2	9
	2:00	13	1	14
	3:00	4	3	7
	4:00	4	2	6
	5:00	3	8	11
	6:00	15	14	29
	7:00	27	20	47
	8:00	22	12	34
	9:00	21	24	45
	10:00	31	37	68
	11:00	43	52	95
PM	12:00	41	43	84
	1:00	51	39	90
	2:00	38	27	65
	3:00	39	30	69
	4:00	12	35	47
	5:00	31	17	48
	6:00	32	19	51
	7:00	30	37	67
	8:00	18	20	38
	9:00	21	21	42
	10:00	7	13	20
	11:00	6	16	22
	12:00	524	494	1,018

Prepared by NEWPORT TRAFFIC STUDIES

15 MINUTE COUNTS

STREET : VIA ALCALDE
LOCATION : VIA PLATA/CARSON

LONG BEACH
DATE : 03-10-20

AM				PM		
NORTH BOUND	SOUTH BOUND	TOTAL TOTAL		NORTH BOUND	SOUTH BOUND	TOTAL TOTAL
4	1	5	12:00	10	16	26
2	1	3		15	8	23
1	0	1		7	9	16
1	0	1		9	10	19
0	0	0	1:00	14	5	19
0	1	1		13	11	24
4	0	4		11	12	23
3	1	4		13	11	24
6	0	6	2:00	9	3	12
2	0	2		15	6	21
0	1	1		4	8	12
5	0	5		10	10	20
2	2	4	3:00	22	12	34
1	0	1		4	5	9
1	0	1		5	5	10
0	1	1		8	8	16
1	0	1	4:00	3	8	11
0	1	1		4	9	13
1	1	2		4	10	14
2	0	2		1	8	9
1	1	2	5:00	7	6	13
0	3	3		6	7	13
0	0	0		7	2	9
2	4	6		11	2	13
4	1	5	6:00	6	5	11
1	0	1		10	3	13
3	4	7		8	5	13
7	9	16		8	6	14
11	6	17	7:00	8	6	14
4	2	6		9	8	17
9	9	18		5	7	12
3	3	6		8	16	24
5	3	8	8:00	4	7	11
6	3	9		5	6	11
6	4	10		6	3	9
5	2	7		3	4	7
7	5	12	9:00	9	6	15
4	5	9		5	4	9
7	9	16		4	5	9
3	5	8		3	6	9
5	11	16	10:00	4	7	11
9	9	18		0	4	4
8	6	14		2	1	3
9	11	20		1	1	2
9	12	21	11:00	3	3	6
11	13	24		0	4	4
12	11	23		2	4	6
11	16	27		1	5	6

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24 HOUR VOLUMES

STREET : VIA ALCALDE
LOCATION : VIA PLATA/CARSON

LONG BEACH
DATE : 03-11-20

		NORTHBOUND	SOUTHBOUND	TOTAL
AM	12:00	10	10	20
	1:00	8	7	15
	2:00	1	4	5
	3:00	2	2	4
	4:00	4	7	11
	5:00	5	5	10
	6:00	7	17	24
	7:00	12	20	32
	8:00	15	13	28
	9:00	16	17	33
	10:00	26	31	57
	11:00	28	57	85
	12:00	32	65	97
PM	1:00	39	45	84
	2:00	47	52	99
	3:00	33	41	74
	4:00	39	28	67
	5:00	51	49	100
	6:00	33	55	88
	7:00	35	38	73
	8:00	23	35	58
	9:00	28	29	57
	10:00	5	12	17
	11:00	12	12	24
	12:00	511	651	1,162

Prepared by NEWPORT TRAFFIC STUDIES

15 MINUTE COUNTS

STREET : VIA ALCALDE
LOCATION : VIA PLATA/CARSON

LONG BEACH
DATE : 03-11-20

AM				PM		
NORTH BOUND	SOUTH BOUND	TOTAL TOTAL		NORTH BOUND	SOUTH BOUND	TOTAL TOTAL
3	3	6	12:00	10	18	28
2	5	7		10	18	28
3	1	4		8	13	21
2	1	3		4	16	20
1	2	3	1:00	12	13	25
2	1	3		7	13	20
1	1	2		13	6	19
4	3	7		7	13	20
0	3	3	2:00	10	15	25
0	1	1		11	11	22
0	0	0		12	12	24
1	0	1		14	14	28
0	0	0	3:00	9	11	20
0	0	0		4	12	16
0	0	0		7	11	18
2	2	4		13	7	20
1	3	4	4:00	8	4	12
2	2	4		12	8	20
1	1	2		10	7	17
0	1	1		9	9	18
1	0	1	5:00	10	6	16
0	0	0		18	19	37
1	4	5		9	11	20
3	1	4		14	13	27
3	5	8	6:00	4	13	17
0	0	0		10	17	27
1	4	5		12	12	24
3	8	11		7	13	20
3	4	7	7:00	8	11	19
0	4	4		9	6	15
3	6	9		11	13	24
6	6	12		7	8	15
2	3	5	8:00	6	8	14
3	2	5		4	13	17
5	3	8		5	8	13
5	5	10		8	6	14
4	0	4	9:00	10	11	21
2	5	7		5	8	13
4	6	10		7	6	13
6	6	12		6	4	10
7	3	10	10:00	3	2	5
6	8	14		0	3	3
6	11	17		1	4	5
7	9	16		1	3	4
8	11	19	11:00	2	4	6
5	11	16		4	3	7
8	16	24		2	2	4
7	19	26		4	3	7

Prepared by NEWPORT TRAFFIC STUDIES

24 HOUR VOLUMES

STREET : VIA ALCALDE
LOCATION : VIA PLATA/CARSON

LONG BEACH
DATE : 03-12-20

		NORTHBOUND	SOUTHBOUND	TOTAL
AM	12:00	6	7	13
	1:00	0	5	5
	2:00	2	3	5
	3:00	4	5	9
	4:00	3	3	6
	5:00	15	2	17
	6:00	15	8	23
	7:00	21	16	37
	8:00	28	6	34
	9:00	26	12	38
	10:00	39	32	71
	11:00	53	35	88
PM	12:00	60	52	112
	1:00	47	47	94
	2:00	29	54	83
	3:00	35	54	89
	4:00	40	54	94
	5:00	27	69	96
	6:00	17	51	68
	7:00	22	41	63
	8:00	26	45	71
	9:00	19	34	53
	10:00	17	17	34
	11:00	11	6	17
	12:00	562	658	1,220

Prepared by NEWPORT TRAFFIC STUDIES

15 MINUTE COUNTS

STREET : VIA ALCALDE
LOCATION : VIA PLATA/CARSON

LONG BEACH
DATE : 03-12-20

AM				PM		
NORTH BOUND	SOUTH BOUND	TOTAL TOTAL		NORTH BOUND	SOUTH BOUND	TOTAL TOTAL
3	5	8	12:00	10	16	26
2	0	2		20	15	35
0	1	1		17	12	29
1	1	2		13	9	22
0	0	0	1:00	8	13	21
0	3	3		18	8	26
0	1	1		11	7	18
0	1	1		10	19	29
2	2	4	2:00	5	16	21
0	0	0		8	7	15
0	1	1		9	12	21
0	0	0		7	19	26
1	1	2	3:00	4	17	21
1	2	3		7	5	12
1	2	3		14	14	28
1	0	1		10	18	28
1	2	3	4:00	13	10	23
0	1	1		9	15	24
0	0	0		14	23	37
2	0	2		4	6	10
3	0	3	5:00	6	15	21
6	0	6		9	21	30
3	0	3		8	16	24
3	2	5		4	17	21
2	2	4	6:00	4	13	17
5	1	6		3	15	18
4	3	7		5	7	12
4	2	6		5	16	21
4	2	6	7:00	8	5	13
6	9	15		4	22	26
4	2	6		3	7	10
7	3	10		7	7	14
8	4	12	8:00	8	18	26
6	1	7		7	8	15
6	1	7		5	6	11
8	0	8		6	13	19
1	7	8	9:00	6	4	10
14	3	17		3	9	12
4	0	4		8	11	19
7	2	9		2	10	12
15	7	22	10:00	8	4	12
6	6	12		3	7	10
9	13	22		4	3	7
9	6	15		2	3	5
8	12	20	11:00	4	2	6
16	5	21		2	0	2
15	7	22		1	2	3
14	11	25		4	2	6

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: SANTE FE
EAST-WEST STREET: CARSON ST
JURISDICTION: LONG BEACH

DATE: 03-03-20

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 390

Rt	Thru	Lt	
102	153	135	Total
29	33	35	1st
25	38	33	2nd
29	42	38	3rd
19	40	29	4th

EAST LEG TOTAL: 196

	1st	2nd	3rd	4th	Total
Rt	12	10	14	19	55
Thru	20	25	22	30	97
Lt	10	9	11	14	44

WEST LEG TOTAL: 526

Total	1st	2nd	3rd	4th	
150	30	38	42	40	Lt
249	49	63	71	66	Thru
127	33	31	33	30	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.89
SOUTH LEG = 0.90
EAST LEG = 0.78
WEST LEG = 0.90

ALL LEGS = 0.93

SOUTH LEG

TOTAL: 396

	Lt	Thru	Rt
1st	20	49	25
2nd	24	44	22
3rd	22	46	34
4th	31	51	28
Total	97	190	109

HOUR TOTAL: 1,508

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : SANTE FE — LONG BEACH
EAST-WEST STREET : CARSON ST — 03-03-20
BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
19	27	21	0	1	0	0	0	0	0	1	0	69
23	32	29	1	1	0	0	1	0	1	2	0	90
29	32	34	0	0	0	0	0	0	0	1	1	97
18	34	33	4	0	0	0	1	0	3	3	0	96
24	40	36	2	1	0	1	0	0	2	1	2	109
19	39	29	0	0	0	0	0	0	0	1	0	88
22	30	22	0	0	0	0	0	0	1	3	1	79
18	26	19	1	3	0	0	0	0	1	1	2	71
172	260	223	8	6	0	1	2	0	8	13	6	699
SOUTH LEG												
15	21	14	0	1	1	0	0	0	1	1	1	55
20	34	20	0	0	0	0	0	0	2	0	2	78
25	45	20	0	1	0	0	0	0	0	3	0	94
18	39	19	0	0	2	0	0	1	4	5	2	90
34	45	21	0	0	0	0	0	0	0	1	1	102
27	49	27	0	0	1	0	0	2	1	2	1	110
22	32	26	0	2	0	0	2	0	0	0	0	84
16	29	19	0	0	0	0	1	0	0	1	1	67
177	294	166	0	4	4	0	3	3	8	13	8	680
EAST LEG												
10	13	9	0	0	0	0	0	0	0	1	0	33
13	19	9	0	0	0	0	0	0	1	2	2	46
12	20	10	0	0	0	0	0	0	0	0	0	42
10	24	9	0	0	0	0	0	0	0	1	0	44
14	21	11	0	1	0	0	0	0	0	0	0	47
19	27	14	0	1	0	0	0	0	0	2	0	63
12	26	9	0	0	0	0	0	0	4	0	0	51
10	19	9	0	0	0	0	0	0	0	0	0	38
100	169	80	0	2	0	0	0	0	5	6	2	364
WEST LEG												
20	26	24	1	2	1	0	0	0	1	1	1	77
22	32	34	0	0	0	2	0	0	1	1	0	92
31	46	28	2	0	2	0	0	0	0	3	0	112
30	63	37	0	0	0	1	0	1	0	0	0	132
32	70	41	0	0	1	1	0	0	0	1	0	146
29	65	40	1	0	0	0	0	0	0	1	0	136
20	48	31	1	0	0	0	0	0	0	0	0	100
23	44	27	1	0	0	0	0	1	0	0	1	97
207	394	262	6	2	4	4	0	2	2	7	2	892

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SANTE FE

EAST-WEST STREET: CARSON ST

TIME: 07:00AM-08:00AM DATE: 03-03-20

NORTH LEG

98	136	118	Total
19	29	21	1st
25	36	29	2nd
29	33	35	3rd
25	38	33	4th
Rt	Thru	Lt	

Rt	10	14	12	10	46
Thru	14	21	20	25	80
Lt	9	11	10	9	39
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
128	26	34	30	38	Lt
174	29	33	49	63	Thru
111	22	25	33	31	Rt

	Lt	Thru	Rt
1st	16	23	16
2nd	22	34	22
3rd	20	49	25
4th	24	44	22
Total	82	150	85

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SANTE FE

EAST-WEST STREET: CARSON ST

TIME: 08:00AM-09:00AM DATE: 03-03-20

NORTH LEG

91	145	111	Total
29	42	38	1st
19	40	29	2nd
23	33	23	3rd
20	30	21	4th
Rt	Thru	Lt	

Rt	14	19	16	10	59
Thru	22	30	26	19	97
Lt	11	14	9	9	43
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
142	42	40	31	29	Lt
229	71	66	48	44	Thru
108	33	30	21	24	Rt

	Lt	Thru	Rt
1st	22	46	34
2nd	31	51	28
3rd	26	36	22
4th	20	31	16
Total	99	164	100

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: SANTE FE
EAST-WEST STREET: CARSON ST
JURISDICTION: LONG BEACH

DATE: 03-03-20

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 356

Rt	Thru	Lt	
129	165	62	Total
27	41	15	1st
31	40	12	2nd
33	44	19	3rd
38	40	16	4th

EAST LEG TOTAL: 410

	1st	2nd	3rd	4th	Total
Rt	24	26	38	29	117
Thru	49	55	63	66	233
Lt	12	11	21	16	60

WEST LEG TOTAL: 464

Total	1st	2nd	3rd	4th	
151	35	40	40	36	Lt
175	38	42	44	51	Thru
138	33	39	31	35	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.93
SOUTH LEG = 0.96
EAST LEG = 0.84
WEST LEG = 0.95

