Appendix E

Traffic Impact Analysis

Overland Traffic Consultants, Inc.

TRAFFIC IMPACT STUDY
WHITTIER MAIN OIL FIELD PROJECT
in the City of Whittier
CUP 09-004, DRP 069-015

Prepared by:
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June 2011

TRAFFIC IMPACT ANALYSIS FOR WHITTIER HILLS OIL FIELDS

Located on the north side of Mar Vista Street
West of Colima Road
In the City of Whittier

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EXECUTIVE SUMMARY

This report documents the results of a study the potential traffic impacts created by the Whittier Main Oil Field project. The project will include wells, oil processing, gas plant, oil and gas pipelines and oil truck loading facilities developed in several phases. These phases include Drilling & Testing, Design & Construction and Operations & Maintenance. Each of the phases has been evaluated for potential traffic impacts.

The project located within portions of the 1,290 acre City of Whittier owned Whittier Main Field currently part of the Authority Habitat Preserve. When fully developed, the project will consist of an approximately 7 acre single pad with wells, an oil processing plant, a gas plant, and an oil truck loading facility all on a single site. A crude oil sales pipeline and a natural gas sales pipeline will be installed underneath the existing Preserve roads known as The Loop Road. This line would continue south under Colima Road and La Mirada Boulevard. The single site will be accessed from Catalina Avenue north of Mar Vista Street and from an access road through the landfill property off of Penn Street.

It is estimated that the project would generate an increase of 120 daily vehicle trips with 16 vehicle trips occurring during both the morning and 16 trips during afternoon/evening peak hours, during Phase 1 Drilling and Testing. Phase 2 project, Design and Construction, will create the greatest number of trips with a maximum of 396 daily vehicle trips, 48 during the morning peak hour and 46 trips during the evening peak hours. The completion of the project and continued Operations and Maintenance (Phase 3) will generate a maximum of 68 daily trips with 11 trips during both the morning and evening peak hours.

In order to evaluate the project against existing traffic conditions project traffic was added to existing traffic and compared to determine if there were any significant impacts. These significant impacts were determined based upon criteria established by the City of Whittier and Los Angeles County. Significant impacts were noted during Phase 1 only. These impacts occurred at the intersection of Catalina Avenue (West Leg) and Mar Vista Street during the AM and PM Peak hour. A significant impact also occurred along the street segment of Mar Vista Street west of Colima Road. These impacts can be reduced

to a level of insignificance with the project mitigation as noted below in the project mitigation section.

Using the criteria established by the City of Whittier and Los Angeles County it has been determined that the traffic volume generated by the existing with ambient growth and project compared to the without project conditions will significantly impact one of the 12 study intersections (Catalina Avenue and Mar Vista Street) during phase 1, 2 and 3. The impact at Catalina Avenue and Mar Vista Street can be reduced to a level of insignificance. A second intersection (Hadley Street and Whittier Boulevard) is significantly impacted during Phase 2 only. Street segment analysis indicates one significant impact at Mar Vista Street west of Colima Road during Phase 1 of the project. Temporary mitigation can be implemented to reduce the impact.

Cumulative impact evaluation indicates a significant impact at two intersections during Phase 1, Phase 2 and Phase 3. In addition, one street segment is significantly impacted during Phase 1, 2 only and not during Phase 3.

Project Mitigation proposed is as follows:

Catalina Avenue & Mar Vista Street: Implemented during Phase 1 - Provide striping enhancements for southbound to convert the existing single lanes to a left and right turn lane. Parking will need to be restricted immediately north of the T intersection creating a secondary impact due to loss of approximately two parking spaces.

Hadley Street & Whittier Boulevard: Phase 2 only – Provide a City authorized Traffic Control Officer during the Morning Peak Hour on heavy construction days when trucks will be moving on and off-site.

Segment 9 - Mar Vista Street west of Colima Road: The intersection of Colima Road and Mar Vista Street has adequate eastbound approach with a wider roadway and additional lanes. However, west of Colima Road to Catalina Avenue the roadway features bump outs at some corners and landscaped medians. These measures assist in reducing speed and creating an aesthetically pleasing environment. They also reduce roadway capacity. Temporary removal of these features during Phase 1 & 2 would increase traffic flow. They could then be reinstalled after completion of Phase 2.

Access Improvement: Catalina Avenue - Phase 1 - Provide a wider radius at the northeast corner to improve right turn movements. Temporarily prohibit parking during Phase 1 only along the east side of Catalina Avenue north of Mar Vista Street to provide additional capacity for trucks during Phase 1. This mitigation will create a loss of parking creating a secondary temporary impact.

Construction of Pipeline may impede roadway improvements. The project should file construction plans with the Transportation Section for Traffic Lane Requirements and hours during construction.

Fair Share contribution for the following improvements is proposed to address project contribution to significant cumulative impacts.

Hadley Street & Whittier Boulevard: Phase 2 only - Fair share contribution towards widening and improving the east and north leg of Whittier Boulevard at Hadley Street. Alter the existing striping to provide two southbound left turn lanes and a dedicated westbound right turn lane. These improvements are not likely to be accommodated within the existing right-of-way and additional right-of-way may need to be acquired.

Catalina Avenue & Mar Vista Street: Phase 1, 2, 3 - This is an impact which occurs with the project + ambient. Provide striping enhancements for southbound approach to convert the existing single lane to a left and right lane at west T intersection approach. Parking will need to be restricted immediately north of the intersection creating secondary impact.

Colima Road & Whittier Boulevard: Phase 1, 2, 3 - Fair share contribution towards widening and improving the south leg of the intersection to provide a dual northbound left turn lane. This improvement may not be feasible within the existing right-of-way.

Mar Vista Street west of Colima Road: Phase 1& 2 -The intersection of Colima Road and Mar Vista Street has adequate eastbound approach with a wider roadway and additional lanes. However, west of Colima Road to Catalina Avenue the roadway features bump outs at some corners and landscaped medians. These measures assist in reducing speed and creating an aesthetically pleasing environment. They also reduce roadway capacity. Temporary removal of these features during Phase 1 & 2 would increase traffic flow. They could then be reinstalled after completion of Phase 2.

No Congestion Management Program (CMP) significant impacts occur during the Existing + Ambient + Project condition or Cumulative (Existing + Ambient Growth + Related Projects + Project) analysis.

Parking - No parking impacts are anticipated with the project as code required parking and parking to meet site demand will be provided on site.

PROJECT SETTING

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CHAPTER 1 INTRODUCTION

As part of the project's environmental review, an evaluation of the potential traffic impact of the proposed development on the surrounding area is required. Therefore, the traffic impact analyses in this traffic study has been conducted using the procedures adopted by the City of Whittier Department of Transportation (DOT) to analyze the potential traffic impact of new development projects. The intersections were evaluated using the City of Whittier DOT Intersection Capacity Utilization (ICU) method. The ICU method calculates the operating conditions of each individual study intersection using a ratio of peak hour traffic volume to the intersection's capacity. Any change to the intersection's peak hour operating condition caused by an increase/decrease in traffic volume can be quantified (i.e. traffic impact) using this analysis method. Unsignalized locations are evaluated using the Highway Capacity Manual (HCM) methodology evaluating delay.

Potential traffic impacts caused by a project that exceed limits established by the City of Whittier as specified in Department of Transportations Traffic Impact Study and County of Los Angeles. Any significantly impacted intersections are then evaluated for possible traffic mitigation measures.

Pursuant to the City of Whittier traffic impact guidelines, the following steps have been taken to develop the future traffic volume estimate:

(a) Traffic counts 2010 existing;

(b) Base year 2010 plus ambient growth to 2015, 2020 and 2025 (added additional 1% per year for each of the three scenarios);

(c) Traffic in (b) plus the proposed project Phase 1, Phase 2, Phase 3 traffic (existing + project scenario);

(d) Traffic in (b) plus recommended traffic mitigation, if necessary

(e) Traffic in (c) plus related projects (future "with project Phase 1, Phase 2 and Phase 2" scenario);

(f) Traffic in (e) plus recommended traffic mitigation, if necessary.

An existing + project analysis has also been conducted and is presented in the appendix.

An ICU and HCM analysis of the existing and future traffic conditions analysis has been completed at those locations expected to have the highest potential for significant traffic impacts. Morning and afternoon peak hour conditions have been evaluated at 13 key intersections and 13 street segments reviewed by City of Whittier DOT for review. The intersections most likely to be affected by the development of the project were selected for analysis. The project is in the City of Whittier. Whittier is an area of Los Angeles County surrounded by may other cities including Hacienda Heights, La Habra Heights, La Habra, South Whittier, West Whittier, Pico Rivera, Santa Fe Springs, and City of Industry, . The additional traffic created by this project has the potential to create significant impacts in several jurisdictions. The jurisdiction of the intersection is noted in parenthesis. It should be noted that future cumulative traffic conditions include the potential construction of the development of 27 other land development projects in the general vicinity of the project site.

The intersections analyzed in this study are:

1. 605 Freeway Southbound Off Ramp/Esperana Avenue & Whittier Boulevard (Caltrans, City of Whittier and West Whittier (Los Angeles County));
2. 605 Freeway Northbound Off Ramp & Whittier Boulevard (Caltrans and West Whittier (Los Angeles County));
3. Hadley Street & Whittier Boulevard (City of Whittier);
4. Hadley Street & Painter Avenue (City of Whittier);
5. Painter Avenue & Penn Street (City of Whittier);
6. Catalina Avenue & Mar Vista Street (City of Whittier);
7. Catalina Avenue & Whittier Boulevard (City of Whittier);
8. 60 Freeway Westbound Off Ramp & Hacienda Boulevard (Caltrans and Hacienda Heights);

9. Three Palms Drive & Hacienda Boulevard (Hacienda Heights);
10. Colima Road & Hacienda Boulevard (Hacienda Heights);
11. Colima Road & Mar Vista Street (City of Whittier);
12. Colima Road & Whittier Boulevard (City of Whittier);
13. Mar Vista Street & Whittier Boulevard (City of Whittier)

The access off of Colima Road is evaluated in the Appendix G.

The street segment analyzed is:

1. Hadley Street east of Pickering Avenue (City of Whittier);
2. Painter Avenue north of Penn Street (City of Whittier);
3. Penn Street east of Pickering Avenue (City of Whittier);
4. Penn Street east of Painter Avenue (City of Whittier);
5. California Avenue south of Mar Vista Street (City of Whittier);
6. Ocean View Avenue south of Mar Vista Street (City of Whittier);
7. Catalina Avenue north of Mar Vista Street (City of Whittier);
8. Catalina Avenue south of Mar Vista Street (City of Whittier);
9. Mar Vista Street west of Colima Road (City of Whittier);
10. Colima Road north of Mar Vista Street (City of Whittier);
11. Colima Road south of Mar Vista Street (City of Whittier);
12. Colima Road south of Whittier Boulevard (City of Whittier);
13. La Mirada Boulevard south of Lambert Road (County of Los Angeles)

In addition, the intersections of Catalina Avenue at Mar Vista Street and Catalina Avenue at Whittier Boulevard was evaluated to determine if a traffic signal would be needed to control right-of-way with the addition of project related traffic.

CHAPTER 2 PROJECT DESCRIPTION

The City of Whittier owns approximately 1,290 acres of formal oil fields at the north end of the City. The Whittier Main Field produced oil for more than 100 years with approximately 550 wells until the early 1990s. A majority of the land is set aside as open space and wild life habitat managed by the City of Puente Hills Landfill Native Preservation Authority. The City awarded a lease to Matrix Oil Corporation that could permit resumption of gas extraction to portions of the site. The proposed project would provide for oil and gas production and processing facilities located on a single approximately 7 acre site within the Whittier Main Oil Field. In addition, roads, pipelines, electrical conduit corridors and truck loading facility will be constructed to connect and manage the site operations. Connections to existing pipeline facilities will be established.

The proposed project will be developed in three phases. These include the Phase 1 - Drilling & Testing, Phase 2 - Design & Construction, and Phase 3 - Operations & Maintenance. Phase 1 will include drilling of up to three test wells on the Project site and accessing the quality and quantity of the oil and natural gas produced. All access to the site will be from Catalina Avenue north of Mar Vista during Phase 1. The information obtained from the test wells will assist in determining the economic viability and whether the project should be continued. If viable, Phase 2 will include the Design and Construction of the production and processing facilities, underground well cellars, oil and gas pipelines, the truck loading facility and improved access roads. Phase 2 will generate the greatest number of vehicle trips associated with the project. Once the Design and Construction is complete the project will move the final and ongoing phase of the project, Phase 3 Operation and Maintenance. This will include drilling the remaining wells (up to 60 total including 3 during Phase 1 and 57 during Phase 2), operations and maintenance of the gas and oil facilities and wells, including occasional

well workovers and well re-drilling. The level of vehicle activity on site and to and from the site will be relatively steady throughout the life of the project. Access to the site during Phase 2 and 3 will be from Catalina Avenue and Penn Street through the landfill property and through the Preserve to the Project site (North Access Road). Vehicles with two axles and under three tons would access through Catalina Avenue. Vehicles with more than two axles or over three tons would use the Penn Street access and North Access road.

The project is located north – west of Colima Road and Mar Vista Street at the north end of the City of Whittier. The location of the project site locations is depicted on Figure 1.

Parking for the project will be at the well sites and at the field office site. Sufficient parking will be provided to accommodate the vehicles on site during testing, drilling, construction, operations and maintenance. No parking within the communities surrounding the project site will be required. Figure 2 is an aerial view which illustrates the project site plan area.

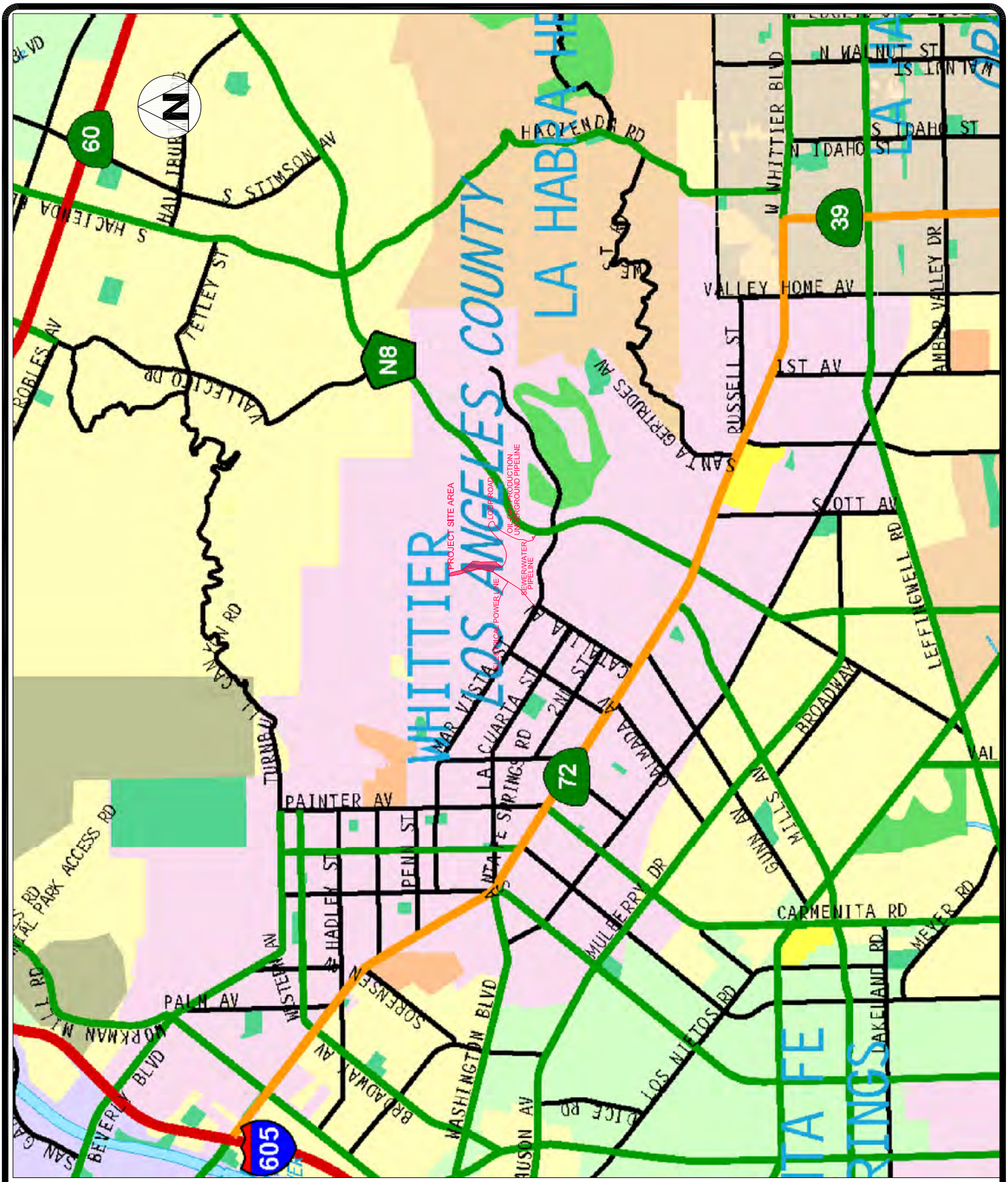

FIGURE 1

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PROJECT LOCATION

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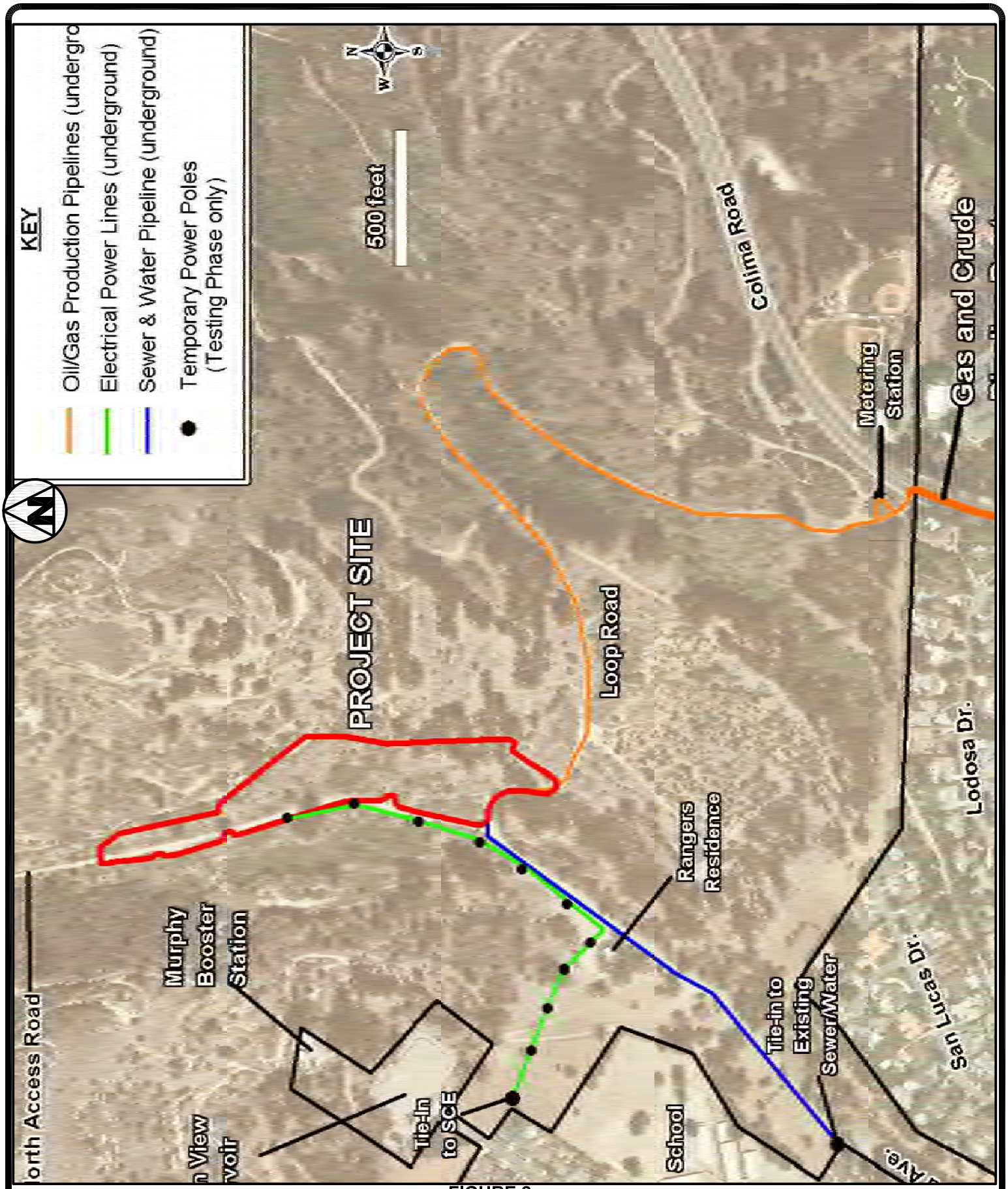

FIGURE 2

5/2011

PROJECT SITE AREA
(from MRS Proj Descr)

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CHAPTER 3 ENVIRONMENTAL SETTING

Land Use

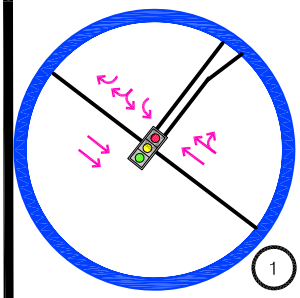
The project is located in the City of Whittier which is within Los Angeles County surrounded by several other jurisdictions. North of Whittier is the City of Industry and Hacienda Heights. To the east is La Habra Heights and La Habra (in Orange County), south of Whittier are South Whittier and Santa Fe Springs. To the west are Los Nietos (West Whittier), Pico Rivera, and City of Industry.

The City of Whittier was incorporated in 1898. The city covers approximately 14.8 square miles with an estimated population of 87,190. According to the city website there are 443 professional services, 539 retail stores, 186 family type restaurants, 46 manufacturing plants, 10 hotel and motels, 8 automobile dealerships and over 276 specialty shops and boutiques. This number of these venues may have changed with time but provides a reference for the city environment. The City of Whittier land use map for the study area is provided in Appendix A.

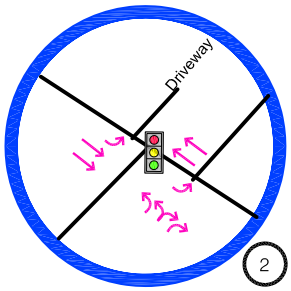
Transportation Facilities

In addition to collecting traffic volume data, field surveys were conducted to determine the roadway and intersection geometry and traffic signal operations. The nearest regional facilities serving the site are the State Route 60 Freeway and Interstate 605 Freeway. Figure 3 illustrates the study locations, type of intersection traffic control and lane configurations. A brief description of the nearby freeways and adjacent roadways is provided below. The community plan street designations and street aerial plans are contained in Appendix B.

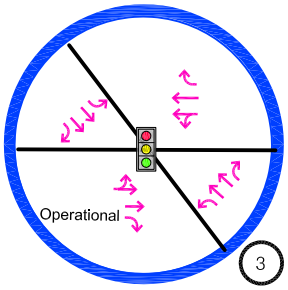
The San Gabriel River Freeway (I-605) is located approximately 4.5 miles west of the project site. This north - south freeway provides five lanes in each direction with accessory lanes for the ramps in the vicinity of Whittier Boulevard. The nearest access



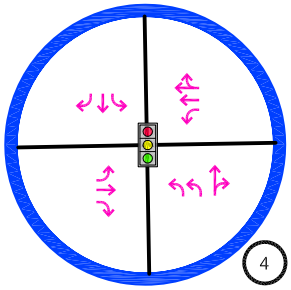
605 Fwy SB Off Ramp/Esperano & Whittier Boulevard



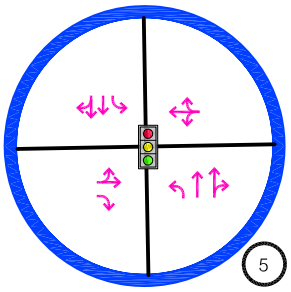
605 Fwy NB Off Ramp & Whittier Boulevard



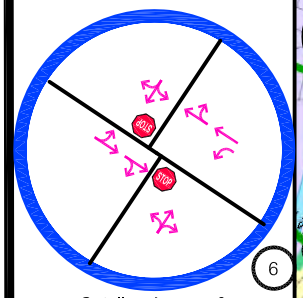
Hadley Street & Whittier Boulevard



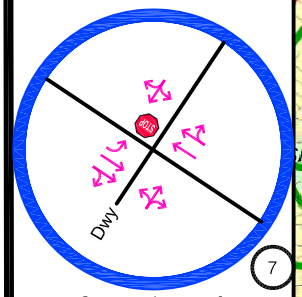
Hadley Street & Painter Avenue



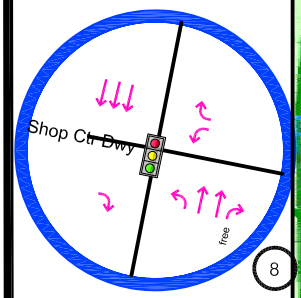
Painter Avenue & Penn Street



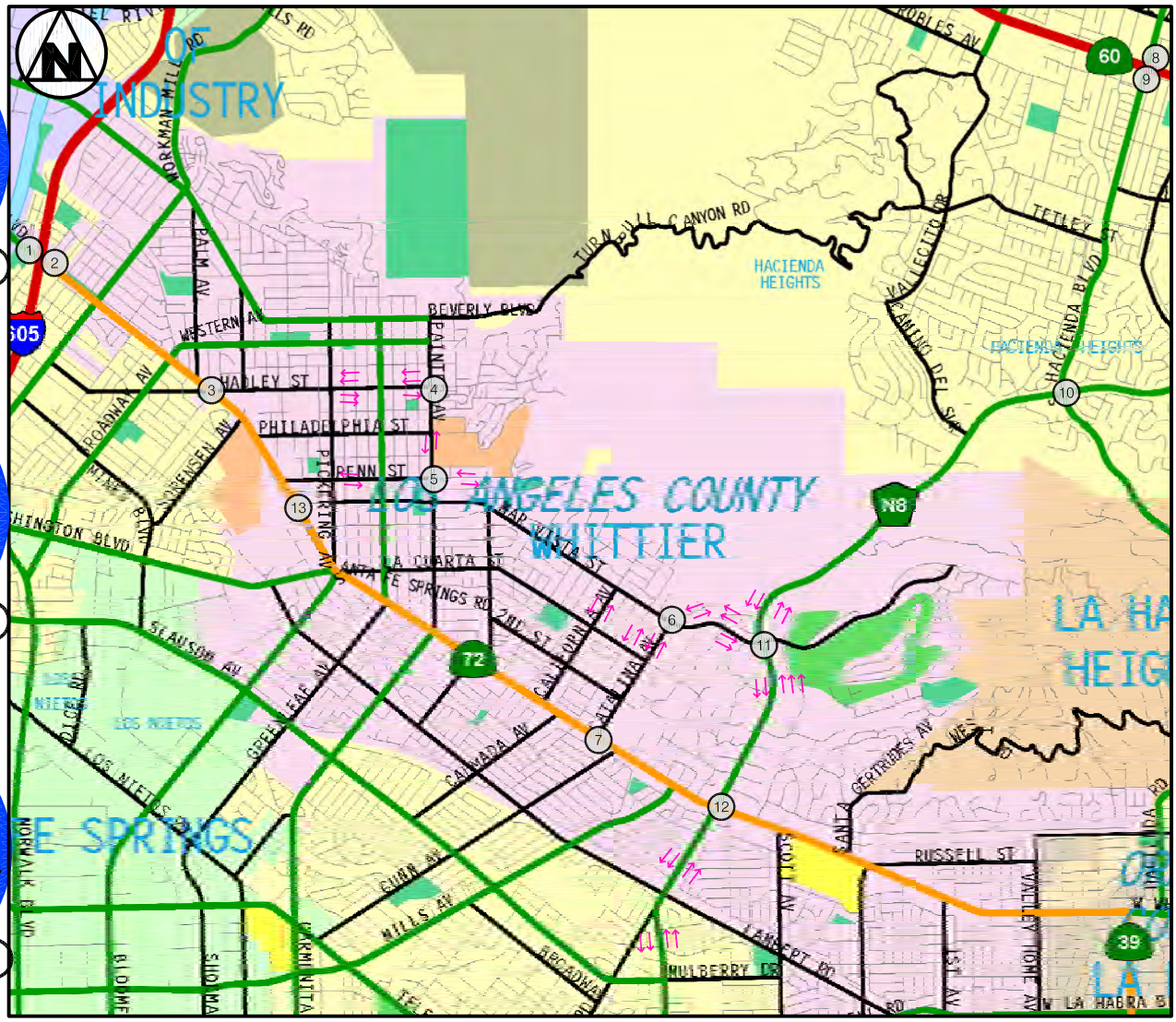
Catalina Avenue & Mar Vista Street

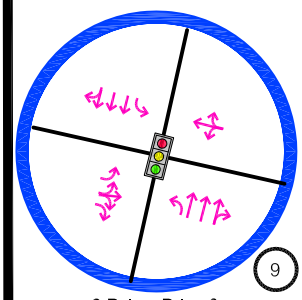


Catalina Avenue & Whittier Boulevard

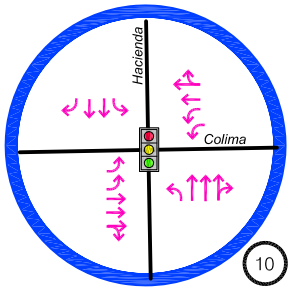


60 Fwy WB Off Ramp & Hacienda Boulevard

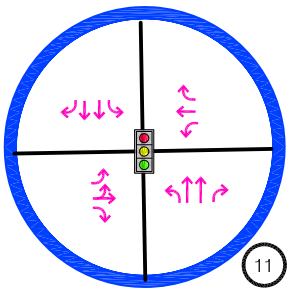




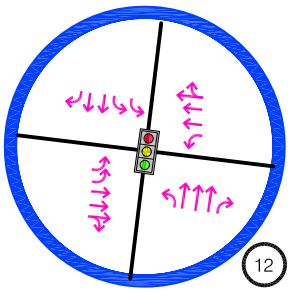
3 Palms Drive & Hacienda Boulevard



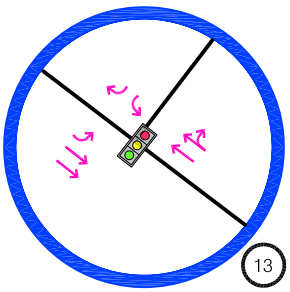
Colima Road & Hacienda Boulevard



Colima Road & Mar Vista Street



Colima Road & Whittier Boulevard



Mar Vista Street & Whittier Boulevard

2/2011

INTERSECTION & ROADWAY CHARACTERISTICS

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WHITTIER HILLS OIL FIELDS

FIGURE 3

ramps to the freeway are at Whittier Boulevard and at Beverly Boulevard. Average Daily Traffic Freeway volumes in this area of the San Gabriel River Freeway are approximately 17,200 vehicles per hour (VPH) during the peak hours and 252,000 vehicles per day (VPD).

The Pomona Freeway (SR-60) is located approximately 4 miles north of the project site. This east - west freeway provides three lanes in each direction with accessory lanes for the ramps in the project vicinity. Freeway access in the vicinity of the project site is provided from Hacienda Boulevard and Three Palms Drive. Freeway volumes in the project vicinity of the Pomona Freeway are approximately 14,000 VPH during the peak hours and 228,000 VPD.

Three Palms Drive spans from west of Hacienda Boulevard to east of Hacienda Boulevard in the project vicinity. This short stretch of roadway provides for Pomona Freeway ramp access to Hacienda Boulevard. The road is within the Hacienda Heights portion of unincorporated Los Angeles County north of the project site. The roadway is designated as a major roadway and provides three lanes of travel in the project vicinity.

Catalina Avenue is a local roadway providing one lane of travel each in the north - south direction. Catalina Avenue currently and in the future will provide access to and from the project site location. This roadway spans from north of Mar Vista Street to Whittier Boulevard.

Colima Road is a north - south roadway which turns east - west along the Pomona Freeway spanning from Diamond Bar, where it changes name to Golden Springs Drive, to Leffingwell Road south of the project area. This roadway is designated as a Minor Arterial by the City of Whittier with two in each direction in the project vicinity. The City of Whittier defines a Minor Arterial as a roadway with four lanes. This roadway complies with the standard in the project vicinity.

Esperana is a short segment roadway from Whittier Boulevard to north of Whittier Boulevard. The roadway provides local access immediate west of the San Gabriel River Freeway connecting to the southbound off ramp at Whittier Boulevard.

Hacienda Boulevard operates essentially north -south from West Covina, where the roadway changes name to Glendora Avenue, to Whittier Boulevard. The more direct route from the project site area is from Colima Road to Hacienda Boulevard to the Pomona Freeway. Hacienda Boulevard is a major roadway with two to three lanes in each direction in the project vicinity.

Hadley Street operates east-west from east of Painter Avenue. The City of Whittier has designated Hadley Street as a Minor Arterial and one to two lanes in each direction are provided. Bike lanes are provided in both directions in the vicinity of Painter Avenue.

La Cuarta is an approximately 2 mile roadway which initiates east of Washington Boulevard at Whittier Boulevard to east of Catalina Avenue. La Curata runs essentially east - west as a local street allowing parking with one lane in each direction. La Cuarta is designated as a Collector roadway by the City of Whittier.

La Mirada Boulevard is an essentially north-south roadway which begins as a roadway name change from Colima Road at Lambert Road. La Mirada is within the Los Angeles County region of South Whittier. La Mirada Boulevard is designated as a Major Arterial and provides two to three lanes in each direction. A Major Arterial is defined as a roadway with six lanes.

Mar Vista Street is an east-west roadway designated as a secondary road between Whittier Boulevard and Painter Avenue and as a Collector from Painter Avenue easterly to the City limit. This roadway provides east-west access from Pickering Avenue to Aurora Crest. In the project vicinity, one to two lanes in each direction are provided. Mar Vista Street intersects with both Colima Road and Whittier Boulevard.

Ocean View Drive is a Local north-south roadway which spans from Mar Vista Street to south of Whittier Boulevard. The street provides one lane in each direction with parking on both sides of the street.

Painter Avenue is a north-south roadway designated as a Minor Arterial. Currently one lane in each direction is provided. Painter Avenue spans from Beverly Boulevard to Whittier Boulevard where it changes name to Carmenita Avenue.

Penn Street is an east-west Collector street which provides one lane in each direction. The roadway spans from east of Painter Avenue to Whittier Boulevard.

Pickering Avenue is a north-south street designated as an Augmented Secondary Street by the Cit of Whittier. One lane in each direction is provided. Pickering Avenue spans from Beverly Boulevard to south of Los Nietos Road where it changes name to Bloomfield.

Santa Fe Springs Road is an essentially north - south secondary highway operating from Whittier Boulevard/Washington Boulevard in Whittier to Telegraph Road in Santa Fe Springs where it changes name to Bloomfield Avenue. Two lanes in each direction are provided in the project vicinity. Santa Fe Springs Road is designated as a Minor Arterial by the City of Whittier.

Washington Boulevard is an east-west Minor Arterial in the City of Whittier. The roadway provides access from the pacific coastline through multiple communities including Venice, Culver City, Los Angeles from east of Culver City to south of downtown Los Angeles to Vernon to the City of Whittier where it terminates at Whittier Boulevard. Two lanes in each direction are provided in the project vicinity.

Whittier Boulevard is an essentially east-west Major Arterial roadway providing two lanes in each direction. The roadway spans from Puente Street in Brea through La Habra, Whittier, Pico Rivera, Montebello, East Los Angeles, Boyle Heights and downtown Los Angeles where it changes name to 6th Street on the west side of the Los Angeles River.

Transit Information

Public transportation in the study area is provided by the Metropolitan Transportation Authority (Metro), Norwalk Transit (N) and Montebello Transit (M). Workers for the Oil Field project during construction and operations can make use of the transit services. Metro Green Line operates to a station in Norwalk. Metro Line 270 operates between Norwalk and Monrovia via Workman Mill Road & Peck Avenue with wait times of approximately one half hour during peaks which expand to an hour during off peaks. Metro 270 operates along Painter Avenue between Penn Street and Hadley Street in the project vicinity. Metro Line 577X provides services between Long Beach and El Monte and operates along the 605 Freeway in the project vicinity. This bus stops at the Metro Green Line station in Norwalk on the south side of Imperial Highway at Civic Center Drive. Norwalk Transit services provide route N3 and N8 along Greenleaf Avenue and route N7 along Hadley Street in the project vicinity. Montebello Transit provides route M10 along Whittier Boulevard, Painter Avenue and Philadelphia Street in the project vicinity. M50 operates along Pickering Avenue, Washington Boulevard and Hadley Street in the project vicinity. Transit maps are illustrated in Appendix C.

CHAPTER 4 PROJECT TRAFFIC CHARACTERISTICS

Project Traffic Generation

Traffic-generating characteristics of many land uses have been surveyed by the Institute of Transportation Engineers (ITE). The results of the traffic generation studies have been published in a handbook titled Trip Generation, 8th Edition. This publication of traffic generation data has become the industry standard for estimating traffic generation for different land uses. However, the land use of this project is unique and in nature and not previously evaluated for this publication. Therefore, operation specifics during Drilling and Testing – Phase 1, Design and Construction – Phase 2 and Operations and Maintenance – Phase 3 have been developed to determine potential trip generation. Each phase has been evaluated to determine both vehicle and truck trips to and from the site during a 24 hour daily period, and the peak hours of the roadway network of 7 to 9 AM and 4 to 6 PM.

Due to the additional space and time for turning movements and start up that trucks take, all truck trips were doubled to simulate this extra space/time. This is referred to the Passenger Car Equivalent (PCE). According to the Highway Capacity Manual 2000, Chapter 21 which addresses Multilane Highways Table 21-8 a PCE of 1.5 would be appropriate for level terrain, 2.5 for rolling terrain and 4.5 for mountainous terrain. Level terrain is a combination of horizontal and vertical alignments that allow trucks to operate essentially the same as a passenger vehicle. Rolling terrain is a combination of horizontal and vertical alignments which require heavy vehicles to reduce their speeds substantially below passenger vehicles. Mountainous terrain creates heavy vehicles to operate at crawl speeds for significant distances at frequent intervals. The project area is a mix of level and rolling terrain on the roadways leading to and from the project site. The trucks noted for use of for the project range from as small as pick up trucks to multi-axle trucks needing varying maneuvering space and time. In order to provide a conservative assumption and not create a more cumbersome process, an average of 2 PCE ((1.5PCE+2.5PCE)/2) was used for all trucks with the exception of potential personnel personal vehicles.

Vehicle work trips were based upon maximum personnel needs during the time periods for each phase for conservative estimates on potential traffic impacts. In addition, no reductions were incorporated for potential ridesharing and transit usage.

Project trip generation rates for each of the phases are provided Table 1.

Table 1
Project Traffic Generation Rates – Phase 1, 2 & 3

Item	Daily Trips	AM Peak Hour			PM Peak Hour		
	Total	Total	In	Out	Total	In	Out
Phase 1							
Workers	2(# of Vehicles)	20% of Daily	95%	5%	20% of Daily	50%	50%
Trucks							
Pad Clearing/Utlilities	2(# of Vehicles)x2PCE*	10% of Daily	50%	50%	10% of Daily	50%	50%
Drilling/Testing	2(# of Vehicles)x2PCE*	10% of Daily	80%	20%	10% of Daily	20%	80%
Phase 2							
Workers	2(# of Vehicles)	20% of Daily	95%	5%	20% of Daily	50%	50%
Trucks	2(# of Vehicles)x2PCE*	10% of Daily	50%	50%	10% of Daily	50%	50%
Phase 3							
Workers							
Day Shift	2(# of Vehicles)	20% of Daily	95%	5%	20% of Daily	5%	95%
Night Shift	2(# of Vehicles)	20% of Daily	5%	95%	20% of Daily	50%	50%
Trucks	2(# of Vehicles)x2PCE*	10% of Daily	5%	95%	10% of Daily	95%	5%

* PCE = Passenger Car Equivalent - Each truck counted as two due to size and movement

Table 2a, 2b, and 2c provides an estimate of the project traffic for each of the project phases. It is estimated that the project will generate a maximum of 120 daily trips with 16 trips during the morning peak hour and 16 trips during the afternoon/evening peak hour during the Drilling and Testing Phase 1. It is estimated that the project will generate a maximum of 396 daily trips with 48 trips during the morning peak hour and 46 trips during the afternoon/evening peak hour during the Design and Construction Phase 2. The peak for the personnel demand and peak for the truck demand did not coincide. In order to determine the worst case analysis these two separate peaks were combined for a worst case analysis for each of the access locations. It is estimated that the project will generate

68 daily trips with 11 trips during the morning peak hour and 11 trips during the afternoon/evening peak hour during the Operations and Maintenance continuing Phase 3.

Table 2a

Estimated Project Traffic Generation – Phase 1

Item	Units	Peak Daily		AM Peak Hour			PM Peak Hour		
		Vehicles	Daily Trips	Total	In	Out	Total	In	Out
Phase 1 - Drilling & Testing									
Pad Clearing & Testing									
Peak Personnel	workers/weekday	15	30	6	6	0	6	3	3
Peak Trucks	trucks/day	8	32	3	2	1	3	2	1
Total		23	62	9	8	1	9	5	4
Drilling									
Peak Drilling Personnel	workers/weekday	20	40	8	8	0	8	4	4
Peak Trucks	trucks/day	20	80	8	6	2	8	2	6
Total		40	120	16	14	2	16	6	10
Testing									
Peak Testing Personnel	workers/weekday	5	10	2	2	0	2	1	1
Peak Trucks	trucks/day	7	28	3	2	1	3	1	2
Total		12	38	5	4	1	5	2	3
Maximum Phase 1 Trips		**40**	**120**	**16**	**14**	**2**	**16**	**6**	**10**

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Table 2b
Estimated Project Traffic Generation – Phase 2

Item	Units	#	Peak Daily Vehicles	Peak Daily Daily Trips	AM Peak Hour Total	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out
A. Phase 2 - Construction										
North Access Road										
Peak Personnel	workers/weekday	10	10	20	4	4	0	4	2	2
Peak Trucks	trucks/day	20	20	80	8	4	4	8	4	4
Total		30	30	100	12	8	4	12	6	6
Grading excluding Soil Export										
Peak Personnel	workers/weekday	5	5	10	2	2	0	2	1	1
Peak Trucks	trucks/day	1	1	4	0	0	0	0	0	0
Total		6	6	14	2	2	0	2	1	1
Grading Soil Export Only										
Peak Personnel	workers/weekday	0	0	0	0	0	0	0	0	0
Peak Trucks	trucks/day	78	78	312	32	16	16	30	15	15
Total		78	78	312	32	16	16	30	15	15
Facility Construction										
Peak Personnel	workers/weekday	40	40	80	16	15	1	16	8	8
Peak Trucks	trucks/day	29	29	116	12	6	6	12	6	6
Total		69	69	196	28	21	7	28	14	14
Off-Site Pipeline Construction										
Peak Personnel	workers/weekday	15	15	30	6	6	0	6	3	3
Peak Trucks	trucks/day	13	13	52	6	3	3	6	3	3
Total		28	28	82	12	9	3	12	6	6
Max Total Phase 2 Construction Trips			**119**	**396**	**48**	**31**	**17**	**46**	**23**	**23**
Max Employee Trips to site at one time*			**40**	**80**	**16**	**15**	**1**	**16**	**8**	**8**
Max Truck Trips to site at one time*			**79**	**316**	**32**	**16**	**16**	**30**	**15**	**15**

Notes

* Max employee trips occur at a different time than the max truck trips - combined for worst case analysis at access locations
Items which run concurrently are N Access Road Constr & Onsite Pipeline & Utilities Constr, Gas & Crude Pipeline Constr (1 month),
North Access Road Construction, Site Grading, Onsite Pipeline & Utilities Construction, Gas & Crude Pipeline Construction (2 months)
Site Grading, Onsite Pipeline & Utilities Construction, Gas & Crude Pipeline Construction (1 month)
Onsite Pipeline & Utilities Construction, Gas & Crude Pipeline Construction(2 months)
Crude & Gas Pipeline Construction & Site Construction (3 months)
Facility Construction is the longest duration - 2 years
Grading will create the > # of truck trips but Facility constr will create the > number of employees w/ longer duration

Table 2c
Estimated Project Traffic Generation – Phase 3

Item	Units	Peak Daily		AM Peak Hour			PM Peak Hour		
		Vehicles	Daily Trips	Total	In	Out	Total	In	Out
Phase 3 - Production									
Workers									
Operations (day shift)	workers/weekday	20	40	8	8	0	8	0	8
Operations (night shift)	workers/weekday	2	4	1	0	1	1	1	0
Total		22	44	9	8	1	9	1	8
Truck Trips									
Peak Truck Trips	trucks/day	6	24	2	0	2	2	2	0
Total Phase 3 Trips		**28**	**68**	**11**	**8**	**3**	**11**	**3**	**8**

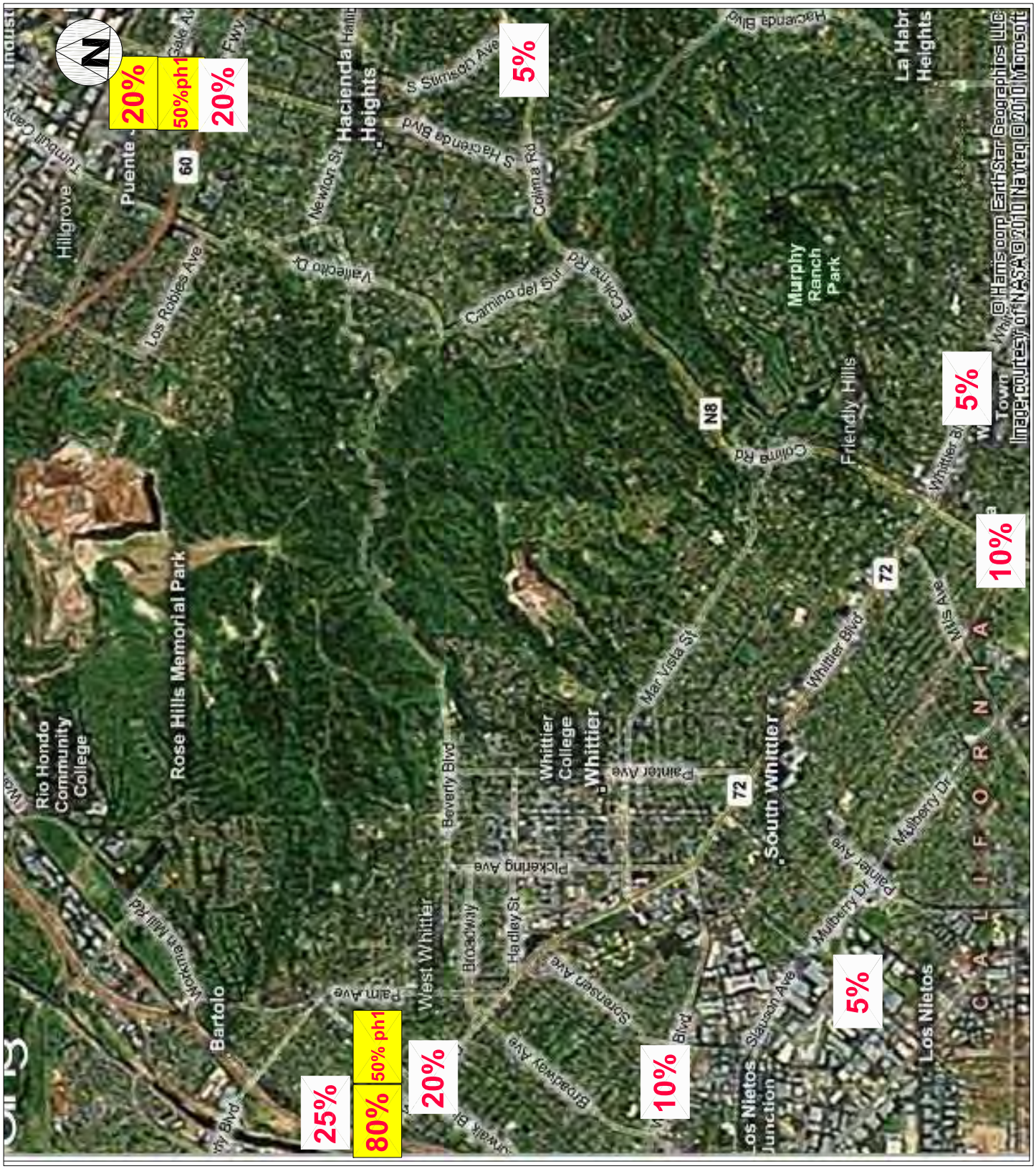
Notes
They may be rare circumstances when the pipleline is shut down and crude oil would need to be transported by truck totalir
69 trucks per day at full production capacity.

An Alternative to the project is valuated in Appendix H.

Trip Distribution and Assignment of Project Traffic

A primary factor affecting trip direction is the spatial distribution of residences for employees and destination points for the trucks which would generate project trip origins and destinations. The estimated project directional trip distribution is also based on the study area roadway network, likely truck routes, traffic flow patterns in and out of this area of the City of Whittier and County of Los Angeles, Los Angeles County Congestion Management Program references and consistency with previously approved traffic studies for this area. The access locations for the trucks will change between Phase 1 and Phase 2. Employees and trucks will be utilizing Catalina Avenue north of Mar Vista Street for the first phase of the project. Phase 2 and 3 will separate the access points such that employees will use the Catalina Avenue access and trucks will use the Penn Street access.

Figure 4 illustrates the estimated area wide project traffic distribution percentages for the workers and trucks respectively. Figure 5a, 5b, and 5c shows the estimated project traffic percentages detailed at each of the selected study intersections. Figure 5a displays the employee trip percentages. Figure 5b displays truck distribution percentages for Phase 1 and Figure 5c displays truck distribution percentages for Phase 2 and 3. Using the combined traffic assignment at each intersection and the estimated peak hour traffic volume as provided in the Table 2, peak hour traffic volumes at each study location have been calculated and are shown in Figure 6a for the AM Peak Hour all phases and 6b for the PM peak Hour all phases. This estimated assignment of the project traffic flow provides the information necessary to analyze the potential traffic impacts generated by the project at the study intersections.



x% Trucks

x% Employees

FIGURE 4

5/2011

OVERALL PROJECT TRIP DISTRIBUTION PERCENTAGES

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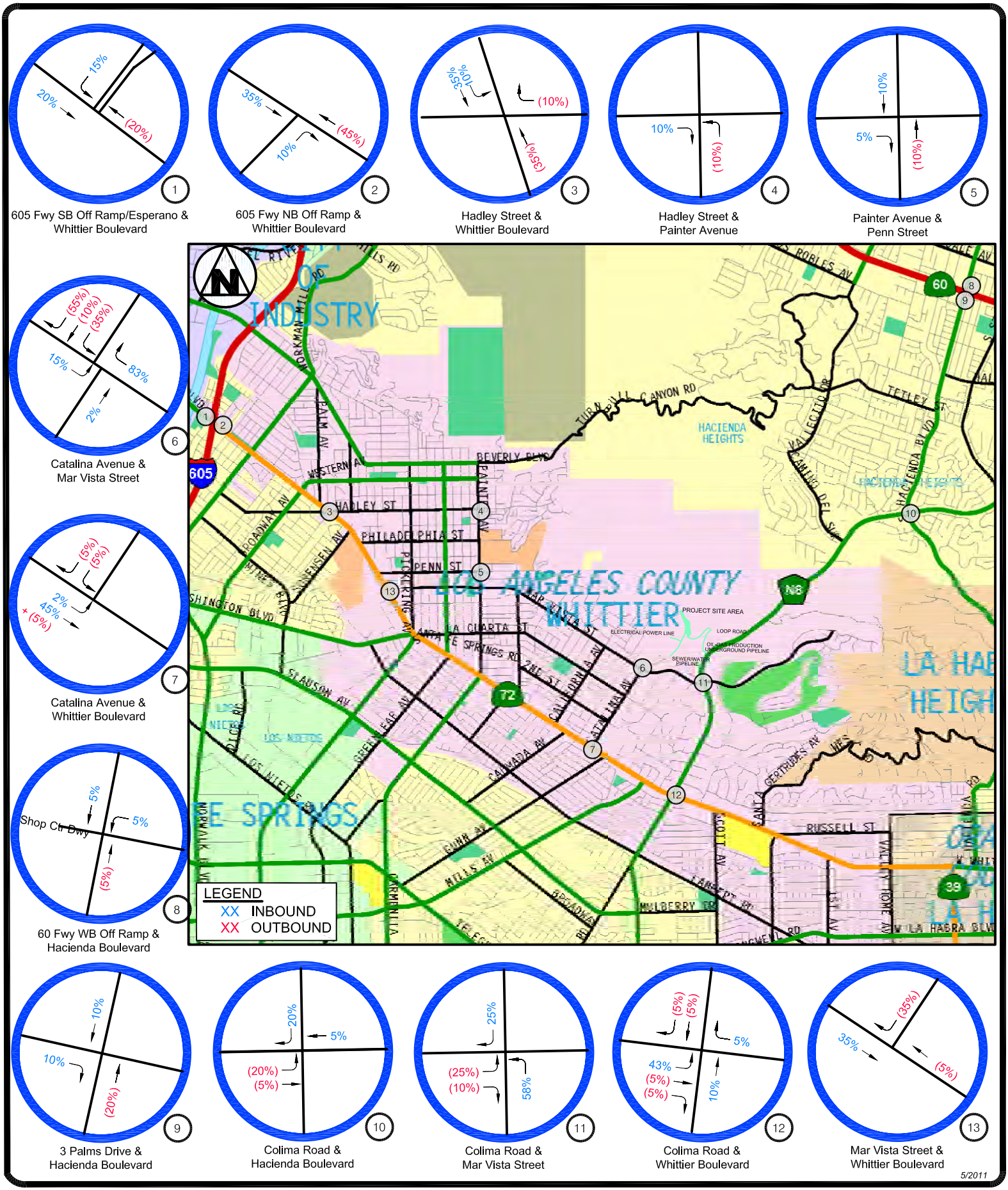
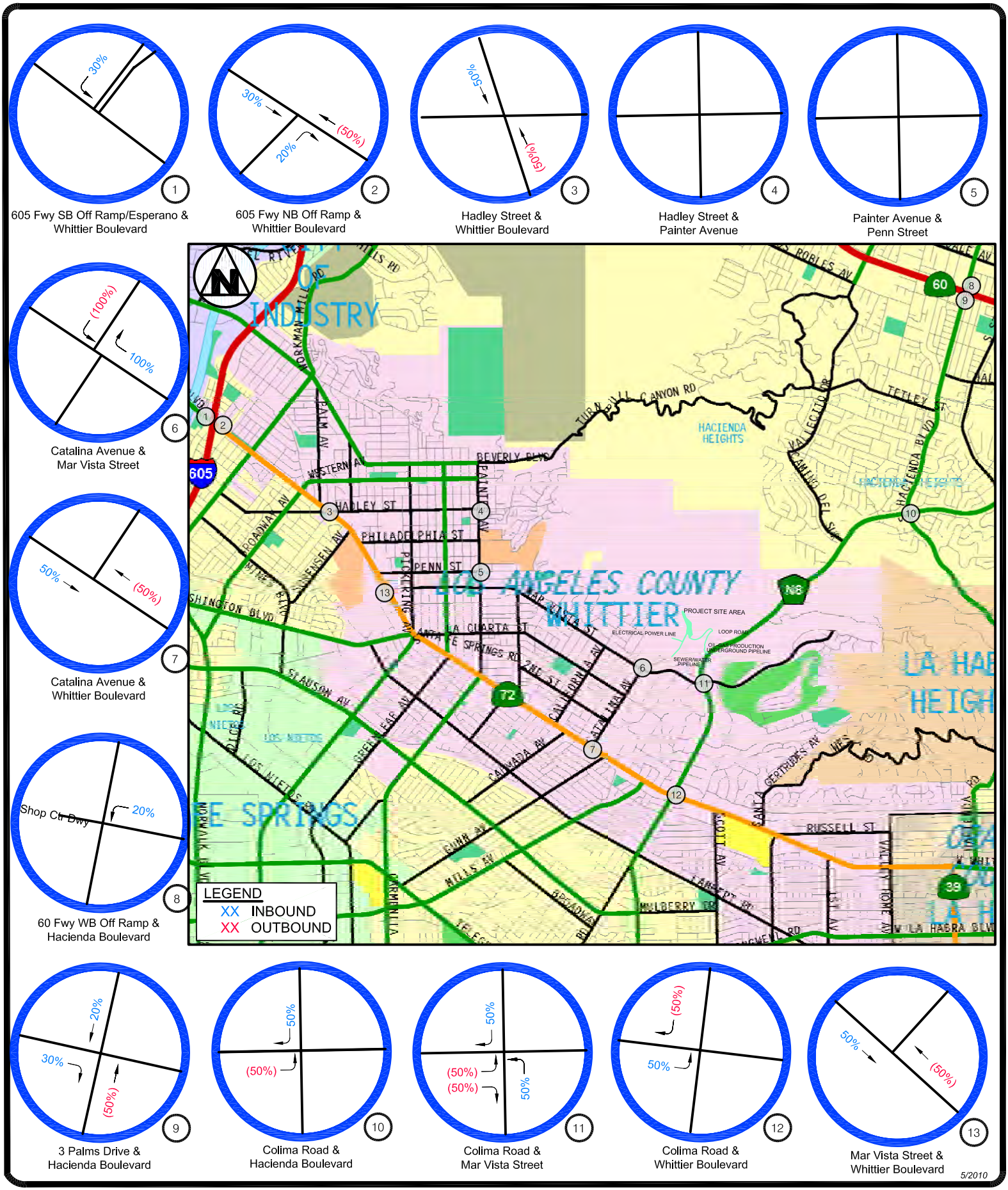
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com



PROJECT TRAFFIC DISTRIBUTION PERCENTAGES
EMPLOYEES PHASE 1, 2 & 3
INBOUND/(OUTBOUND)

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

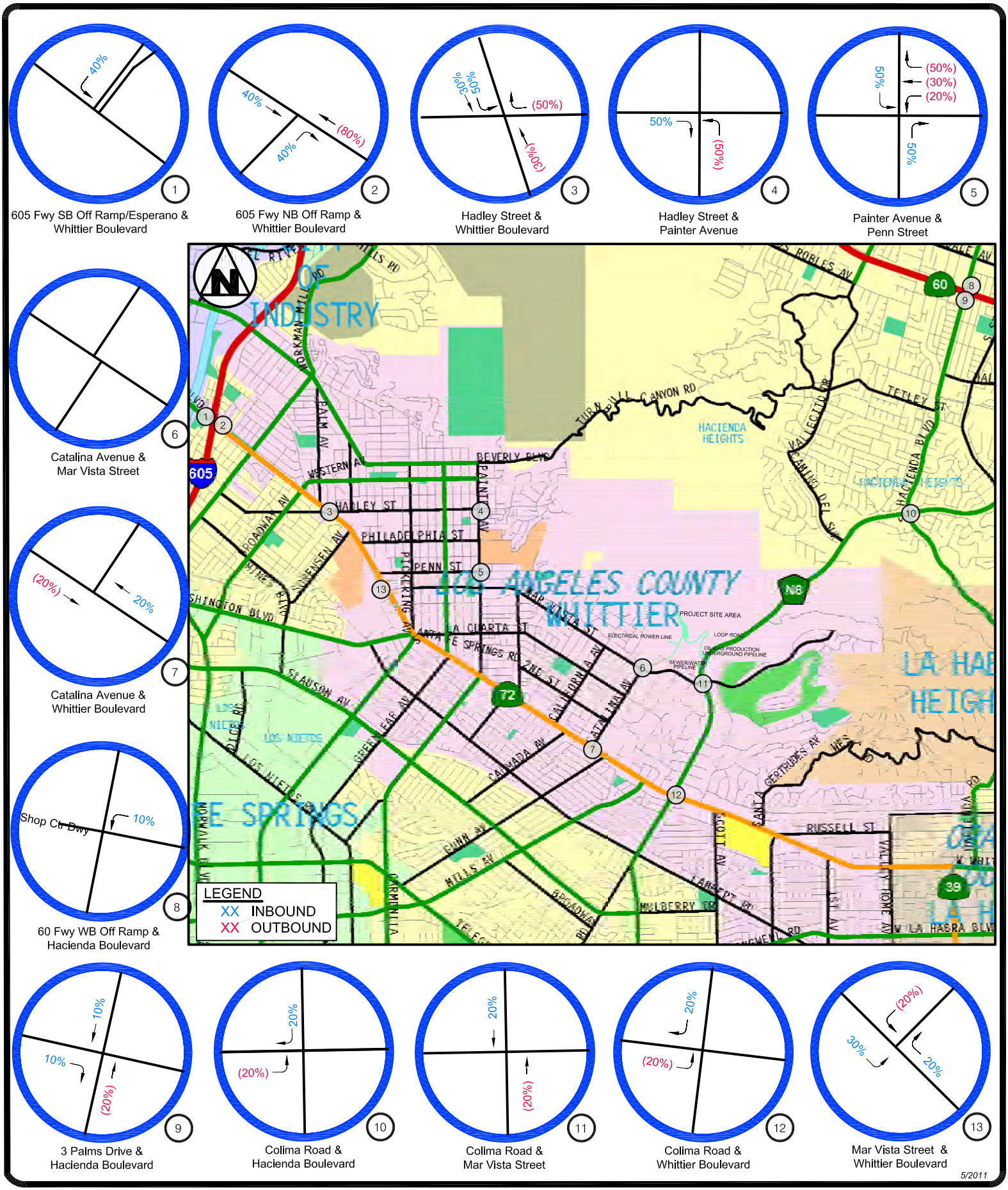
FIGURE 5a



PROJECT TRAFFIC DISTRIBUTION PERCENTAGES
TRUCKS PHASE 1
INBOUND/(OUTBOUND)

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

FIGURE 5b



PROJECT TRAFFIC DISTRIBUTION PERCENTAGES
TRUCKS PHASE 2 & 3
INBOUND/(OUTBOUND)

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
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FIGURE 5c

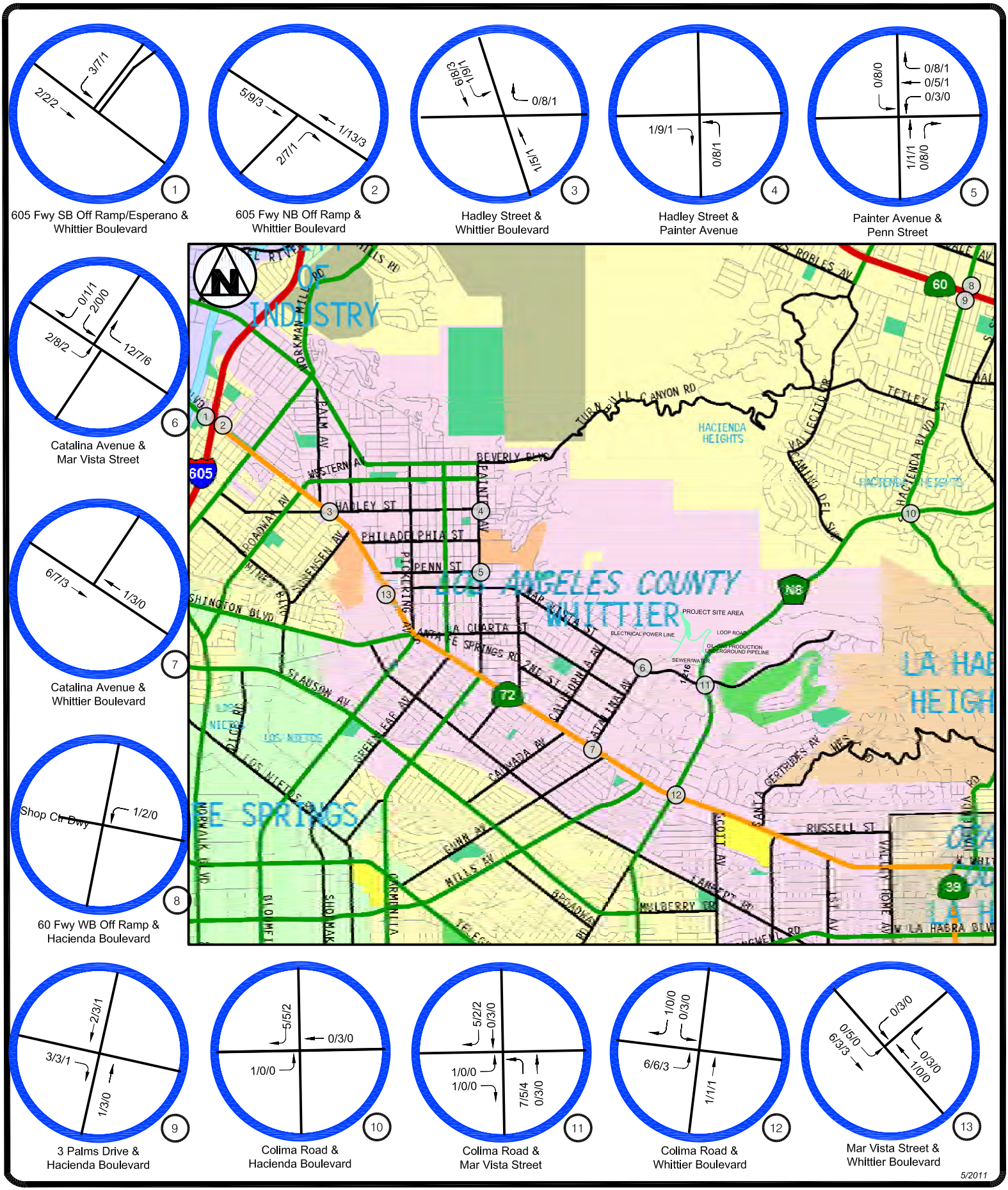

FIGURE 6a

PROJECT ONLY VOLUMES
AM PEAK HOUR
PHASE 1/PHASE 2/PHASE 3

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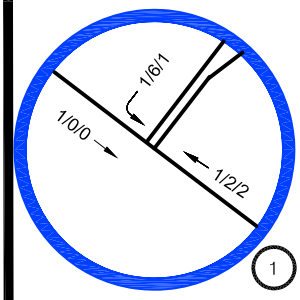
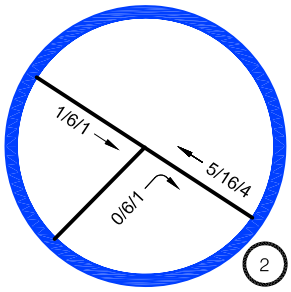
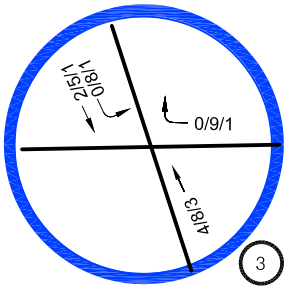
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com



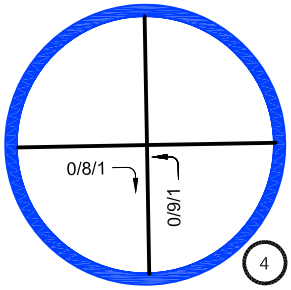
605 Fwy SB Off Ramp/Esperano & Whittier Boulevard



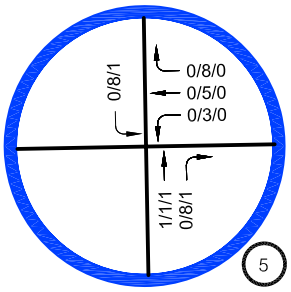
605 Fwy NB Off Ramp & Whittier Boulevard