ALL LEGS = 0.93

SOUTH LEG

TOTAL: 340

	Lt	Thru	Rt
1st	33	39	14
2nd	31	47	10
3rd	25	52	12
4th	24	44	9
Total	113	182	45

HOUR TOTAL: 1,570

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : SANTE FE — LONG BEACH

EAST-WEST STREET : CARSON ST — 03-03-20

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
18	38	14	0	0	0	1	1	0	0	0	0	72
29	32	18	0	1	0	0	0	0	0	2	1	83
25	39	15	1	0	0	0	2	0	1	0	0	83
31	39	12	0	1	0	0	0	0	0	0	0	83
32	43	16	1	0	0	0	0	0	0	1	3	96
37	39	16	0	1	0	0	0	0	1	0	0	94
29	33	17	0	0	0	0	3	0	0	0	0	82
25	35	15	1	2	0	0	0	0	0	1	0	79
226	298	123	3	5	0	1	6	0	2	4	4	672
SOUTH LEG												
9	32	15	1	0	0	0	1	0	0	0	1	59
11	33	27	0	2	1	0	0	0	1	1	1	77
13	38	33	0	0	0	0	0	0	1	1	0	86
9	43	31	0	1	0	0	1	0	1	2	0	88
12	52	23	0	0	0	0	0	0	0	0	2	89
9	44	24	0	0	0	0	0	0	0	0	0	77
9	29	28	1	4	0	0	0	0	1	1	0	73
12	28	22	0	0	0	0	1	0	0	1	0	64
84	299	203	2	7	1	0	3	0	4	6	4	613
EAST LEG												
15	33	10	0	0	0	0	0	0	1	0	0	59
21	41	15	0	0	0	0	0	0	0	0	0	77
24	47	12	0	1	0	0	0	0	0	1	0	85
24	54	11	0	0	0	0	0	0	2	1	0	92
38	62	21	0	0	0	0	0	0	0	1	0	122
29	64	16	0	0	0	0	0	0	0	2	0	111
24	46	19	1	0	0	0	0	0	0	0	0	90
21	43	14	0	0	0	0	0	0	0	1	0	79
196	390	118	1	1	0	0	0	0	3	6	0	715
WEST LEG												
18	27	20	3	0	1	0	0	1	0	0	1	71
29	32	29	0	0	0	0	0	0	1	1	0	92
32	37	35	0	1	0	1	0	0	0	0	0	106
36	42	39	1	0	0	1	0	0	1	0	1	121
29	39	38	0	0	2	1	0	0	1	5	0	115
34	51	35	1	0	0	0	0	0	0	0	1	122
28	39	38	1	0	0	0	0	0	0	0	0	106
22	31	27	0	0	0	0	0	2	1	2	0	85
228	298	261	6	1	3	3	0	3	4	8	3	818

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SANTE FE

EAST-WEST STREET: CARSON ST

TIME: 04:00PM-05:00PM DATE: 03-03-20

NORTH LEG

106	155	60	Total
19	39	14	1st
29	35	19	2nd
27	41	15	3rd
31	40	12	4th
Rt	Thru	Lt	

Rt	16	21	24	26	87
Thru	33	41	49	55	178
Lt	10	15	12	11	48
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
127	23	29	35	40	Lt
140	27	33	38	42	Thru
123	21	30	33	39	Rt

	Lt	Thru	Rt
1st	16	33	10
2nd	29	36	12
3rd	33	39	14
4th	31	47	10
Total	109	155	46

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SANTE FE

EAST-WEST STREET: CARSON ST

TIME: 05:00PM-06:00PM DATE: 03-03-20

NORTH LEG

Rt	Thru	Lt	
126	158	67	Total
33	44	19	1st
38	40	16	2nd
29	36	17	3rd
26	38	15	4th

	1st	2nd	3rd	4th	Total
Rt	38	29	25	21	113
Thru	63	66	46	44	219
Lt	21	16	19	14	70

Total	1st	2nd	3rd	4th	
143	40	36	38	29	Lt
167	44	51	39	33	Thru
118	31	35	29	23	Rt

	Lt	Thru	Rt
1st	25	52	12
2nd	24	44	9
3rd	28	34	11
4th	22	30	12
Total	99	160	44

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: VIA ORO
EAST-WEST STREET: CARSON ST
JURISDICTION: LONG BEACH

DATE: 03-04-20

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 110

Rt	Thru	Lt	
53	43	14	Total
10	12	3	1st
9	15	5	2nd
14	10	3	3rd
20	6	3	4th

EAST LEG TOTAL: 56

	1st	2nd	3rd	4th	Total
Rt	3	2	2	0	7
Thru	9	10	12	15	46
Lt	1	1	0	1	3

WEST LEG TOTAL: 486

Total	1st	2nd	3rd	4th	
150	30	41	43	36	Lt
62	16	11	19	16	Thru
274	66	69	73	66	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.95
SOUTH LEG = 0.82
EAST LEG = 0.88
WEST LEG = 0.90

ALL LEGS = 0.94

SOUTH LEG

TOTAL: 118

	Lt	Thru	Rt
1st	15	10	0
2nd	15	10	4
3rd	16	12	0
4th	21	10	5
Total	67	42	9

HOUR TOTAL: 770

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : VIA ORO — LONG BEACH

EAST-WEST STREET : CARSON ST — 03-04-20

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
6	10	4	0	0	0	0	0	0	0	0	0	20
11	9	3	0	0	0	0	0	0	1	0	0	24
10	12	3	0	0	0	0	0	0	0	0	0	25
6	15	5	0	0	0	0	0	0	3	0	0	29
14	10	3	0	0	0	0	0	0	0	0	0	27
17	6	3	1	0	0	0	0	0	2	0	0	29
11	13	5	0	0	0	0	0	0	2	0	0	31
9	10	3	0	0	0	0	0	0	1	0	0	23
84	85	29	1	0	0	0	0	0	9	0	0	208
SOUTH LEG												
0	9	16	0	0	0	0	0	0	0	0	0	25
0	12	19	0	0	0	0	0	0	0	0	0	31
0	10	15	0	0	0	0	0	0	0	0	0	25
4	10	13	0	0	2	0	0	0	0	0	0	29
0	12	16	0	0	0	0	0	0	0	0	0	28
5	10	21	0	0	0	0	0	0	0	0	0	36
2	15	20	0	0	0	0	0	0	0	0	0	37
0	9	13	0	0	0	0	0	0	0	0	0	22
11	87	133	0	0	2	0	0	0	0	0	0	233
EAST LEG												
0	8	0	0	0	0	0	0	0	0	0	0	8
0	11	0	0	2	0	0	0	0	0	1	0	14
3	8	1	0	0	0	0	0	0	0	1	0	13
2	8	1	0	0	0	0	0	0	0	2	0	13
2	12	0	0	0	0	0	0	0	0	0	0	14
0	13	1	0	0	0	0	1	0	0	1	0	16
1	9	1	0	0	0	0	0	0	0	0	0	11
1	10	0	0	0	0	0	0	0	0	0	0	11
9	79	4	0	2	0	0	1	0	0	5	0	100
WEST LEG												
23	10	13	0	0	1	0	0	0	0	0	0	47
36	14	28	0	0	1	0	0	0	0	0	2	81
66	15	30	0	0	0	0	0	0	0	1	0	112
69	11	35	0	0	3	0	0	0	0	0	3	121
72	18	42	1	0	0	0	0	0	0	1	1	135
66	15	35	0	0	0	0	0	0	0	1	1	118
43	15	33	0	0	0	0	0	0	0	0	0	91
37	15	25	0	0	0	0	0	0	0	0	2	79
412	113	241	1	0	5	0	0	0	0	3	9	784

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: VIA ORO

EAST-WEST STREET: CARSON ST

TIME: 07:00AM-08:00AM DATE: 03-04-20

NORTH LEG

Rt	Thru	Lt	
37	46	15	Total
6	10	4	1st
12	9	3	2nd
10	12	3	3rd
9	15	5	4th

	1st	2nd	3rd	4th	Total
Rt	0	0	3	2	5
Thru	8	14	9	10	41
Lt	0	0	1	1	2

Total	1st	2nd	3rd	4th	
116	14	31	30	41	Lt
51	10	14	16	11	Thru
194	23	36	66	69	Rt

	Lt	Thru	Rt
1st	16	9	0
2nd	19	12	0
3rd	15	10	0
4th	15	10	4
Total	65	41	4

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: VIA ORO

EAST-WEST STREET: CARSON ST

TIME: 08:00AM-09:00AM DATE: 03-04-20

NORTH LEG

Rt	Thru	Lt	
57	39	14	Total
14	10	3	1st
20	6	3	2nd
13	13	5	3rd
10	10	3	4th

	1st	2nd	3rd	4th	Total
Rt	2	0	1	1	4
Thru	12	15	9	10	46
Lt	0	1	1	0	2

Total	1st	2nd	3rd	4th	
139	43	36	33	27	Lt
65	19	16	15	15	Thru
219	73	66	43	37	Rt

	Lt	Thru	Rt
1st	16	12	0
2nd	21	10	5
3rd	20	15	2
4th	13	9	0
Total	70	46	7

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: VIA ORO
EAST-WEST STREET: CARSON ST
JURISDICTION: LONG BEACH

DATE: 03-04-20

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 201

Rt	Thru	Lt	
153	44	4	Total
30	10	1	1st
44	13	1	2nd
43	12	0	3rd
36	9	2	4th

EAST LEG TOTAL: 50

	1st	2nd	3rd	4th	Total
Rt	0	1	0	0	1
Thru	10	15	10	9	44
Lt	3	0	1	1	5

WEST LEG TOTAL: 260

Total	1st	2nd	3rd	4th	
97	25	22	27	23	Lt
49	16	14	9	10	Thru
114	20	29	37	28	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.87
SOUTH LEG = 0.87
EAST LEG = 0.78
WEST LEG = 0.89

ALL LEGS = 0.90

SOUTH LEG

TOTAL: 265

	Lt	Thru	Rt
1st	46	16	3
2nd	61	10	0
3rd	60	14	2
4th	44	9	0
Total	211	49	5

HOUR TOTAL: 776

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : VIA ORO — LONG BEACH
EAST-WEST STREET : CARSON ST — 03-04-20
BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
23	14	1	0	0	0	0	0	0	0	0	0	38
21	10	0	0	0	0	0	0	0	1	0	0	32
36	9	2	0	0	0	0	0	0	0	0	0	47
30	10	1	0	0	0	0	0	0	0	0	0	41
41	13	1	0	0	0	0	0	0	3	0	0	58
43	12	0	0	0	0	0	0	0	0	0	0	55
35	9	2	0	0	0	0	0	0	1	0	0	47
28	11	2	0	0	0	0	0	0	1	0	0	42
257	88	9	0	0	0	0	0	0	6	0	0	360
SOUTH LEG												
0	14	26	0	0	0	0	0	0	0	0	0	40
3	10	35	0	0	0	0	0	0	0	0	0	48
0	10	33	0	0	0	0	0	0	0	0	0	43
3	16	46	0	0	0	0	0	0	0	0	0	65
0	10	60	0	0	1	0	0	0	0	0	0	71
2	14	60	0	0	0	0	0	0	0	0	0	76
0	9	44	0	0	0	0	0	0	0	0	0	53
0	9	38	0	0	1	0	0	0	0	0	0	48
8	92	342	0	0	2	0	0	0	0	0	0	444
EAST LEG												
1	6	0	0	0	0	0	0	0	0	0	0	7
1	9	0	0	0	0	0	0	0	0	1	0	11
0	12	3	0	0	0	0	0	0	0	0	0	15
0	7	3	0	1	0	0	0	0	0	2	0	13
1	15	0	0	0	0	0	0	0	0	0	0	16
0	7	1	0	0	0	0	0	0	0	3	0	11
0	8	1	0	0	0	0	0	0	0	1	0	10
1	8	1	0	0	0	0	0	0	0	1	0	11
4	72	9	0	1	0	0	0	0	0	8	0	94
WEST LEG												
19	12	14	0	0	1	0	0	0	0	0	1	47
23	14	21	0	0	0	0	0	0	0	1	0	59
20	15	24	0	1	0	0	0	0	0	0	3	63
20	15	25	0	1	0	0	0	0	0	0	0	61
29	13	22	0	0	0	0	0	0	0	1	0	65
37	9	24	0	0	2	0	0	0	0	0	1	73
28	10	23	0	0	0	0	0	0	0	0	0	61
31	11	17	0	0	0	0	0	0	0	0	2	61
207	99	170	0	2	3	0	0	0	0	2	7	490

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: VIA ORO

EAST-WEST STREET: CARSON ST

TIME: 04:00PM-05:00PM DATE: 03-04-20

NORTH LEG

Rt	Thru	Lt	
111	43	4	Total
23	14	1	1st
22	10	0	2nd
36	9	2	3rd
30	10	1	4th

	1st	2nd	3rd	4th	Total
Rt	1	1	0	0	2
Thru	6	10	12	10	38
Lt	0	0	3	3	6

Total	1st	2nd	3rd	4th	
89	16	21	27	25	Lt
59	12	15	16	16	Thru
82	19	23	20	20	Rt

	Lt	Thru	Rt
1st	26	14	0
2nd	35	10	3
3rd	33	10	0
4th	46	16	3
Total	140	50	6

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: VIA ORO

EAST-WEST STREET: CARSON ST

TIME: 05:00PM-06:00PM DATE: 03-04-20

NORTH LEG

Rt	Thru	Lt	
152	45	5	Total
44	13	1	1st
43	12	0	2nd
36	9	2	3rd
29	11	2	4th

	1st	2nd	3rd	4th	Total
Rt	1	0	0	1	2
Thru	15	10	9	9	43
Lt	0	1	1	1	3

Total	1st	2nd	3rd	4th	
91	22	27	23	19	Lt
44	14	9	10	11	Thru
125	29	37	28	31	Rt

	Lt	Thru	Rt
1st	61	10	0
2nd	60	14	2
3rd	44	9	0
4th	39	9	0
Total	204	42	2

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: VIA ORO
EAST-WEST STREET: HUGHES WY
JURISDICTION: LONG BEACH

DATE: 03-04-20

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 313

Rt	Thru	Lt	
202	89	22	Total
51	20	5	1st
55	21	8	2nd
56	23	2	3rd
40	25	7	4th

EAST LEG TOTAL: 18

	1st	2nd	3rd	4th	Total
Rt	3	8	0	2	13
Thru	0	4	0	0	4
Lt	0	1	0	0	1

WEST LEG TOTAL: 95

Total	1st	2nd	3rd	4th	
91	23	21	22	25	Lt
3	1	1	0	1	Thru
1	0	1	0	0	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.93
SOUTH LEG = 0.46
EAST LEG = 0.35
WEST LEG = 0.91