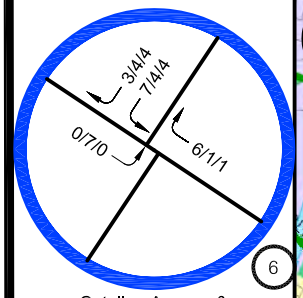
Hadley Street & Whittier Boulevard



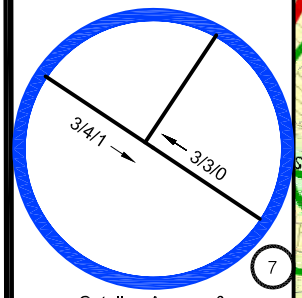
Hadley Street & Painter Avenue



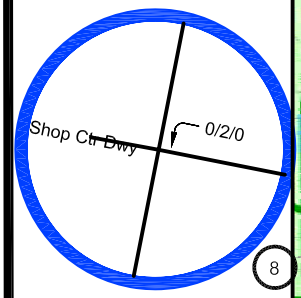
Painter Avenue & Penn Street



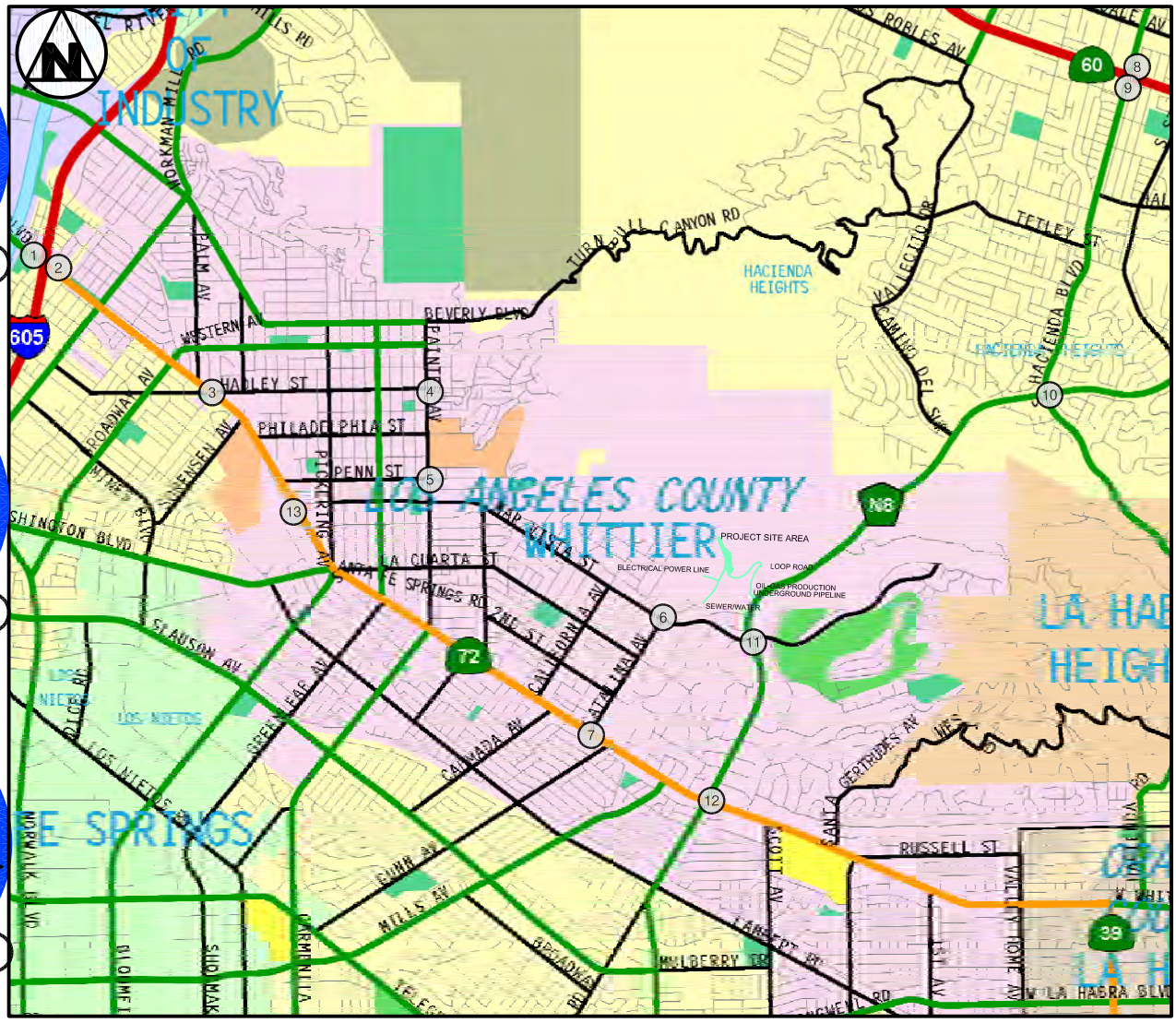
Catalina Avenue & Mar Vista Street

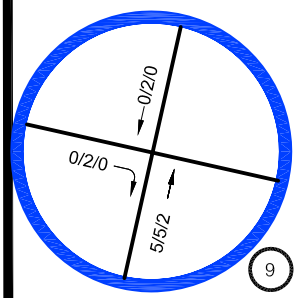


Catalina Avenue & Whittier Boulevard

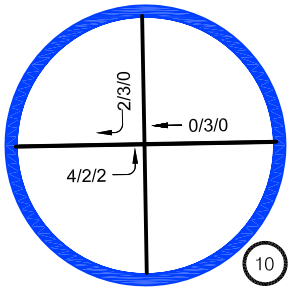


60 Fwy WB Off Ramp & Hacienda Boulevard

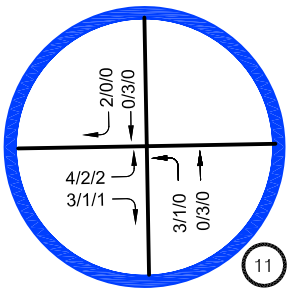




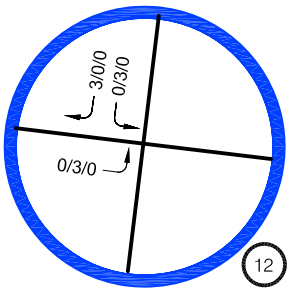
3 Palms Drive & Hacienda Boulevard



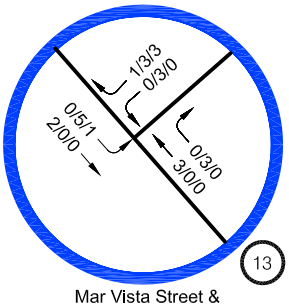
Colima Road & Hacienda Boulevard



Colima Road & Mar Vista Street



Colima Road & Whittier Boulevard



Mar Vista Street & Whittier Boulevard

5/2011

FIGURE 6b

PROJECT ONLY VOLUMES
PM PEAK HOUR
PHASE 1/PHASE 2/PHASE 3

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Parking, Access & Circulation

Vehicular access to and from the site exists at the terminus of Catalina Avenue north of Mar Vista Street. A second access is located off of Penn Street through the landfill to the North Access Road. This second access will be approximately two and one-half miles in length with 1.3 miles within the landfill and 1.2 miles within the Preserve. The North Access Road and Catalina Avenue within the preserve will be stabilized, upgraded and paved for the future needs. An emergency access road will provided through The Loop Road. During Phase 1 project, both employees and trucks will access the site from Colima Road. At initiation of Phase 2, if the project is to move forward, the roadway from Penn Street will be improved to accommodate all large truck access to and from the site. Currently Mar Vista Street has large truck prohibitions posted. During Phase 1 of the project, this restriction will need to be changed for trucks associated with the project. This will be a temporary situation which will last approximately one year from the start of Phase 1. After completion of Phase 1, the restrictions will then be replaced. During Phase 1, when trucks are accessing the site, they should be restricted to right turns in and left turns out to ensure that trucks will not be traversing Mar Vista Street west of Catalina Avenue. Note that these trucks will be using the Catalina Avenue entrance during Phase 1 only.

Vehicular access by employees by passenger cars and small trucks will be from the Catalina Avenue entrance. This access will be maintained throughout the life of the project.

Parking will be provided on site for all work trucks and employees' vehicles. No parking impacts are anticipated this project.

Analysis of Existing Traffic Conditions

The traffic conditions analysis was then conducted using the ICU method for the signalized intersections and Highway Capacity Manual (HCM) for two-way and four-way stopped intersections method (delay) for the unsignalized intersections.

The study intersections were evaluated using these methodologies pursuant to the criteria established by the City of Whittier. The baseline peak hour traffic counts were used along with intersection lane configurations and traffic controls to determine the intersection's operating condition.

The peak hour traffic counts were used along with current intersection lane configurations to determine the intersection's operating condition. The available capacity for key intersection movements is directly related to traffic demand. The capacity per hour of green time for each approach is calculated based upon ICU methodology at signalized locations. A lane capacity of 1,600 vehicles per hour per lane (2,880 vehicles per hour for dual left turn lanes) and 10 percent yellow clearance time were used. To calculate capacity, the proportion of total signal time needed by key traffic movement is determined and compared to the total available time. The key movements are the opposing movements whose combined green time demands are the greatest, and the conflicting key movements are added and expressed as a decimal fraction. The resulting ICU displays the proportion of the total hour required to meet the intersection demand volumes in the key conflicting traffic movements.

The HCM methodology for two-way and four-way stopped intersections evaluates the amount of delay based upon the intersection traffic volumes. The minor streets and driveways typically provide access to residential or business areas. The major road traffic is typically operating free-flow with the exception of the right and left turns. Operation performance (delay) is measured at the minor roadways based upon the traffic volumes.

Once the ICU/HCM value has been calculated, operating characteristics are assigned a level of service grade (A through F) to estimate the level of congestion and stability of the traffic flow. The term Level of Service (LOS) is used by traffic engineers to describe the

quality of traffic flow. Table 3 shows definitions of the LOS grades for signalized locations and Table 4 shows unsignalized locations.

The level of service definitions for freeway segments differ slightly from the ICU methodology as it is termed as a demand to capacity ratio (D/C) with a different breakdown of the LOS than the ICU volume to capacity definitions. Table 5 shows the definitions of the LOS grades for freeway locations.

Table 3
Level of Service Definitions for Signalized Locations

Level of Service	Description of Operating Condition
A	No loaded cycles and few are even close. No approach is fully utilized with no delay.
B	A stable flow of traffic.
C	Stable operation continues. Loading is intermittent. Occasionally drivers may have to wait more on red signal and backups may develop behind turning vehicles.
D	Approaching instability. Delays may be lengthy during short times within the peak hour. Vehicles may be required to wait through more than one cycle.
E	At or near capacity with possible long queues for left-turning vehicles. Full utilization of every signal cycle is seldom attained.
F	Gridlock conditions with stoppages of long duration.

Table 4
Level of Service Definitions for Unsignalized Locations

Level of Service	Delay (seconds)
A	Less than or equal to 10
B	10 - 15
C	16 - 25
D	26 - 35
E	36 - 50
F	Greater than 50

Table 5
Level of Service Definitions for Freeway Segments

Level of Service	D/C	Congestion or Delay
A	<..34	Free Flow
B	0.35 - 0.52	Free to Stable Flow
C	0.53 - 0.69	Stable Flow
D	0.70 - 0.92	Approaches Unstable Flow
E	0.93 - 1.00	Extremely Unstable Flow
F (0)	1.01 - 1.25	Forced Flow
F (1)	1.26 - 1.35	Heavy Congestion
F (2)	1.36 - 1.45	Extremely Heavy Congestion
F (3)	>1.46	Gridlock

The existing ICU/HCM and LOS values are summarized in Table 6. Supporting capacity worksheets are contained in Appendix F.

Roadway segment conditions analysis was conducted by determining the traffic volume. This traffic volume was divided by the roadway capacity (based on designation) to determine the operating conditions and LOS. The County of Los Angeles provides recommended roadway capacity based on peak hour directions. The roadway capacity used in this analysis is more conservative. Table 7 displays the existing roadway segment conditions.

The existing traffic volumes at the intersections and roadway segments are displayed in Figure 7 for the AM Peak Hour and Figure 8 for the PM Peak Hour.

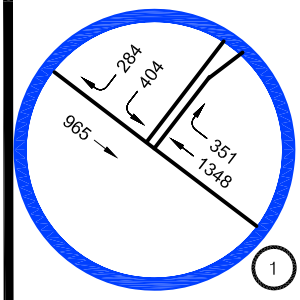
Table 6
Existing Intersection Traffic Conditions

No.	Intersection	Peak Hour		Existing ICU or DELAY	Existing LOS
1	605 Fwy SB Off/Esperano	AM		0.799	C
	& Whittier Boulevard	PM		0.783	C
2	605 Fwy NB Offramp &	AM		0.739	C
	Whittier Boulevard	PM		0.653	B
3	Hadley Street &	AM		0.893	D
	Whittier Boulevard	PM		0.764	C
4	Hadley Street &	AM		0.769	C
	Painter Avenue	PM		0.704	C
5	Painter Avenue &	AM		0.510	A
	Penn Street	PM		0.588	A
6A	Catalina Av (W Leg) &	AM	SB	20.5	C
	Mar Vista Street	PM	SB	11.0	B
6B	Catalina Av (E Leg) &	AM	NB	13.1	B
	Mar Vista Street	PM	NB	14.2	B
7	Catalina Avenue &	AM	SB	18.4	C
	Whittier Boulevard	PM	SB	15.0	B
8	60 Fwy WB Off Ramp &	AM		0.772	C
	Hacienda Boulevard	PM		0.824	D
9	Three Palms Drive &	AM		0.874	D
	Hacienda Boulevard	PM		0.755	C
10	Colima Road &	AM		0.700	C
	Hacienda Boulevard	PM		0.743	C
11	Colima Road &	AM		0.784	C
	Mar Vista Street	PM		0.834	D
12	Colima Road &	AM		0.909	E
	Whittier Boulevard	PM		0.886	D
13	Mar Vista Street &	AM		0.760	C
	Whittier Boulevard	PM		0.665	B

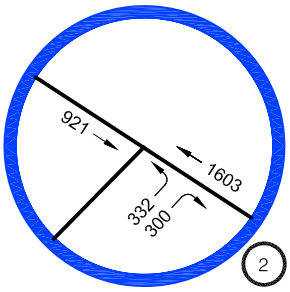
ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Table 7
Existing Roadway Segment Traffic Conditions

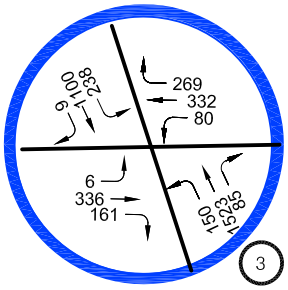
	Street Segment	Time Period	Capacity	Existing Volume	V/C	LOS
1	Hadley Street	AM	2,800	1251	0.447	A
	E/O Pickering Ave	PM	2,800	1302	0.465	A
	minor arterial	DAILY	50,000	15775	0.316	A
2	Painter Avenue	AM	2,800	2005	0.716	C
	N/O Penn Street	PM	2,800	2083	0.744	C
	minor arterial	DAILY	50,000	25591	0.512	A
3	Penn Street	AM	1,200	315	0.263	A
	E/O Pickering Ave	PM	1,200	392	0.327	A
	collector	DAILY	10,000	4327	0.433	A
4	Penn Street	AM	1,200	206	0.172	A
	E/O Painter Ave.	PM	1,200	261	0.218	A
	colllector	DAILY	10,000	2733	0.273	A
5	California Avenue	AM	1,000	86	0.086	A
	S/O Mar Vista St.	PM	1,000	68	0.068	A
	local	DAILY	5,000	613	0.123	A
6	Ocean View	AM	1,000	293	0.293	A
	S/O Mar Vista	PM	1,000	260	0.260	A
	local	DAILY	5,000	2461	0.492	A
7	Catalina Avenue	AM	1,000	10	0.010	A
	N/O Mar Vista St.	PM	1,000	11	0.011	A
	local	DAILY	5,000	101	0.020	A
8	Catalina Avenue	AM	1,000	159	0.159	A
	S/O Mar Vista St.	PM	1,000	81	0.081	A
	local	DAILY	5,000	1017	0.203	A
9	Mar Vista Street	AM	1,200	1216	1.013	F
	W/O Colima Rd.	PM	1,200	1255	1.046	F
	collector	DAILY	10,000	14875	1.488	F
10	Colima Road	AM	3,600	2999	0.833	D
	N/O Mar Vista St.	PM	3,600	3136	0.871	D
	minor arterial	DAILY	50,000	35704	0.714	C
11	Colima Road	AM	3,600	2721	0.756	C
	S/O Mar Vista St.	PM	3,600	2650	0.736	C
	minor arterial	DAILY	50,000	32179	0.644	B
12	Colima Road	AM	3,600	2199	0.611	B
	S/O Whittier Bl.	PM	3,600	2112	0.587	A
	minor arterial	DAILY	50,000	26497	0.530	A
13	La Mirada Blvd	AM	4,800	1486	0.310	A
	S/O Lambert	PM	4,800	1161	0.242	A
	major arterial	DAILY	50,000	14727	0.295	A



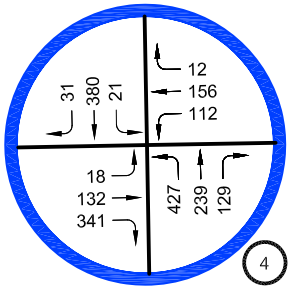
605 Fwy SB Off Ramp/Esperano & Whittier Boulevard



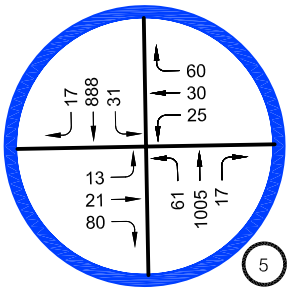
605 Fwy NB Off Ramp & Whittier Boulevard



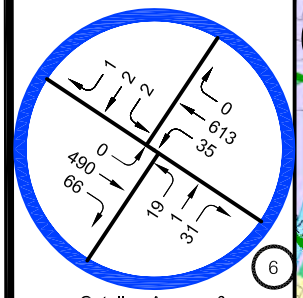
Hadley Street & Whittier Boulevard



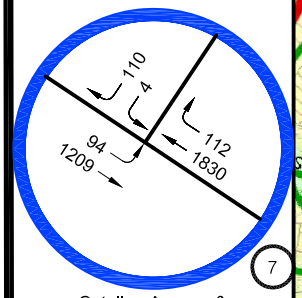
Hadley Street & Painter Avenue



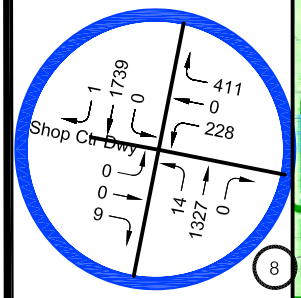
Painter Avenue & Penn Street



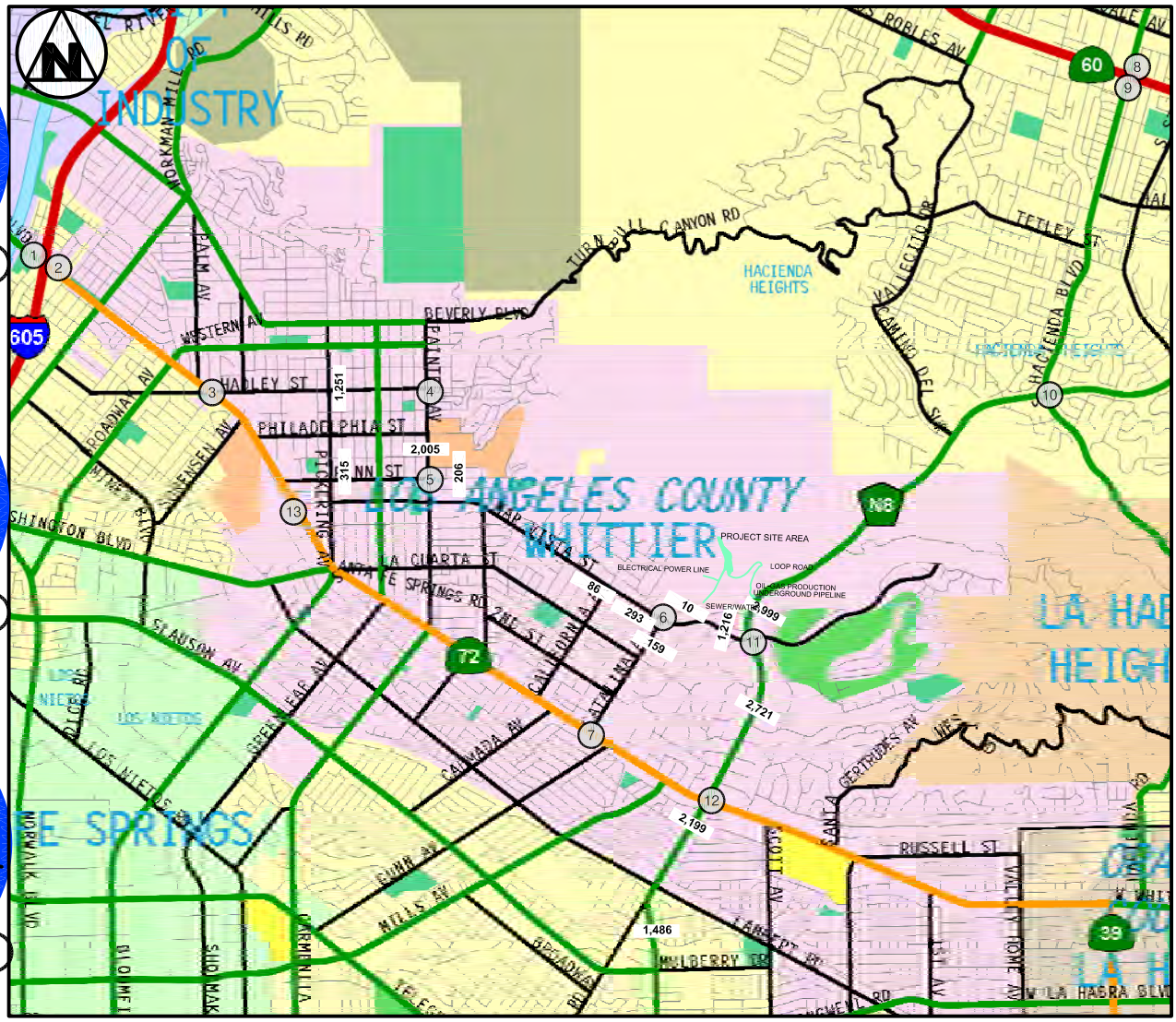
Catalina Avenue & Mar Vista Street

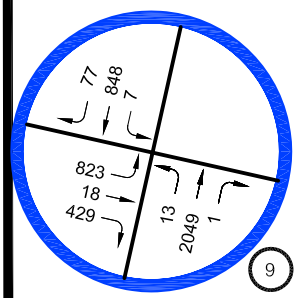


Catalina Avenue & Whittier Boulevard

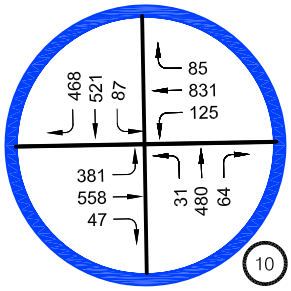


60 Fwy WB Off Ramp & Hacienda Boulevard

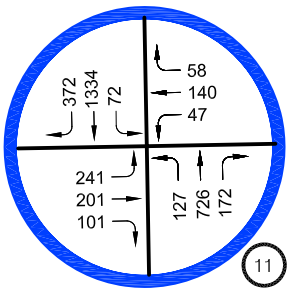




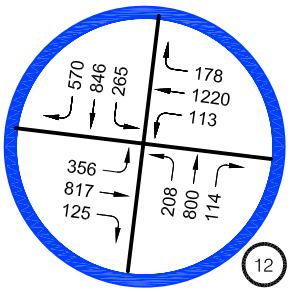
3 Palms Drive & Hacienda Boulevard



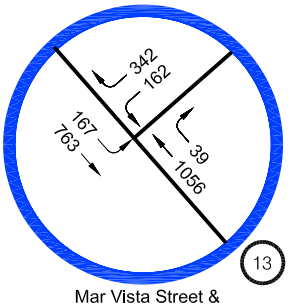
Colima Road & Hacienda Boulevard



Colima Road & Mar Vista Street



Colima Road & Whittier Boulevard



Mar Vista Street & Whittier Boulevard

5/2011

FIGURE 7

EXISTING TRAFFIC VOLUMES
AM PEAK HOUR

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

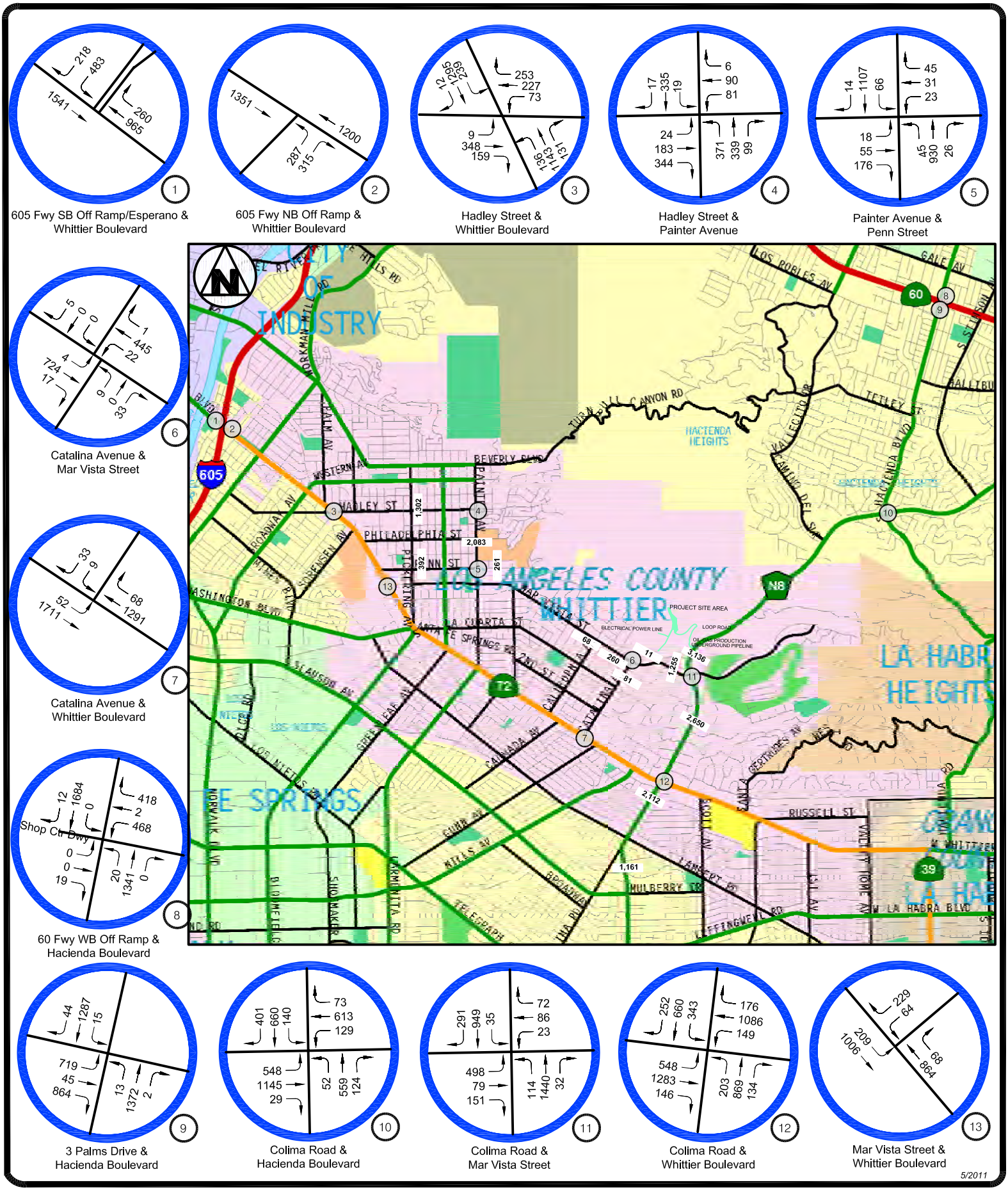


FIGURE 8
EXISTING TRAFFIC VOLUMES
PM PEAK HOUR

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

Freeway segment conditions analysis was conducted by determining the traffic volume. This traffic volume was divided by the freeway capacity (based on number of lanes with 2,000 vehicles per hour per lane) to determine the operating conditions and LOS. Table 8 displays the existing freeway conditions.

Table 8
Existing Freeway Conditions

Location	Time Period	Freeway Capacity	Existing 2010 Volume	D/C	LOS
I - 605 at	Daily		251,000		
Whittier Boulevard	Peak Hour	20,000	14,400	0.720	D
SR 60 E/O I-605	Daily		228,000		
	Peak Hour	12,000	14,000	1.167	F0

Analysis of Existing + Project Traffic Conditions

A determination of what project traffic would do to existing conditions has been conducted. The project traffic was added to the existing conditions and compared to determine if there were any significant traffic impacts. Significant impact criteria as noted in the Significant Impact Definition Section on page 35 and 36 was used to determine significant impacts. Analysis indicates that the Existing+Project Conditions created fewer significant impacts than the Future Impact analysis. The analysis results are presented in Appendix I.

Analysis of Future Traffic Conditions

Future traffic volume projections have been developed to analyze the traffic conditions after ambient growth and the project and after completion of other planned land developments including the proposed project. Pursuant to the City of Whittier traffic impact guidelines, the following steps have been taken to develop the future traffic volume estimate:

(a) Base year 2010 + 1% ambient growth to reflect 2015, 2020 and 2025 traffic conditions without the project;

(b) Traffic in (a) + proposed project Phase1, Phase 2, and Phase 3 (Existing + Project Conditions);

(c) Traffic in (b) + proposed traffic mitigation, if necessary.

(d) Traffic in (b) + related projects ;

(e) Traffic in (d) with the proposed traffic mitigation, if necessary.

Significant Impacts Definitions

Intersections and roadway segments were evaluated for potential impacts based upon a comparison of future conditions with existing with ambient growth + the project as compared to conditions without the project. Further evaluation is conducted to determine if significant impact occur with the cumulative growth. For cumulative impacts existing + ambient growth + related projects + project were compared to the existing with ambient growth condition. Significant impacts were determined based on criteria from the City of Whittier, County of Los Angeles and Congestion Management Programs. These impacts have determined a significant impact if the following conditions are exceeded.

Table 9a
City of Whittier

Level of Service	Volume to Capacity Ratio	Allowable Increase
C	0.71 – 0.80	0.04
D	0.81 – 0.90	0.02
E/F	0.91 or more	0.01

The City of Whittier has not identified significant impact criteria for two lane roadways. However, the Los Angeles County has developed and published roadway segment significant impact criteria as displayed on the following page.

Table 9b
County of Los Angeles

Directional Split	Total Capacity (pcph)	Percentage Increase in pcph by the Project		
		Pre-Project LOS		
		C	D	E or F
50/50	2,800	4	2	1
60/40	2,650	4	2	1
70/30	2,500	4	2	1
80/20	2,300	4	2	1
90/10	2,100	4	2	1
100/0	2,000	4	2	1

The significant impact criteria identified by the County of Los Angeles for intersections is the same as the significant impact criteria identified by the City of Whittier.

The County of Los Angeles does not specifically identify impact criteria for roadways with more than two lanes. Roadway segments included in this analysis were identified as creating significant impacts if the project created or exasperated an existing condition in which the roadway exceeded the design volume of that roadway. The design volumes are based upon Highway Capacity Manual, American Association of State Highway and Transportation Design guidelines, and other local nearby local jurisdictions design volumes were used based upon roadway designations as follows.

Table 9c
Roadway Capacity

Roadway Designation	Full Design Number of Lanes	Peak Hour Volume Capacity	Daily Capacity
Major Arterial	6	4800	50,000
Minor Arterial	4	3600	30,000
Secondary Street - Augmented	2 - 4	2800	30,000
Secondary Street	2 - 4	2800	20,000
Collector Street	2	1200	10,000
Local Street	2	1000	5,000

Congestion Management Program

Los Angeles County Congestion Management Program (CMP) identifies a significant impact at a CMP intersection or CMP freeway segment as an increase of 2% or more.

The City of Whittier, County of Los Angeles, and CMP program have not identified impact criteria for transit services.

Existing + Ambient Growth (without and with Project) Analysis

Intersection Evaluation

Future traffic volume projections have been developed to analyze the traffic conditions after incorporation of ambient growth at a conservative 1% per year with the project for each of the phases of the project. Future year 2015 with ambient growth (existing + 1% per year) was compared with future year 2015 with ambient growth and the Phase 1 Project during the highest trip generation period to determine if the significant impact thresholds were exceeded. The results of this analysis are displayed in Table 10.

Future year 2020 with ambient growth (existing + 1% per year) was compared with future year 2020 with ambient growth and the Phase 2 Project during the highest trip generation period to determine if the significant impact thresholds were exceeded. The results of this analysis are displayed in Table 11.

Future year 2025 with ambient growth (existing + 1% per year) was compared with future year 2025 with ambient growth and the Phase 1 Project during the highest trip generation period to determine if the significant impact thresholds were exceeded. The results of this analysis are displayed in Table 12.

Table 10
Existing + Ambient and Existing + Ambient + Project
Traffic Conditions Phase 1 (2015)

No.	Intersection	Peak Hour		Future (2015) Exist+Ambient ICU DELAY	LOS	Future (2015) Exist+Ambient+Phase 1 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.835	D	0.836	D	+	0.001		NO
	& Whittier Boulevard	PM		0.817	D	0.818	D	+	0.001		NO
2	605 Fwy NB Offramp &	AM		0.771	C	0.772	C	+	0.001		NO
	Whittier Boulevard	PM		0.682	B	0.682	B	+	0.000		NO
3	Hadley Street &	AM		0.933	E	0.934	E	+	0.001		NO
	Whittier Boulevard	PM		0.798	C	0.799	C	+	0.001		NO
4	Hadley Street &	AM		0.803	D	0.804	D	+	0.001		NO
	Painter Avenue	PM		0.734	C	0.734	C	+	0.000		NO
5	Painter Avenue &	AM		0.532	A	0.532	A	+	0.000		NO
	Penn Street	PM		0.614	B	0.614	B	+	0.000		NO
6A	Catalina Av (W Leg) &	AM	SB	21.8	C	22.9	C	+	1.1	4.8%	**YES**
	Mar Vista Street	PM	SB	11.1	B	17.7	C	+	6.6	37.3%	**YES**
6B	Catalina Av (E Leg) &	AM	NB	13.4	B	13.5	B	+	0.1	0.7%	NO
	Mar Vista Street	PM	NB	14.7	B	14.8	B	+	0.1	0.7%	NO
7	Catalina Avenue &	AM	SB	19.9	C	19.9	C	+	0.0	0.0%	NO
	Whittier Boulevard	PM	SB	15.6	C	15.6	C	+	0.0	0.0%	NO
8	60 Fwy WB Off Ramp &	AM		0.806	D	0.806	D	+	0.000		NO
	Hacienda Boulevard	PM		0.859	D	0.859	D	+	0.000		NO
9	Three Palms Drive &	AM		0.914	E	0.914	E	+	0.000		NO
	Hacienda Boulevard	PM		0.789	C	0.790	C	+	0.001		NO
10	Colima Road &	AM		0.731	C	0.731	C	+	0.000		NO
	Hacienda Boulevard	PM		0.776	C	0.777	C	+	0.001		NO
11	Colima Road &	AM		0.818	D	0.824	D	+	0.006		NO
	Mar Vista Street	PM		0.870	D	0.872	D	+	0.002		NO
12	Colima Road &	AM		0.951	E	0.953	E	+	0.002		NO
	Whittier Boulevard	PM		0.926	E	0.926	E	+	0.000		NO
13	Mar Vista Street &	AM		0.794	C	0.795	C	+	0.001		NO
	Whittier Boulevard	PM		0.693	B	0.695	B	+	0.002		NO

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Table 11
Existing + Ambient and Existing + Ambient + Project
Traffic Conditions Phase 2 (2020)

No.	Intersection	Peak Hour		Future (2020) Exist+Ambient ICU DELAY	LOS	Future (2020) Exist+Ambient+Phase 2 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.870	D	0.873	D	+	0.003		NO
	& Whittier Boulevard	PM		0.852	D	0.854	D	+	0.002		NO
2	605 Fwy NB Offramp &	AM		0.804	D	0.808	D	+	0.004		NO
	Whittier Boulevard	PM		0.710	C	0.714	C	+	0.004		NO
3	Hadley Street &	AM		0.973	E	0.985	E	+	0.012		**YES**
	Whittier Boulevard	PM		0.831	D	0.845	D	+	0.014		NO
4	Hadley Street &	AM		0.836	D	0.844	D	+	0.008		NO
	Painter Avenue	PM		0.766	C	0.774	C	+	0.008		NO
5	Painter Avenue &	AM		0.552	A	0.569	A	+	0.017		NO
	Penn Street	PM		0.638	B	0.638	B	+	0.000		NO
6A	Catalina Av (W Leg) &	AM	SB	22.1	C	22.2	C	+	0.1	0.5%	NO
	Mar Vista Street	PM	SB	11.3	B	15.9	C	+	4.6	28.9%	**YES**
6B	Catalina Av (E Leg) &	AM	NB	13.9	B	13.9	B	+	0.0	0.0%	NO
	Mar Vista Street	PM	NB	15.2	C	15.3	C	+	0.1	0.7%	NO
7	Catalina Avenue &	AM	SB	21.5	C	21.5	C	+	0.0	0.0%	NO
	Whittier Boulevard	PM	SB	16.6	C	16.9	C	+	0.3	1.8%	NO
8	60 Fwy WB Off Ramp &	AM		0.840	D	0.840	D	+	0.000		NO
	Hacienda Boulevard	PM		0.896	D	0.897	D	+	0.001		NO
9	Three Palms Drive &	AM		0.953	E	0.954	E	+	0.001		NO
	Hacienda Boulevard	PM		0.821	D	0.823	D	+	0.002		NO
10	Colima Road &	AM		0.761	C	0.762	C	+	0.001		NO
	Hacienda Boulevard	PM		0.808	D	0.810	D	+	0.002		NO
11	Colima Road &	AM		0.853	D	0.858	D	+	0.005		NO
	Mar Vista Street	PM		0.906	E	0.908	E	+	0.002		NO
12	Colima Road &	AM		0.991	F	0.993	E	+	0.002		NO
	Whittier Boulevard	PM		0.965	E	0.967	E	+	0.002		NO
13	Mar Vista Street &	AM		0.827	D	0.831	D	+	0.004		NO
	Whittier Boulevard	PM		0.723	C	0.728	C	+	0.005		NO

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)

Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Table 12
Existing + Ambient and Existing + Ambient + Project
Traffic Conditions Phase 3 (2025)

No.	Intersection	Peak Hour		Future (2025) Exist+Ambient ICU DELAY	LOS	Future (2025) Exist+Ambient+Phase 3 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.905	E	0.905	E	+	0.000		NO
	& Whittier Boulevard	PM		0.887	D	0.887	D	+	0.000		NO
2	605 Fwy NB Offramp &	AM		0.836	D	0.837	D	+	0.001		NO
	Whittier Boulevard	PM		0.737	C	0.737	C	+	0.000		NO
3	Hadley Street &	AM		1.013	F	1.014	F	+	0.001		NO
	Whittier Boulevard	PM		0.865	D	0.868	D	+	0.003		NO
4	Hadley Street &	AM		0.870	D	0.871	D	+	0.001		NO
	Painter Avenue	PM		0.795	C	0.796	C	+	0.001		NO
5	Painter Avenue &	AM		0.573	A	0.574	A	+	0.001		NO
	Penn Street	PM		0.662	B	0.662	B	+	0.000		NO
6A	Catalina Av (W Leg) &	AM	SB	23.8	C	23.9	C	+	0.1	0.4%	NO
	Mar Vista Street	PM	SB	11.5	B	16.5	C	+	5.0	30.3%	**YES**
6B	Catalina Av (E Leg) &	AM	NB	14.2	B	14.3	B	+	0.1	0.7%	NO
	Mar Vista Street	PM	NB	15.9	C	15.9	C	+	0.0	0.0%	NO
7	Catalina Avenue &	AM	SB	24.6	C	24.6	C	+	0.0	0.0%	NO
	Whittier Boulevard	PM	SB	17.3	C	17.3	C	+	0.0	0.0%	NO
8	60 Fwy WB Off Ramp &	AM		0.874	D	0.874	D	+	0.000		NO
	Hacienda Boulevard	PM		0.934	E	0.934	E	+	0.000		NO
9	Three Palms Drive &	AM		0.992	E	0.992	E	+	0.000		NO
	Hacienda Boulevard	PM		0.856	D	0.856	D	+	0.000		NO
10	Colima Road &	AM		0.791	C	0.791	C	+	0.000		NO
	Hacienda Boulevard	PM		0.840	D	0.841	D	+	0.001		NO
11	Colima Road &	AM		0.888	D	0.891	D	+	0.003		NO
	Mar Vista Street	PM		0.944	E	0.945	E	+	0.001		NO
12	Colima Road &	AM		1.031	F	1.032	F	+	0.001		NO
	Whittier Boulevard	PM		1.005	F	1.005	F	+	0.000		NO
13	Mar Vista Street &	AM		0.860	D	0.860	D	+	0.000		NO
	Whittier Boulevard	PM		0.750	C	0.752	C	+	0.002		NO

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Roadway Segment Analysis

Roadway segments were analyzed in a similar manner as the intersections. The exiting roadway traffic volumes were increased by 1% per year for ambient growth and project traffic was added to this future volume. A comparison of the future without and future with project volumes was conducted and compared to the impact criteria to determine if significant impacts occur. Tables 13, 14 and 15 display the results of this analysis.

Figures 9 (a & b), 10 (a & b) and 11 (a & b) display the traffic volumes of future traffic volumes for existing + ambient growth + Phase 1, 2 & 3 respectively for the AM & PM Peak Hours at the study intersections and roadway segments.

Table 13
Segments: Existing + Ambient and Existing + Ambient + Project
Traffic Conditions Phase 1 (2015)

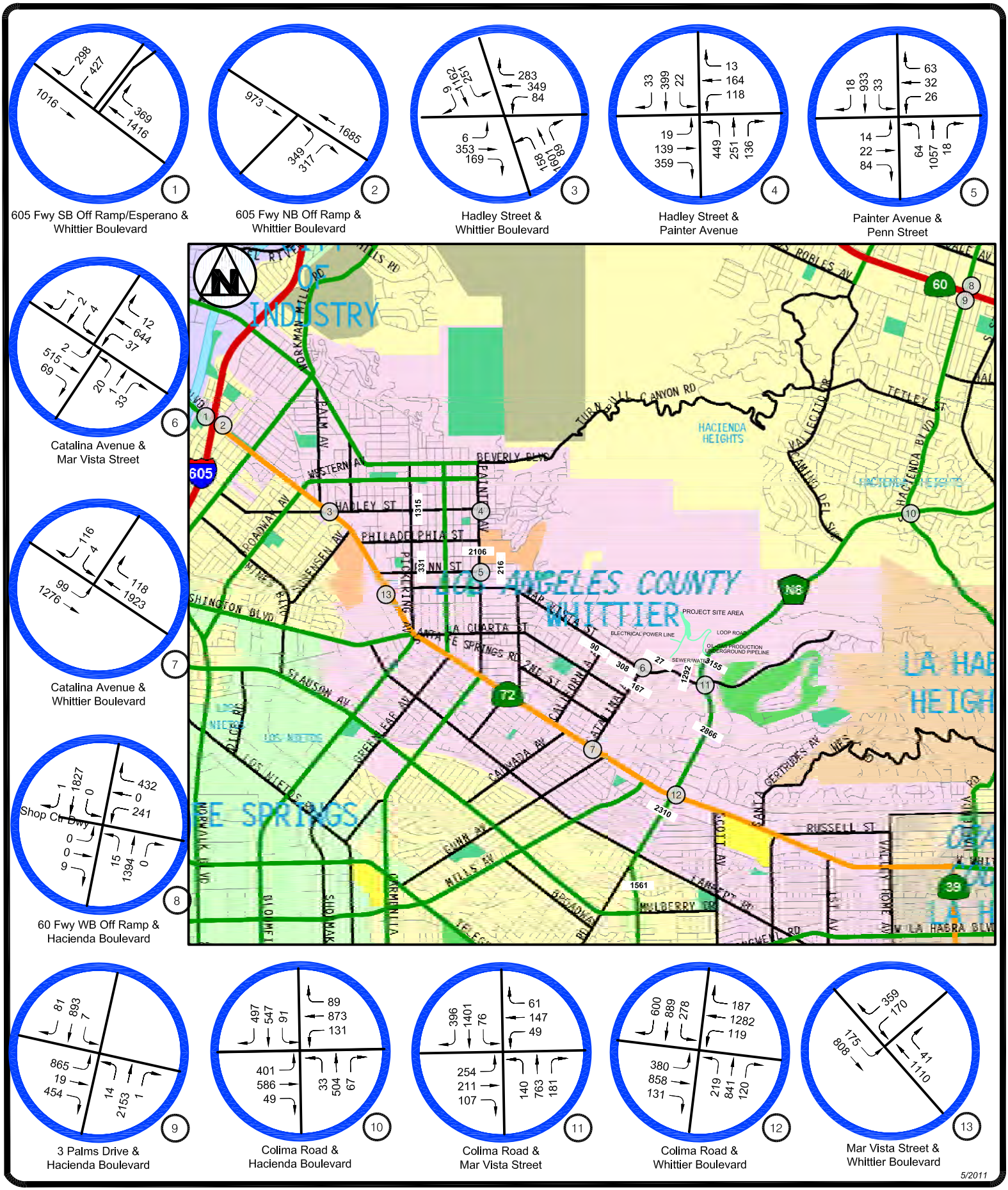
	Street Segment	Time Period	Capacity	Existing + Ambient 2015 With Ambient	V/C	LOS	Existng + Ambient '+ Project Project Volume	Total	V/C	LOS	% impact	Significant?
1	Hadley Street	AM	2,800	1314	0.469	A	1	1315	0.470	A	0.1	No
	E/O Pickering Ave.	PM	2,800	1367	0.488	A	1	1368	0.489	A	0.1	No
	minor arterial	DAILY	50,000	16564	0.331	A	4	16568	0.331	A	0.0	No
2	Painter Avenue	AM	2,800	2105	0.752	C	1	2106	0.752	C	0.0	No
	N/O Penn Street	PM	2,800	2187	0.781	C	1	2188	0.781	C	0.0	No
	minor arterial	DAILY	50,000	26871	0.537	A	4	26875	0.538	A	0.0	No
3	Penn Street	AM	1,200	331	0.276	A	0	331	0.276	A	0.1	No
	E/O Pickering Ave.	PM	1,200	412	0.343	A	0	412	0.344	A	0.0	No
	collector	DAILY	10,000	4543	0.454	A	1	4544	0.454	A	0.0	No
4	Penn Street	AM	1,200	216	0.180	A	0	216	0.180	A	0.2	No
	E/O Painter Ave.	PM	1,200	274	0.228	A	0	274	0.228	A	0.0	No
	colllector	DAILY	10,000	2870	0.287	A	0	2870	0.287	A	0.0	No
5	California Avenue	AM	1,000	90	0.090	A	0	90	0.090	A	0.0	No
	S/O Mar Vista St.	PM	1,000	71	0.071	A	0	71	0.071	A	0.3	No
	local	DAILY	5,000	644	0.129	A	1	645	0.129	A	0.2	No
6	Ocean View	AM	1,000	308	0.308	A	0	308	0.308	A	0.0	No
	S/O Mar Vista	PM	1,000	273	0.273	A	0	273	0.273	A	0.1	No
	local	DAILY	5,000	2584	0.517	A	1	2585	0.517	A	0.0	No
7	Catalina Avenue	AM	1,000	11	0.011	A	16	27	0.027	A	59.3	No
	N/O Mar Vista St.	PM	1,000	12	0.012	A	16	28	0.028	A	57.1	No
	local	DAILY	5,000	106	0.021	A	120	226	0.045	A	53.1	No
8	Catalina Avenue	AM	1,000	167	0.167	A	0	167	0.167	A	0.1	No
	S/O Mar Vista St.	PM	1,000	85	0.085	A	0	85	0.085	A	0.6	No
	local	DAILY	5,000	1068	0.214	A	2	1070	0.214	A	0.2	No
9	Mar Vista Street	AM	1,200	1277	1.064	F	15	1292	1.076	F	1.1	**YES**
	W/O Colima Rd.	PM	1,200	1318	1.098	F	13	1331	1.109	F	1.0	**YES**
	collector	DAILY	10,000	15619	1.562	F	104	15723	1.572	F	0.7	No
10	Colima Road	AM	3,600	3149	0.875	D	6	3155	0.876	D	0.2	No
	N/O Mar Vista St.	PM	3,600	3293	0.915	E	6	3299	0.916	E	0.2	No
	minor arterial	DAILY	50,000	37489	0.750	C	50	37539	0.751	C	0.1	No
11	Colima Road	AM	3,600	2857	0.794	C	9	2866	0.796	C	0.3	No
	S/O Mar Vista St.	PM	3,600	2783	0.773	C	7	2790	0.775	C	0.2	No
	minor arterial	DAILY	50,000	33788	0.676	B	54	33842	0.677	B	0.2	No
12	Colima Road	AM	3,600	2309	0.641	B	1	2310	0.642	B	0.0	No
	S/O Whittier Bl.	PM	3,600	2218	0.616	B	1	2219	0.616	B	0.0	No
	minor arterial	DAILY	50,000	27822	0.556	A	4	27826	0.557	A	0.0	No
13	La Mirada Blvd	AM	4,800	1560	0.325	A	1	1561	0.325	A	0.1	No
	S/O Lambert	PM	4,800	1219	0.254	A	1	1220	0.254	A	0.1	No
	major arterial	DAILY	50,000	15463	0.309	A	4	15467	0.309	A	0.0	No

Table 14
Segments: Existing + Ambient and Existing + Ambient + Project
Traffic Conditions Phase 2 (2020)

	Street Segment	Time Period	Capacity	Existing + Ambient 2020 With Ambient	V/C	LOS	Existng + Ambient '+ Project Project Volume	Total	V/C	LOS	% impact	Significant?
1	Hadley Street	AM	2,800	1376	0.491	A	18	1394	0.498	A	1.3	No
	E/O Pickering Ave.	PM	2,800	1432	0.511	A	17	1449	0.517	A	1.1	No
	minor arterial	DAILY	50,000	17353	0.347	A	166	17519	0.350	A	0.9	No
2	Painter Avenue	AM	2,800	2206	0.788	C	18	2224	0.794	C	0.8	No
	N/O Penn Street	PM	2,800	2291	0.818	D	17	2308	0.824	D	0.7	No
	minor arterial	DAILY	50,000	28150	0.563	A	166	28316	0.566	A	0.6	No
3	Penn Street	AM	1,200	347	0.289	A	6	353	0.294	A	1.7	No
	E/O Pickering Ave.	PM	1,200	431	0.359	A	6	437	0.364	A	1.4	No
	collector	DAILY	10,000	4760	0.476	A	49	4809	0.481	A	1.0	No
4	Penn Street	AM	1,200	227	0.189	A	16	243	0.203	A	6.6	No
	E/O Painter Ave.	PM	1,200	287	0.239	A	15	302	0.252	A	5.0	No
	colllector	DAILY	10,000	3006	0.301	A	316	3322	0.332	A	9.5	No
5	California Avenue	AM	1,000	95	0.095	A	0	95	0.095	A	0.1	No
	S/O Mar Vista St.	PM	1,000	75	0.075	A	0	75	0.075	A	0.5	No
	local	DAILY	5,000	674	0.135	A	2	676	0.135	A	0.3	No
6	Ocean View	AM	1,000	322	0.322	A	0	322	0.322	A	0.0	No
	S/O Mar Vista	PM	1,000	286	0.286	A	0	286	0.286	A	0.1	No
	local	DAILY	5,000	2707	0.541	A	2	2709	0.542	A	0.1	No
7	Catalina Avenue	AM	1,000	11	0.011	A	16	27	0.027	A	59.3	No
	N/O Mar Vista St.	PM	1,000	12	0.012	A	16	28	0.028	A	57.1	No
	local	DAILY	5,000	111	0.022	A	80	191	0.038	A	41.9	No
8	Catalina Avenue	AM	1,000	175	0.175	A	0	175	0.175	A	0.2	No
	S/O Mar Vista St.	PM	1,000	89	0.089	A	1	90	0.090	A	1.1	No
	local	DAILY	5,000	1119	0.224	A	5	1124	0.225	A	0.4	No
9	Mar Vista Street	AM	1,200	1338	1.115	F	13	1351	1.126	F	0.9	No
	W/O Colima Rd.	PM	1,200	1381	1.151	F	9	1390	1.159	F	0.7	No
	collector	DAILY	10,000	16363	1.636	F	47	16410	1.641	F	0.3	No
10	Colima Road	AM	3,600	3299	0.916	E	10	3309	0.919	E	0.3	No
	N/O Mar Vista St.	PM	3,600	3450	0.958	E	10	3460	0.961	E	0.3	No
	minor arterial	DAILY	50,000	39274	0.785	C	83	39357	0.787	C	0.2	No
11	Colima Road	AM	3,600	2993	0.831	D	9	3002	0.834	D	0.3	No
	S/O Mar Vista St.	PM	3,600	2915	0.810	D	5	2920	0.811	D	0.2	No
	minor arterial	DAILY	50,000	35397	0.708	C	27	35424	0.708	C	0.1	No
12	Colima Road	AM	3,600	2419	0.672	B	2	2421	0.672	B	0.1	No
	S/O Whittier Bl.	PM	3,600	2323	0.645	B	2	2325	0.646	B	0.1	No
	minor arterial	DAILY	50,000	29147	0.583	A	8	29155	0.583	A	0.0	No
13	La Mirada Blvd	AM	4,800	1635	0.341	A	2	1637	0.341	A	0.1	No
	S/O Lambert	PM	4,800	1277	0.266	A	2	1279	0.266	A	0.1	No
	major arterial	DAILY	50,000	16200	0.324	A	8	16208	0.324	A	0.0	No

Table 15
Segments: Existing + Ambient and Existing + Ambient + Project
Traffic Conditions Phase 3 (2025)

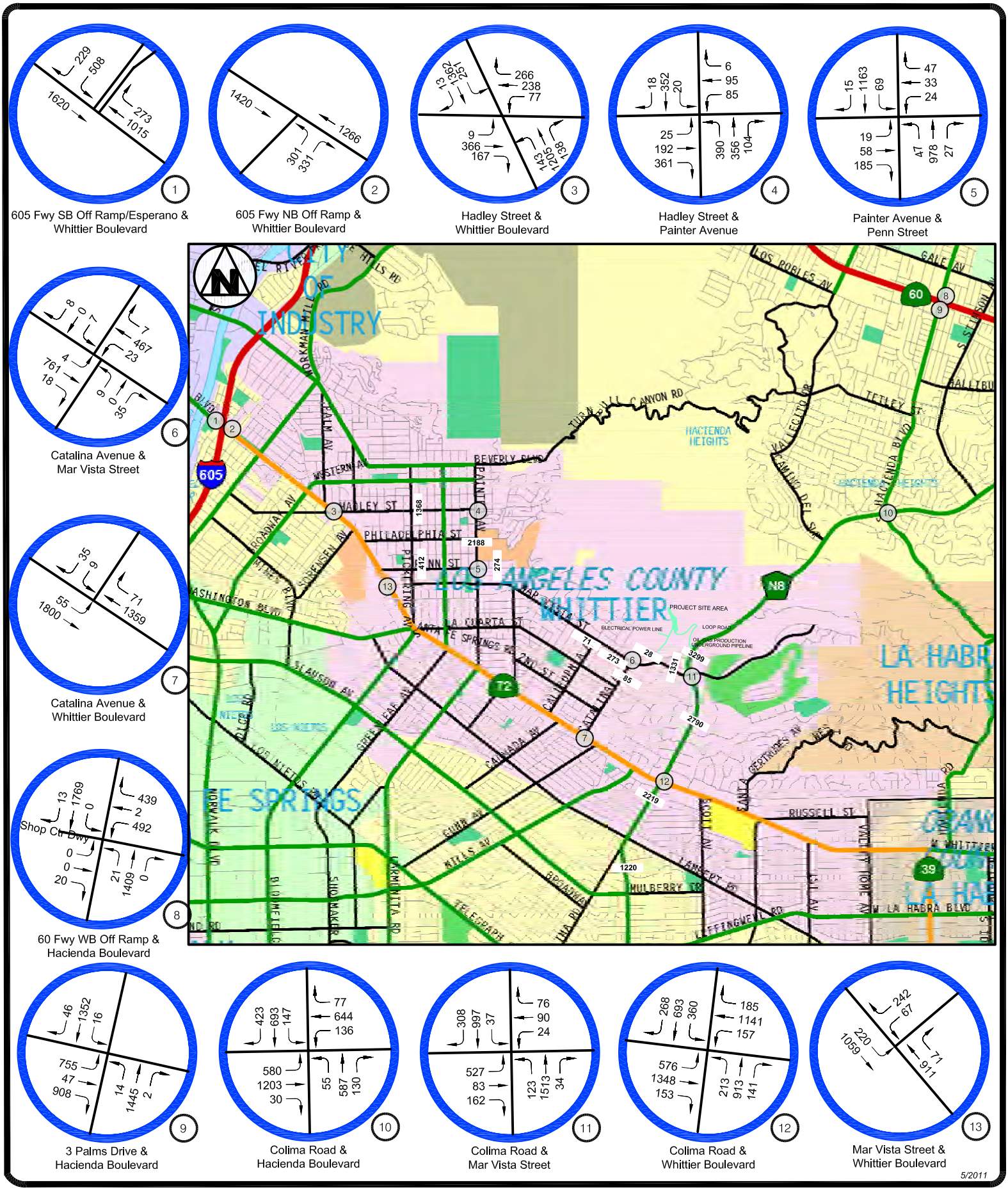
	Street Segment	Time Period	Capacity	Existing + Ambient 2025 With Ambient	V/C	LOS	Existng + Ambient '+ Project Project Volume	Total	V/C	LOS	% impact	Significant?
1	Hadley Street	AM	2,800	1439	0.514	A	2	1441	0.515	A	0.1	No
	E/O Pickering Ave.	PM	2,800	1497	0.535	A	2	1499	0.535	A	0.1	No
	minor arterial	DAILY	50,000	18141	0.363	A	38	18179	0.364	A	0.2	No
2	Painter Avenue	AM	2,800	2306	0.824	D	2	2308	0.824	D	0.1	No
	N/O Penn Street	PM	2,800	2395	0.855	D	2	2397	0.856	D	0.1	No
	minor arterial	DAILY	50,000	29430	0.589	A	38	29468	0.589	A	0.1	No
3	Penn Street	AM	1,200	362	0.302	A	1	363	0.303	A	0.3	No
	E/O Pickering Ave.	PM	1,200	451	0.376	A	0	451	0.376	A	0.0	No
	collector	DAILY	10,000	4976	0.498	A	11	4987	0.499	A	0.2	No
4	Penn Street	AM	1,200	237	0.198	A	2	239	0.199	A	0.8	No
	E/O Painter Ave.	PM	1,200	300	0.250	A	2	302	0.252	A	0.7	No
	colllector	DAILY	10,000	3143	0.314	A	68	3211	0.321	A	2.1	No
5	California Avenue	AM	1,000	99	0.099	A	0	99	0.099	A	0.1	No
	S/O Mar Vista St.	PM	1,000	78	0.078	A	0	78	0.078	A	0.5	No
	local	DAILY	5,000	705	0.141	A	1	706	0.141	A	0.2	No
6	Ocean View	AM	1,000	337	0.337	A	0	337	0.337	A	0.0	No
	S/O Mar Vista	PM	1,000	299	0.299	A	0	299	0.299	A	0.1	No
	local	DAILY	5,000	2830	0.566	A	1	2831	0.566	A	0.0	No
7	Catalina Avenue	AM	1,000	12	0.012	A	9	21	0.021	A	42.9	No
	N/O Mar Vista St.	PM	1,000	13	0.013	A	9	22	0.022	A	40.9	No
	local	DAILY	5,000	116	0.023	A	44	160	0.032	A	27.5	No
8	Catalina Avenue	AM	1,000	183	0.183	A	0	183	0.183	A	0.1	No
	S/O Mar Vista St.	PM	1,000	93	0.093	A	1	94	0.094	A	0.9	No
	local	DAILY	5,000	1170	0.234	A	3	1173	0.235	A	0.2	No
9	Mar Vista Street	AM	1,200	1398	1.165	F	7	1405	1.171	F	0.5	No
	W/O Colima Rd.	PM	1,200	1443	1.203	F	4	1447	1.206	F	0.3	No
	collector	DAILY	10,000	17106	1.711	F	26	17132	1.713	F	0.2	No
10	Colima Road	AM	3,600	3449	0.958	E	3	3452	0.959	E	0.1	No
	N/O Mar Vista St.	PM	3,600	3606	1.002	F	3	3609	1.002	F	0.1	No
	minor arterial	DAILY	50,000	41060	0.821	D	25	41085	0.822	D	0.1	No
11	Colima Road	AM	3,600	3129	0.869	D	5	3134	0.870	D	0.2	No
	S/O Mar Vista St.	PM	3,600	3048	0.847	D	1	3049	0.847	D	0.0	No
	minor arterial	DAILY	50,000	37006	0.740	C	15	37021	0.740	C	0.0	No
12	Colima Road	AM	3,600	2529	0.703	C	1	2530	0.703	C	0.0	No
	S/O Whittier Bl.	PM	3,600	2429	0.675	B	1	2430	0.675	B	0.0	No
	minor arterial	DAILY	50,000	30472	0.609	B	4	30476	0.610	B	0.0	No
13	La Mirada Blvd	AM	4,800	1709	0.356	A	1	1710	0.356	A	0.1	No
	S/O Lambert	PM	4,800	1335	0.278	A	1	1336	0.278	A	0.1	No
	major arterial	DAILY	50,000	16936	0.339	A	4	16940	0.339	A	0.0	No



FUTURE (2015) TRAFFIC VOLUMES
EXISTING+AMBIENT+PHASE 1 PROJECT
AM PEAK HOUR

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

FIGURE 9a



FUTURE (2015) TRAFFIC VOLUMES
EXISTING+AMBIENT+PHASE 1 PROJECT
PM PEAK HOUR

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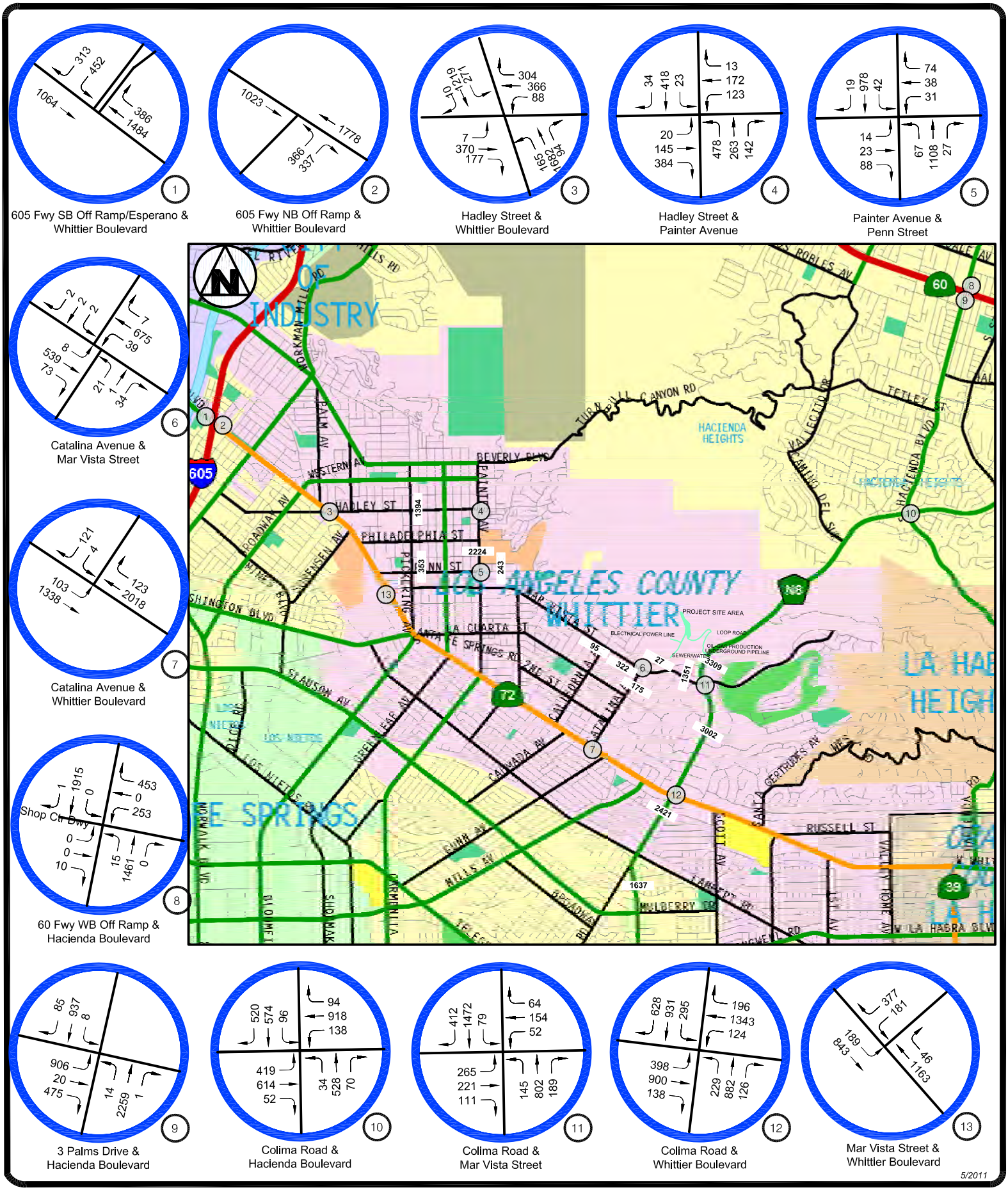
FIGURE 9b



FUTURE (2020) TRAFFIC VOLUMES
EXISTING+AMBIENT+PHASE 2 PROJECT
AM PEAK HOUR

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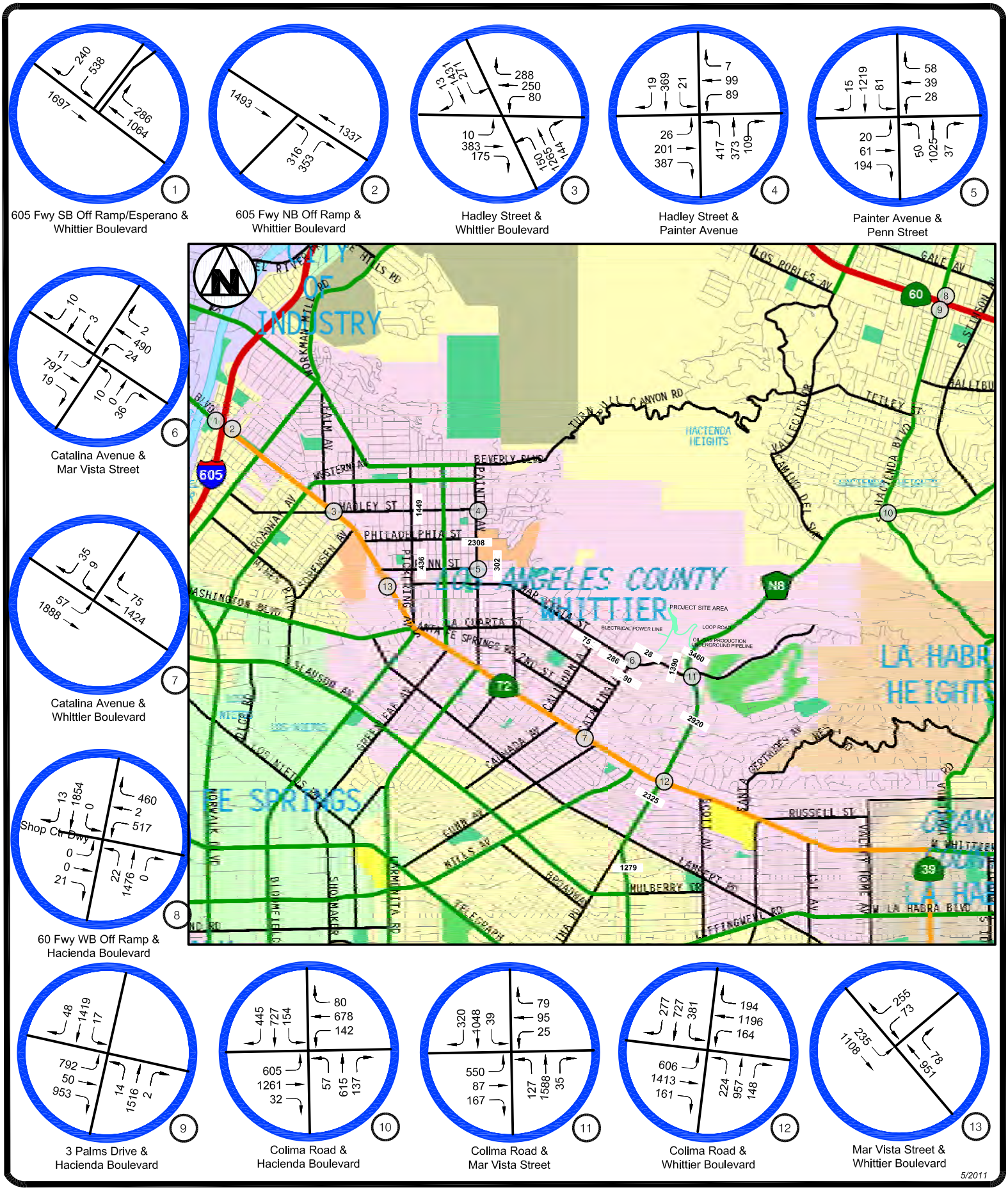
FIGURE 10a