ALL LEGS = 0.92

SOUTH LEG

TOTAL: 22

	Lt	Thru	Rt
1st	0	3	0
2nd	0	2	0
3rd	0	5	0
4th	0	10	2
Total		20	2

HOUR TOTAL: 448

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : VIA ORO — LONG BEACH

EAST-WEST STREET : HUGHES WY — 03-04-20

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4 (+) AXLE RT	4 (+) AXLE THRU	4 (+) AXLE LT	TOTALS
NORTH LEG												
25	5	3	0	0	0	0	0	0	0	0	0	33
26	12	5	0	0	0	0	0	0	0	0	0	43
51	20	5	0	0	0	0	0	0	0	0	0	76
55	21	8	0	0	0	0	0	0	0	0	0	84
55	23	2	1	0	0	0	0	0	0	0	0	81
40	25	7	0	0	0	0	0	0	0	0	0	72
33	20	5	0	0	0	0	0	0	0	0	0	58
24	19	5	0	0	0	0	0	0	0	0	0	48
309	145	40	1	0	0	0	0	0	0	0	0	495
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	3	0	0	0	0	0	0	0	0	0	0	3
0	2	0	0	0	0	0	0	0	0	0	0	2
0	5	0	0	0	0	0	0	0	0	0	0	5
2	10	0	0	0	0	0	0	0	0	0	0	12
0	10	0	0	0	0	0	0	0	0	0	0	10
1	13	0	0	0	0	0	0	0	0	0	0	14
3	43	0	0	0	0	0	0	0	0	0	0	46
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	3
8	4	1	0	0	0	0	0	0	0	0	0	13
0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	2
2	0	0	0	0	0	0	0	0	0	0	0	2
0	0	1	0	0	0	0	0	0	0	0	0	1
15	4	2	0	0	0	0	0	0	0	0	0	21
WEST LEG												
0	0	24	0	0	0	0	0	0	0	0	0	24
0	0	30	0	0	0	0	0	0	0	0	0	30
0	1	23	0	0	0	0	0	0	0	0	0	24
1	1	19	0	0	2	0	0	0	0	0	0	23
0	0	22	0	0	0	0	0	0	0	0	0	22
0	1	25	0	0	0	0	0	0	0	0	0	26
0	0	26	0	0	0	0	0	0	0	0	0	26
2	0	10	0	0	0	0	0	0	0	0	0	12
3	3	179	0	0	2	0	0	0	0	0	0	187

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: VIA ORO

EAST-WEST STREET: HUGHES WY

TIME: 07:00AM-08:00AM DATE: 03-04-20

NORTH LEG

Rt	Thru	Lt	
157	58	21	Total
25	5	3	1st
26	12	5	2nd
51	20	5	3rd
55	21	8	4th

	1st	2nd	3rd	4th	Total
Rt	0	0	3	8	11
Thru	0	0	0	4	4
Lt	0	0	0	1	1

Total	1st	2nd	3rd	4th	
98	24	30	23	21	Lt
2	0	0	1	1	Thru
1	0	0	0	1	Rt

	Lt	Thru	Rt
1st	0	0	0
2nd	0	0	0
3rd	0	3	0
4th	0	2	0
Total	0	5	0

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: VIA ORO

EAST-WEST STREET: HUGHES WY

TIME: 08:00AM-09:00AM DATE: 03-04-20

NORTH LEG

Rt	Thru	Lt	
153	87	19	Total
56	23	2	1st
40	25	7	2nd
33	20	5	3rd
24	19	5	4th

	1st	2nd	3rd	4th	Total
Rt	0	2	2	0	4
Thru	0	0	0	0	0
Lt	0	0	0	1	1

Total	1st	2nd	3rd	4th	
83	22	25	26	10	Lt
1	0	1	0	0	Thru
2	0	0	0	2	Rt

	Lt	Thru	Rt
1st	0	5	0
2nd	0	10	2
3rd	0	10	0
4th	0	13	1
Total	0	38	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: VIA ORO
EAST-WEST STREET: HUGHES WY
JURISDICTION: LONG BEACH

DATE: 03-04-20

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 164

Rt	Thru	Lt	
97	59	8	Total
18	14	2	1st
30	10	2	2nd
30	16	3	3rd
19	19	1	4th

EAST LEG TOTAL: 13

	1st	2nd	3rd	4th	Total
Rt	1	0	3	3	7
Thru	3	0	0	2	5
Lt	0	0	0	1	1

WEST LEG TOTAL: 175

Total	1st	2nd	3rd	4th	
170	44	44	46	36	Lt
2	1	0	0	1	Thru
3	2	0	0	1	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.84
SOUTH LEG = 0.79
EAST LEG = 0.54
WEST LEG = 0.93

ALL LEGS = 0.87

SOUTH LEG

TOTAL: 88

	Lt	Thru	Rt
1st	1	19	1
2nd	0	25	0
3rd	0	26	2
4th	1	13	0
Total	2	83	3

HOUR TOTAL: 440

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : VIA ORO — LONG BEACH

EAST-WEST STREET : HUGHES WY — 03-04-20

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
20	10	2	0	0	0	0	0	0	0	0	0	32
9	23	3	0	0	0	0	0	0	0	0	0	35
14	16	3	0	0	0	0	0	0	0	0	0	33
18	14	2	0	0	0	0	0	0	0	0	0	34
30	10	2	0	0	0	0	0	0	0	0	0	42
30	16	3	0	0	0	0	0	0	0	0	0	49
19	19	1	0	0	0	0	0	0	0	0	0	39
33	10	0	0	0	0	0	0	0	0	0	0	43
173	118	16	0	0	0	0	0	0	0	0	0	307
SOUTH LEG												
0	21	0	0	0	0	0	0	0	0	0	0	21
2	16	0	0	0	0	0	0	0	0	0	0	18
0	15	1	0	0	0	0	0	0	0	0	0	16
1	19	1	0	0	0	0	0	0	0	0	0	21
0	25	0	0	0	0	0	0	0	0	0	0	25
2	26	0	0	0	0	0	0	0	0	0	0	28
0	13	1	0	0	0	0	0	0	0	0	0	14
0	21	1	0	0	0	0	0	0	0	0	0	22
5	156	4	0	0	0	0	0	0	0	0	0	165
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
2	1	2	0	0	0	0	0	0	0	0	0	5
1	3	0	0	0	0	0	0	0	0	0	0	4
0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	3
3	2	1	0	0	0	0	0	0	0	0	0	6
0	0	1	0	0	0	0	0	0	0	0	0	1
9	6	4	0	0	0	0	0	0	0	0	0	19
WEST LEG												
0	0	20	0	0	0	0	0	0	0	0	0	20
0	0	33	0	0	0	0	0	0	0	0	0	33
2	0	25	0	0	0	0	0	0	0	0	0	27
2	1	44	0	0	0	0	0	0	0	0	0	47
0	0	43	0	0	1	0	0	0	0	0	0	44
0	0	46	0	0	0	0	0	0	0	0	0	46
1	1	36	0	0	0	0	0	0	0	0	0	38
2	1	28	0	0	1	0	0	0	0	0	0	32
7	3	275	0	0	2	0	0	0	0	0	0	287

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: VIA ORO

EAST-WEST STREET: HUGHES WY

TIME: 04:00PM-05:00PM DATE: 03-04-20

NORTH LEG

Rt	Thru	Lt	
61	63	10	Total
20	10	2	1st
9	23	3	2nd
14	16	3	3rd
18	14	2	4th

	1st	2nd	3rd	4th	Total
Rt	0	0	2	1	3
Thru	0	0	1	3	4
Lt	0	0	2	0	2

Total	1st	2nd	3rd	4th	
122	20	33	25	44	Lt
1	0	0	0	1	Thru
4	0	0	2	2	Rt

	Lt	Thru	Rt
1st	0	21	0
2nd	0	16	2
3rd	1	15	0
4th	1	19	1
Total	2	71	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: VIA ORO

EAST-WEST STREET: HUGHES WY

TIME: 05:00PM-06:00PM DATE: 03-04-20

NORTH LEG

Rt	Thru	Lt	
112	55	6	Total
30	10	2	1st
30	16	3	2nd
19	19	1	3rd
33	10	0	4th

	1st	2nd	3rd	4th	Total
Rt	0	3	3	0	6
Thru	0	0	2	0	2
Lt	0	0	1	1	2

Total	1st	2nd	3rd	4th	
155	44	46	36	29	Lt
2	0	0	1	1	Thru
3	0	0	1	2	Rt

	Lt	Thru	Rt
1st	0	25	0
2nd	0	26	2
3rd	1	13	0
4th	1	21	0
Total	2	85	2

Prepared by NEWPORT TRAFFIC STUDIES

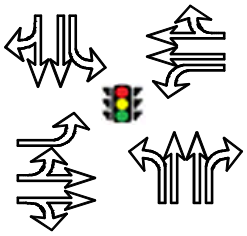
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TM	13-Apr-20	ITXP0000-3001	1 OF 2

E/W STREET : W CARSON ST
N/S STREET : SANTA FE AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 1

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing PCE Volumes	Closure Redistribution Trips	Project Trips	Existing + Project Volumes	Redistributed Existing + Project Volumes
Scenario #	1			3	3
W CARSON ST					
EB LEFT	154	0	0	154	0
EB THRU	259	0	14	273	14
EB RIGHT	132	0	0	132	0
WB LEFT	44	0	3	47	3
WB THRU	105	0	4	109	4
WB RIGHT	55	0	4	59	4
SANTA FE AVE					
NB LEFT	111	0	0	111	0
NB THRU	213	0	0	213	0
NB RIGHT	119	0	11	130	11
SB LEFT	141	0	14	155	14
SB THRU	167	0	0	167	0
SB RIGHT	119	0	0	119	0
TOTALS	**1619**	**0**	**50**	**1669**	**50**

DAVID EVANS
AND ASSOCIATES INC.

Appendix B: Intersection Capacity Analysis

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	13-Apr-20	ITXP0000-3001	2	OF 2

E/W STREET : W CARSON ST
CONDITION : AM PEAK HOUR
N/S STREET : SANTA FE AVE
PHF : 0.93

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	1	1
4	0	0	0	1	0	3	3	0
2	1	0	1	0	0	2	1	2
0	0	0	0	0	0	0	1	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	0	0	0	3	0
0	0	2	0	0	1	4	5	2
0	0	0	0	0	0	0	1	1
0	0	1	0	0	2	1	2	1

EAST LEG

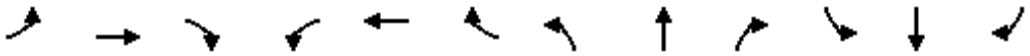
LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0
0	1	0	0	0	0	0	0	0
0	1	0	0	0	0	0	2	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	0	2	0	0	0	0	3	0
0	0	0	1	0	1	0	0	0
0	0	1	1	0	0	0	1	0
1	0	0	0	0	0	0	1	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
29	32	34	25	45	20	12	20	10	31	46	28
18	34	33	18	39	19	10	24	9	30	63	37
24	40	36	34	45	21	14	21	11	32	70	41
19	39	29	27	49	27	19	27	14	29	65	40

	AUTO VOLUMES	LARGE 2 AXLE VOLUMES	LARGE 3 AXLE VOLUMES	LARGE 4(+) AXLE VOLUMES	TOTALS	PCE TOTALS
W CARSON ST		**2**	**2**	**3**		
EB LEFT	146	3	1	0	**150**	**154**
EB THRU	244	0	0	5	**249**	**259**
EB RIGHT	122	3	2	0	**127**	**132**
WB LEFT	44	0	0	0	**44**	**44**
WB THRU	92	2	0	3	**97**	**105**
WB RIGHT	55	0	0	0	**55**	**55**
SANTA FE AVE						
NB LEFT	87	3	3	4	**97**	**111**
NB THRU	178	1	0	11	**190**	**213**
NB RIGHT	104	0	0	5	**109**	**119**
SB LEFT	132	0	0	3	**135**	**141**
SB THRU	145	1	1	6	**153**	**167**
SB RIGHT	90	6	1	5	**102**	**119**



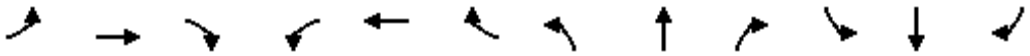
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	259	132	44	105	55	111	213	119	141	167	119
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	8.0	8.0	4.0	8.0	8.0	4.0	4.0	8.0	8.0	4.0	8.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	545	0	44	160	0	111	213	119	141	286	0
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85	0.95	0.94	0.85
Saturated Flow (vph)	0	4341	0	1520	2889	0	1520	3046	1360	1520	2856	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			Yes			Yes	
Reference Time (s)			0.0			0.0	8.8	8.4	10.5	11.1	12.0	0.0
Adj Reference Time (s)			0.0			0.0	12.8	12.4	14.5	15.1	16.0	0.0
Permitted Option												
Adj Saturation A (vph)	0	145		101	1445		101	1523		101	1428	
Reference Time A (s)	0.0	127.7		52.1	6.6		131.4	8.4		167.0	12.0	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		127.7			52.1			131.4			167.0	
Adj Reference Time (s)		131.7			56.1			135.4			171.0	
Split Option												
Ref Time Combined (s)	0.0	15.1		3.5	6.6		8.8	8.4		11.1	12.0	
Ref Time Seperate (s)	6.1	10.7		3.5	4.4		8.8	8.4		11.1	7.0	
Reference Time (s)	15.1	15.1		6.6	6.6		8.8	8.8		12.0	12.0	
Adj Reference Time (s)	19.1	19.1		12.0	12.0		12.8	12.8		16.0	16.0	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	28.8	
Permitted Option (s)	131.7	171.0	
Split Option (s)	31.1	28.8	
Minimum (s)	31.1	28.8	59.8

Right Turns	NBR
Adj Reference Time (s)	14.5
Cross Thru Ref Time (s)	19.1
Oncoming Left Ref Time (s)	15.1
Combined (s)	48.7

Intersection Summary			
Intersection Capacity Utilization	49.9%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	154	273	132	47	109	59	111	213	130	155	167	119
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	8.0	8.0	4.0	8.0	8.0	4.0	4.0	8.0	8.0	4.0	8.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	559	0	47	168	0	111	213	130	155	286	0
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85	0.95	0.94	0.85
Saturated Flow (vph)	0	4347	0	1520	2886	0	1520	3046	1360	1520	2856	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			Yes			Yes	
Reference Time (s)			0.0			0.0	8.8	8.4	11.5	12.2	12.0	0.0
Adj Reference Time (s)			0.0			0.0	12.8	12.4	15.5	16.2	16.0	0.0
Permitted Option												
Adj Saturation A (vph)	0	145		101	1443		101	1523		101	1428	
Reference Time A (s)	0.0	127.5		55.7	7.0		131.4	8.4		183.6	12.0	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		127.5			55.7			131.4			183.6	
Adj Reference Time (s)		131.5			59.7			135.4			187.6	
Split Option												
Ref Time Combined (s)	0.0	15.4		3.7	7.0		8.8	8.4		12.2	12.0	
Ref Time Seperate (s)	6.1	11.3		3.7	4.5		8.8	8.4		12.2	7.0	
Reference Time (s)	15.4	15.4		7.0	7.0		8.8	8.8		12.2	12.2	
Adj Reference Time (s)	19.4	19.4		12.0	12.0		12.8	12.8		16.2	16.2	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	28.8	
Permitted Option (s)	131.5	187.6	
Split Option (s)	31.4	29.0	
Minimum (s)	31.4	28.8	60.2

Right Turns	NBR
Adj Reference Time (s)	15.5
Cross Thru Ref Time (s)	19.4
Oncoming Left Ref Time (s)	16.2
Combined (s)	51.1

Intersection Summary			
Intersection Capacity Utilization	50.2%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TM	13-Apr-20	ITXP0000-3001	1 OF 2

E/W STREET : W CARSON ST
N/S STREET : SANTA FE AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 1

TURN MOVEMENTS

Condition	Existing Condition	Closure Redistribution Trips	Project Trips	Existing + Project Volumes	Redistributed Existing + Project Volumes
Scenario #	2			4	4
W CARSON ST					
EB LEFT	157	0	0	157	0
EB THRU	186	0	6	192	6
EB RIGHT	147	0	0	147	0
WB LEFT	60	0	11	71	11
WB THRU	244	0	15	259	15
WB RIGHT	121	0	15	136	15
SANTA FE AVE					
NB LEFT	117	0	0	117	0
NB THRU	190	0	0	190	0
NB RIGHT	49	0	5	54	5
SB LEFT	68	0	6	74	6
SB THRU	171	0	0	171	0
SB RIGHT	135	0	0	135	0
TOTALS	**1645**	**0**	**58**	**1703**	**58**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	13-Apr-20	ITXP0000-3001	2	OF 2

E/W STREET : W CARSON ST
CONDITION : PM PEAK HOUR
N/S STREET : SANTA FE AVE
PHF : 0.93

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	0	0	0	2	0	1	0	0
0	1	0	0	0	0	0	0	0
1	0	0	0	0	0	0	1	3
0	1	0	0	0	0	1	0	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	1	1	0
0	1	0	0	1	0	1	2	0
0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0

EAST LEG

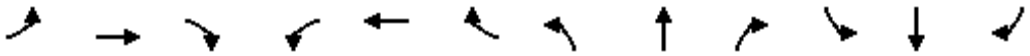
LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	0	0	0	1	0
0	0	0	0	0	0	2	1	0
0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	2	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	1	0	0	0	0	0
1	0	0	1	0	0	1	0	1
0	0	2	1	0	0	1	5	0
1	0	0	0	0	0	0	0	1

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
25	39	15	13	38	33	24	47	12	32	37	35
31	39	12	9	43	31	24	54	11	36	42	39
32	43	16	12	52	23	38	62	21	29	39	38
37	39	16	9	44	24	29	64	16	34	51	35

	AUTO VOLUMES	LARGE 2 AXLE VOLUMES	LARGE 3 AXLE VOLUMES	LARGE 4(+) AXLE VOLUMES	TOTALS	PCE TOTALS
W CARSON ST		**2**	**2**	**3**		
EB LEFT	147	2	0	2	**151**	**157**
EB THRU	169	1	0	5	**175**	**186**
EB RIGHT	131	2	3	2	**138**	**147**
WB LEFT	60	0	0	0	**60**	**60**
WB THRU	227	1	0	5	**233**	**244**
WB RIGHT	115	0	0	2	**117**	**121**
SANTA FE AVE						
NB LEFT	111	0	0	2	**113**	**117**
NB THRU	177	1	1	3	**182**	**190**
NB RIGHT	43	0	0	2	**45**	**49**
SB LEFT	59	0	0	3	**62**	**68**
SB THRU	160	2	2	1	**165**	**171**
SB RIGHT	125	2	0	2	**129**	**135**



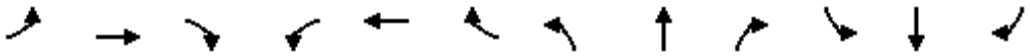
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	157	186	147	60	244	121	117	190	49	68	171	135
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	8.0	8.0	4.0	8.0	8.0	4.0	4.0	8.0	8.0	4.0	8.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	490	0	60	365	0	117	190	49	68	306	0
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.94	0.85	0.95	0.95	0.85	0.95	1.00	0.85	0.95	0.93	0.85
Saturated Flow (vph)	0	4294	0	1520	2895	0	1520	3046	1360	1520	2845	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			Yes			Yes	
Reference Time (s)			0.0			0.0	9.2	7.5	4.3	5.4	12.9	0.0
Adj Reference Time (s)			0.0			0.0	13.2	12.0	12.0	9.4	16.9	0.0
Permitted Option												
Adj Saturation A (vph)	0	143		101	1447		101	1523		101	1422	
Reference Time A (s)	0.0	131.6		71.1	15.1		138.6	7.5		80.5	12.9	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		131.6			71.1			138.6			80.5	
Adj Reference Time (s)		135.6			75.1			142.6			84.5	
Split Option												
Ref Time Combined (s)	0.0	13.7		4.7	15.1		9.2	7.5		5.4	12.9	
Ref Time Seperate (s)	6.2	7.8		4.7	10.1		9.2	7.5		5.4	7.2	
Reference Time (s)	13.7	13.7		15.1	15.1		9.2	9.2		12.9	12.9	
Adj Reference Time (s)	17.7	17.7		19.1	19.1		13.2	13.2		16.9	16.9	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	30.1	
Permitted Option (s)	135.6	142.6	
Split Option (s)	36.8	30.1	
Minimum (s)	36.8	30.1	67.0

Right Turns	NBR
Adj Reference Time (s)	12.0
Cross Thru Ref Time (s)	17.7
Oncoming Left Ref Time (s)	9.4
Combined (s)	39.1

Intersection Summary			
Intersection Capacity Utilization	55.8%	ICU Level of Service	B

Reference Times and Phasing Options do not represent an optimized timing plan.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	157	192	147	71	259	136	117	190	54	74	171	135
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	8.0	8.0	4.0	8.0	8.0	4.0	4.0	8.0	8.0	4.0	8.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	496	0	71	395	0	117	190	54	74	306	0
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.94	0.85	0.95	0.95	0.85	0.95	1.00	0.85	0.95	0.93	0.85
Saturated Flow (vph)	0	4297	0	1520	2889	0	1520	3046	1360	1520	2845	0
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			Yes			Yes	
Reference Time (s)			0.0			0.0	9.2	7.5	4.8	5.8	12.9	0.0
Adj Reference Time (s)			0.0			0.0	13.2	12.0	12.0	9.8	16.9	0.0
Permitted Option												
Adj Saturation A (vph)	0	143		101	1445		101	1523		101	1422	
Reference Time A (s)	0.0	131.5		84.1	16.4		138.6	7.5		87.6	12.9	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		131.5			84.1			138.6			87.6	
Adj Reference Time (s)		135.5			88.1			142.6			91.6	
Split Option												
Ref Time Combined (s)	0.0	13.9		5.6	16.4		9.2	7.5		5.8	12.9	
Ref Time Seperate (s)	6.2	8.1		5.6	10.8		9.2	7.5		5.8	7.2	
Reference Time (s)	13.9	13.9		16.4	16.4		9.2	9.2		12.9	12.9	
Adj Reference Time (s)	17.9	17.9		20.4	20.4		13.2	13.2		16.9	16.9	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	30.1	
Permitted Option (s)	135.5	142.6	
Split Option (s)	38.3	30.1	
Minimum (s)	38.3	30.1	68.4

Right Turns	NBR
Adj Reference Time (s)	12.0
Cross Thru Ref Time (s)	17.9
Oncoming Left Ref Time (s)	9.8
Combined (s)	39.7

Intersection Summary			
Intersection Capacity Utilization	57.0%	ICU Level of Service	B

Reference Times and Phasing Options do not represent an optimized timing plan.

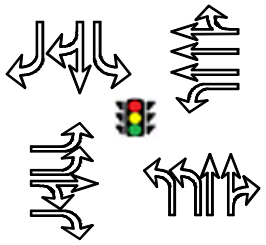
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TM	13-Apr-20	ITXP0000-3001	1 OF 2

E/W STREET : W CARSON ST
N/S STREET : VIA ORO AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 2

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing PCE Volumes	Closure Redistribution Trips	Redistributed Existing PCE Volumes	Project Trips	Existing + Project Volumes	Redistributed Existing + Project Volumes
Scenario #	1		1		3	3
W CARSON ST						
EB LEFT	163	40	203	28	191	231
EB THRU	68	-40	28	11	79	39
EB RIGHT	275	0	275	0	275	275
WB LEFT	3	-3	0	4	7	4
WB THRU	55	-51	4	3	58	7
WB RIGHT	7	0	7	0	7	7
VIA ORO AVE						
NB LEFT	69	0	69	0	69	69
NB THRU	42	5	47	17	59	64
NB RIGHT	9	-5	4	14	23	18
SB LEFT	14	0	14	0	14	14
SB THRU	43	3	46	5	48	51
SB RIGHT	64	51	115	8	72	123
TOTALS	**812**	**0**	**812**	**90**	**902**	**902**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	13-Apr-20	ITXP0000-3001	2	OF 2

E/W STREET : W CARSON ST
CONDITION : AM PEAK HOUR
N/S STREET : VIA ORO AVE
PHF : 0.94

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	3	0	0
0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	2	0	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

EAST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	2	0
0	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	1	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	1	0
0	0	3	0	0	0	0	0	3
1	0	0	0	0	0	0	1	1
0	0	0	0	0	0	0	1	1

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	12	3	0	10	15	3	8	1	66	15	30
6	15	5	4	10	13	2	8	1	69	11	35
14	10	3	0	12	16	2	12	0	72	18	42
17	6	3	5	10	21	0	13	1	66	15	35

	AUTO VOLUMES	LARGE 2 AXLE VOLUMES	LARGE 3 AXLE VOLUMES	LARGE 4(+) AXLE VOLUMES	TOTALS	PCE TOTALS
W CARSON ST		**2**	**2**	**3**		
EB LEFT	142	3	0	5	**150**	**163**
EB THRU	59	0	0	3	**62**	**68**
EB RIGHT	273	1	0	0	**274**	**275**
WB LEFT	3	0	0	0	**3**	**3**
WB THRU	41	0	1	4	**46**	**55**
WB RIGHT	7	0	0	0	**7**	**7**
VIA ORO AVE						
NB LEFT	65	2	0	0	**67**	**69**
NB THRU	42	0	0	0	**42**	**42**
NB RIGHT	9	0	0	0	**9**	**9**
SB LEFT	14	0	0	0	**14**	**14**
SB THRU	43	0	0	0	**43**	**43**
SB RIGHT	47	1	0	5	**53**	**64**

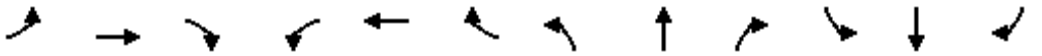
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	163	68	275	3	55	7	69	42	9	14	43	64
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	8.0	8.0	4.0	8.0	4.0	8.0	8.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	163	160	183	3	62	0	69	51	0	14	64	43
Lane Utilization Factor	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.91	0.85	0.95	0.98	0.85	0.95	0.97	0.85	0.95	0.95	0.85
Saturated Flow (vph)	2952	1462	1360	1520	4285	0	2952	2966	0	1520	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	6.6	13.1	16.2	0.2	1.7	0.0	2.8	2.1	0.0	1.1	5.1	3.8
Adj Reference Time (s)	10.6	17.1	20.2	8.0	12.0	0.0	12.0	12.0	0.0	8.0	9.1	8.0
Permitted Option												
Adj Saturation A (vph)	98	1462		101	1428		98	1483		101	1520	
Reference Time A (s)	99.4	13.1		3.6	1.7		42.1	2.1		16.6	5.1	
Adj Saturation B (vph	0	1462		NA	NA		0	2966		0	1520	
Reference Time B (s)	14.6	13.1		NA	NA		10.8	2.1		9.1	5.1	
Reference Time (s)		14.6			3.6			10.8			9.1	
Adj Reference Time (s)		18.6			12.0			14.8			13.1	
Split Option												
Ref Time Combined (s)	6.6	13.1		0.2	1.7		2.8	2.1		1.1	5.1	
Ref Time Seperate (s)	6.6	5.6		0.2	1.5		2.8	1.7		1.1	3.4	
Reference Time (s)	13.1	13.1		1.7	1.7		2.8	2.8		5.1	5.1	
Adj Reference Time (s)	17.1	17.1		12.0	12.0		12.0	12.0		9.1	9.1	

Summary	EB WB	NB SB	Combined
Protected Option (s)	25.1	21.1	
Permitted Option (s)	18.6	14.8	
Split Option (s)	29.1	21.1	
Minimum (s)	18.6	14.8	33.4