FUTURE (2020) TRAFFIC VOLUMES
EXISTING+AMBIENT+PHASE 2 PROJECT
PM PEAK HOUR

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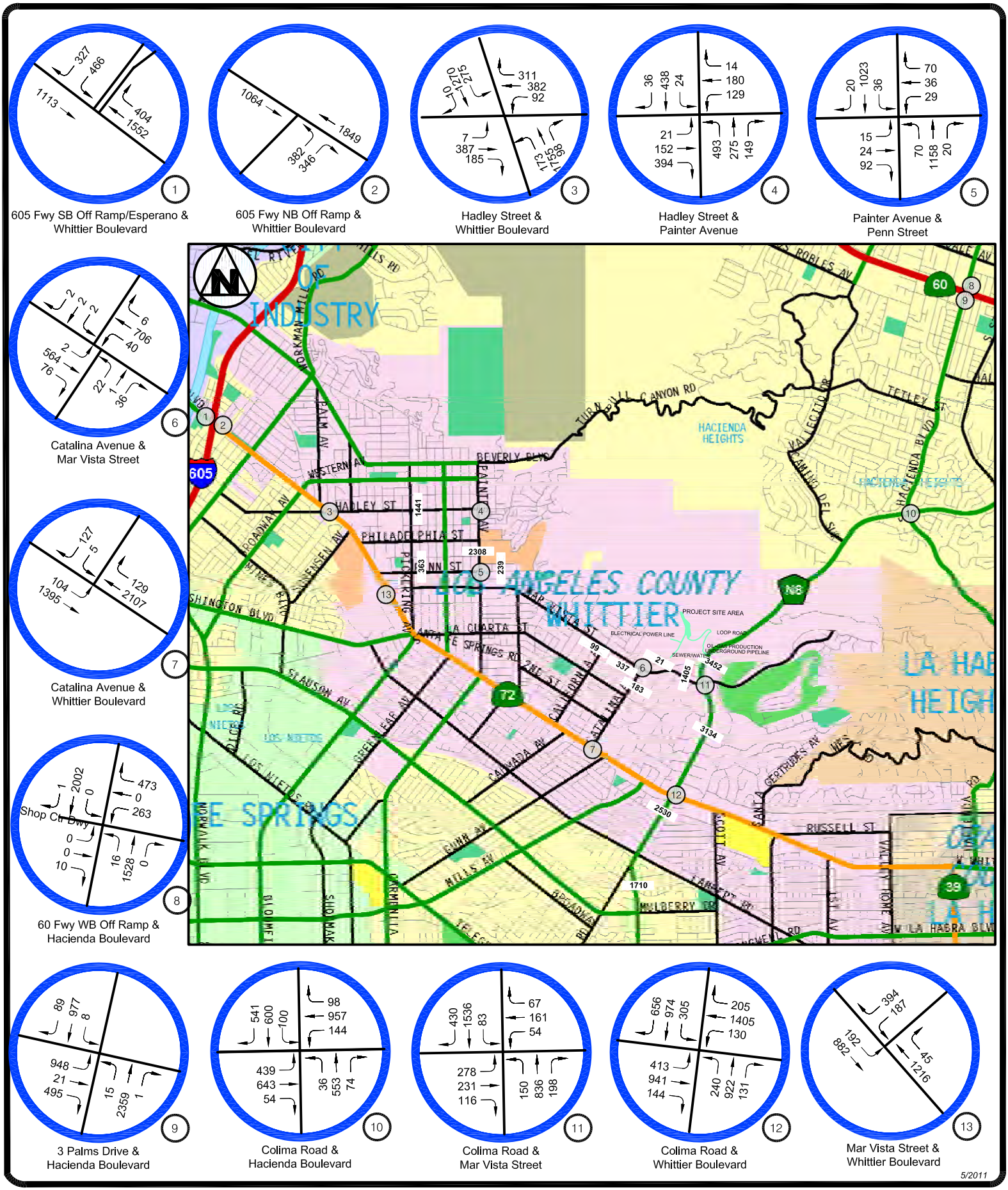
FIGURE 10b



FUTURE (2025) TRAFFIC VOLUMES
EXISTING+AMBIENT+PHASE 3 PROJECT
AM PEAK HOUR

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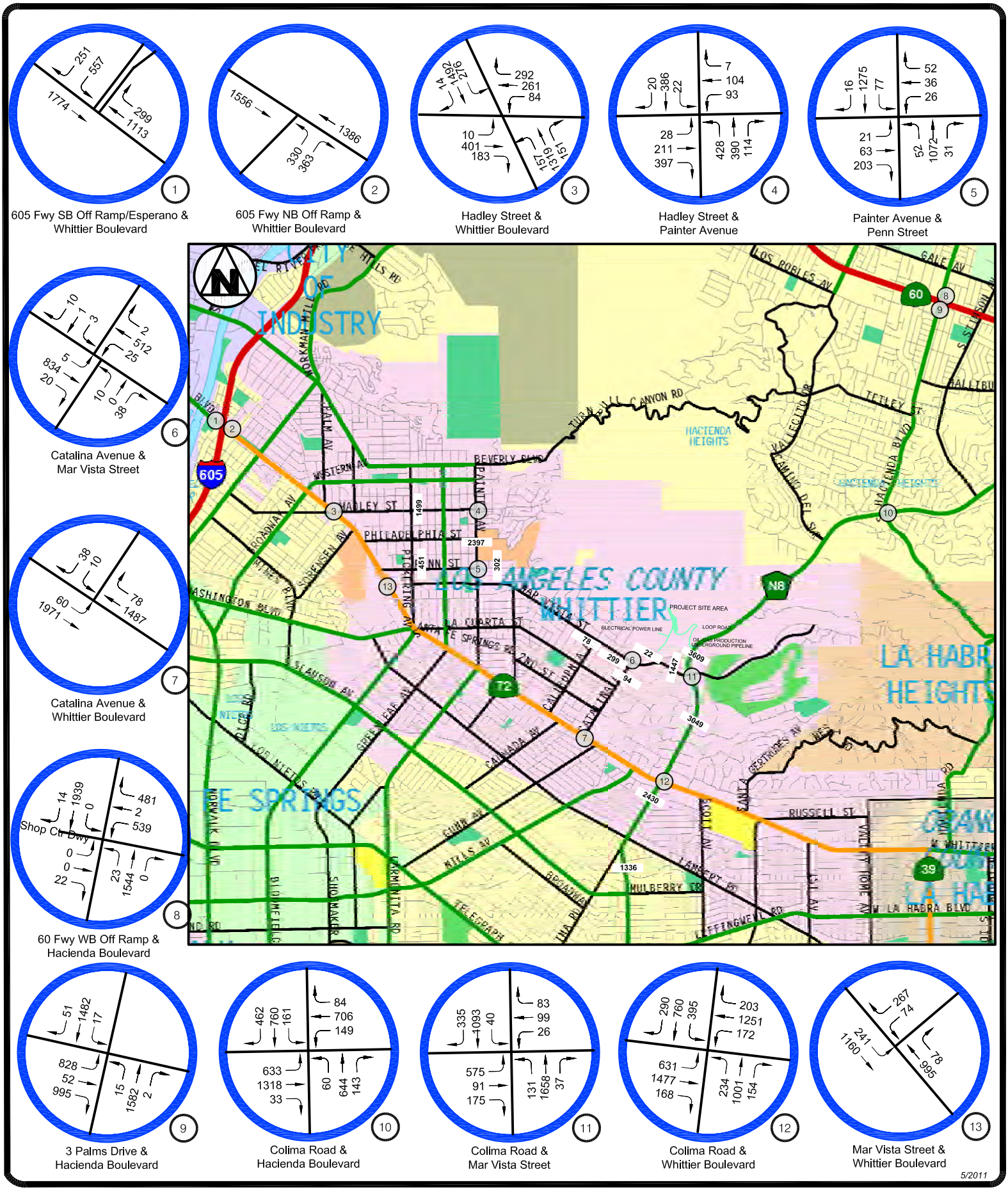
5/2011

WHITTIER HILLS OIL FIELDS

FIGURE 11a



FUTURE (2025) TRAFFIC VOLUMES
EXISTING+AMBIENT+PHASE 3 PROJECT
PM PEAK HOUR

Overland Traffic Consultants, Inc.
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FIGURE 11b

Freeway Analysis

CMP freeway monitoring locations analysis was conducted by increasing exiting traffic volumes by 1% per year for ambient growth. The resultant D/C was then compared to the existing + ambient + project volumes to determine if significance thresholds were exceeded. The analysis results are displayed below in Table 16.

Table 16
Existing + Ambient + Project Freeway Traffic Conditions

Location	Time Period	Freeway Capacity	Future (2015) Existing + Ambient Volume	D/C	LOS	Added Project Traffic	Future (2015) Ex + Amb + Proj Volume	D/C	LOS	Impact
I - 605 at	Daily		263,550			30	263,580			
Whittier Blvd	Peak Hour	20,000	15,120	0.756	D	4	15,124	0.756	D	0.0%
SR 60 E/O I-605	Daily		239,400			18	239,418			
	Peak Hour	12,000	14,700	1.225	F0	3	14,703	1.225	F0	0.0%

			Future (2020) Existing + Ambient Volume	D/C	LOS	Added Project Traffic	Future (2020) Ex + Amb + Proj Volume	D/C	LOS	Impact
I - 605 at	Daily		276,728			138	276,866			
Whittier Blvd	Peak Hour	20,000	15,876	0.794	D	8	15,884	0.794	D	0.0%
SR 60 E/O I-605	Daily		251,370			40	251,410			
	Peak Hour	12,000	15,435	1.286	F1	4	15,439	1.287	F1	0.1%

			Future (2025) Existing + Ambient Volume	D/C	LOS	Added Project Traffic	Future (2025) Ex + Amb + Proj Volume	D/C	LOS	Impact
I - 605 at	Daily		290,564			17	290,581			
Whittier Blvd	Peak Hour	20,000	16,670	0.834	D	5	16,675	0.834	D	0.0%
SR 60 E/O I-605	Daily		263,939			7	263,946			
	Peak Hour	12,000	16,207	1.351	F2	2	16,209	1.351	F2	0.0%

D/C = demand over capacity

Cumulative Impacts and Mitigation Measures

Analysis was conducted for future conditions with other projects in the area, ambient growth and the project. These were evaluated for all three phases of the project. To evaluate future traffic conditions with the related projects, estimates of the daily and peak hour traffic were developed used standard ITE rates. A list of the related projects in provided with their locations in Table 17. Appendix E provides the trip generation for each of the related projects. Figure 12 displays the locations of the related projects on a map of the area.

Table 17
Related Projects in the Study Area

Proj No.	Location	Description		
1	16050 Whittier Boulevard			The Gables
		67	unit	Condominium Complex
	15310 Ashley Court			Revello
		0	unit	Condominium Complex
				(29 units completed)
2	9175 Villaverde Drive			Community Church
		34,000	sf	New Church Sanctuary
3	15801 Whittier Boulevard			Sprouts Market
		24,500	sf	Grocery Store
4	12401 Washington Boulevard			Presbyterian Intercommunity Hospital
		105,600	sf	Hospital Expansion
	N side of Bailey St btwn			HDS Group Mixed Use
	Comstock Ave & Milton Ave	0	units	Housing
		0	sf	max Retail Space
		0	sf	Library
	SE Corner of Painter Av &			Mixed Use
	Penn St	0	units	Housing
		0	sf	Retail
5	Hacienda Heights			Community Plan Update
6	Hacienda Heights misc roadways			Roadway & Infrastructure Improvements
7	1234 Valencia Avenue			Hacienda Heights Community Ctr
8	Pathfinder Park			Rowland Heights Community Ctr
9	Fullerton Road			Infrastructure Improve- Rowland Heights
10	2500 Pellissier Place			Puente Hills Intermodal Facility
	(Scenario 2)			Waste Hauler Truck
				Employees
11	Puente Hills			Irrigation System
12	Puente Hills Landfill			Gas Collection Wells
13	NWC Lambert Rd & Idaho St			Lambert Idaho Specific Plan
		77	units	Single Family Homes
14	951 S. Beach Boulevard			La Habra International Market
		115,000	sf	Shopping Center
15	1400 S La Habra Hills			Hilton Garden Inn
		107	room	Hotel
16	600 S Harbor Boulevard			Home Depot
		6,000	sf	Home Depot Expansion
17	520 E Park Industrial Drive	3,941	sf	Light Industrial
18	605 N Walnut Street	8	unit	Condominium Complex
19	318 S Cypress Street	9,970	sf	Light Industrial
20	300 S Euclid Street			John Laing Residential
		91	units	Single Family Homes
21	151 W Whittier Boulevard	8,724	sf	Restaurant
22	571 W La Habra Boulevard	2,160	sf	Office
23	1801 W La Habra Boulevard	19,082	sf	Office
24	531 S Euclid Street	4	unit	Condominium Complex
25	La Habra			La Habra Heights Trail Connectors Plan
26	Kern - Los Angeles & San			Tehachapi Renewable Transmission Project
	Bernardino Counties	173	miles	Upgraded Transmission Infrastructure
27	Washington & Philadelphia			Linc Housing - Affordable Units

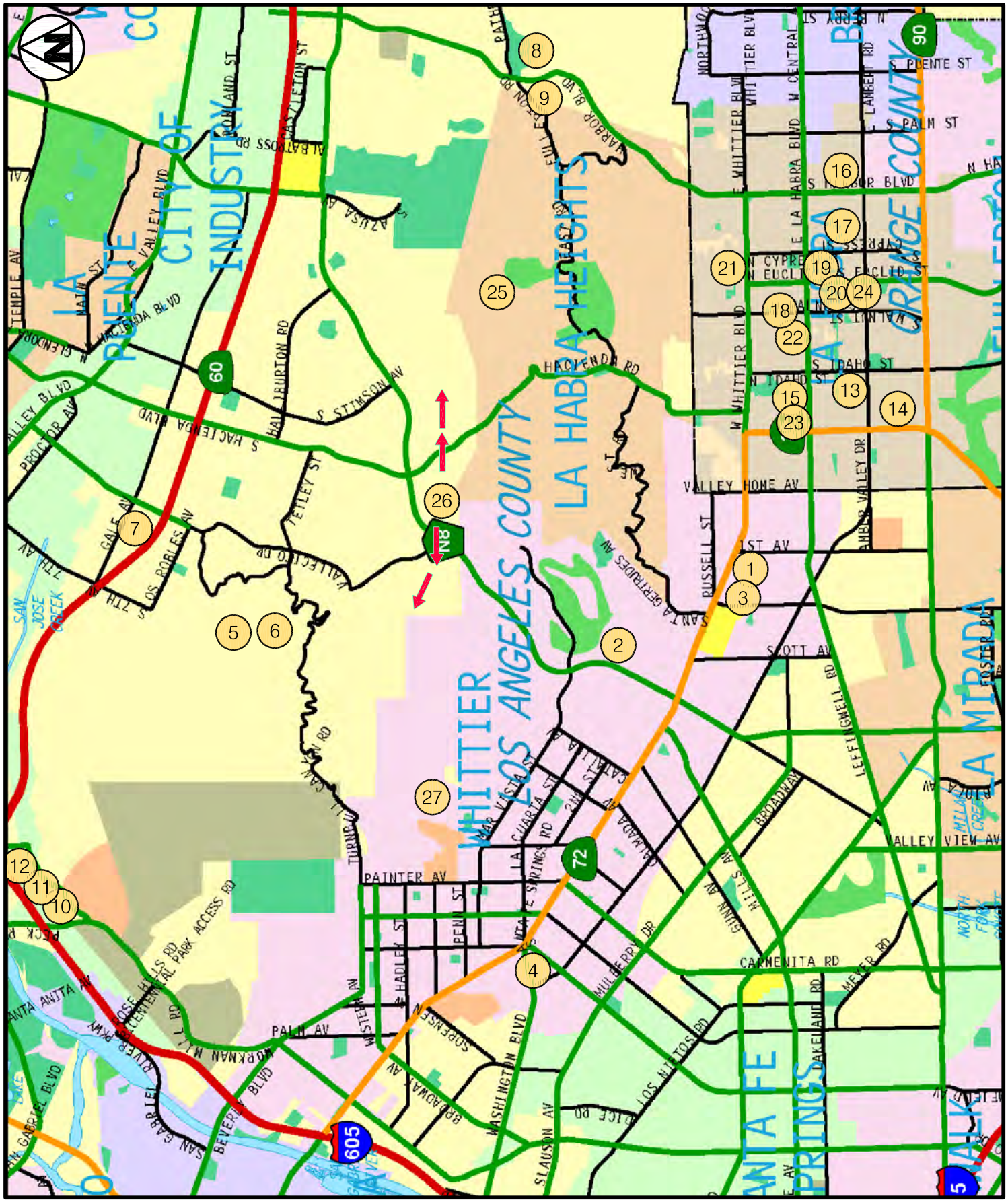


FIGURE 12

6/2010

RELATED PROJECT LOCATIONS

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

Cumulative Intersection Analysis

The traffic volumes for the related (cumulative) projects in the area were added to the future existing with ambient growth and project volumes to determine if significant impact thresholds were exceeded. If these thresholds are exceeded the % of project impact is identified for the intersection and time period. Table 18, 19 and 20 display the results of the analysis.

Table 18
Intersection: Future Conditions With Phase 1 Project and Cumulative Projects

No	Intersection	Peak Hour		Future (2015) Exist+Ambient ICU DELAY	LOS	Future (2015) Exist+Amb+Related+Ph 1 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	% Project
1	605 Fwy SB Off/Esperano	AM		0.835	D	0.840	D	+	0.005		NO	
	& Whittier Boulevard	PM		0.817	D	0.824	D	+	0.007		NO	
2	605 Fwy NB Offramp &	AM		0.771	C	0.777	C	+	0.006		NO	
	Whittier Boulevard	PM		0.682	B	0.692	B	+	0.010		NO	
3	Hadley Street &	AM		0.933	E	0.936	E	+	0.003		NO	
	Whittier Boulevard	PM		0.798	C	0.802	D	+	0.004		NO	
4	Hadley Street &	AM		0.803	D	0.806	D	+	0.003		NO	
	Painter Avenue	PM		0.734	C	0.736	C	+	0.002		NO	
5	Painter Avenue &	AM		0.532	A	0.533	A	+	0.001		NO	
	Penn Street	PM		0.614	B	0.615	B	+	0.001		NO	
6A	Catalina Av (W Leg) &	AM	SB	21.8	C	23.0	C	+	1.2	5.2%	**YES**	91.7%
	Mar Vista Street	PM	SB	11.1	B	17.9	C	+	6.8	38.0%	**YES**	97.1%
6B	Catalina Av (E Leg) &	AM	NB	13.4	B	13.5	B	+	0.1	0.7%	NO	
	Mar Vista Street	PM	NB	14.7	B	14.8	B	+	0.1	0.7%	NO	
7	Catalina Avenue &	AM	SB	19.9	C	20.3	C	+	0.4	2.0%	NO	
	Whittier Boulevard	PM	SB	15.6	C	15.9	C	+	0.3	1.9%	NO	
8	60 Fwy WB Off Ramp &	AM		0.806	D	0.807	D	+	0.001		NO	
	Hacienda Boulevard	PM		0.859	D	0.866	D	+	0.007		NO	
9	Three Palms Drive &	AM		0.914	E	0.917	E	+	0.003		NO	
	Hacienda Boulevard	PM		0.789	C	0.797	C	+	0.008		NO	
10	Colima Road &	AM		0.731	C	0.736	C	+	0.005		NO	
	Hacienda Boulevard	PM		0.776	C	0.786	C	+	0.010		NO	
11	Colima Road &	AM		0.818	D	0.83	D	+	0.012		NO	
	Mar Vista Street	PM		0.870	D	0.878	D	+	0.008		NO	
12	Colima Road &	AM		0.951	E	0.963	E	+	0.012		**YES**	16.7%
	Whittier Boulevard	PM		0.926	E	0.940	E	+	0.014		**YES**	0.0%
13	Mar Vista Street &	AM		0.794	C	0.801	D	+	0.007		NO	
	Whittier Boulevard	PM		0.693	B	0.705	C	+	0.012		NO	

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Table 19
Intersection: Future Conditions With Phase 2 Project and Cumulative Projects

No	Intersection	Peak Hour		Future (2020) Exist+Ambient ICU DELAY	LOS	Future (2020) Exist+Amb+Related+Ph 2 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	% Project
1	605 Fwy SB Off/Esperano	AM		0.870	D	0.877	D	+	0.007		NO	
	& Whittier Boulevard	PM		0.852	D	0.860	D	+	0.008		NO	
2	605 Fwy NB Offramp &	AM		0.804	D	0.813	D	+	0.009		NO	
	Whittier Boulevard	PM		0.710	C	0.724	C	+	0.014		NO	
3	Hadley Street &	AM		0.973	E	0.986	E	+	0.013		**YES**	92.3%
	Whittier Boulevard	PM		0.831	D	0.846	D	+	0.015		NO	
4	Hadley Street &	AM		0.836	D	0.846	D	+	0.010		NO	
	Painter Avenue	PM		0.766	C	0.776	C	+	0.010		NO	
5	Painter Avenue &	AM		0.552	A	0.57	A	+	0.018		NO	
	Penn Street	PM		0.638	B	0.639	B	+	0.001		NO	
6A	Catalina Av (W Leg) &	AM	SB	22.1	C	22.2	C	+	0.1	0.5%	NO	
	Mar Vista Street	PM	SB	11.3	B	16.0	C	+	4.7	29.4%	**YES**	97.9%
6B	Catalina Av (E Leg) &	AM	NB	13.9	B	13.9	B	+	0.0	0.0%	NO	
	Mar Vista Street	PM	NB	15.2	C	15.3	C	+	0.1	0.7%	NO	
7	Catalina Avenue &	AM	SB	21.5	C	22.1	C	+	0.6	2.7%	NO	
	Whittier Boulevard	PM	SB	16.6	C	17.1	C	+	0.5	2.9%	NO	
8	60 Fwy WB Off Ramp &	AM		0.840	D	0.841	D	+	0.001		NO	
	Hacienda Boulevard	PM		0.896	D	0.903	E	+	0.007		NO	
9	Three Palms Drive &	AM		0.953	E	0.957	E	+	0.004		NO	
	Hacienda Boulevard	PM		0.821	D	0.831	D	+	0.010		No	
10	Colima Road &	AM		0.761	C	0.767	C	+	0.006		NO	
	Hacienda Boulevard	PM		0.808	D	0.818	D	+	0.010		NO	
11	Colima Road &	AM		0.853	D	0.864	D	+	0.011		NO	
	Mar Vista Street	PM		0.906	E	0.914	E	+	0.008		NO	
12	Colima Road &	AM		0.991	F	1.004	F	+	0.013		**YES**	15.4%
	Whittier Boulevard	PM		0.965	E	0.980	E	+	0.015		**YES**	13.3%
13	Mar Vista Street &	AM		0.827	D	0.837	D	+	0.010		NO	
	Whittier Boulevard	PM		0.723	C	0.738	C	+	0.015		NO	

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)

Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Table 20
Intersection: Future Conditions With Phase 3 Project and Cumulative Projects

No	Intersection	Peak Hour		Future (2025) Exist+Ambient ICU DELAY	LOS	Future (2025) Exist+Amb+Related+Ph 3 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	% Project
1	605 Fwy SB Off/Esperano	AM		0.905	E	0.910	E	+	0.005		NO	
	& Whittier Boulevard	PM		0.887	D	0.892	D	+	0.005		NO	
2	605 Fwy NB Offramp &	AM		0.836	D	0.842	D	+	0.006		NO	
	Whittier Boulevard	PM		0.737	C	0.748	C	+	0.011		NO	
3	Hadley Street &	AM		1.013	F	1.016	F	+	0.003		NO	
	Whittier Boulevard	PM		0.865	D	0.869	E	+	0.004		NO	
4	Hadley Street &	AM		0.870	D	0.873	D	+	0.003		NO	
	Painter Avenue	PM		0.795	C	0.799	C	+	0.004		NO	
5	Painter Avenue &	AM		0.573	A	0.575	A	+	0.002		NO	
	Penn Street	PM		0.662	B	0.664	B	+	0.002		NO	
6A	Catalina Av (W Leg) &	AM	SB	23.8	C	24.0	C	+	0.2	0.8%	NO	
	Mar Vista Street	PM	SB	11.5	B	16.6	C	+	5.1	30.7%	**YES**	
6B	Catalina Av (E Leg) &	AM	NB	14.2	B	14.3	B	+	0.1	0.7%	NO	
	Mar Vista Street	PM	NB	15.9	C	16.0	C	+	0.1	0.6%	NO	
7	Catalina Avenue &	AM	SB	24.6	C	25.0	C	+	0.4	1.6%	NO	
	Whittier Boulevard	PM	SB	17.3	C	17.8	C	+	0.5	2.8%	NO	
8	60 Fwy WB Off Ramp &	AM		0.874	D	0.875	D	+	0.001		NO	
	Hacienda Boulevard	PM		0.934	E	0.939	E	+	0.005		NO	
9	Three Palms Drive &	AM		0.992	E	0.995	E	+	0.003		NO	
	Hacienda Boulevard	PM		0.856	D	0.863	D	+	0.007		NO	
10	Colima Road &	AM		0.791	C	0.797	C	+	0.006		NO	
	Hacienda Boulevard	PM		0.840	D	0.849	D	+	0.009		NO	
11	Colima Road &	AM		0.888	D	0.896	D	+	0.008		NO	
	Mar Vista Street	PM		0.944	E	0.951	E	+	0.007		NO	
12	Colima Road &	AM		1.031	F	1.043	F	+	0.012		**YES**	8.3%
	Whittier Boulevard	PM		1.005	F	1.019	F	+	0.014		**YES**	0.0%
13	Mar Vista Street &	AM		0.860	D	0.866	D	+	0.006		NO	
	Whittier Boulevard	PM		0.750	C	0.762	C	+	0.012		NO	

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Cumulative Roadway Segment Analysis

Roadway segments were analyzed in a similar manner as the intersections. The exiting roadway traffic volumes were increased by 1% per year for ambient growth and project traffic was added to this future volume. A comparison of the future without and future with project volumes was conducted and compared to the impact criteria to determine if significant impacts occur. Tables 21, 22, and 23 display the results of this analysis. If an impact is deemed significant, the % of project traffic which contributes to the impact is identified.

Figures 13 (a & b), 14 (a & b) and 15 (a & b) display the traffic volumes of future traffic volumes for existing + ambient growth + cumulative + Phase 1, 2 & 3 respectively for the AM & PM Peak Hours at the study intersections and roadway segments.

Table 21
Segment: Future Conditions With Phase 1 Project and Cumulative Projects

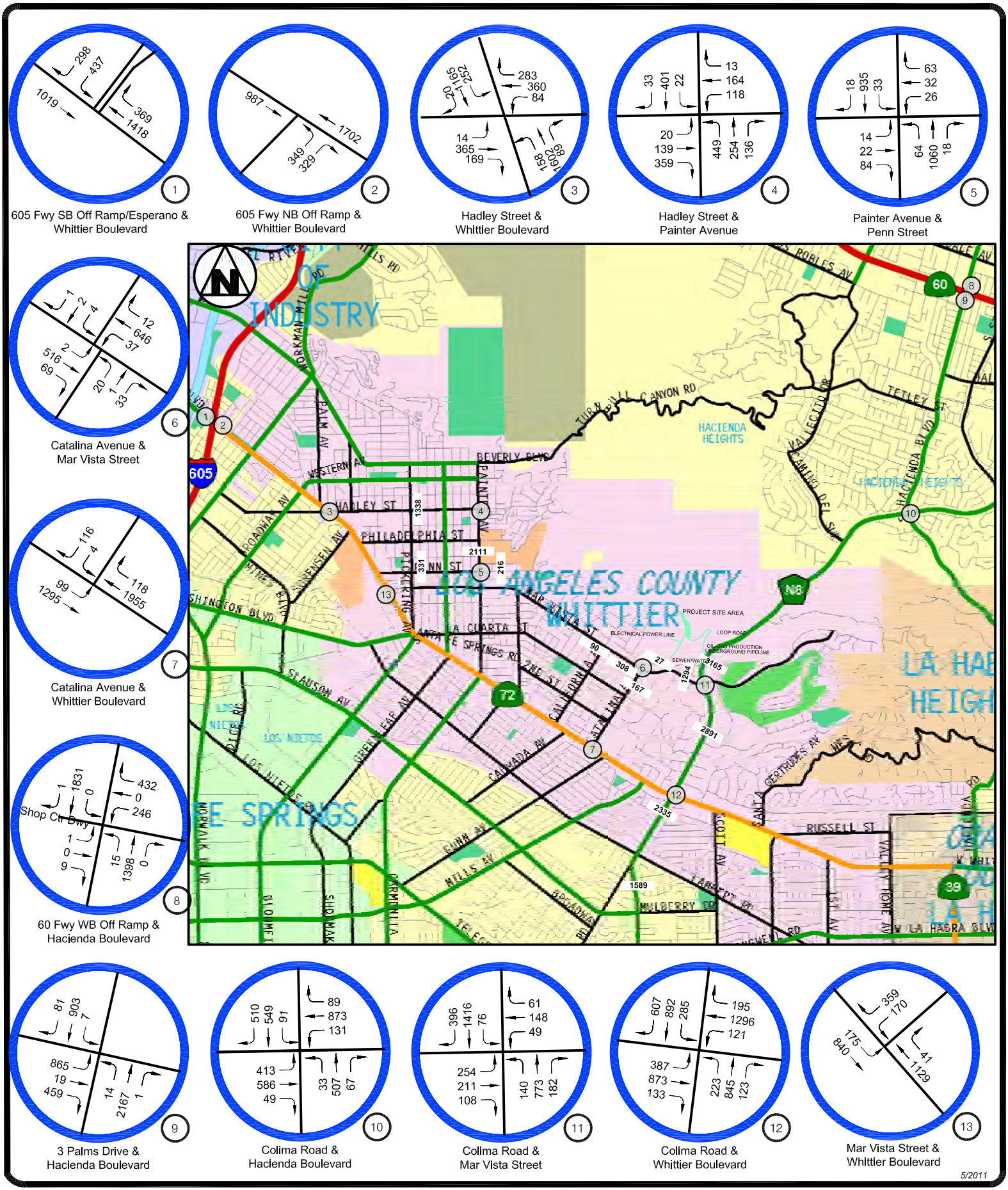
	Street Segment	Time Period	Impa Capacity	Existing + Ambient 2015 With Ambient	V/C	LOS	Existing + Ambient + Cumulative + Project Related Volume	Total	V/C	LOS	% ct	Sig?	% Project
1	Hadley Street	AM	2,800	1314	0.469	A	23	1338	0.478	A	1.8	No	
	E/O Pickering Ave.	PM	2,800	1367	0.488	A	40	1408	0.503	A	2.9	No	
	minor arterial	DAILY	50,000	16564	0.331	A	315	16883	0.338	A	1.9	No	
2	Painter Avenue	AM	2,800	2105	0.752	C	5	2111	0.754	C	0.3	No	
	N/O Penn Street	PM	2,800	2187	0.781	C	6	2194	0.784	C	0.3	No	
	minor arterial	DAILY	50,000	26871	0.537	A	55	26930	0.539	A	0.2	No	
3	Penn Street	AM	1,200	331	0.276	A	0	331	0.276	A	0.1	No	
	E/O Pickering Ave.	PM	1,200	412	0.343	A	0	412	0.344	A	0.0	No	
	collector	DAILY	10,000	4543	0.454	A	42	4586	0.459	A	0.9	No	
4	Penn Street	AM	1,200	216	0.180	A	0	216	0.180	A	0.0	No	
	E/O Painter Ave.	PM	1,200	274	0.228	A	0	274	0.228	A	0.0	No	
	colllector	DAILY	10,000	2870	0.287	A	82	2953	0.295	A	2.8	No	
5	California Avenue	AM	1,000	90	0.090	A	0	90	0.090	A	0.0	No	
	S/O Mar Vista St.	PM	1,000	71	0.071	A	0	71	0.071	A	0.3	No	
	local	DAILY	5,000	644	0.129	A	0	645	0.129	A	0.2	No	
6	Ocean View	AM	1,000	308	0.308	A	0	308	0.308	A	0.0	No	
	S/O Mar Vista	PM	1,000	273	0.273	A	0	273	0.273	A	0.1	No	
	local	DAILY	5,000	2584	0.517	A	0	2584	0.517	A	0.0	No	
7	Catalina Avenue	AM	1,000	11	0.011	A	0	27	0.027	A	59.3	No	
	N/O Mar Vista St.	PM	1,000	12	0.012	A	0	28	0.028	A	57.1	No	
	local	DAILY	5,000	106	0.021	A	0	226	0.045	A	53.1	No	
8	Catalina Avenue	AM	1,000	167	0.167	A	0	167	0.167	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	85	0.085	A	0	85	0.085	A	0.6	No	
	local	DAILY	5,000	1068	0.214	A	0	1070	0.214	A	0.2	No	
9	Mar Vista Street	AM	1,200	1277	1.064	F	2	1294	1.078	F	1.3	**YES**	88.1%
	W/O Colima Rd.	PM	1,200	1318	1.098	F	4	1335	1.112	F	1.3	**YES**	76.3%
	collector	DAILY	10,000	15619	1.562	F	30	15753	1.575	F	0.8	No	
10	Colima Road	AM	3,600	3149	0.875	D	10	3165	0.879	D	0.5	No	
	N/O Mar Vista St.	PM	3,600	3293	0.915	E	15	3314	0.921	E	0.6	No	
	minor arterial	DAILY	50,000	37489	0.750	C	125	37664	0.753	C	0.5	No	
11	Colima Road	AM	3,600	2857	0.794	C	25	2891	0.803	D	1.2	No	
	S/O Mar Vista St.	PM	3,600	2783	0.773	C	41	2831	0.786	C	1.7	No	
	minor arterial	DAILY	50,000	33788	0.676	B	330	34172	0.683	B	1.1	No	
12	Colima Road	AM	3,600	2309	0.641	B	25	2335	0.649	B	1.1	No	
	S/O Whittier Bl.	PM	3,600	2218	0.616	B	41	2260	0.628	B	1.8	No	
	minor arterial	DAILY	50,000	27822	0.556	A	330	28156	0.563	A	1.2	No	
13	La Mirada Blvd	AM	4,800	1560	0.325	A	28	1589	0.331	A	1.8	No	
	S/O Lambert	PM	4,800	1219	0.254	A	39	1259	0.262	A	3.2	No	
	major arterial	DAILY	50,000	15463	0.309	A	335	15802	0.316	A	2.1	No	