Right Turns	EBR	SBR
Adj Reference Time (s)	20.2	8.0
Cross Thru Ref Time (s)	9.1	12.0
Oncoming Left Ref Time (s)	8.0	12.0
Combined (s)	37.3	32.0

Intersection Summary			
Intersection Capacity Utilization	31.0%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	203	28	275	0	4	7	69	47	4	14	46	115
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	8.0	8.0	4.0	8.0	4.0	8.0	8.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	203	120	183	0	11	0	69	51	0	14	84	77
Lane Utilization Factor	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.89	0.85	0.95	0.90	0.85	0.95	0.99	0.85	0.95	0.93	0.85
Saturated Flow (vph)	2952	1416	1360	1520	3942	0	2952	3011	0	1520	1491	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	8.3	10.1	16.2	0.0	0.3	0.0	2.8	2.0	0.0	1.1	6.8	6.8
Adj Reference Time (s)	12.3	14.1	20.2	8.0	12.0	0.0	12.0	12.0	0.0	8.0	10.8	10.8
Permitted Option												
Adj Saturation A (vph)	98	1416		101	1314		98	1505		101	1491	
Reference Time A (s)	123.8	10.1		0.0	0.3		42.1	2.0		16.6	6.8	
Adj Saturation B (vph	0	1416		0	3942		0	3011		0	1491	
Reference Time B (s)	16.3	10.1		8.0	0.3		10.8	2.0		9.1	6.8	
Reference Time (s)		16.3			0.3			10.8			9.1	
Adj Reference Time (s)		20.3			12.0			14.8			13.1	
Split Option												
Ref Time Combined (s)	8.3	10.1		0.0	0.3		2.8	2.0		1.1	6.8	
Ref Time Seperate (s)	8.3	2.4		0.0	0.1		2.8	1.9		1.1	3.7	
Reference Time (s)	10.1	10.1		0.3	0.3		2.8	2.8		6.8	6.8	
Adj Reference Time (s)	14.1	14.1		12.0	12.0		12.0	12.0		10.8	10.8	

Summary	EB WB	NB SB	Combined
Protected Option (s)	24.3	22.8	
Permitted Option (s)	20.3	14.8	
Split Option (s)	26.1	22.8	
Minimum (s)	20.3	14.8	35.1

Right Turns	EBR	SBR
Adj Reference Time (s)	20.2	10.8
Cross Thru Ref Time (s)	10.8	12.0
Oncoming Left Ref Time (s)	0.0	12.0
Combined (s)	31.0	34.8

Intersection Summary			
Intersection Capacity Utilization	29.2%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	79	275	7	58	7	69	59	23	14	48	72
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	8.0	8.0	4.0	8.0	4.0	8.0	8.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	191	171	183	7	65	0	69	82	0	14	72	48
Lane Utilization Factor	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.92	0.85	0.95	0.98	0.85	0.95	0.96	0.85	0.95	0.95	0.85
Saturated Flow (vph)	2952	1471	1360	1520	4288	0	2952	2918	0	1520	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	7.8	13.9	16.2	0.6	1.8	0.0	2.8	3.4	0.0	1.1	5.7	4.2
Adj Reference Time (s)	11.8	17.9	20.2	8.0	12.0	0.0	12.0	12.0	0.0	8.0	9.7	8.2
Permitted Option												
Adj Saturation A (vph)	98	1471		101	1429		98	1459		101	1520	
Reference Time A (s)	116.5	13.9		8.3	1.8		42.1	3.4		16.6	5.7	
Adj Saturation B (vph	0	1471		NA	NA		0	2918		0	1520	
Reference Time B (s)	15.8	13.9		NA	NA		10.8	3.4		9.1	5.7	
Reference Time (s)		15.8			8.3			10.8			9.1	
Adj Reference Time (s)		19.8			12.3			14.8			13.1	
Split Option												
Ref Time Combined (s)	7.8	13.9		0.6	1.8		2.8	3.4		1.1	5.7	
Ref Time Seperate (s)	7.8	6.4		0.6	1.6		2.8	2.4		1.1	3.8	
Reference Time (s)	13.9	13.9		1.8	1.8		3.4	3.4		5.7	5.7	
Adj Reference Time (s)	17.9	17.9		12.0	12.0		12.0	12.0		9.7	9.7	

Summary	EB WB	NB SB	Combined
Protected Option (s)	25.9	21.7	
Permitted Option (s)	19.8	14.8	
Split Option (s)	29.9	21.7	
Minimum (s)	19.8	14.8	34.6

Right Turns	EBR	SBR
Adj Reference Time (s)	20.2	8.2
Cross Thru Ref Time (s)	9.7	12.0
Oncoming Left Ref Time (s)	8.0	12.0
Combined (s)	37.9	32.2

Intersection Summary			
Intersection Capacity Utilization	31.6%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	79	275	7	58	7	69	59	23	14	48	72
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	8.0	8.0	4.0	8.0	4.0	8.0	8.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	191	171	183	7	65	0	69	82	0	14	72	48
Lane Utilization Factor	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.92	0.85	0.95	0.98	0.85	0.95	0.96	0.85	0.95	0.95	0.85
Saturated Flow (vph)	2952	1471	1360	1520	4288	0	2952	2918	0	1520	1520	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	7.8	13.9	16.2	0.6	1.8	0.0	2.8	3.4	0.0	1.1	5.7	4.2
Adj Reference Time (s)	11.8	17.9	20.2	8.0	12.0	0.0	12.0	12.0	0.0	8.0	9.7	8.2
Permitted Option												
Adj Saturation A (vph)	98	1471		101	1429		98	1459		101	1520	
Reference Time A (s)	116.5	13.9		8.3	1.8		42.1	3.4		16.6	5.7	
Adj Saturation B (vph	0	1471		NA	NA		0	2918		0	1520	
Reference Time B (s)	15.8	13.9		NA	NA		10.8	3.4		9.1	5.7	
Reference Time (s)		15.8			8.3			10.8			9.1	
Adj Reference Time (s)		19.8			12.3			14.8			13.1	
Split Option												
Ref Time Combined (s)	7.8	13.9		0.6	1.8		2.8	3.4		1.1	5.7	
Ref Time Seperate (s)	7.8	6.4		0.6	1.6		2.8	2.4		1.1	3.8	
Reference Time (s)	13.9	13.9		1.8	1.8		3.4	3.4		5.7	5.7	
Adj Reference Time (s)	17.9	17.9		12.0	12.0		12.0	12.0		9.7	9.7	

Summary	EB WB	NB SB	Combined
Protected Option (s)	25.9	21.7	
Permitted Option (s)	19.8	14.8	
Split Option (s)	29.9	21.7	
Minimum (s)	19.8	14.8	34.6

Right Turns	EBR	SBR
Adj Reference Time (s)	20.2	8.2
Cross Thru Ref Time (s)	9.7	12.0
Oncoming Left Ref Time (s)	8.0	12.0
Combined (s)	37.9	32.2

Intersection Summary			
Intersection Capacity Utilization	31.6%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TM	13-Apr-20	ITXP0000-3001	1 OF 2

E/W STREET : W CARSON ST
N/S STREET : VIA ORO AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 2

TURN MOVEMENTS

Condition	Existing PCE Volumes	Closure Redistribution Trips	Existing PCE Volumes	Project Trips	Existing + Project Volumes	Redistributed Existing + Project Volumes
Scenario #	2		2		4	4
W CARSON ST						
EB LEFT	101	41	142	11	112	153
EB THRU	52	-41	11	5	57	16
EB RIGHT	114	0	114	0	114	114
WB LEFT	5	-4	1	15	20	16
WB THRU	57	-50	7	11	68	18
WB RIGHT	1	0	1	0	1	1
VIA ORO AVE						
NB LEFT	212	0	212	0	212	212
NB THRU	49	4	53	7	56	60
NB RIGHT	5	-4	1	6	11	7
SB LEFT	4	0	4	0	4	4
SB THRU	44	4	48	18	62	66
SB RIGHT	161	50	211	29	190	240
TOTALS	**805**	**0**	**805**	**102**	**907**	**907**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	13-Apr-20	ITXP0000-3001	2	OF 2

E/W STREET : W CARSON ST
CONDITION : PM PEAK HOUR
N/S STREET : VIA ORO AVE
PHF : 0.90

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	3	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	0	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

EAST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	0	0	0	2	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	3	0
0	0	0	0	0	0	0	1	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0
0	0	2	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
30	10	1	3	16	46	0	7	3	20	15	25
41	13	1	0	10	60	1	15	0	29	13	22
43	12	0	2	14	60	0	7	1	37	9	24
35	9	2	0	9	44	0	8	1	28	10	23

	AUTO VOLUMES	LARGE 2 AXLE VOLUMES	LARGE 3 AXLE VOLUMES	LARGE 4(+) AXLE VOLUMES	TOTALS	PCE TOTALS
W CARSON ST		**2**	**2**	**3**		
EB LEFT	94	2	0	1	**97**	**101**
EB THRU	47	1	0	1	**49**	**52**
EB RIGHT	114	0	0	0	**114**	**114**
WB LEFT	5	0	0	0	**5**	**5**
WB THRU	37	1	0	6	**44**	**57**
WB RIGHT	1	0	0	0	**1**	**1**
VIA ORO AVE						
NB LEFT	210	1	0	0	**211**	**212**
NB THRU	49	0	0	0	**49**	**49**
NB RIGHT	5	0	0	0	**5**	**5**
SB LEFT	4	0	0	0	**4**	**4**
SB THRU	44	0	0	0	**44**	**44**
SB RIGHT	149	0	0	4	**153**	**161**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	101	52	114	5	57	1	212	49	5	4	44	161
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	8.0	8.0	4.0	8.0	4.0	8.0	8.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	101	90	76	5	58	0	212	54	0	4	98	107
Lane Utilization Factor	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.94	0.85	0.95	1.00	0.85	0.95	0.99	0.85	0.95	0.92	0.85
Saturated Flow (vph)	2952	1499	1360	1520	4347	0	2952	3004	0	1520	1468	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	4.1	7.2	6.7	0.4	1.6	0.0	8.6	2.2	0.0	0.3	8.0	9.5
Adj Reference Time (s)	8.1	12.0	12.0	8.0	12.0	0.0	12.6	12.0	0.0	8.0	12.0	13.5
Permitted Option												
Adj Saturation A (vph)	98	1499		101	1449		98	1502		101	1468	
Reference Time A (s)	61.6	7.2		5.9	1.6		129.3	2.2		4.7	8.0	
Adj Saturation B (vph	0	1499		0	4347		0	3004		0	1468	
Reference Time B (s)	12.1	7.2		8.4	1.6		16.6	2.2		8.3	8.0	
Reference Time (s)		12.1			5.9			16.6			8.0	
Adj Reference Time (s)		16.1			12.0			20.6			12.0	
Split Option												
Ref Time Combined (s)	4.1	7.2		0.4	1.6		8.6	2.2		0.3	8.0	
Ref Time Seperate (s)	4.1	4.2		0.4	1.6		8.6	2.0		0.3	3.6	
Reference Time (s)	7.2	7.2		1.6	1.6		8.6	8.6		8.0	8.0	
Adj Reference Time (s)	12.0	12.0		12.0	12.0		12.6	12.6		12.0	12.0	

Summary	EB WB	NB SB	Combined
Protected Option (s)	20.1	24.6	
Permitted Option (s)	16.1	20.6	
Split Option (s)	24.0	24.6	
Minimum (s)	16.1	20.6	36.7

Right Turns	EBR	SBR
Adj Reference Time (s)	12.0	13.5
Cross Thru Ref Time (s)	12.0	12.0
Oncoming Left Ref Time (s)	8.0	12.6
Combined (s)	32.0	38.1

Intersection Summary			
Intersection Capacity Utilization	31.7%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	142	11	114	1	7	1	212	53	1	4	48	211
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	8.0	8.0	4.0	8.0	4.0	8.0	8.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	142	49	76	1	8	0	212	54	0	4	118	141
Lane Utilization Factor	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.88	0.85	0.95	0.98	0.85	0.95	1.00	0.85	0.95	0.91	0.85
Saturated Flow (vph)	2952	1414	1360	1520	4277	0	2952	3038	0	1520	1457	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	5.8	4.2	6.7	0.1	0.2	0.0	8.6	2.1	0.0	0.3	9.7	12.4
Adj Reference Time (s)	9.8	12.0	12.0	8.0	12.0	0.0	12.6	12.0	0.0	8.0	13.7	16.4
Permitted Option												
Adj Saturation A (vph)	98	1414		101	1426		98	1519		101	1457	
Reference Time A (s)	86.6	4.2		1.2	0.2		129.3	2.1		4.7	9.7	
Adj Saturation B (vph	0	1414		0	4277		0	3038		0	1457	
Reference Time B (s)	13.8	4.2		8.1	0.2		16.6	2.1		8.3	9.7	
Reference Time (s)		13.8			1.2			16.6			9.7	
Adj Reference Time (s)		17.8			12.0			20.6			13.7	
Split Option												
Ref Time Combined (s)	5.8	4.2		0.1	0.2		8.6	2.1		0.3	9.7	
Ref Time Seperate (s)	5.8	0.9		0.1	0.2		8.6	2.1		0.3	4.0	
Reference Time (s)	5.8	5.8		0.2	0.2		8.6	8.6		9.7	9.7	
Adj Reference Time (s)	12.0	12.0		12.0	12.0		12.6	12.6		13.7	13.7	

Summary	EB WB	NB SB	Combined
Protected Option (s)	21.8	26.4	
Permitted Option (s)	17.8	20.6	
Split Option (s)	24.0	26.4	
Minimum (s)	17.8	20.6	38.4

Right Turns	EBR	SBR
Adj Reference Time (s)	12.0	16.4
Cross Thru Ref Time (s)	13.7	12.0
Oncoming Left Ref Time (s)	8.0	12.6
Combined (s)	33.7	41.0

Intersection Summary			
Intersection Capacity Utilization	34.2%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	112	57	114	20	68	1	212	56	11	4	62	190
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	8.0	8.0	4.0	8.0	4.0	8.0	8.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	112	95	76	20	69	0	212	67	0	4	125	127
Lane Utilization Factor	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.94	0.85	0.95	1.00	0.85	0.95	0.98	0.85	0.95	0.92	0.85
Saturated Flow (vph)	2952	1504	1360	1520	4349	0	2952	2971	0	1520	1479	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	4.6	7.6	6.7	1.6	1.9	0.0	8.6	2.7	0.0	0.3	10.2	11.2
Adj Reference Time (s)	8.6	12.0	12.0	8.0	12.0	0.0	12.6	12.0	0.0	8.0	14.2	15.2
Permitted Option												
Adj Saturation A (vph)	98	1504		101	1450		98	1486		101	1479	
Reference Time A (s)	68.3	7.6		23.7	1.9		129.3	2.7		4.7	10.2	
Adj Saturation B (vph	0	1504		0	4349		NA	NA		0	1479	
Reference Time B (s)	12.6	7.6		9.6	1.9		NA	NA		8.3	10.2	
Reference Time (s)		12.6			9.6			129.3			10.2	
Adj Reference Time (s)		16.6			13.6			133.3			14.2	
Split Option												
Ref Time Combined (s)	4.6	7.6		1.6	1.9		8.6	2.7		0.3	10.2	
Ref Time Seperate (s)	4.6	4.5		1.6	1.9		8.6	2.3		0.3	5.0	
Reference Time (s)	7.6	7.6		1.9	1.9		8.6	8.6		10.2	10.2	
Adj Reference Time (s)	12.0	12.0		12.0	12.0		12.6	12.6		14.2	14.2	

Summary	EB WB	NB SB	Combined
Protected Option (s)	20.6	26.8	
Permitted Option (s)	16.6	133.3	
Split Option (s)	24.0	26.8	
Minimum (s)	16.6	26.8	43.3

Right Turns	EBR	SBR
Adj Reference Time (s)	12.0	15.2
Cross Thru Ref Time (s)	14.2	12.0
Oncoming Left Ref Time (s)	8.0	12.6
Combined (s)	34.2	39.8

Intersection Summary			
Intersection Capacity Utilization	36.1%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	153	16	114	16	18	1	212	60	7	240	66	4
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	4.0	8.0	8.0	4.0	8.0	4.0	8.0	8.0	4.0	4.0	4.0	4.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	153	54	76	16	19	0	212	67	0	240	67	3
Lane Utilization Factor	0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00	1.00	1.00	1.00
Turning Factor (vph)	0.95	0.89	0.85	0.95	0.99	0.85	0.95	0.98	0.85	0.95	1.00	0.85
Saturated Flow (vph)	2952	1431	1360	1520	4324	0	2952	2999	0	1520	1595	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	6.2	4.5	6.7	1.3	0.5	0.0	8.6	2.7	0.0	18.9	5.1	0.2
Adj Reference Time (s)	10.2	12.0	12.0	8.0	12.0	0.0	12.6	12.0	0.0	22.9	9.1	8.0
Permitted Option												
Adj Saturation A (vph)	98	1431		101	1441		98	1499		101	1595	
Reference Time A (s)	93.3	4.5		18.9	0.5		129.3	2.7		284.2	5.1	
Adj Saturation B (vph	0	1431		0	4324		0	2999		0	1595	
Reference Time B (s)	14.2	4.5		9.3	0.5		16.6	2.7		26.9	5.1	
Reference Time (s)		14.2			9.3			16.6			26.9	
Adj Reference Time (s)		18.2			13.3			20.6			30.9	
Split Option												
Ref Time Combined (s)	6.2	4.5		1.3	0.5		8.6	2.7		18.9	5.1	
Ref Time Seperate (s)	6.2	1.3		1.3	0.5		8.6	2.4		18.9	5.0	
Reference Time (s)	6.2	6.2		1.3	1.3		8.6	8.6		18.9	18.9	
Adj Reference Time (s)	12.0	12.0		12.0	12.0		12.6	12.6		22.9	22.9	

Summary	EB WB	NB SB	Combined
Protected Option (s)	22.2	34.9	
Permitted Option (s)	18.2	30.9	
Split Option (s)	24.0	35.6	
Minimum (s)	18.2	30.9	49.2

Right Turns	EBR	SBR
Adj Reference Time (s)	12.0	8.0
Cross Thru Ref Time (s)	9.1	12.0
Oncoming Left Ref Time (s)	8.0	12.6
Combined (s)	29.1	32.6

Intersection Summary			
Intersection Capacity Utilization	41.0%	ICU Level of Service	A

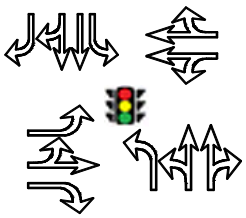
Reference Times and Phasing Options do not represent an optimized timing plan.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TM	13-Apr-20	ITXP0000-3001	1 OF 2

E/W STREET : HUGHES WAY
N/S STREET : VIA ORO AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 3

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing PCE Volumes	Closure Redistribution Trips	Project Trips	Existing + Project Volumes	Redistributed Existing + Project Volumes
Scenario #	1			3	3
HUGHES WAY					
EB LEFT	93	0	31	124	31
EB THRU	3	0	0	3	0
EB RIGHT	1	0	0	1	0
WB LEFT	1	0	0	1	0
WB THRU	4	0	0	4	0
WB RIGHT	13	0	0	13	0
VIA ORO AVE					
NB LEFT	1	0	0	1	0
NB THRU	20	0	0	20	0
NB RIGHT	2	0	0	2	0
SB LEFT	22	0	0	22	0
SB THRU	89	0	0	89	0
SB RIGHT	203	0	9	212	9
TOTALS	**452**	**0**	**40**	**492**	**40**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	13-Apr-20	ITXP0000-3001	2	OF 2

E/W STREET : HUGHES WAY
CONDITION : AM PEAK HOUR

N/S STREET : VIA ORO AVE
PHF : 0.92

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

EAST LEG

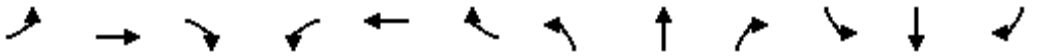
LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
51	20	5	0	3	0	3	0	0	0	1	23
55	21	8	0	2	0	8	4	1	1	1	19
55	23	2	0	5	0	0	0	0	0	0	22
40	25	7	2	10	0	2	0	0	0	1	25

	AUTO VOLUMES	LARGE 2 AXLE VOLUMES	LARGE 3 AXLE VOLUMES	LARGE 4(+) AXLE VOLUMES	TOTALS	PCE TOTALS
HUGHES WAY		**2**	**2**	**3**		
EB LEFT	89	2	0	0	**91**	**93**
EB THRU	3	0	0	0	**3**	**3**
EB RIGHT	1	0	0	0	**1**	**1**
WB LEFT	1	0	0	0	**1**	**1**
WB THRU	4	0	0	0	**4**	**4**
WB RIGHT	13	0	0	0	**13**	**13**
VIA ORO AVE						
NB LEFT	0	0	0	0	**0**	**0**
NB THRU	20	0	0	0	**20**	**20**
NB RIGHT	2	0	0	0	**2**	**2**
SB LEFT	22	0	0	0	**22**	**22**
SB THRU	89	0	0	0	**89**	**89**
SB RIGHT	201	1	0	0	**202**	**203**



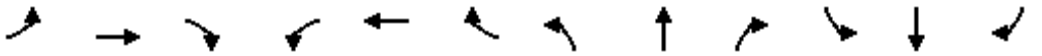
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	3	1	1	4	13	1	20	2	22	89	203
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	8.0	8.0	8.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0	8.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	96	1	0	18	0	0	23	0	22	157	135
Lane Utilization Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.89	0.85	0.95	0.98	0.85	0.95	0.94	0.85
Saturated Flow (vph)	0	3045	1360	0	2709	0	0	4500	0	1520	2849	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.1			0.0			0.0			11.9
Adj Reference Time (s)			12.0			0.0			0.0			15.9
Permitted Option												
Adj Saturation A (vph)	0	207		0	432		0	881		101	1425	
Reference Time A (s)	0.0	55.6		0.0	1.9		0.0	1.3		26.1	6.6	
Adj Saturation B (vph	0	0		0	1348		NA	NA		0	2849	
Reference Time B (s)	11.7	11.8		8.1	4.8		NA	NA		9.7	6.6	
Reference Time (s)		11.8			1.9			1.3			9.7	
Adj Reference Time (s)		15.8			12.0			12.0			13.7	
Split Option												
Ref Time Combined (s)	0.0	3.8		0.0	0.8		0.0	0.6		1.7	6.6	
Ref Time Seperate (s)	3.7	0.2		0.1	0.2		0.0	0.8		1.7	3.7	
Reference Time (s)	3.8	3.8		0.8	0.8		0.8	0.8		6.6	6.6	
Adj Reference Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	15.8	13.7	
Split Option (s)	24.0	24.0	
Minimum (s)	15.8	13.7	29.5

Right Turns	EBR	SBR
Adj Reference Time (s)	12.0	15.9
Cross Thru Ref Time (s)	12.0	12.0
Oncoming Left Ref Time (s)	12.0	12.0
Combined (s)	36.0	39.9

Intersection Summary			
Intersection Capacity Utilization	33.3%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	124	3	1	1	4	13	1	20	2	22	89	212
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	8.0	8.0	8.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0	8.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	127	1	0	18	0	0	23	0	22	160	141
Lane Utilization Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.89	0.85	0.95	0.98	0.85	0.95	0.93	0.85
Saturated Flow (vph)	0	3044	1360	0	2709	0	0	4500	0	1520	2844	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.1			0.0			0.0			12.5
Adj Reference Time (s)			12.0			0.0			0.0			16.5
Permitted Option												
Adj Saturation A (vph)	0	206		0	432		0	881		101	1422	
Reference Time A (s)	0.0	74.0		0.0	1.9		0.0	1.3		26.1	6.7	
Adj Saturation B (vph	0	0		0	1348		NA	NA		0	2844	
Reference Time B (s)	12.9	13.0		8.1	4.8		NA	NA		9.7	6.7	
Reference Time (s)		13.0			1.9			1.3			9.7	
Adj Reference Time (s)		17.0			12.0			12.0			13.7	
Split Option												
Ref Time Combined (s)	0.0	5.0		0.0	0.8		0.0	0.6		1.7	6.7	
Ref Time Seperate (s)	4.9	0.2		0.1	0.2		0.0	0.8		1.7	3.8	
Reference Time (s)	5.0	5.0		0.8	0.8		0.8	0.8		6.7	6.7	
Adj Reference Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	17.0	13.7	
Split Option (s)	24.0	24.0	
Minimum (s)	17.0	13.7	30.7

Right Turns	EBR	SBR
Adj Reference Time (s)	12.0	16.5
Cross Thru Ref Time (s)	12.0	12.0
Oncoming Left Ref Time (s)	12.0	12.0
Combined (s)	36.0	40.5

Intersection Summary			
Intersection Capacity Utilization	33.7%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TM	13-Apr-20	ITXP0000-3001	1 OF 2

E/W STREET : HUGHES WAY
N/S STREET : VIA ORO AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 3

TURN MOVEMENTS

Condition	Existing PCE Volumes	Closure Redistribution Trips	Project Trips	Existing + Project Volumes	Redistributed Existing + Project Volumes
Scenario #	2			4	4
HUGHES WAY					
EB LEFT	171	0	13	184	13
EB THRU	2	0	0	2	0
EB RIGHT	3	0	0	3	0
WB LEFT	1	0	0	1	0
WB THRU	5	0	0	5	0
WB RIGHT	7	0	0	7	0
VIA ORO AVE					
NB LEFT	2	0	0	2	0
NB THRU	83	0	0	83	0
NB RIGHT	3	0	0	3	0
SB LEFT	8	0	0	8	0
SB THRU	59	0	0	59	0
SB RIGHT	97	0	33	130	33
TOTALS	**441**	**0**	**46**	**487**	**46**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TM	13-Apr-20	ITXP0000-3001	2	OF 2

E/W STREET : HUGHES WAY
CONDITION : PM PEAK HOUR
N/S STREET : VIA ORO AVE
PHF : 0.87

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

EAST LEG

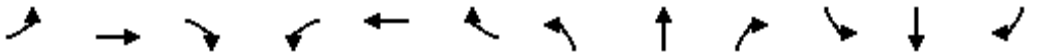
LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
18	14	2	1	19	1	1	3	0	2	1	44
30	10	2	0	25	0	0	0	0	0	0	43
30	16	3	2	26	0	3	0	0	0	0	46
19	19	1	0	13	1	3	2	1	1	1	36

	AUTO VOLUMES	LARGE 2 AXLE VOLUMES	LARGE 3 AXLE VOLUMES	LARGE 4(+) AXLE VOLUMES	TOTALS	PCE TOTALS
HUGHES WAY		**2**	**2**	**3**		
EB LEFT	169	1	0	0	**170**	**171**
EB THRU	2	0	0	0	**2**	**2**
EB RIGHT	3	0	0	0	**3**	**3**
WB LEFT	1	0	0	0	**1**	**1**
WB THRU	5	0	0	0	**5**	**5**
WB RIGHT	7	0	0	0	**7**	**7**
VIA ORO AVE						
NB LEFT	2	0	0	0	**2**	**2**
NB THRU	83	0	0	0	**83**	**83**
NB RIGHT	3	0	0	0	**3**	**3**
SB LEFT	8	0	0	0	**8**	**8**
SB THRU	59	0	0	0	**59**	**59**
SB RIGHT	97	0	0	0	**97**	**97**