Table 22
Segment: Future Conditions With Phase 2 Project and Cumulative Projects

	Street Segment	Time Period	Capacity	Existing + Ambient 2020 With Ambient	V/C	LOS	Existing + Ambient + Cumulative + Project Related Volume	Total	V/C	LOS	% Impact	Sig?	% Project
1	Hadley Street	AM	2,800	1376	0.491	A	23	1417	0.506	A	2.9	No	
	E/O Pickering Ave.	PM	2,800	1432	0.511	A	40	1489	0.532	A	3.8	No	
	minor arterial	DAILY	50,000	17353	0.347	A	315	17834	0.357	A	2.7	No	
2	Painter Avenue	AM	2,800	2206	0.788	C	5	2229	0.796	C	1.0	No	
	N/O Penn Street	PM	2,800	2291	0.818	D	6	2314	0.826	D	1.0	No	
	minor arterial	DAILY	50,000	28150	0.563	A	55	28371	0.567	A	0.8	No	
3	Penn Street	AM	1,200	347	0.289	A	0	353	0.294	A	4.4	No	
	E/O Pickering Ave.	PM	1,200	431	0.359	A	0	436	0.363	A	3.4	No	
	collector	DAILY	10,000	4760	0.476	A	42	4851	0.485	A	7.0	No	
4	Penn Street	AM	1,200	227	0.189	A	0	243	0.203	A	2.3	No	
	E/O Painter Ave.	PM	1,200	287	0.239	A	0	302	0.302	A	1.6	No	
	colllector	DAILY	10,000	3006	0.301	A	82	3404	0.340	A	3.9	No	
5	California Avenue	AM	1,000	95	0.095	A	0	95	0.095	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	75	0.075	A	0	75	0.075	A	0.5	No	
	local	DAILY	5,000	674	0.135	A	0	676	0.135	A	0.3	No	
6	Ocean View	AM	1,000	322	0.322	A	0	322	0.322	A	0.0	No	
	S/O Mar Vista	PM	1,000	286	0.286	A	0	286	0.286	A	0.1	No	
	local	DAILY	5,000	2707	0.541	A	0	2709	0.542	A	0.1	No	
7	Catalina Avenue	AM	1,000	11	0.011	A	0	27	0.027	A	59.3	No	
	N/O Mar Vista St.	PM	1,000	12	0.012	A	0	28	0.028	A	57.1	No	
	local	DAILY	5,000	111	0.022	A	0	191	0.038	A	41.9	No	
8	Catalina Avenue	AM	1,000	175	0.175	A	0	175	0.175	A	0.2	No	
	S/O Mar Vista St.	PM	1,000	89	0.089	A	0	90	0.090	A	1.1	No	
	local	DAILY	5,000	1119	0.224	A	0	1124	0.225	A	0.4	No	
9	Mar Vista Street	AM	1,200	1338	1.115	F	2	1353	1.127	F	1.1	**YES**	86.6%
	W/O Colima Rd.	PM	1,200	1381	1.151	F	4	1394	1.162	F	1.0	**YES**	70.4%
	collector	DAILY	10,000	16363	1.636	F	30	16440	1.644	F	0.5	No	
10	Colima Road	AM	3,600	3299	0.916	E	10	3319	0.922	E	0.6	No	
	N/O Mar Vista St.	PM	3,600	3450	0.958	E	15	3475	0.965	E	0.7	No	
	minor arterial	DAILY	50,000	39274	0.785	C	125	39482	0.790	C	0.5	No	
11	Colima Road	AM	3,600	2993	0.831	D	25	3027	0.841	D	1.1	No	
	S/O Mar Vista St.	PM	3,600	2915	0.810	D	41	2961	0.823	D	1.6	No	
	minor arterial	DAILY	50,000	35397	0.708	C	330	35754	0.715	C	1.0	No	
12	Colima Road	AM	3,600	2419	0.672	B	25	2446	0.679	B	1.1	No	
	S/O Whittier Bl.	PM	3,600	2323	0.645	B	41	2366	0.657	B	1.8	No	
	minor arterial	DAILY	50,000	29147	0.583	A	330	29485	0.590	A	1.1	No	
13	La Mirada Blvd	AM	4,800	1635	0.341	A	28	1665	0.347	A	1.8	No	
	S/O Lambert	PM	4,800	1277	0.266	A	39	1318	0.275	A	3.1	No	
	major arterial	DAILY	50,000	16200	0.324	A	335	16543	0.331	A	2.1	No	

Table 23
Segment: Future Conditions With Phase 3 Project and Cumulative Projects

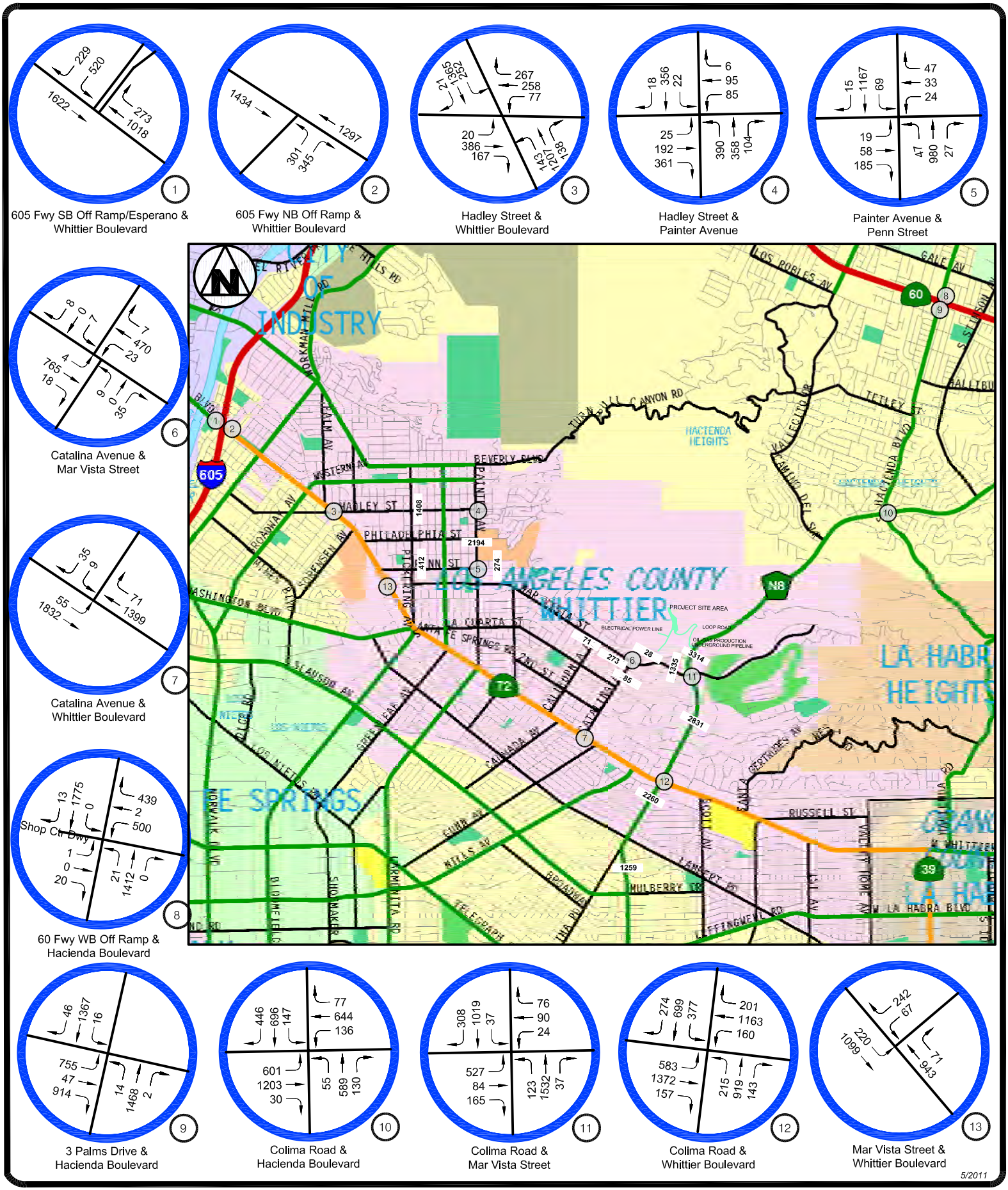
	Street Segment	Time Period	Capacity	Existing + Ambient 2025 With Ambient	V/C	LOS	Existing + Ambient + Cumulative + Project Related Volume	Total	V/C	LOS	% impact	Sig?	% Project
1	Hadley Street	AM	2,800	1439	0.514	A	23	1464	0.523	A	1.7	No	
	E/O Pickering Ave.	PM	2,800	1497	0.535	A	40	1539	0.550	A	2.7	No	
	minor arterial	DAILY	50,000	18141	0.363	A	315	18494	0.370	A	1.9	No	
2	Painter Avenue	AM	2,800	2306	0.824	D	5	2313	0.826	D	0.3	No	
	N/O Penn Street	PM	2,800	2395	0.855	D	6	2403	0.858	D	0.3	No	
	minor arterial	DAILY	50,000	29430	0.589	A	55	29523	0.590	A	0.3	No	
3	Penn Street	AM	1,200	362	0.302	A	0	363	0.303	A	0.5	No	
	E/O Pickering Ave.	PM	1,200	451	0.376	A	0	451	0.376	A	0.4	No	
	collector	DAILY	10,000	4976	0.498	A	42	5029	0.503	A	2.2	No	
4	Penn Street	AM	1,200	237	0.198	A	0	239	0.199	A	0.4	No	
	E/O Painter Ave.	PM	1,200	300	0.250	A	0	302	0.252	A	0.0	No	
	colllector	DAILY	10,000	3143	0.314	A	82	3293	0.329	A	2.8	No	
5	California Avenue	AM	1,000	99	0.099	A	0	99	0.099	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	78	0.078	A	0	78	0.078	A	0.5	No	
	local	DAILY	5,000	705	0.141	A	0	706	0.141	A	0.2	No	
6	Ocean View	AM	1,000	337	0.337	A	0	337	0.337	A	0.0	No	
	S/O Mar Vista	PM	1,000	299	0.299	A	0	299	0.299	A	0.1	No	
	local	DAILY	5,000	2830	0.566	A	0	2831	0.566	A	0.0	No	
7	Catalina Avenue	AM	1,000	12	0.012	A	0	21	0.021	A	42.9	No	
	N/O Mar Vista St.	PM	1,000	13	0.013	A	0	22	0.022	A	40.9	No	
	local	DAILY	5,000	116	0.023	A	0	160	0.032	A	27.5	No	
8	Catalina Avenue	AM	1,000	183	0.183	A	0	183	0.183	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	93	0.093	A	0	94	0.094	A	0.9	No	
	local	DAILY	5,000	1170	0.234	A	0	1173	0.235	A	0.2	No	
9	Mar Vista Street	AM	1,200	1398	1.165	F	2	1407	1.172	F	0.6	No	
	W/O Colima Rd.	PM	1,200	1443	1.203	F	4	1451	1.209	F	0.5	No	
	collector	DAILY	10,000	17106	1.711	F	30	17162	1.716	F	0.3	No	
10	Colima Road	AM	3,600	3449	0.958	E	10	3462	0.962	E	0.4	No	
	N/O Mar Vista St.	PM	3,600	3606	1.002	F	15	3624	1.007	F	0.5	No	
	minor arterial	DAILY	50,000	41060	0.821	D	125	41210	0.824	D	0.4	No	
11	Colima Road	AM	3,600	3129	0.869	D	25	3159	0.877	D	0.9	No	
	S/O Mar Vista St.	PM	3,600	3048	0.847	D	41	3090	0.858	D	1.4	No	
	minor arterial	DAILY	50,000	37006	0.740	C	330	37351	0.747	C	0.9	No	
12	Colima Road	AM	3,600	2529	0.703	C	25	2555	0.710	C	1.0	No	
	S/O Whittier Bl.	PM	3,600	2429	0.675	B	41	2471	0.686	B	1.7	No	
	minor arterial	DAILY	50,000	30472	0.609	B	330	30806	0.616	B	1.1	No	
13	La Mirada Blvd	AM	4,800	1709	0.356	A	28	1738	0.362	A	1.7	No	
	S/O Lambert	PM	4,800	1335	0.278	A	39	1375	0.286	A	2.9	No	
	major arterial	DAILY	50,000	16936	0.339	A	335	17275	0.346	A	2.0	No	



FUTURE (2015) TRAFFIC VOLUMES
EXISTING+AMBIENT+RELATED PROJECTS+PHASE 1 PROJECT
AM PEAK HOUR

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

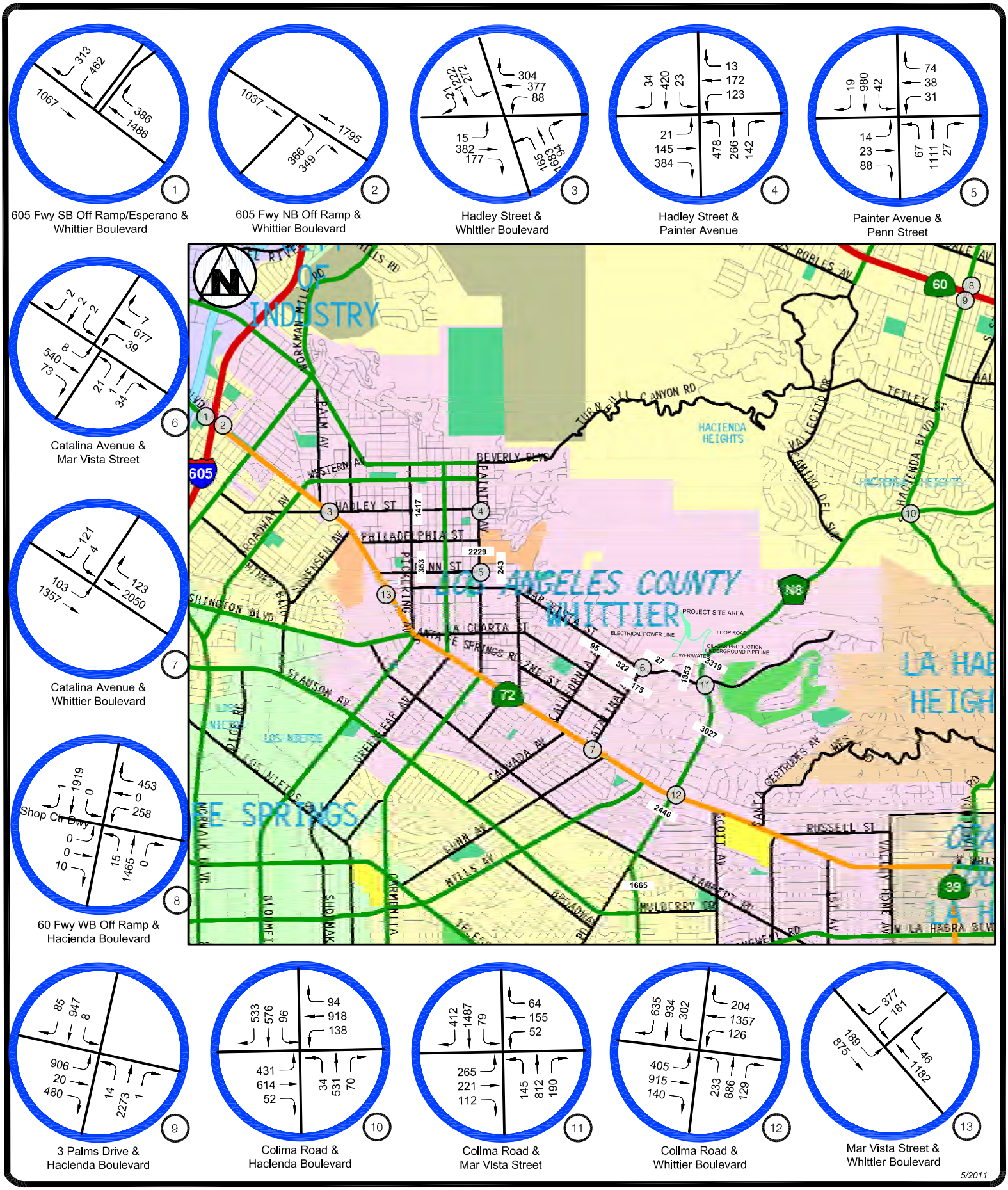
FIGURE 13a



FUTURE (2015) TRAFFIC VOLUMES
EXISTING+AMBIENT+RELATED PROJECTS+PHASE 1 PROJECT
PM PEAK HOUR

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

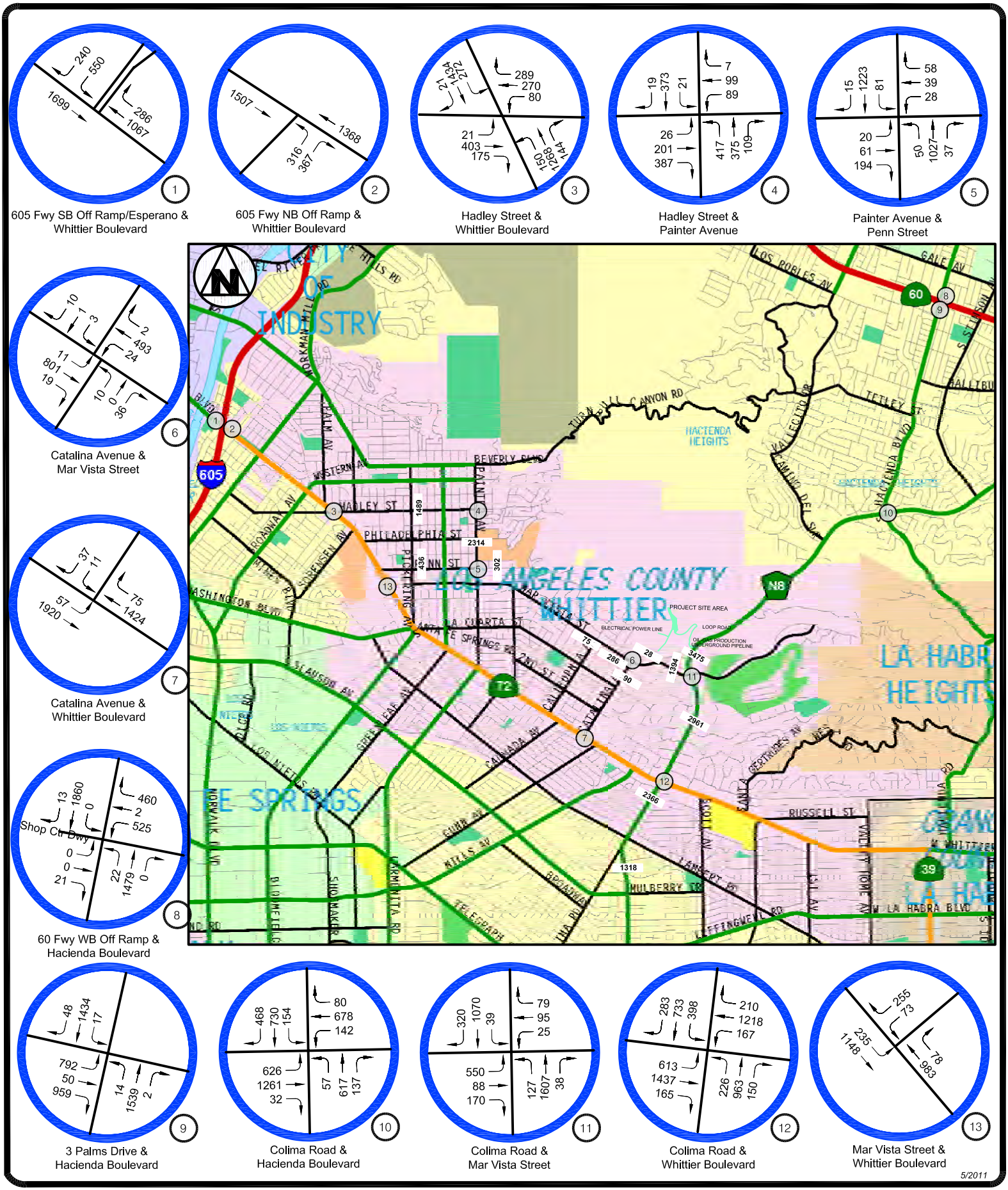
FIGURE 13b



FUTURE (2020) TRAFFIC VOLUMES
EXISTING+AMBIENT+RELATED PROJECTS+PHASE 2 PROJECT
AM PEAK HOUR

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

FIGURE 14a

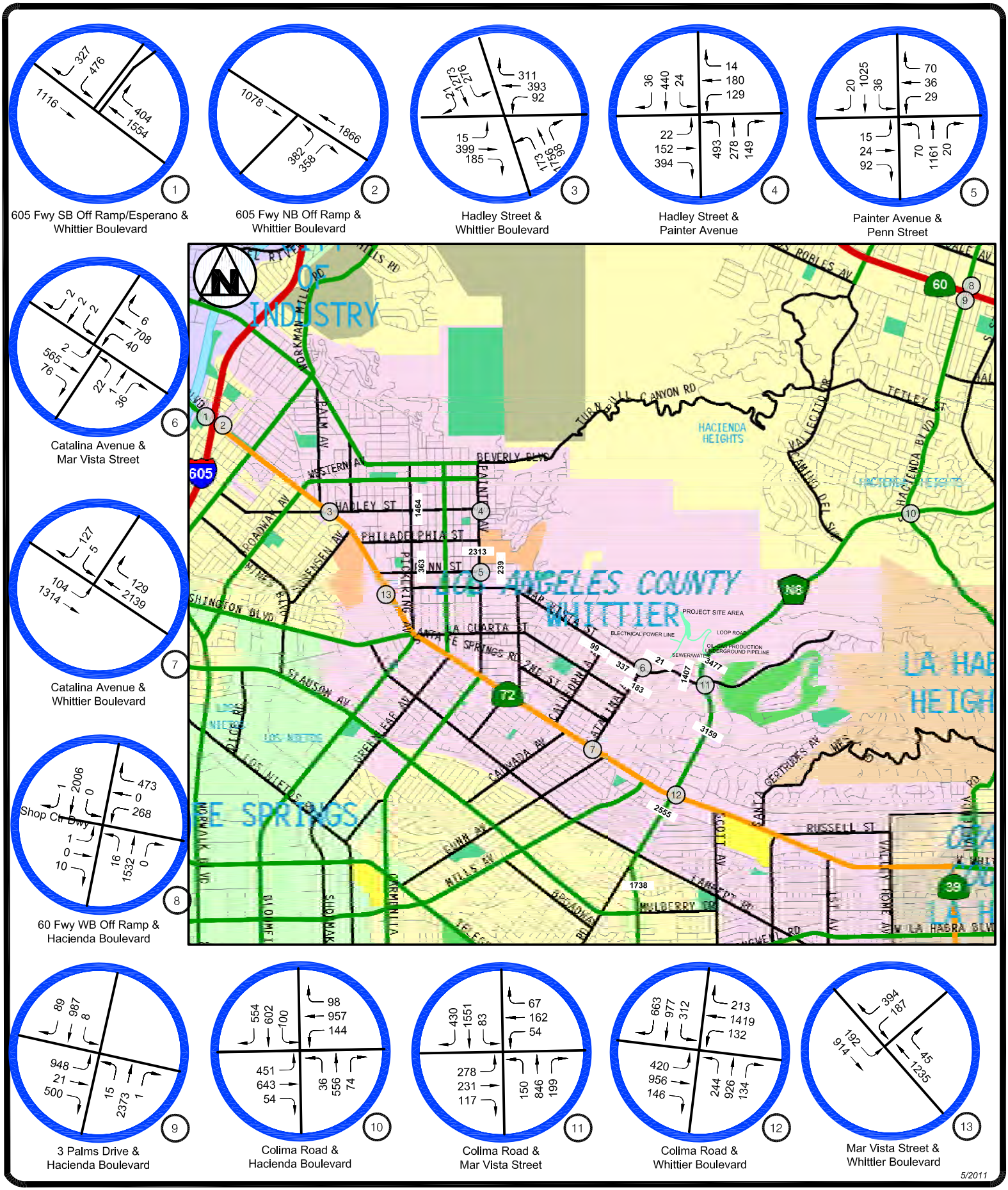


FUTURE (2020) TRAFFIC VOLUMES
EXISTING+AMBIENT+RELATED PROJECTS+PHASE 2 PROJECT
PM PEAK HOUR

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

WHITTIER HILLS OIL FIELDS

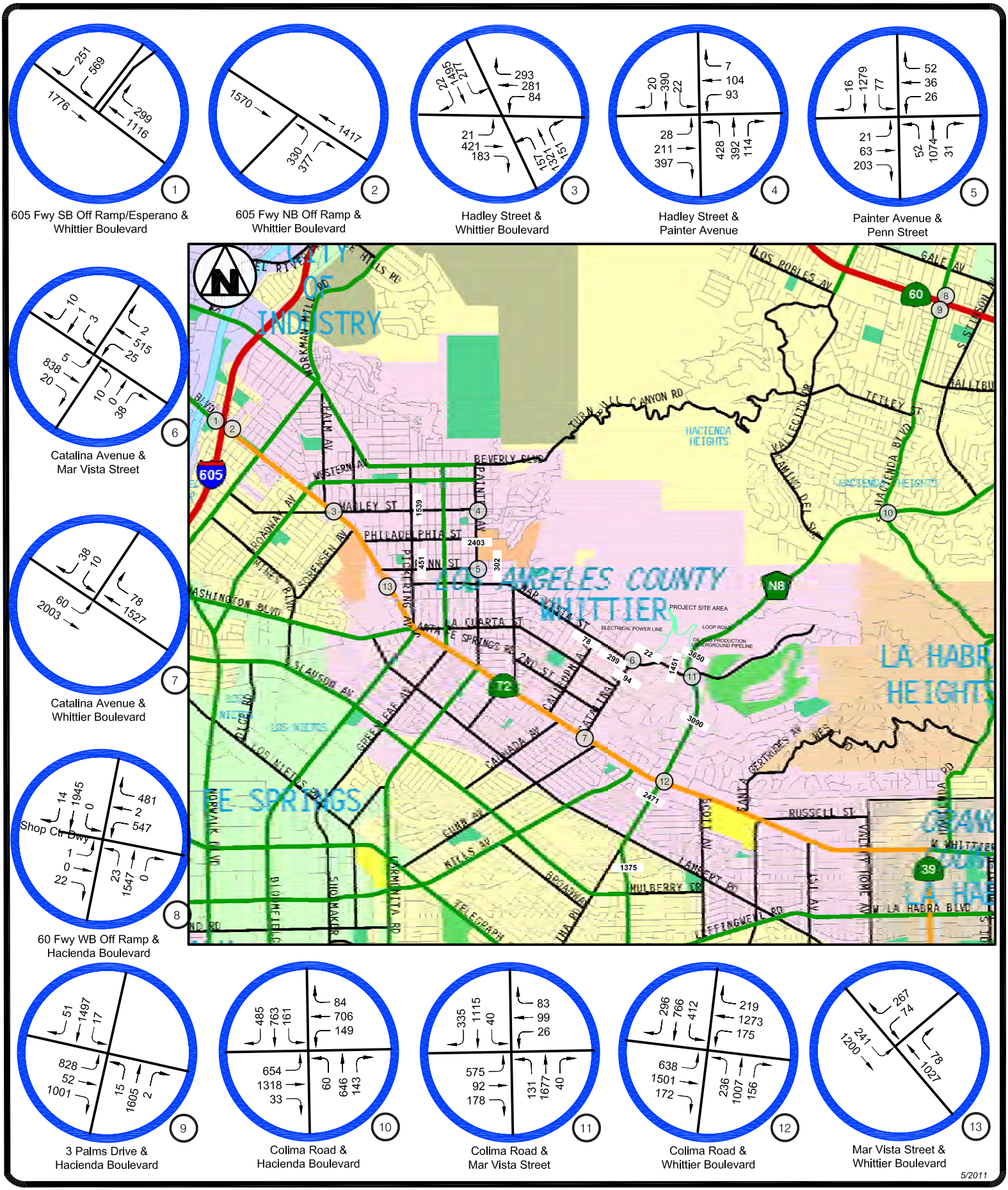
FIGURE 14b



FUTURE (2025) TRAFFIC VOLUMES
EXISTING+AMBIENT+RELATED PROJECTS+PHASE 3 PROJECT
AM PEAK HOUR

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

FIGURE 15a



FUTURE (2025) TRAFFIC VOLUMES
EXISTING+AMBIENT+RELATED PROJECTS+PHASE 3 PROJECT
PM PEAK HOUR

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTC@overlandtraffic.com

FIGURE 15b

Freeway cumulative impacts are evaluated in the same manner as the intersections and roadway segments. Table 24 displays the results of the analysis.

Table 24
Cumulative Freeway Analysis

Location	Time Period	Freeway Capacity	Future (2015) Existing + Ambient Volume	D/C	LOS	Added Project REL Traffic	PRJ	Future (2015) Ex+Amb+ Cuml+Proj Volume	D/C	LOS	Impact
I - 605 at	Daily		263,550			30	868	264,448			
Whittier Bl	Peak Hour	20,000	15,120	0.756	D	4	75	15,199	0.760	D	0.4%
SR 60 E/O I-605	Daily		239,400			18	868	240,286			
	Peak Hour	12,000	14,700	1.225	F0	3	75	14,778	1.232	F0	0.7%

			Future (2020) Existing + Ambient Volume	D/C	LOS	Added Project Traffic		Future (2020) Ex+Amb+ Cuml+Proj Volume	D/C	LOS	Impact
I - 605 at	Daily		276,728			138	868	277,734			
Whittier Bl	Peak Hour	20,000	15,876	0.794	D	8	75	15,959	0.798	D	0.4%
SR 60 E/O I-605	Daily		251,370			40	868	252,278			
	Peak Hour	12,000	15,435	1.286	F1	4	75	15,514	1.293	F1	0.7%

			Future (2025) Existing + Ambient Volume	D/C	LOS	Added Project Traffic		Future (2025) Ex+Amb+ Cuml+Proj Volume	D/C	LOS	Impact
I - 605 at	Daily		290,564			17	868	291,449			
Whittier Bl	Peak Hour	20,000	16,670	0.834	D	5	75	16,750	0.838	D	0.4%
SR 60 E/O I-605	Daily		263,939			7	868	264,814			
	Peak Hour	12,000	16,207	1.351	F2	2	75	16,284	1.357	F2	0.6%

D/C = demand over capacity

Transit Analysis

The proposed project creates both truck and employee trips. Since the truck trips are work related they will not generate transit trips. However, some employees may make use of the transit amenities in the area. The project is forecast to generate the maximum number of trips during Phase 2. Both Phase 1 and 2 are temporary but since Phase 2 creates the maximum number of employee trips, Phase 2 was evaluated for potential transit impacts. It is estimated that approximately 80 weekday daily trips with 16 trips

during the AM Peak Hour and 16 trips during the PM Peak Hour. As per Congestion Management Program (CMP) 2004 guidelines person trips can be estimated by multiplying the total trips generated by 1.4. The trips assigned to transit may be calculated by multiplying the person trips generated by 3.5%. The CMP Transit trip generation calculation is displayed below in Table 24.

Table 25
Transit Trips

	DAILY	AM PEAK HOUR	PM PEAK HOUR
PROJECT TRIPS	80	16	16
PERSON TRIPS (trips X 1.4)	112 22		22
TRANSIT TRIPS (person trips X 3.5%)	4 1		1

This level of transit increase is not expected to adversely affect the current ridership of the transit services in the area.

Traffic Signal Warrant Analysis

The project access for employees is proposed from Catalina Avenue north of Mar Vista Street. The truck access is proposed from Catalina Avenue during Phase 1 and from Penn Street during Phase 2 and Phase 3. The intersection of Catalina Avenue and Mar Vista Street was evaluated for potential installation of a new traffic signal. The project traffic volumes at was estimated to be low traffic volumes. It was found that the intersection of Catalina Avenue and Mar Vista Street will not warrant or require the installation of a traffic signal in the future with construction of this project.

Existing + Ambient + Project Impact Mitigation Measures

Under worst case conditions, significant impacts occur at one intersection, Catalina Avenue and Mar Vista Street during Phase 1, 2 and 3 and at Colima Road and Whittier Boulevard during Phase 2 only. A significant impact occurs at one street segment, Mar Vista Street west of Colima Road. The impacts occur during the temporary Phase 1. Potential access impacts are anticipated and mitigation is proposed to reduce this impact.

Mitigation Measures

Phase 1
Catalina Avenue & Mar Vista Street (AM & PM Peak Hour - Southbound Only): Provide striping enhancements for southbound to convert the existing single lane to a left and right lane. Parking will need to be restricted immediately north of the intersection creating a secondary impact to parking. This impact will be reduced to a level of insignificance during the AM peak hour and PM peak Hour.

Access Improvement: Catalina Avenue north of Mar Vista Street- - Provide a wider radius at the northeast corner to improve right turn movements. Temporarily restrict parking on the east side of Catalina Avenue north of Mar Vista Street to provide additional capacity for trucks during Phase 1. This will create a secondary impact due to the temporary loss of parking.

Phase 2

Hadley Street & Whittier Boulevard (AM Peak Hour) – This project impact occurs during Phase 2 only during the AM Peak Hour. During the heaviest morning construction activity with trucks moving off-site, a City Traffic Control Officer will be provided at the intersection to direct traffic and increase capacity. An increase in capacity of 3 percent will mitigate the temporary impact to a level of insignificance.

Catalina Avenue & Mar Vista Street (PM Peak Hour Southbound): Improvement measures implemented in Phase 1 to be retained with no further enhancements. This impact will be reduced to a level of insignificance during the PM peak Hour.

Phase 3

Catalina Avenue & Mar Vista Street (PM Peak Hour Southbound): Improvement measures implemented in Phase 1 to be retained with no further enhancements.

The effectiveness of the mitigation measures is displayed below in Table 26.

Table 26
Traffic Conditions with Related Projects, Project and Mitigation

No.	Intersection	Peak Hour		Future (2015) Exist+Ambient ICU/ Delay	LOS	Future Ex+Amb+Proj ICU/ Delay	LOS	Future Ex+Amb+Proj+Mit ICU/ Delay	LOS	IMPACT	%	Sig Impact
Phase 1												
6A	Catalina Avenue &	**AM**	SB	21.8	C	22.9	C	21.6	C	-0.2	-0.9%	No
	Mar Vista Street	**PM**	SB	11.1	B	17.7	C	14.1	B	3.0	21.3%	No
Phase 2												
3	Hadley Street &	**AM**		0.973	E	0.985	E	0.974	E	0.001		No
	Whittier Boulevard	PM		0.831	D	0.845	D	N/A				
6A	Catalina Avenue &	AM	SB	22.1	C	25.5	D	N/A				
	Mar Vista Street	**PM**	SB	11.3	B	27.8	D	13.2	B	1.9	14.4%	No
Phase 3												
6A	Catalina Avenue &	AM	SB	23.8	C	23.9	C	N/A				
	Mar Vista Street	**PM**	SB	11.5	B	16.5	C	13.5	B	2.0	14.8%	No

Cumulative Impacts and Mitigation Measures

Under worst case conditions, significant cumulative impacts occur at three intersections. A significant impact occurs at one street segment. Mitigation is proposed as detailed below.