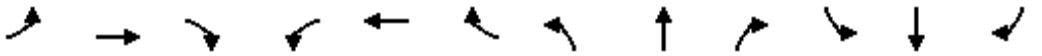
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	171	2	3	1	5	7	2	83	3	8	59	97
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	8.0	8.0	8.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0	8.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	173	3	0	13	0	0	88	0	8	91	65
Lane Utilization Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.92	0.85	0.95	0.99	0.85	0.95	0.95	0.85
Saturated Flow (vph)	0	3042	1360	0	2790	0	0	4541	0	1520	2885	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.3			0.0			0.0			5.7
Adj Reference Time (s)			12.0			0.0			0.0			12.0
Permitted Option												
Adj Saturation A (vph)	0	204		0	317		0	1320		101	1442	
Reference Time A (s)	0.0	101.6		0.0	1.7		0.0	3.6		9.5	3.8	
Adj Saturation B (vph	0	0		0	1390		0	1515		0	2885	
Reference Time B (s)	14.8	14.8		8.1	4.6		8.1	7.7		8.6	3.8	
Reference Time (s)		14.8			1.7			3.6			8.6	
Adj Reference Time (s)		18.8			12.0			12.0			12.6	
Split Option												
Ref Time Combined (s)	0.0	6.8		0.0	0.6		0.0	2.3		0.6	3.8	
Ref Time Seperate (s)	6.8	0.1		0.1	0.2		0.1	3.3		0.6	2.5	
Reference Time (s)	6.8	6.8		0.6	0.6		3.3	3.3		3.8	3.8	
Adj Reference Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	18.8	12.6	
Split Option (s)	24.0	24.0	
Minimum (s)	18.8	12.6	31.5

Right Turns	EBR	SBR
Adj Reference Time (s)	12.0	12.0
Cross Thru Ref Time (s)	12.0	12.0
Oncoming Left Ref Time (s)	12.0	12.0
Combined (s)	36.0	36.0

Intersection Summary			
Intersection Capacity Utilization	30.0%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	184	2	3	1	5	7	2	83	3	8	59	130
Pedestrians												
Ped Button												
Pedestrian Timing (s)												
Free Right			No			No			No			No
Ideal Flow	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Green (s)	8.0	8.0	8.0	8.0	8.0	4.0	8.0	8.0	4.0	8.0	8.0	8.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	0	186	3	0	13	0	0	88	0	8	102	87
Lane Utilization Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Turning Factor (vph)	0.95	0.95	0.85	0.95	0.92	0.85	0.95	0.99	0.85	0.95	0.94	0.85
Saturated Flow (vph)	0	3042	1360	0	2790	0	0	4541	0	1520	2853	1360
Ped Intf Time (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Frequency (%)		0.00			0.00			0.00			0.00	
Protected Option Allowed		No			No			No			No	
Reference Time (s)			0.3			0.0			0.0			7.6
Adj Reference Time (s)			12.0			0.0			0.0			12.0
Permitted Option												
Adj Saturation A (vph)	0	204		0	317		0	1320		101	1426	
Reference Time A (s)	0.0	109.3		0.0	1.7		0.0	3.6		9.5	4.3	
Adj Saturation B (vph	0	0		0	1390		0	1515		0	2853	
Reference Time B (s)	15.3	15.3		8.1	4.6		8.1	7.7		8.6	4.3	
Reference Time (s)		15.3			1.7			3.6			8.6	
Adj Reference Time (s)		19.3			12.0			12.0			12.6	
Split Option												
Ref Time Combined (s)	0.0	7.3		0.0	0.6		0.0	2.3		0.6	4.3	
Ref Time Seperate (s)	7.3	0.1		0.1	0.2		0.1	3.3		0.6	2.5	
Reference Time (s)	7.3	7.3		0.6	0.6		3.3	3.3		4.3	4.3	
Adj Reference Time (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	

Summary	EB WB	NB SB	Combined
Protected Option (s)	NA	NA	
Permitted Option (s)	19.3	12.6	
Split Option (s)	24.0	24.0	
Minimum (s)	19.3	12.6	32.0

Right Turns	EBR	SBR
Adj Reference Time (s)	12.0	12.0
Cross Thru Ref Time (s)	12.0	12.0
Oncoming Left Ref Time (s)	12.0	12.0
Combined (s)	36.0	36.0

Intersection Summary			
Intersection Capacity Utilization	30.0%	ICU Level of Service	A

Reference Times and Phasing Options do not represent an optimized timing plan.

DAVID EVANS
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Appendix C: Queuing Analysis

Intersection: 2: Via Oro Avenue & W. Carson Street

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	TR	R	L	T	T	TR	L	L	T	TR
Maximum Queue (ft)	101	116	123	96	30	82	54	23	37	48	38	41
Average Queue (ft)	42	69	61	53	3	32	13	5	5	11	10	7
95th Queue (ft)	86	104	107	82	18	67	40	20	24	34	28	26
Link Distance (ft)		354	354			117	117	117		1042	1042	1042
Upstream Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)	230			170	190				210			
Storage Blk Time (%)						0						
Queuing Penalty (veh)						0						

Intersection: 2: Via Oro Avenue & W. Carson Street

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (ft)	34	112
Average Queue (ft)	4	40
95th Queue (ft)	21	84
Link Distance (ft)		372
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	170	
Storage Blk Time (%)		0
Queuing Penalty (veh)		0

Intersection: 2: Via Oro Avenue & W. Carson Street

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	TR	R	L	T	T	TR	L	L	T	TR
Maximum Queue (ft)	70	92	105	67	32	77	53	26	78	87	42	42
Average Queue (ft)	21	51	45	34	6	31	14	1	19	33	12	6
95th Queue (ft)	56	86	85	62	24	64	40	11	55	70	32	24
Link Distance (ft)		354	354			117	117	117		1042	1042	1042
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230			170	190				210			
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 2: Via Oro Avenue & W. Carson Street

Movement	SB	SB	SB
Directions Served	L	TR	R
Maximum Queue (ft)	21	161	68
Average Queue (ft)	1	61	3
95th Queue (ft)	10	123	33
Link Distance (ft)		372	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	170		240
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 2: Via Oro Avenue & W. Carson Street

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	TR	R	L	T	T	TR	L	L	T	TR
Maximum Queue (ft)	115	133	141	104	35	88	56	23	41	53	49	57
Average Queue (ft)	54	79	72	55	7	33	13	4	6	13	13	13
95th Queue (ft)	103	119	121	87	27	69	40	18	26	38	36	38
Link Distance (ft)		354	354			117	117	117		1042	1042	1042
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						0						
Storage Bay Dist (ft)	230			170	190				210			
Storage Blk Time (%)			0	0		0						
Queuing Penalty (veh)			0	0		0						

Intersection: 2: Via Oro Avenue & W. Carson Street

Movement	SB	SB	SB
Directions Served	L	TR	R
Maximum Queue (ft)	34	104	5
Average Queue (ft)	4	43	0
95th Queue (ft)	21	86	4
Link Distance (ft)		372	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	170		240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Via Oro Avenue & W. Carson Street

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	TR	R	L	T	T	TR	L	L	T	TR
Maximum Queue (ft)	80	96	107	72	62	89	66	18	75	92	44	43
Average Queue (ft)	27	55	47	35	18	34	16	1	21	36	14	9
95th Queue (ft)	64	89	89	62	50	73	47	8	59	77	34	30
Link Distance (ft)		354	354			117	117	117		1042	1042	1042
Upstream Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)	230			170	190				210			
Storage Blk Time (%)						0						
Queuing Penalty (veh)						0						

Intersection: 2: Via Oro Avenue & W. Carson Street

Movement	SB	SB	SB
Directions Served	L	TR	R
Maximum Queue (ft)	26	198	144
Average Queue (ft)	1	80	11
95th Queue (ft)	11	157	72
Link Distance (ft)		372	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	170		240
Storage Blk Time (%)		1	0
Queuing Penalty (veh)		1	0

DAVID EVANS
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Appendix D: Trip Generation References

DEFINITION OF TERMS

Land Use Categories

Warehousing (ITE code 150)

Warehouses are primarily devoted to the storage of materials; they may also include office and maintenance areas.

Light warehouses are 100,000 square feet G. F. A. or less.

Heavy warehouses are greater than 100,000 square feet G. F. A.

General Light Industrial (ITE code 110)

Light industrial facilities usually employ fewer than 500 persons and have an emphasis on activities other than manufacturing. Nevertheless, the distinction between light industrial and manufacturing (ITE code 140) is sometimes vague. Typical light industrial activities include printing plants, material testing laboratories, assemblers of data processing equipment, and power stations. All of the facilities surveyed are freestanding and devoted to a single use.

General Heavy Industrial (ITE code 120)

Heavy industrial facilities usually have a high number of employees per industrial plant and could also be categorized as manufacturing facilities (ITE code 140). The distinction between heavy industrial and manufacturing is vague. However, heavy industrial uses are limited to the manufacturing of large items.

Industrial Park (ITE code 130)

Industrial parks are areas containing a number of industrial or related facilities. They are characterized by a mix of manufacturing, service, and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Many industrial parks contained highly diversified facilities, some with a large number of small businesses and others with one or two dominant industries.

Truck Sales and Leasing (not an ITE category)

Facilities included in this category are primarily for the sale and leasing of new heavy duty commercial vehicles, 10,000 GVW, or greater. Typically, the facilities are located along major arterials in either commercial or industrial areas. The facilities can also include maintenance services, part sales, and used truck sales.

Used Truck Lots (not an ITE category)

Facilities included in this category are similar to the category, truck sales and leasing, however, they are primarily for the sale of used heavy duty commercial vehicles (10,000 GVW, or greater). Typically, the facilities are located along major arterials in either commercial or industrial areas. The facilities can also include maintenance services, and part sales.

Truck Terminal (ITE code 030)

Truck terminals are facilities where goods are transferred between trucks, or trucks and railroads.

Truck Stops (not an ITE category)

The primary function of a truck stop is to provide fueling for truckers. Ancillary services include maintenance services, restaurants, and the sale of sundries. The general motoring public also extensively uses these facilities.

Vehicle Classifications

Passenger Vehicles (Pass Veh)

Motorcycles, passenger cars, pickups, vans, and other two-axle, four tire vehicles. Included in this

4. HOW TO USE THIS MANUAL

HOW TO USE THIS MANUAL

Information in this report is to be used to compute site trip generation of total vehicles and large trucks for land uses included in the following categories:

- Light Warehousing
- Heavy Warehousing
- General Light Industrial
- General Heavy Industrial
- Industrial Park
- Truck Sales and Leasing
- Used Truck Sales
- Truck Terminals
- Truck Stops

The main body of this report includes Chapters 5, 6, and 7 which contain the results of the trip generation analysis for the land use categories listed above. Chapters 5 and 6 contain summaries of recommended data to be used to calculate total vehicle and large truck trip generation. Chapter 7 contains more detailed information on the analysis of each land use category addressed in this report. In addition, the appendix lists detailed information on each site that has been included in the study.

Using Trip Generation Rates and Equations

For all land use classifications, except truck stops, trip generation rates and equations are reported for three independent variables. These are: number of employees, gross building area, and acres. For truck stops, the only independent variable is number of fueling positions.

Rates and equations for total vehicle trip generation are reported for five time periods:

- a.m. peak hour - street
- p.m. peak hour - street
- a.m. peak hour - site
- p.m. peak hour - site
- Daily

Rates and equations for large truck trip generation are reported for all the same periods, except the daily time period.

Trip generation has been computed by the following methods:

- Weighted average trip rate
- Linear regression equation
- Logarithmic regression equation

Examples of Trip Generation Rates and Equations
Example: 25,000 square feet gross building area,
Used Truck Sales,
a.m. peak hour (street)

	Equation Form	Equation	Result - a.m. peak hour trips
Weighted average trip rate	Number of trips = weighted average trip rate * X	25 * 1.132	28
Linear regression	Number of trips = coefficient * X + y intercept	.932 * 25 + 5.537	29
Logarithmic regression	Number of trips = y intercept * coefficient ^ X	10.979 * 1.027 ^ 25	21

The results of the computations for all land use classifications, vehicle classifications, independent variables, and time periods are reported in Chapter 7.

The recommended trip generation rates and equations are summarized in Chapter 5. In all cases, weighted average trip rates are reported in Chapter 5. Also, linear regression and logarithmic regression equations are reported when a high correlation has been determined to exist between the dependent and independent variable as measured by the r square statistic.

Selection of Appropriate Trip Generation Rate or Equation

Guidance for the selection of an appropriate trip generation rate or equation is found in Chapter 3, "Guidelines for Estimating Trip Generation" of the Trip Generation Handbook, An ITE Recommended Practice, Institute of Transportation Engineers, March 2001.

Users are cautioned to not use regression equations when the independent variable is small and the equation's y intercept is a large positive or negative value. Also, logarithmic equations may not be appropriate when the independent variable is greatly outside the range of the size of the sample set from which the equations are derived.

Using Vehicle Mix and Enter/Exit Splits

Vehicle mix and enter/exit splits by land use classifications are summarized in Chapter 6. These data are also in Chapter 7.

Vehicle mix is expressed as a percentage of each vehicle classification that has been counted. Vehicle mix has been calculated for two conditions, which are as follows:

Condition #1: mix of all large trucks

Example:

	Lge 2 Ax	3 Axle	4 + Axle	Total
%age:	26.3	42.9	30.8	100

Condition # 2: mix of all vehicles

Example:

	Pass Veh	Lge 2 Ax	3 Axle	4 + Axle	Total
%age:	73.7	4.9	12.1	9.2	100

Condition #1 mix is to be applied to computation of large truck trip generation for a.m. and p.m. peak hours. Condition #2 mix is to be applied to computation of the total daily vehicle trip generation.

Using Enter/Exit Splits

Enter/exit splits are expressed as percentages for four time periods, which are the following:

- a.m. peak hour - site
- p.m. peak hour - site
- a.m. peak hour - street
- p.m. peak hour - street

For each period, splits are provided for total vehicles and large trucks. For the daily period, it is assumed that the split between entering and exiting trips is typically a 50/50 split.