Mitigation Measures

Phase 1
Catalina Avenue & Mar Vista Street: Phase 1, 2, 3 - This is an impact which occurs with the project + ambient. Provide striping enhancements for southbound to convert the existing single lane to a left and right lane at the T intersections with Mar Vista. Parking will need to be restricted immediately north of the intersection creating a secondary impact to parking.

Colima Road & Whittier Boulevard: Phase 1, 2, 3 - Fair share contribution towards widening and improving the south leg of the intersection to provide a dual northbound left turn lane. Provide signal and striping improvements. Additional right-of-way is likely to be

required and not currently available. Since this is a fair share contribution the significant impact remains through Phase 1 unless implemented.

Mar Vista Street west of Colima Road: Phase 1 & 2 -The intersection of Colima Road and Mar Vista Street has adequate eastbound approach with a wider roadway and additional lanes. However, west of Colima Road to Catalina Avenue the roadway features bump outs at some corners and landscaped medians. These measures assist in reducing speed and creating an aesthetically pleasing environment. They also reduce roadway capacity. In order to address potential future cumulative impacts this segment could reinstall the roadways enhancements after Phase 2.

Phase 2

Hadley Street & Whittier Boulevard: Phase 2 - Fair share contribution towards widening and improving the east and north leg of Whittier Boulevard at Hadley Street. Alter the existing striping to provide two southbound left turn lanes and a dedicated westbound right turn lane. These improvements are not likely to be accommodated within the existing right-of-way and additional right-of-way may need to be acquired. Since this is a fair share contribution the significant impact remains through Phase 2 only unless implemented.

Catalina Avenue & Mar Vista Street: Same mitigation as Phase 1.

Colima Road & Whittier Boulevard: Same mitigation as Phase 1. Since this is a fair share contribution the significant impact remains through Phase 2 unless implemented.

Mar Vista Street west of Colima Road: Same mitigation as Phase 1. The significant impact remains through Phase2 unless implemented.

Phase 3

Catalina Avenue & Mar Vista Street: Same mitigation as Phase 1.

Colima Road & Whittier Boulevard: Same mitigation as Phase 1. Since this is a fair share contribution the significant impact remains through Phase 3 unless implemented.

Parking - No parking impacts are anticipated with the project.

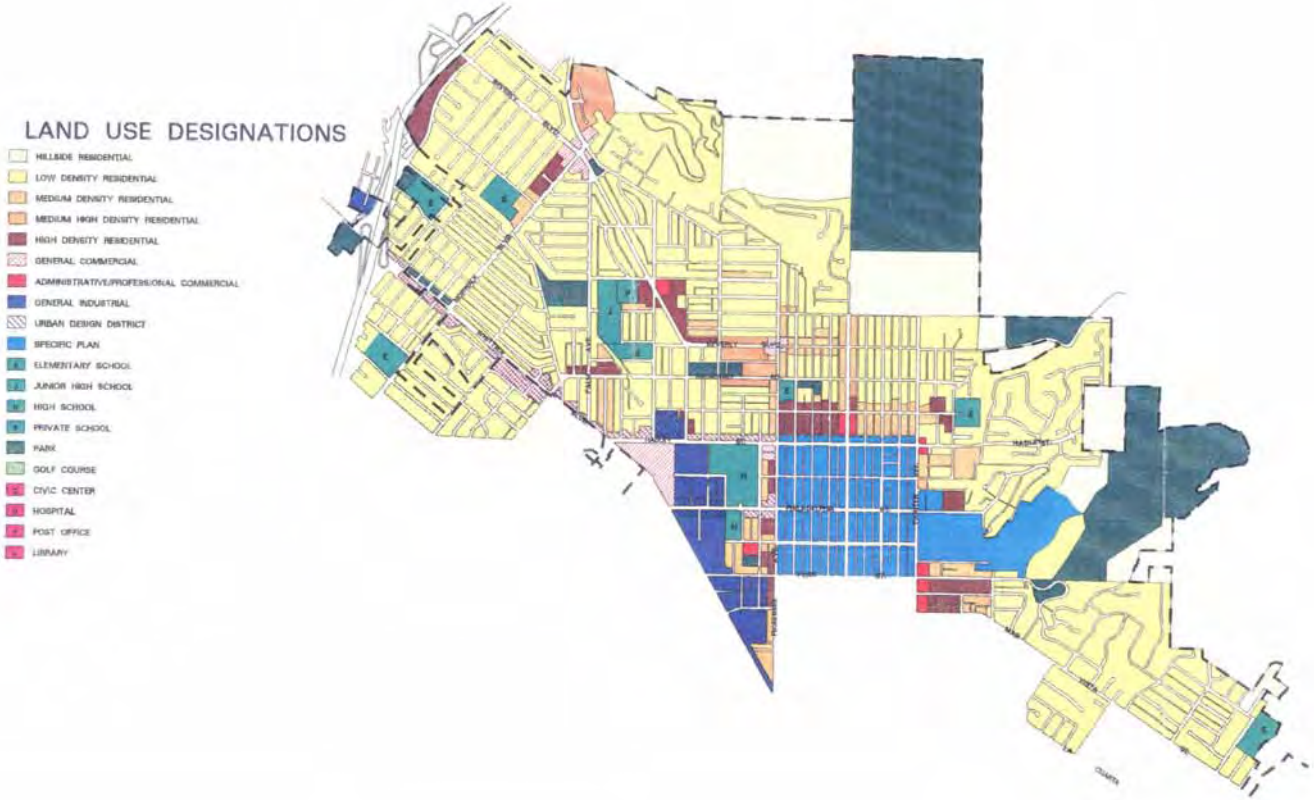
The effectiveness of the mitigation measures is displayed below in Table 27.

Table 27
Traffic Conditions with Related Projects, Project and Mitigation

No.	Intersection	Peak Hour		Future Exist+Ambient ICU/Delay	LOS	Future Ex+Amb +Cuml+Proj ICU/Delay	LOS	Future Ex+Amb+Cuml+Proj+Mit ICU/Delay	LOS	IMPACT	Sig Impact
	Phase 1										
6A	Catalina Avenue &	AM	SB	21.8	C	23.0	C	21.7	C	-0.1	NO
	Mar Vista Street	PM	SB	11.1	B	17.9	C	14.1	B	3.0	NO
12	Colima Road &	AM		0.951	F	0.963	E	0.902	E	-0.049	NO
	Whittier Boulevard	PM		0.926	E	0.940	E	0.914	E	-0.012	NO
	Phase 2										
3	Hadley Street &	AM		0.973	E	0.986	E	0.918	E	-0.055	NO
	Whittier Boulevard	PM		0.831	D	0.846	D	N/A			
6A	Catalina Avenue &	AM	SB	22.1	C	22.2	C	N/A			
	Mar Vista Street	PM	SB	11.3	B	16	C	13.3	B	2.0	NO
12	Colima Road &	AM		0.991	F	1.004	F	0.939	E	-0.052	NO
	Whittier Boulevard	PM		0.965	E	0.980	E	0.949	E	-0.016	NO
	Phase 3										
6A	Catalina Avenue &	AM	SB	23.8	C	24	C	N/A	C	-1.9	NO
	Mar Vista Street	PM	SB	11.5	B	16.6	C	13.6	B	-1.8	NO
12	Colima Road &	AM		1.031	F	1.043	F	0.976	E	-0.054	NO
	Whittier Boulevard	PM		1.005	E	1.019	F	0.986	E	-0.014	NO

APPENDIX A

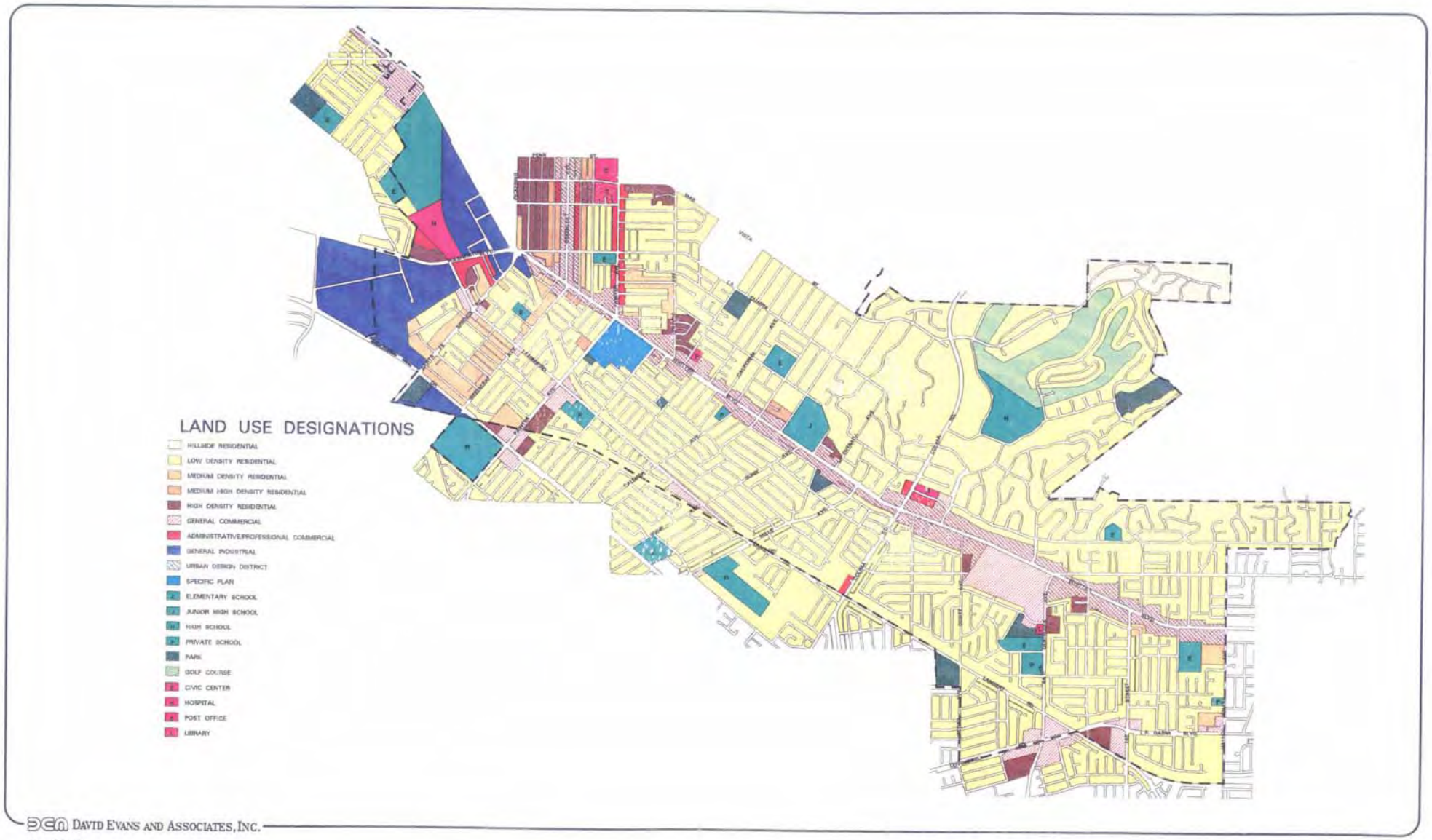
COMMUNITY PLAN LAND USE INFORMATION



DEA DAVID EVANS AND ASSOCIATES, INC.

City of Whittier
GENERAL PLAN

EXHIBIT 2-1
LAND USE PLAN
(NORTHWEST AREA)



DAVID EVANS AND ASSOCIATES, INC.

City of Whittier
GENERAL PLAN

EXHIBIT 2-2
LAND USE PLAN
(SOUTHEAST AREA)

APPENDIX B

AERIAL STREET PLANS

DAVID EVANS AND ASSOCIATES, INC.

EXHIBIT 4-1
PROPOSED ARTERIAL HIGHWAY PLAN

605 Freeway Ramps & Whittier Boulevard

HADLEY STREET & WHITTIER BOULEVARD

HADLEY STREET & PAINTER AVENUE

PAINTER AVENUE & PENN STREET

Catalina Avenue & Mar Vista Street

Catalina Avenue & Whittier Boulevard

Hacienda Bl & 60 Freeway Ramps

Colima Road & Hacienda Boulevard/Hacienda Road

Colima Road & Mar Vista Street

Colima Road & Whittier Boulevard

Colima Road & EMERGENCY Secondary Access area

PAINTER AVENUE & WHITTIER BOULEVARD

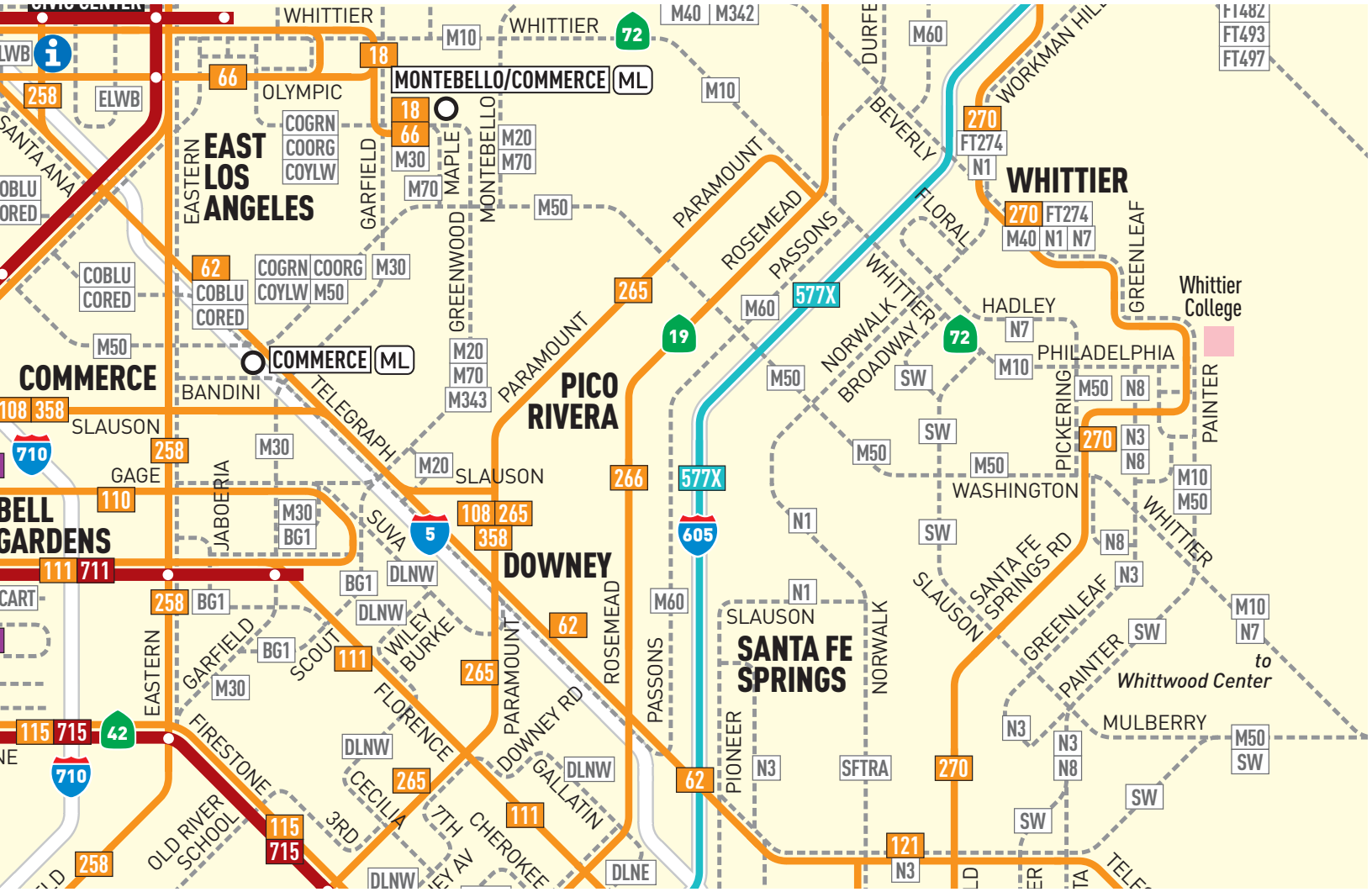
Mar Vista Street & Whittier Bl

Whittier Bl & Washington Bl/La Cuarta & Santa Fe

APPENDIX C

TRANSIT ROUTES

Section of Metro map



source: mta.net

ROUTE MAP

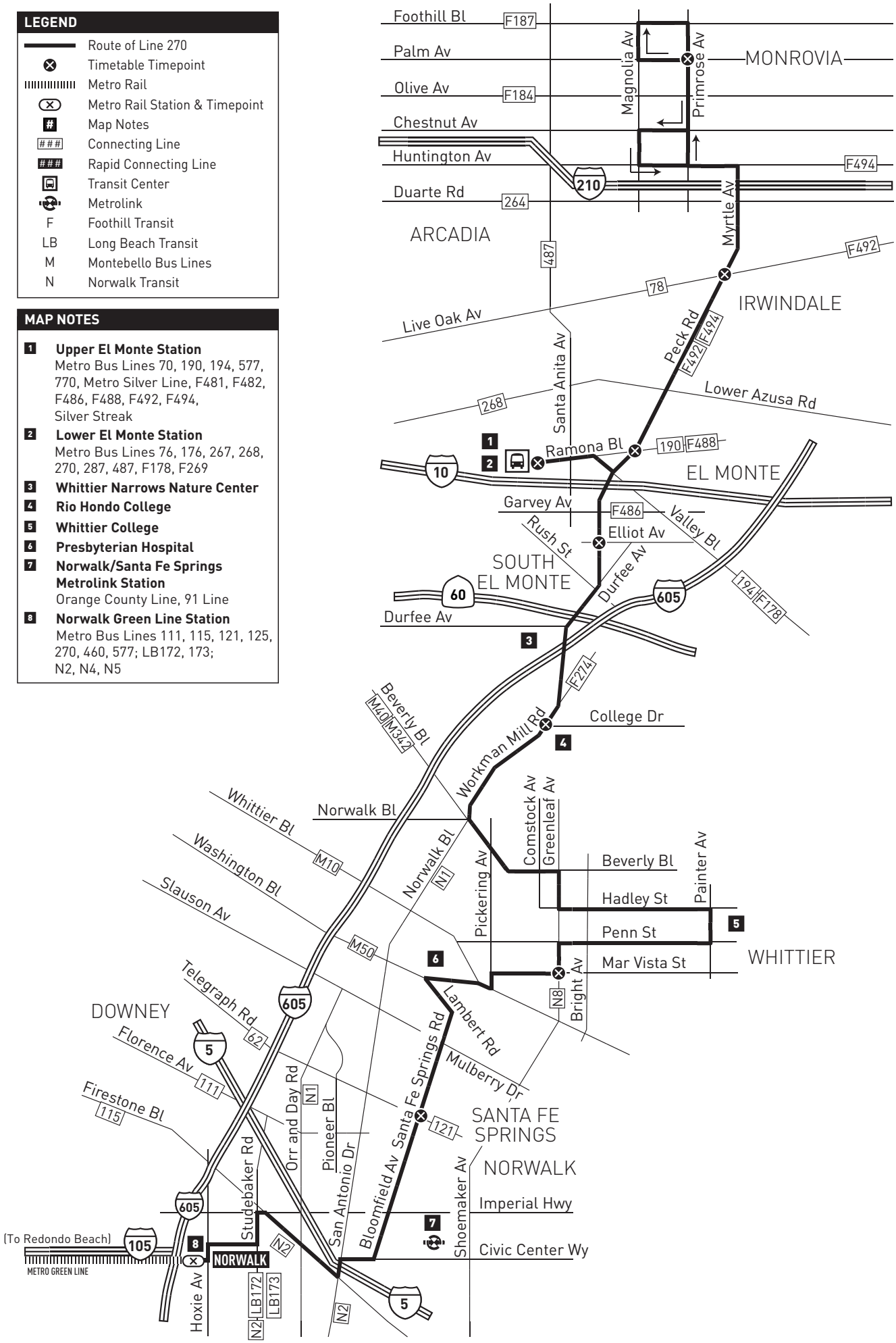
▲N

LEGEND

- Route of Line 270
- Timetable Timepoint
- Metro Rail
- Metro Rail Station & Timepoint
- # Map Notes
- ### Connecting Line
- ### Rapid Connecting Line
- Transit Center
- Metrolink
- F Foothill Transit
- LB Long Beach Transit
- M Montebello Bus Lines
- N Norwalk Transit

MAP NOTES

1. **Upper El Monte Station**
   Metro Bus Lines 70, 190, 194, 577, 770, Metro Silver Line, F481, F482, F486, F488, F492, F494, Silver Streak
2. **Lower El Monte Station**
   Metro Bus Lines 76, 176, 267, 268, 270, 287, 487, F178, F269
3. **Whittier Narrows Nature Center**
4. **Rio Hondo College**
5. **Whittier College**
6. **Presbyterian Hospital**
7. **Norwalk/Santa Fe Springs Metrolink Station**
   Orange County Line, 91 Line
8. **Norwalk Green Line Station**
   Metro Bus Lines 111, 115, 121, 125, 270, 460, 577; LB172, 173; N2, N4, N5



ROUTE MAP

▲N

LEGEND

- Line 577X Route
- Timepoint + Stop
- Stop
- Metro Rail
- Metro Rail Station
- Rail Station & Timepoint
- Transit Center
- F — Foothill Transit
- N — Norwalk Transit
- LB — Long Beach Transit
- OCTA — Orange County Transportation Authority

MAP NOTES

1 El Monte Bus Station
Metro Bus Lines 70, 76, 176, 190, 194, 267, 268, 270, 287, 487, 770, Metro Silver Line;
Foothill Transit Lines 178, 269, 480, 481, 482, 486, 488, 492, 494, Silver Streak; ET Civic Center, Orange, Green, Yellow, Express Flair Park

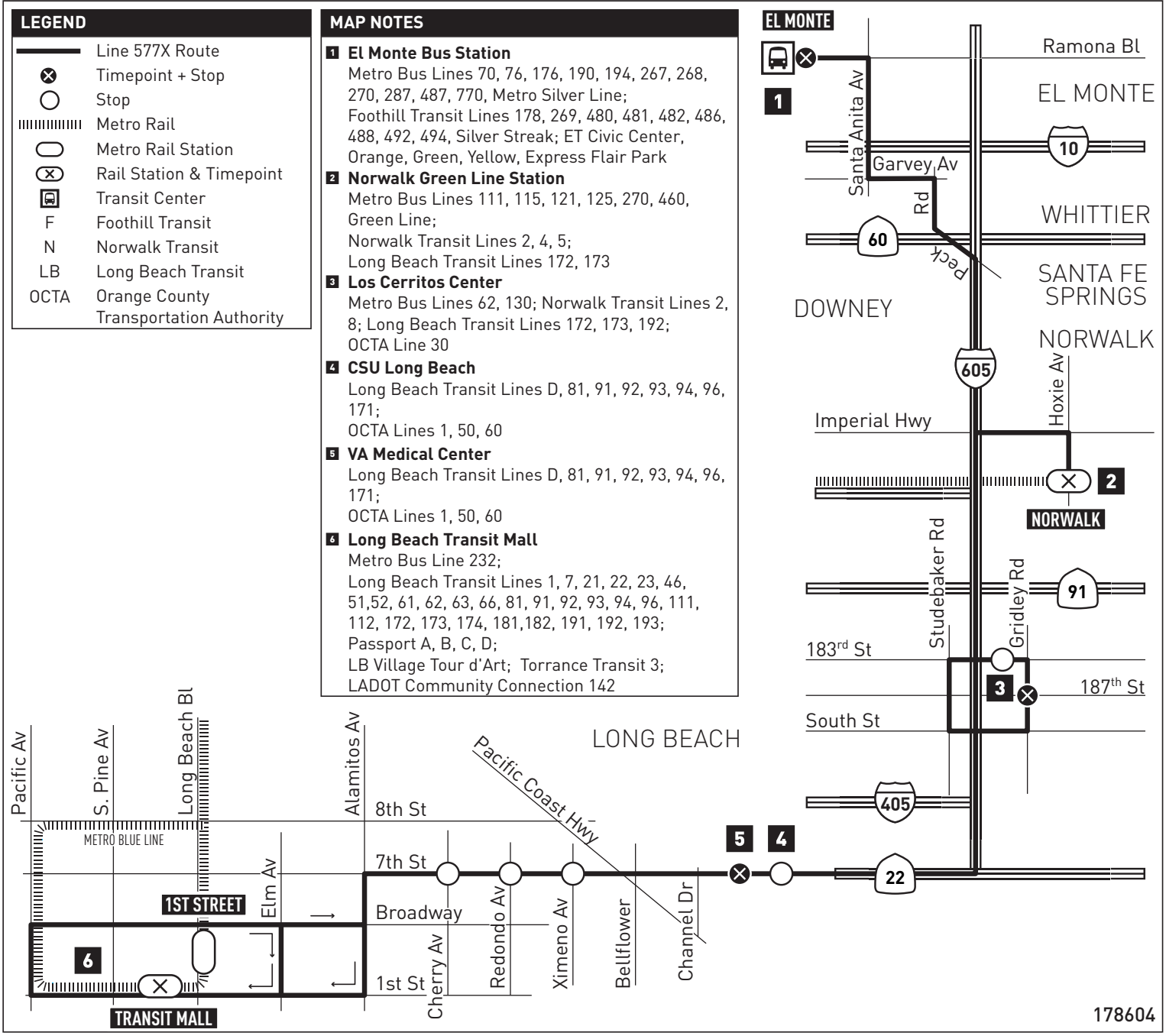
2 Norwalk Green Line Station
Metro Bus Lines 111, 115, 121, 125, 270, 460, Green Line;
Norwalk Transit Lines 2, 4, 5;
Long Beach Transit Lines 172, 173

3 Los Cerritos Center
Metro Bus Lines 62, 130; Norwalk Transit Lines 2, 8; Long Beach Transit Lines 172, 173, 192;
OCTA Line 30

4 CSU Long Beach
Long Beach Transit Lines D, 81, 91, 92, 93, 94, 96, 171;
OCTA Lines 1, 50, 60

5 VA Medical Center
Long Beach Transit Lines D, 81, 91, 92, 93, 94, 96, 171;
OCTA Lines 1, 50, 60

6 Long Beach Transit Mall
Metro Bus Line 232;
Long Beach Transit Lines 1, 7, 21, 22, 23, 46, 51,52, 61, 62, 63, 66, 81, 91, 92, 93, 94, 96, 111, 112, 172, 173, 174, 181,182, 191, 192, 193;
Passport A, B, C, D;
LB Village Tour d'Art; Torrance Transit 3;
LADOT Community Connection 142



ROUTES

LINE 10
Atlantic Blvd. and Whittier Blvd.
Operates seven days a week.

Weekdays: Operates every 6-15 minutes. Early morning and evening service operate every 20-30 minutes. Selected trips to and from Whittwood Mall operate every 15-30 minutes with early morning and evening service every 30-65 minutes. Last bus departs from ELAC to Pico Rivera at 11:05 PM and Whittwood Mall to Montebello at 10:16 PM.

Saturdays: Operates every 10-15 minutes. Early morning and evening service operate every 15-30 minutes. Selected trips to and from Whittwood Mall operate every 20 minutes with early morning and evening service every 30-60 minutes. Last bus departs from ELAC to Pico Rivera at 11:05 PM and Whittwood Mall to Garfield at 9:12 PM.

Sundays: Operates every 10-15 minutes. Early morning and evening service operate every 20-30 minutes. Selected trips to and from Whittwood Mall operate every 20-30 minutes with early morning and evening service every 30-60 minutes. Last bus departs from ELAC to Pico Rivera at 11:00 PM and Whittwood Mall to Garfield at 9:16 PM.

LINE 20
San Gabriel Blvd. and Montebello Blvd.
Operates seven days a week.

Weekdays: Operates every 15 minutes. Evening service operates every 20-30 minutes. Selected trips to and from San Gabriel & Las Tunas operates every 30 minutes. Last bus to San Gabriel & Las Tunas departs from Telegraph and Gage at 9:40 PM and last southbound bus departs from San Gabriel and Las Tunas to Telegraph & Gage at 10:20 PM.

Weekends: Operates every 15 minutes. Evening service operates every 20-30 minutes. Service to and from San Gabriel & Las Tunas will not be provided. Last northbound bus departs from Telegraph & Gage at10:08 PM and last southbound bus departs from San Gabriel & Garvey at 10:36 PM.

LINE 30
Garfield Ave.
Operates seven days a week.

Weekdays: Operates every 45 minutes. Late evening service operates every 55 minutes. Last bus departs from Huntington Dr. at 10:05 PM and from Firestone Blvd. at 10:10 PM.

Weekends: Operates every 60 minutes. Last bus departs from Huntington Dr. at 10:30 PM and from Firestone Blvd. at 10:30 PM.

LINE 40
Beverly Blvd.
Operates seven days a week.

Weekdays: Operates every 9-12 minutes. Early morning and evening service operates every 15-20 minutes. Selected trips to and from Norwalk Blvd. operate every 20-30 minutes. Last Beverly & Norwalk bus departs from Downtown LA at 9:50 PM. and westbound from Beverly & Norwalk at 8:33 PM.

Weekends: Operates every 15 minutes from Beverly Hospital to Downtown LA, and selected trips to and from Norwalk Blvd. operate every 30 minutes. Last Beverly & Norwalk bus departs from Downtown LA at 10:01 PM, and westbound from Beverly & Norwalk at 8:34 PM.

LINE 50
Washington Blvd.
Operates Monday-Saturday.

Weekdays: Operates every 30-35 minutes. Operates every 50-55 minutes during late night service. Last bus departs from Downtown LA to Montebello at 10:20 PM and from the City of La Mirada to Montebello at 9:31 PM.

Saturday: Operates every 60 minutes. Last bus departs from Downtown LA to Montebello at 10:50 PM and from City of La Mirada to Montebello at 9:50 PM.

LINE 60
Passons Ave.
Operates Monday-Saturday.

Weekdays: Operates every 35 minutes, early morning and evening service operates every 70 minutes. Last bus departs from San Gabriel River Pkwy. at 9:03 PM and from Telegraph Rd. at 9:40 PM.

Saturday: Operates every 70 minutes. Last bus departs from San Gabriel River Pkwy. at 9:03 PM and from Telegraph Rd. at 9:40 PM

LINE 70
Via Campo / Wilcox Ave. / Mines Ave.
Operates Monday-Friday.

Weekdays: Operates every 30 minutes. Last bus departs from Town Center at 6:30 PM and from Mines & Greenwood at 6:00 PM.

EXPRESS 341
Taylor Ranch Express
Operates Monday-Friday.

Weekdays: Departs Taylor Ranch to Downtown LA at 6:25 AM, 6:45 AM, 7:05 AM, 7:30 AM, and 7:50 AM, 3:05 PM, 4:05 PM, 4:25 PM, 4:45 PM, and 5:41 PM.

Departs Downtown LA to Taylor Ranch at 7:10 AM, 8:15 AM, 8:35 AM, 3:50 PM, 5:10 PM, 5:30 PM and 6:26 PM.

EXPRESS 342
Norwalk Blvd. Express
Operates Monday-Friday.

Weekdays: Departs Norwalk Blvd. to Downtown LA at 5:53 AM.

Departs from Downtown LA to Norwalk at 4:25 PM and 4:50 PM.

LEGEND

- Line 10
- Line 20
- Line 30
- Line 40
- Line 50
- Line 60
- Line 70
- Express Lines
- Transfer Point to MTA Routes
- Transfer Point to Foothill Transit Routes
- Transfer Point to Norwalk Transit Routes
- Metrolink Station
- Points of Interest

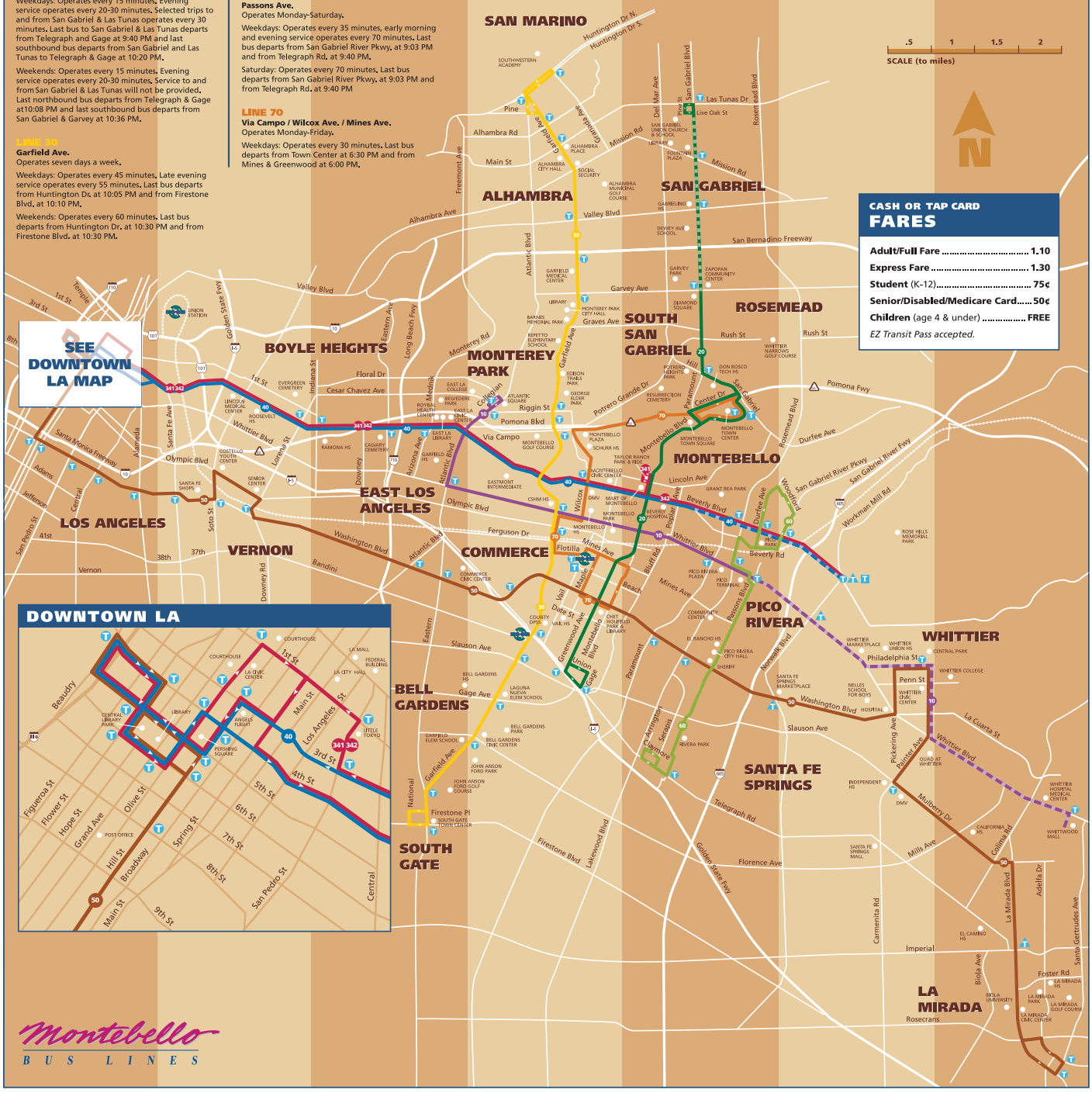
.5 1 1.5 2
SCALE (to miles)

N

CASH OR TAP CARD FARES

Adult/Full Fare	**1.10**
Express Fare	**1.30**
Student (K-12)	**75¢**
Senior/Disabled/Medicare Card	**50¢**
Children (age 4 & under)	**FREE**

EZ Transit Pass accepted.