Application of Vehicle Mix and Enter/Exit Split Factors
Example: 25,000 square feet gross building area, Used Truck Sales

Calculation of a.m. peak hour (street) total vehicles enter/exit split:

1. Calculate a.m. peak hour (street) total vehicle trip generation:
   Linear regression equation: .932 * 25 + 5.537 = 29 vehicle trips

2. Calculate enter/exit split (street):

	Enter:	Exit:
%age:	68.85	31.15
Vehicle trips:	20	9

Calculation of a.m. peak hour (street) large truck vehicle mix and enter/exit split:

1. Calculate a.m. peak hour (street) large truck trip generation:
   Linear regression: .387 * 25 - 1.172 = 9 large truck trips

2. Calculate vehicle mix (Condition #1 - large truck mix):

	Lge 2 Ax	3 Axle	4 + Axle	Total
%age:	26.3	42.9	30.8	100
Large truck trips:	2	4	3	9

3. Calculate enter/exit split (street):

	Enter:	Exit:
%age:	48.78	51.22
Vehicle trips:	4	5

Calculation of daily total vehicle mix and enter/exit split:

1. Calculate daily total vehicle trip generation:
   Linear regression: 40.401 * 25 + 5.993 = 1016 vehicle trips

2. Calculate vehicle mix (Condition #2 -total vehicle mix):

	Pass Veh	Lge 2 Ax	3 Axle	4 + Axle	Total
%age:	73.7	4.9	12.1	9.2	100
Vehicle trips:	749	50	123	93	1,015

3. Calculate enter/exit split, assume 50/50 split

   a. Total vehicle:

	Enter:	Exit:
%age:	50	50
Vehicle trips:	508	508

   b. Large truck:

	Enter:	Exit:
%age:	50	50
Large truck trips:	133	133

Warehouses are primarily devoted to the storage of materials; they may also include office and maintenance areas. Heavy warehouses are greater than 100,000 square feet G. F. A.

Heavy Warehousing (ITE code 150)

TRIP GENERATION ANALYSIS BY LAND USE CATEGORY (Cont'd)

Classification: Heavy Warehouse

	Recommended Large Truck Mix (%)							
	Lge 2 Ax	3 Axle	4+ Axle	Total				
	16.95	22.71	60.34	100				
	Pass Veh	Lge 2 Ax	3 Axle	4+ Axle	Total			
	79.57	3.46	4.64	12.33	100			
	Site Entering & Exiting							
	a.m.				p.m.			
	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit
Split	85.66	14.34	46.38	53.62	46.01	53.99	56.58	43.42
	Street Entering & Exiting							
	a.m.				p.m.			
	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit	Total Enter	Total Exit	Large Truck Enter	Large Truck Exit
Split	50.94	49.06	45.00	55.00	30.72	69.28	45.76	54.24

Trip Generation Manual

10th Edition • Volume 2: Data
Industrial (Land Uses 100–199)

SEPTEMBER 2017

INSTITUTE OF TRANSPORTATION ENGINEERS

Table of Contents (10th Edition) Volume 2: Data Trip Generation Descriptions and Plots

Industrial (Land Uses 100–199)

Land Use: 150
Warehousing

Description

A warehouse is primarily devoted to the storage of materials, but it may also include office and maintenance areas. High-cube transload and short-term storage warehouse (Land Use 154), high-cube fulfillment center warehouse (Land Use 155), high-cube parcel hub warehouse (Land Use 156), and high-cube cold storage warehouse (Land Use 157) are related uses.

Additional Data

Time-of-day distribution data for this land use are presented in Appendix A. For the 13 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 11:30 a.m. and 12:30 p.m. and 3:00 and 4:00 p.m., respectively.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Connecticut, Minnesota, New Jersey, New York, Ohio, Oregon, Pennsylvania, and Texas.

Source Numbers

184, 331, 406, 411, 443, 579, 583, 596, 598, 611, 619, 642, 752, 869, 875, 876, 914, 940

Warehousing
(150)

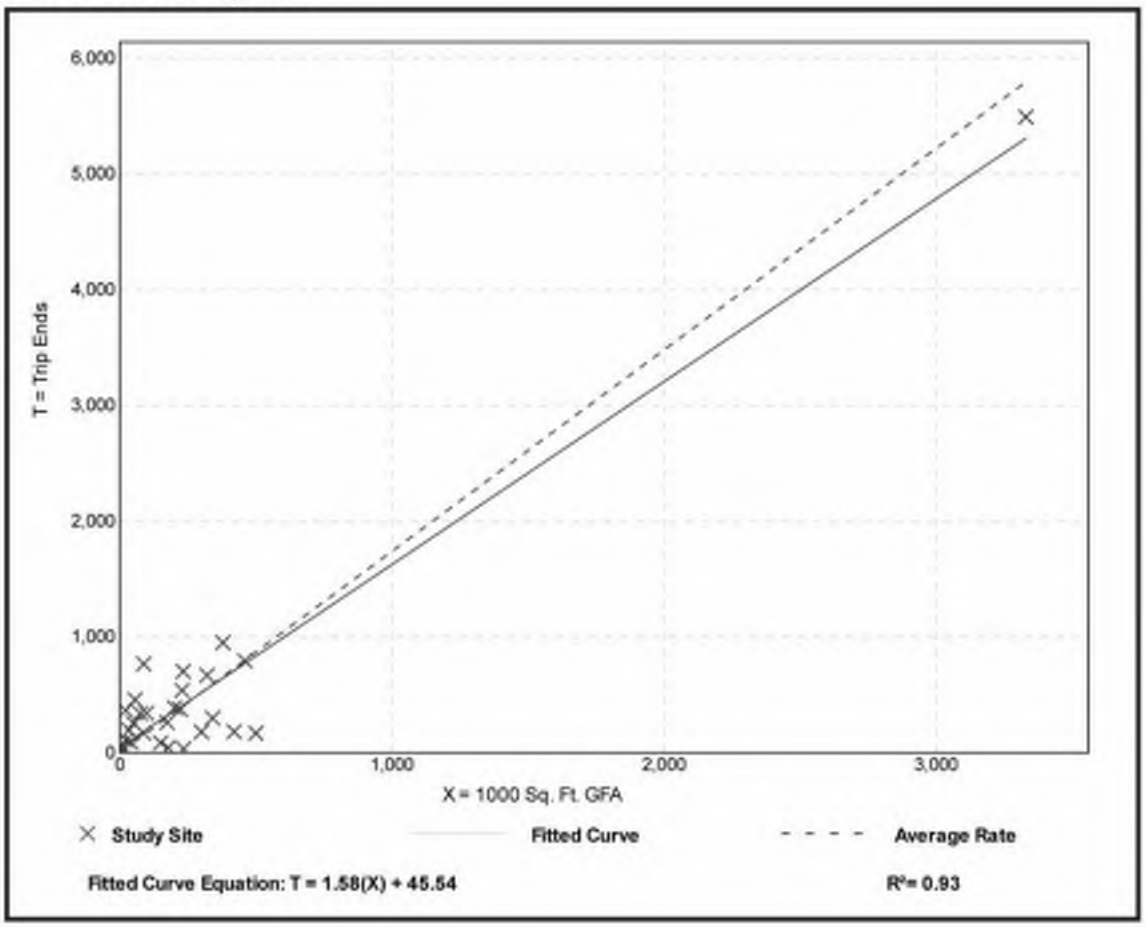
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 29
1000 Sq. Ft. GFA: 285
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.74	0.15 - 16.93	1.55

Data Plot and Equation



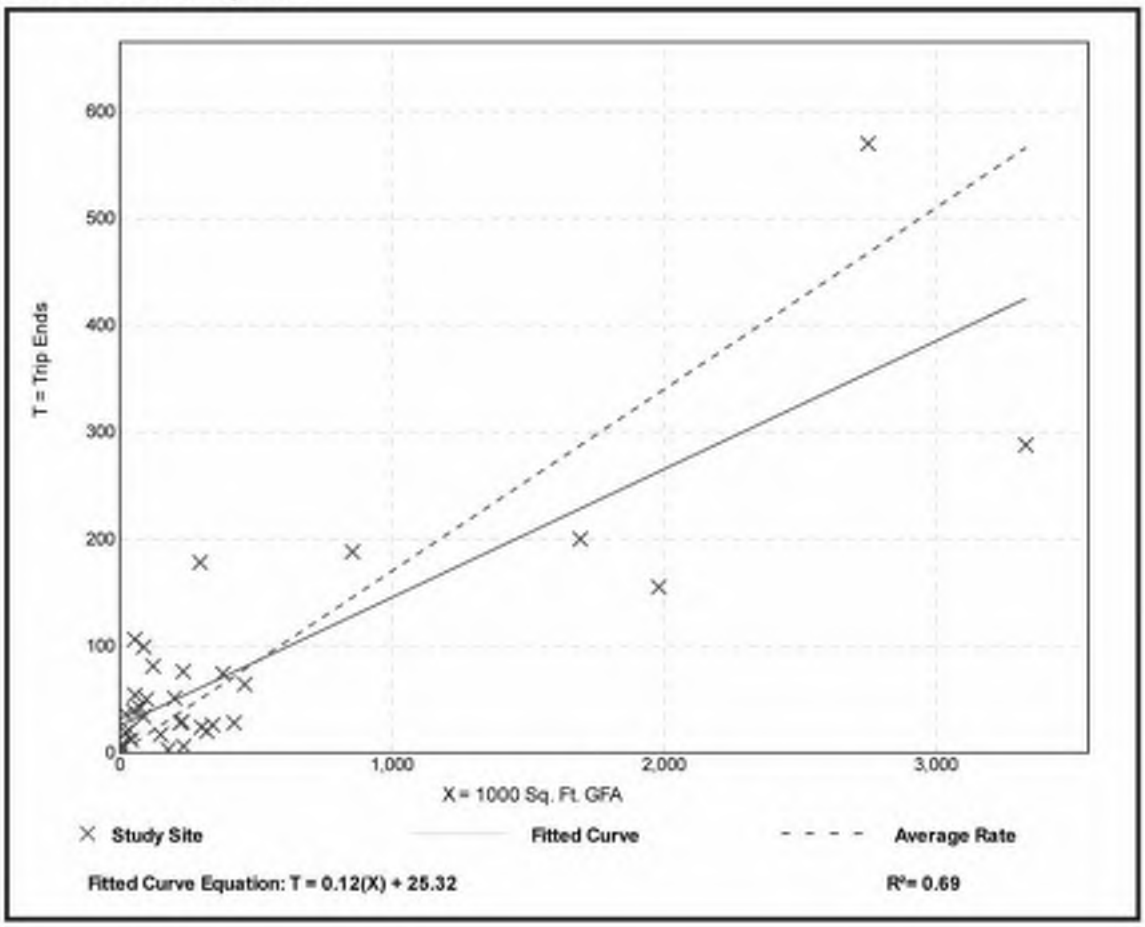
Warehousing
(150)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 34
1000 Sq. Ft. GFA: 451
Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.20

Data Plot and Equation



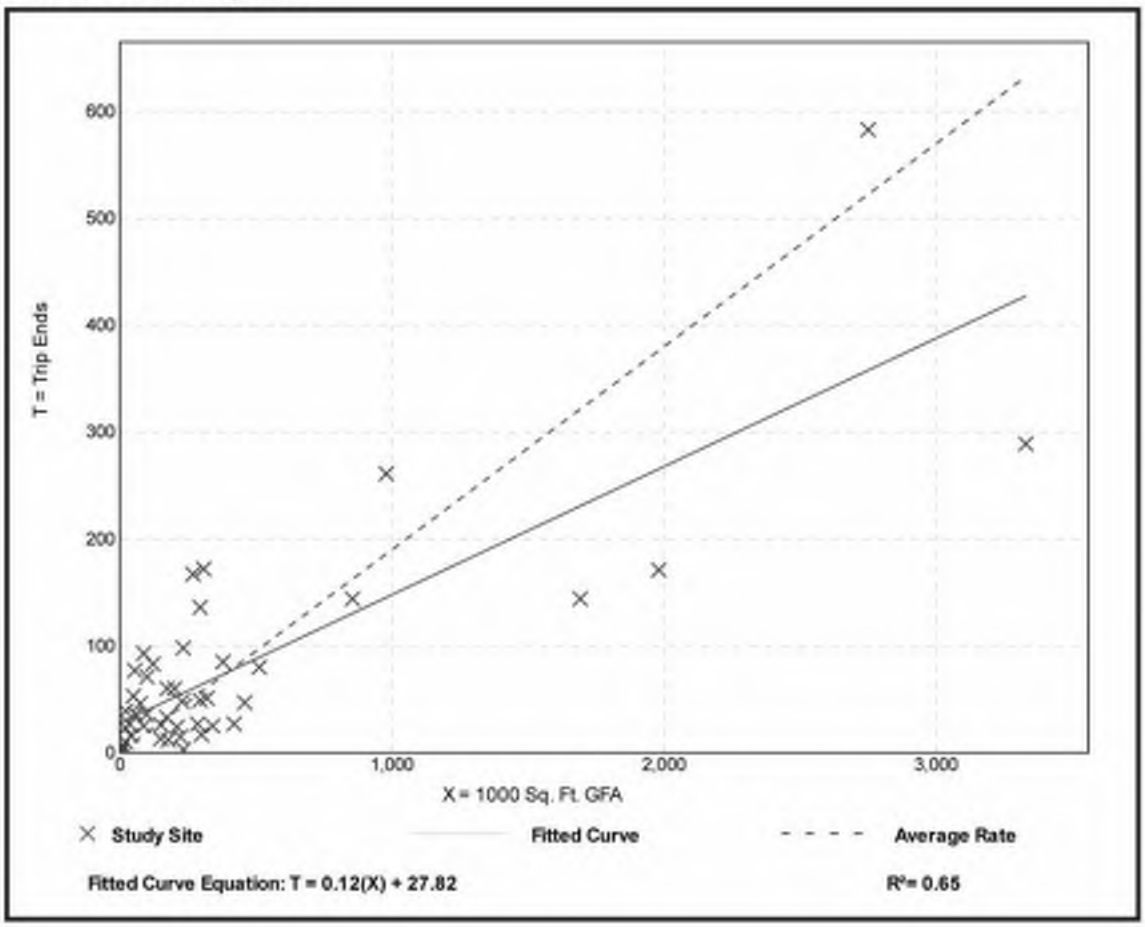
Warehousing
(150)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	47
1000 Sq. Ft. GFA:	400
Directional Distribution:	27% entering, 73% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.19	0.01 - 1.80	0.18

Data Plot and Equation



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