MONTEBELLO BUS ROUTES

Saturday Service

Servicio de los Sábados

Route 3 South • *Ruta 3 Sur*

WHITTIER DEPOT	LAMBERT/ WASHINGTON PIH	GREENLEAF/ MULBERRY	TELEGRAPH/ CARMENITA	TELEGRAPH/ NORWALK	TELEGRAPH/ ORR & DAY	PIONEER/ FLORENCE	NORWALK/ IMPERIAL	METROLINK STATION	SHOEMAKER/ ROSECRANS	NORWALK/ ALONDRA	NORWALK/ ARTESIA	183RD/ BLOOMFIELD
1	2	3	4	5	6	7	8	9	10	11	12	13
–	–	–	–	–	–	–	–	8:31	8:38	8:45	8:49	8:55
9:07	9:14	9:19	9:25	9:34	9:40	9:49	9:55	10:01	10:08	10:15	10:19	10:25
10:37	10:44	10:49	10:55	11:04	11:10	11:19	11:25	11:31	11:38	11:45	11:49	11:55
12:07	**12:14**	**12:19**	**12:25**	**12:34**	**12:40**	**12:49**	**12:55**	**1:01**	**1:08**	**1:15**	**1:19**	**1:25**
1:37	**1:44**	**1:49**	**1:55**	**2:04**	**2:10**	**2:19**	**2:25**	**2:31**	**2:38**	**2:45**	**2:49**	**2:55**
3:07	**3:14**	**3:19**	**3:25**	**3:34**	**3:40**	**3:49**	**3:55**	**4:01**	**4:08**	**4:15**	**4:19**	**4:25**
4:37	**4:44**	**4:49**	**4:55**	**5:04**	**5:10**	**5:19**	**5:25**	**5:31**	–	–	–	–

Route 3 North • *Ruta 3 Norte*

183RD/ BLOOMFIELD	NORWALK/ ARTESIA	NORWALK/ ALONDRA	SHOEMAKER/ ROSECRANS	METROLINK STATION	NORWALK/ IMPERIAL	PIONEER/ FLORENCE	TELEGRAPH/ ORR & DAY	TELEGRAPH/ NORWALK	TELEGRAPH/ CARMENITA	GREENLEAF/ MULBERRY	LAMBERT/ WASHINGTON PIH	WHITTIER DEPOT
1	2	3	4	5	6	7	8	9	10	11	12	13
–	–	–	–	7:52	7:58	8:05	8:15	8:21	8:30	8:37	8:43	8:51
8:55	9:02	9:06	9:13	9:22	9:28	9:35	9:45	9:51	10:00	10:07	10:13	10:21
10:25	10:32	10:36	10:43	10:52	10:58	11:05	11:15	11:21	11:30	11:37	11:43	11:51
11:55	**12:02**	**12:06**	**12:13**	**12:22**	**12:28**	**12:35**	**12:45**	**12:51**	**1:00**	**1:07**	**1:13**	**1:21**
1:25	**1:32**	**1:36**	**1:43**	**1:52**	**1:58**	**2:05**	**2:15**	**2:21**	**2:30**	**2:37**	**2:43**	**2:51**
2:55	**3:02**	**3:06**	**3:13**	**3:22**	**3:28**	**3:35**	**3:45**	**3:51**	**4:00**	**4:07**	**4:13**	**4:21**
4:25	**4:32**	**4:36**	**4:43**	**4:52**	–	–	–	–	–	–	–	–

PM times are indicated in bold. (Horas después del medio día aparecen con números resaltados)

norwalk transit

www.ci.norwalk.ca.us/transportation.asp

NORWALK TRANSIT FARE POLICY

Adult Fare 0.90
Student (Grade K-12) 0.60
(Two children under 5 ride free when accompanied by an adult paying one full fare.)
Senior (Age 62 & older) / Disabled / Medicare Card Holder 0.35
NTS Local Transfer 0.25
Interagency Transfer 0.50
(Transfers are additional. Interagency transfers are accepted only at transfer points.)

Metro tokens, EZ transit passes, and TAP cards with sufficient NTS stored value are accepted on Norwalk Transit buses. Metro Annual, Monthly, and Day passes (paper pass or loaded onto a TAP card) are not valid on Norwalk Transit buses.

DIAL-A-RIDE

The Norwalk Transit System (NTS) also provides curb-to-curb service to qualified physically challenged riders and those age 60 and above in Norwalk. The fare is 75 cents for a one-way trip. Dial-A-Ride trips must be scheduled in advance. For more information about eligibility and scheduling, please call (562) 929-5550.

POLÍTICA DE PASAJES DE NORWALK TRANSIT

Tarifa de Adulto 0.90
Estudiante (Grado K-12) 0.60
(Dos niños menores de 5 años viajan gratis cuando están acompañados por un adulto que pague pasaje completo.)
Adultos mayores (62 años o más)/Incapacitados/Titular de la Tarjeta de Medicare 0.35
Trasbordo local de NTS 0.25
Trasbordo entre Agencias 0.50
(Los trasbordos son adicionales. Los trasbordos entre agencias solo se aceptan en los puntos de trasbordo.)

Los fichas o tokens de Metro, pases EZ transit, y las tarjetas TAP con suficiente valor almacenado de NTS son aceptadas en los autobuses de Norwalk Transit. Los pases anuales, mensuales y diarios de Metro (los pases de papel o cargados en una tarjeta de TAP) no son válidos en los autobuses de Norwalk Transit.

MARQUE PARA UN AVENTÓN (DIAL-A-RIDE)

Norwalk Transit System (NTS) también proporciona servicios de curva-a-curva para residentes de Norwalk que son mayores de 60 años o que cumplan los requisitos como pasajeros con desafío físico. El viaje de ida cuesta 75 centavos. Los viajes de Marque Para Un Aventón deben ser reservados con anticipación.

Para más información acerca de su elegibilidad y horarios, por favor llame al (562) 929-5550.

HWDS1617—12/09

Route 3

Whittier Depot/ Metrolink Station/ 183rd & Bloomfield/

Ruta 3

norwalk transit

Effective January 17, 2010
Vigente el 17 de enero 2010

Weekday Service *Servicio Entre Semana*

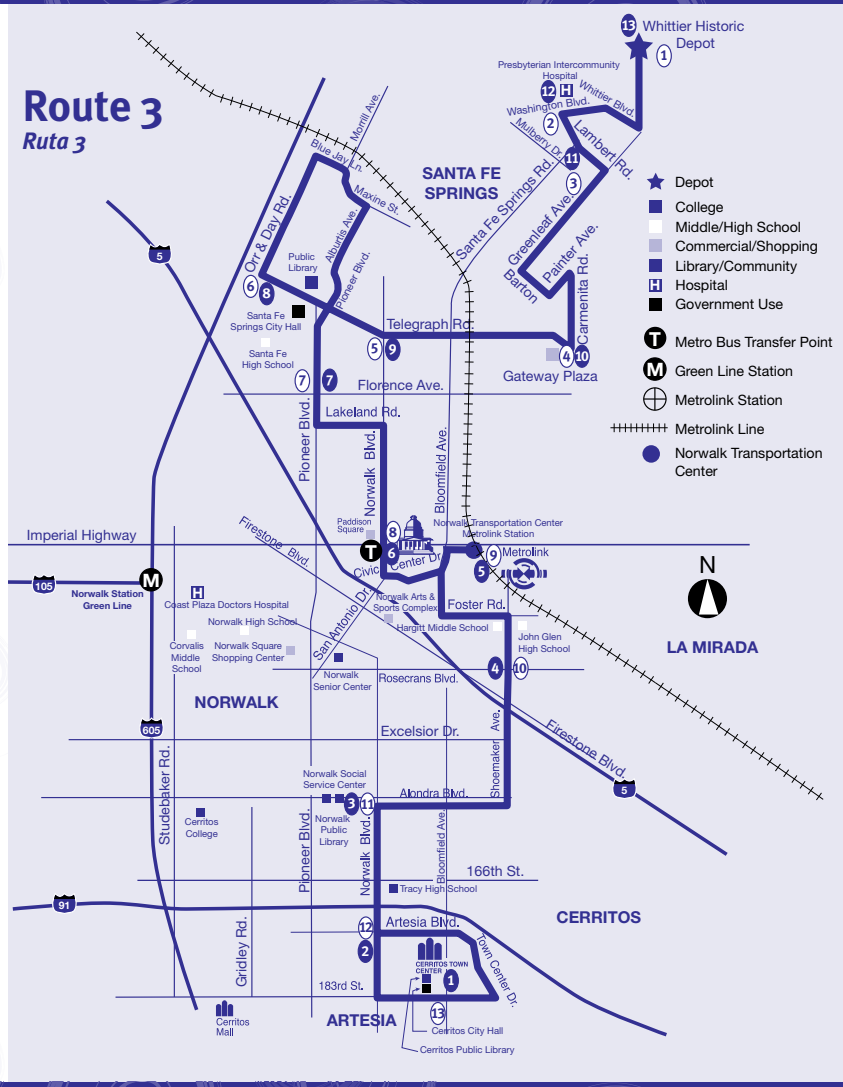
Route 3 South

WHITTIER DEPOT	LAMBERT/ WASHINGTON PIH	GREENLEAF/ MULBERRY	TELEGRAPH/ CARMENITA	TELEGRAPH/ NORWALK	TELEGRAPH/ ORR & DAY	PIONEER/ FLORENCE	NORWALK/ IMPERIAL	METROLINK STATION	SHOEMAKER/ ROSECRANS	NORWALK/ ALONDRA	NORWALK/ ARTESIA	183RD/ BLOOMFIELD
1	2	3	4	5	6	7	8	9	10	11	12	13
–	–	–	–	–	–	–	–	5:39	5:48	5:56	6:00	6:05
5:43	5:50	5:56	6:03	6:12	6:16	6:24	6:32	6:39	6:48	6:56	7:00	7:05
6:43	6:50	6:56	7:03	7:12	7:16	7:24	7:32	7:39	7:48	7:56	8:00	8:05
7:43	7:50	7:56	8:03	8:12	8:16	8:24	8:32	8:39	8:48	8:56	9:00	9:05
8:43	8:50	8:56	9:03	9:12	9:16	9:24	9:32	9:39	9:48	9:56	10:00	10:05
9:43	9:51	9:57	10:05	10:14	10:18	10:27	10:34	10:41	10:48	10:55	10:59	11:05
10:43	10:51	10:57	11:05	11:14	11:18	11:27	11:34	11:41	11:48	11:55	11:59	**12:05**
11:43	11:51	11:57	**12:05**	**12:14**	**12:18**	**12:27**	**12:34**	**12:41**	**12:48**	**12:55**	**12:59**	**1:05**
12:43	**12:51**	**12:57**	**1:05**	**1:14**	**1:18**	**1:27**	**1:34**	**1:41**	**1:48**	**1:55**	**1:59**	**2:05**
1:44	**1:52**	**1:58**	**2:06**	**2:15**	**2:19**	**2:28**	**2:35**	**2:42**	**2:49**	**2:56**	**3:00**	**3:06**
2:44	**2:52**	**2:58**	**3:06**	**3:15**	**3:19**	**3:28**	**3:35**	**3:42**	**3:49**	**3:56**	**4:00**	**4:06**
3:47	**3:55**	**4:01**	**4:06**	**4:15**	**4:19**	**4:28**	**4:36**	**4:42**	**4:50**	**4:57**	**5:01**	**5:06**
4:47	**4:55**	**5:01**	**5:06**	**5:15**	**5:19**	**5:28**	**5:36**	**5:42**	**5:50**	**5:57**	**6:01**	**6:06**
5:47	**5:55**	**6:01**	**6:06**	**6:15**	**6:19**	**6:28**	**6:36**	**6:42**	**6:50**	**6:57**	**7:01**	**7:06**

Route 3 North

PM times are indicated in bold. (Horas después del medio día aparecen con números resaltados)

183RD/ BLOOMFIELD	NORWALK/ ARTESIA	NORWALK/ ALONDRA	SHOEMAKER/ ROSECRANS	METROLINK STATION	NORWALK/ IMPERIAL	PIONEER/ FLORENCE	TELEGRAPH/ ORR & DAY	TELEGRAPH/ NORWALK	TELEGRAPH/ CARMENITA	GREENLEAF/ MULBERRY	LAMBERT/ WASHINGTON PIH	WHITTIER DEPOT
1	2	3	4	5	6	7	8	9	10	11	12	13
–	–	–	–	5:31	5:37	5:44	5:52	5:56	6:05	6:12	6:17	6:25
6:07	6:13	6:16	6:23	6:31	6:37	6:44	6:52	6:56	7:05	7:12	7:17	7:25
7:07	7:13	7:16	7:23	7:31	7:37	7:44	7:52	7:56	8:05	8:12	8:17	8:25
8:07	8:13	8:16	8:23	8:31	8:37	8:44	8:52	8:56	9:05	9:12	9:17	9:25
9:05	9:12	9:15	9:22	9:31	9:38	9:45	9:54	9:59	10:09	10:16	10:21	10:28
10:05	10:12	10:15	10:22	10:31	10:38	10:45	10:54	10:59	11:09	11:16	11:21	11:28
11:05	11:12	11:15	11:22	11:31	11:38	11:45	11:54	11:59	**12:09**	**12:16**	**12:21**	**12:28**
12:05	**12:12**	**12:15**	**12:22**	**12:31**	**12:38**	**12:45**	**12:54**	**12:59**	**1:09**	**1:16**	**1:21**	**1:28**
1:05	**1:12**	**1:15**	**1:22**	**1:31**	**1:38**	**1:45**	**1:54**	**1:59**	**2:09**	**2:16**	**2:21**	**2:28**
2:05	**2:12**	**2:15**	**2:22**	**2:31**	**2:38**	**2:45**	**2:54**	**2:59**	**3:09**	**3:16**	**3:21**	**3:28**
3:06	**3:11**	**3:15**	**3:23**	**3:31**	**3:36**	**3:43**	**3:52**	**3:57**	**4:06**	**4:11**	**4:15**	**4:21**
4:06	**4:11**	**4:15**	**4:23**	**4:31**	**4:36**	**4:43**	**4:52**	**4:57**	**5:06**	**5:11**	**5:15**	**5:21**
5:06	**5:11**	**5:15**	**5:23**	**5:31**	–	–	–	–	–	–	–	–
6:06	**6:11**	**6:15**	**6:23**	**6:31**	–	–	–	–	–	–	–	–
7:06	**7:11**	**7:15**	**7:23**	**7:31**	–	–	–	–	–	–	–	–



ROUTE 7 travels the northwest section of Whittier and east along Whittier Boulevard, and ends at Whittwood Town Center. The bus travels to the shopping areas of Uptown, the Quad, Whittwood Town Center, and Marketplace; the Whittier Transportation Depot and Senior Citizens Center.

la RUTA 7 7 recorre la sección noroeste de Whittier, la sección este a lo largo de Whittier Boulevard y termina en *Whittwood Town Center*. El autobús viaja a través de las zonas comerciales de *Uptown*, el *Whittier Quad*, *Whittwood Town Center* y *Marketplace*; el Centro de Transporte de Whittier y el Centro para Personas de Tercera Edad.

Weekday Service

Servicio Entre Semana

Route 7 South

BEVERLY/ PALM	WHITTIER/ NORWALK	MARKET PLACE	WHITTIER DEPOT	WALNUT/ WASHINGTON SR. CTR.	QUAD	WHITTIER/ OCEANVIEW	WHITTWOOD/ SEARS
1	2	3	4	5	6	7	8
6:36	6:42	6:46	6:54	6:57	7:06	7:11	7:20
7:21	7:27	7:31	7:39	7:42	7:51	7:56	8:05
8:06	8:12	8:16	8:24	8:27	8:36	8:41	8:50
8:51	8:57	9:01	9:09	9:12	9:21	9:26	9:35
9:36	9:42	9:47	9:55	9:58	10:05	10:09	10:17
10:21	10:27	10:32	10:40	10:43	10:50	10:54	11:02
11:06	11:12	11:17	11:25	11:28	11:35	11:39	11:47
11:51	11:57	**12:02**	**12:10**	**12:13**	**12:20**	**12:24**	**12:32**
12:36	**12:42**	**12:47**	**12:55**	**12:58**	**1:05**	**1:09**	**1:17**
1:21	**1:27**	**1:32**	**1:40**	**1:43**	**1:50**	**1:54**	**2:02**
2:06	**2:12**	**2:17**	**2:25**	**2:28**	**2:35**	**2:39**	**2:47**
2:51	**2:57**	**3:02**	**3:10**	**3:13**	**3:20**	**3:24**	**3:32**
3:36	**3:42**	**3:47**	**3:55**	**3:58**	**4:04**	**4:09**	**4:18**
4:21	**4:27**	**4:32**	**4:40**	**4:43**	**4:49**	**4:54**	**5:03**
5:06	**5:12**	**5:17**	**5:25**	**5:28**	**5:34**	**5:39**	**5:48**
5:51	**5:57**	**6:02**	**6:10**	**6:13**	**6:19**	**6:24**	**6:33**
6:36	**6:42**	**6:47**	**6:55**	—	—	—	—

PM times are indicated in bold. (Horas después del medio día aparecen con números resaltados)

norwalk transit

www.ci.norwalk.ca.us/transportation.asp

NORWALK TRANSIT FARE POLICY

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Student (Grade K-12)..... 0.60
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Senior (Age 62 & older) / Disabled / Medicare Card Holder..... 0.35
NTS Local Transfer..... 0.25
Interagency Transfer..... 0.50
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Estudiante (Grado K-12)..... 0.60
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Adultos mayores (62 años o más)/Incapacitados/Titular de la Tarjeta de Medicare..... 0.35
Trasbordo local de NTS..... 0.25
Trasbordo entre Agencias..... 0.50
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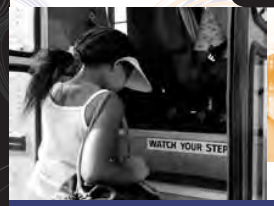
Para más información acerca de su elegibilidad y horarios, por favor llame al (562) 929-5550.

HWDS1618—11/09

Route 7

Northwest Whittier/ Whittwood to Uptown

Ruta 7



norwalk transit

City of NORWALK

Effective November 1, 2009
Vigente el 1 de noviembre 2009

Weekday Service

Servicio Entre Semana

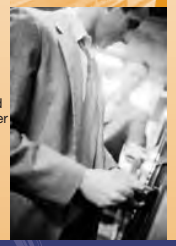
Route 7 North

WHITTWOOD/ SEARS	WHITTIER/ OCEANVIEW	QUAD	WALNUT/ WASHINGTON SR. CTR.	RADDISON HOTEL	HADLEY/ FRIENDS	BEVERLY/ PALM
1	2	3	4	5	6	7
—	—	—	6:17	6:20	6:25	6:35
—	—	—	7:02	7:05	7:10	7:20
7:27	7:37	7:42	7:47	7:50	7:55	8:05
8:12	8:22	8:27	8:32	8:35	8:40	8:50
8:57	9:07	9:12	9:17	9:20	9:25	9:35
9:42	9:50	9:55	10:00	10:03	10:06	10:15
10:27	10:35	10:40	10:45	10:48	10:51	11:00
11:12	11:20	11:25	11:30	11:33	11:36	11:45
11:57	**12:05**	**12:10**	**12:15**	**12:18**	**12:21**	**12:30**
12:42	**12:50**	**12:55**	**1:00**	**1:03**	**1:06**	**1:15**
1:27	**1:35**	**1:40**	**1:45**	**1:48**	**1:51**	**2:00**
2:12	**2:20**	**2:25**	**2:30**	**2:33**	**2:36**	**2:45**
2:57	**3:05**	**3:10**	**3:15**	**3:18**	**3:21**	**3:30**
3:42	**3:52**	**3:56**	**4:01**	**4:04**	**4:09**	**4:20**
4:27	**4:37**	**4:41**	**4:46**	**4:49**	**4:54**	**5:05**
5:12	**5:22**	**5:26**	**5:31**	**5:34**	**5:39**	**5:50**
5:57	**6:07**	**6:11**	**6:16**	**6:19**	**6:24**	**6:35**

PM times are indicated in bold. (Horas después del medio día aparecen con números resaltados)

ROUTE 7

Ruta 7



Weekday Service

Servicio Entre Semana

Route 8 South

WHITTIER DEPOT	GREENLEAF/ MULBERRY	CARMENITA/ TELEGRAPH	LEFFINGWELL CARMENITA	METROLINK STATION	LEFFINGWELL/ CARMENITA	VALLEY VIEW IMPERIAL	VALLEY VIEW ROSECRANS	VALLEY VIEW/ ARTESIA	CERRITOS MALL
1	2	3	4	5	6	7	8	9	10
6:10	6:14	6:18	6:23	6:38	6:42	6:47	6:51	6:59	7:12
7:10	7:14	7:18	7:23	7:38	7:42	7:47	7:51	7:59	8:12
8:25	8:29	8:33	8:38	8:52	8:56	9:01	9:05	9:13	9:27
9:20	9:24	9:28	9:33	9:43	9:47	9:52	9:56	10:04	10:18
10:22	10:26	10:30	10:35	10:45	10:49	10:54	10:58	11:06	11:20
–	–	–	–	11:36	11:40	11:45	11:49	11:57	**12:11**
12:16	**12:20**	**12:24**	**12:29**	**12:39**	**12:43**	**12:48**	**12:52**	**1:00**	**1:14**
1:10	**1:14**	**1:18**	**1:23**	**1:33**	**1:37**	**1:42**	**1:46**	**1:54**	**2:08**
2:09	**2:13**	**2:17**	**2:22**	**2:32**	**2:36**	**2:41**	**2:45**	**2:53**	**3:07**
3:18	**3:22**	**3:26**	**3:31**	**3:41**	**3:45**	**3:50**	**3:54**	**4:02**	**4:16**
4:20	**4:24**	**4:28**	**4:33**	**4:43**	**4:47**	**4:52**	**4:56**	**5:04**	**5:18**
5:18	**5:22**	**5:26**	**5:31**	**5:41**	**5:45**	**5:50**	**5:54**	**6:02**	**6:16**
6:30	**6:34**	**6:38**	**6:43**	**6:53**	**6:57**	**7:02**	**7:06**	**7:14**	**7:28**
7:27	**7:31**	**7:35**	**7:40**	**7:50**	**7:54**	**7:59**	**8:03**	**8:11**	**8:25**
8:34	**8:38**	**8:42**	**8:47**	–	–	–	–	–	–

Route 8 North

CERRITOS MALL	VALLEY VIEW/ ARTESIA	VALLEY VIEW/ ROSECRANS	VALLEY VIEW/ IMPERIAL	LEFFINGWELL/ CARMENITA	METROLINK STATION	LEFFINGWELL/ CARMENITA	CARMENITA/ TELEGRAPH	GREENLEAF/ MULBERRY	WHITTIER DEPOT
1	2	3	4	5	6	7	8	9	10
5:08	5:20	5:25	5:30	5:35	5:45	5:49	5:53	5:58	6:03
6:11	6:23	6:28	6:33	6:38	6:48	6:52	6:56	7:01	7:06
7:12	7:24	7:29	7:34	7:39	7:49	7:53	7:57	8:02	8:07
8:13	8:25	8:30	8:35	8:40	8:50	8:54	8:58	9:03	9:08
9:27	9:39	9:44	9:49	9:54	10:04	10:08	10:12	10:17	10:22
–	–	–	–	–	–	–	–	–	–
11:21	11:33	11:38	11:43	11:48	11:58	**12:02**	**12:06**	**12:11**	**12:16**
12:12	**12:24**	**12:29**	**12:34**	**12:39**	**12:49**	**12:53**	**12:57**	**1:02**	**1:07**
1:14	**1:26**	**1:31**	**1:36**	**1:41**	**1:51**	**1:55**	**1:59**	**2:04**	**2:09**
2:09	**2:21**	**2:26**	**2:31**	**2:36**	**2:51**	**2:55**	**2:59**	**3:04**	**3:09**
3:07	**3:19**	**3:24**	**3:29**	**3:34**	**3:49**	**3:53**	**3:57**	**4:02**	**4:07**
4:17	**4:29**	**4:34**	**4:39**	**4:44**	**4:59**	**5:03**	**5:07**	**5:12**	**5:17**
5:27	**5:39**	**5:44**	**5:49**	**5:54**	**6:09**	**6:13**	**6:17**	**6:22**	**6:27**
6:17	**6:29**	**6:34**	**6:39**	**6:44**	**6:59**	**7:03**	**7:07**	**7:12**	**7:17**
7:35	**7:47**	**7:52**	**7:57**	**8:02**	**8:13**	**8:17**	**8:21**	**8:26**	**8:31**
8:30	**8:42**	**8:47**	**8:52**	**8:57**	–	–	–	–	–

PM times are indicated in bold. (Horas después del medio día aparecen con números resaltados)

NORWALK TRANSIT FARE POLICY

Adult Fare..... 0.90
Student (Grade K-12)..... 0.60
(Two children under 5 ride free when accompanied by an adult paying one full fare.)
Senior (Age 62 & older) / Disabled / Medicare Card Holder..... 0.35
NTS Local Transfer..... 0.25
Interagency Transfer..... 0.50
(Transfers are additional. Interagency transfers are accepted only at transfer points.)

Metro tokens, EZ transit passes, and TAP cards with sufficient NTS stored value are accepted on Norwalk Transit buses. Metro Annual, Monthly, and Day passes (paper pass or loaded onto a TAP card) are not valid on Norwalk Transit buses.

DIAL-A-RIDE

The Norwalk Transit System (NTS) also provides curb-to-curb service to qualified physically challenged riders and those age 60 and above in Norwalk. The fare is 75 cents for a one-way trip. Dial-A-Ride trips must be scheduled in advance. For more information about eligibility and scheduling, please call (562) 929-5550.

POLÍTICA DE PASAJES DE NORWALK TRANSIT

Tarifa de Adulto..... 0.90
Estudiante (Grado K-12)..... 0.60
(Dos niños menores de 5 años viajan gratis cuando están acompañados por un adulto que pague pasaje completo.)
Adultos mayores (62 años o más)/Incapacitados/Titular de la Tarjeta de Medicare..... 0.35
Trasbordo local de NTS..... 0.25
Trasbordo entre Agencias..... 0.50
(Los trasbordos son adicionales. Los trasbordos entre agencias solo se aceptan en los puntos de trasbordo.)

Los fichas o tokens de Metro, pases EZ transit, y las tarjetas TAP con suficiente valor almacenado de NTS son aceptadas en los autobuses de Norwalk Transit. Los pases anuales, mensuales y diarios de Metro (los pases de papel o cargados en una tarjeta de TAP) no son válidos en los autobuses de Norwalk Transit.

MARQUE PARA UN AVENTÓN (DIAL-A-RIDE)

Norwalk Transit System (NTS) también proporciona servicios de curva-a-curva para residentes de Norwalk que son mayores de 60 años o que cumplan los requisitos como pasajeros con desafío físico. El viaje de ida cuesta 75 centavos. Los viajes de Marque Para Un Aventón deben ser reservados con anticipación.

Para más información acerca de su elegibilidad y horarios, por favor llame al (562) 929-5550.

HWDS1624—11/09

Route 8

Whittier Depot / Metrolink Station/ Cerritos Mall

norwalk transit

Effective November 1, 2009
Vigente el 1 de noviembre 2009

Route 8

Ruta 8

norwalk transit

www.ci.norwalk.ca.us/transportation.asp

APPENDIX D

TRAFFIC VOLUME DATA

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

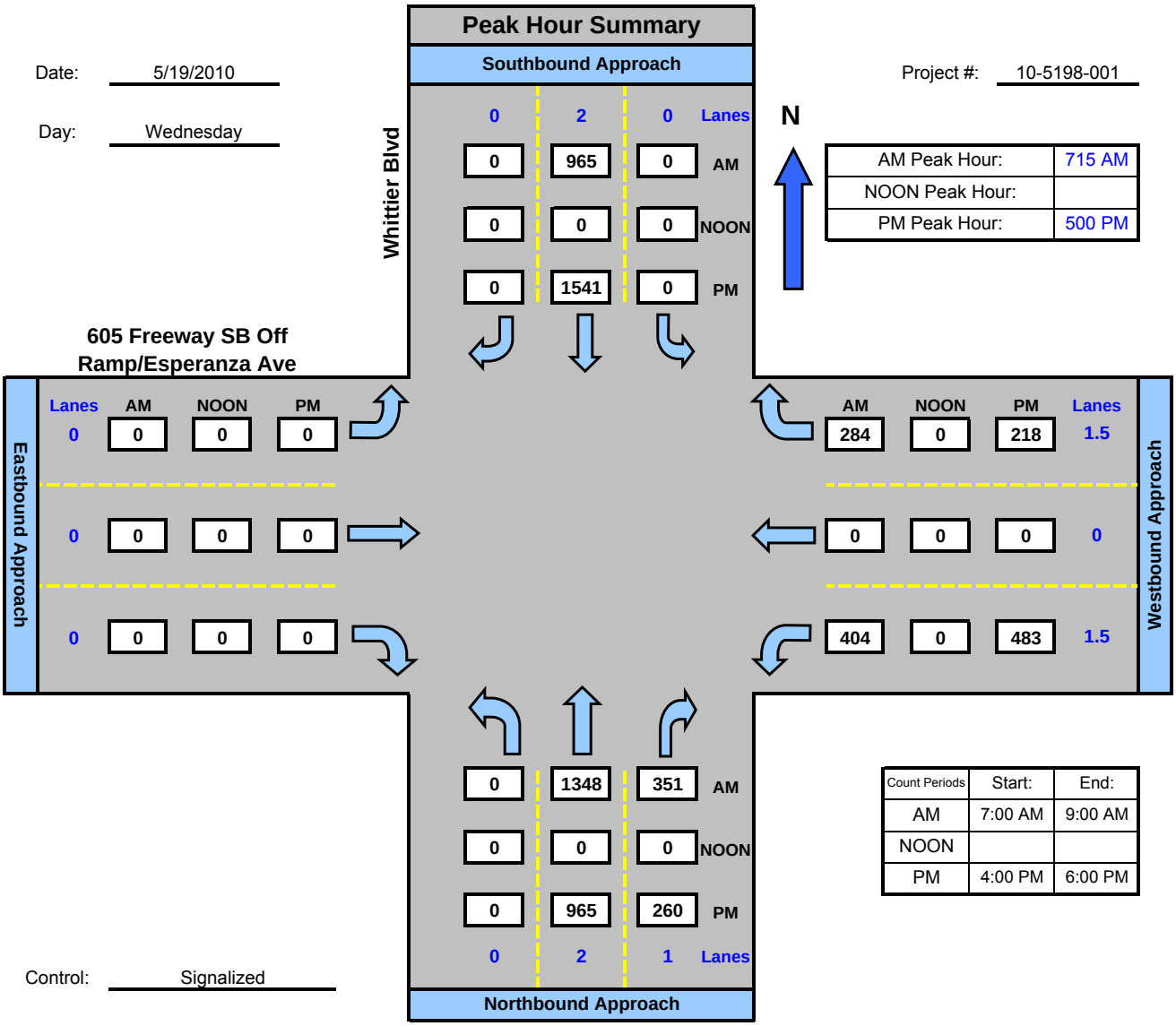
Whittier Blvd and 605 Freeway SB Off Ramp/Esperanza Ave , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-001

AM Peak Hour:	715 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM



Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Whittier Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: 605 Freeway SB Off Ramp/Esperanza Ave DAY: WEDNESDAY PROJECT# 10-5198-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	0	2	0	0	0	0	1.5	0	1.5	
7:00 AM		274	100		171					70		48	663
7:15 AM		352	104		208					79		58	801
7:30 AM		330	71		251					110		80	842
7:45 AM		330	83		264					108		78	863
8:00 AM		336	93		242					107		68	846
8:15 AM		240	71		196					107		53	667
8:30 AM		223	79		216					92		53	663
8:45 AM		235	81		199					97		33	645
TOTAL VOLUMES =	NL 0	NT 2320	NR 682	SL 0	ST 1747	SR 0	EL 0	ET 0	ER 0	WL 770	WT 0	WR 471	TOTAL 5990

AM Peak Hr Begins at: 715 AM

PEAK VOLUMES =	0	1348	351	0	965	0	0	0	0	404	0	284	3352
PEAK HR. FACTOR:		0.931			0.914			0.000			0.905		0.971

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Whittier Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: 605 Freeway SB Off Ramp/Esperanza Ave DAY: WEDNESDAY PROJECT# 10-5198-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	0	2	0	0	0	0	1.5	0	1.5	
4:00 PM		230	63		351					93		51	788
4:15 PM		271	62		328					100		50	811
4:30 PM		210	63		330					116		49	768
4:45 PM		204	77		367					139		50	837
5:00 PM		239	72		406					134		43	894
5:15 PM		247	58		369					104		71	849
5:30 PM		264	69		365					138		51	887
5:45 PM		215	61		401					107		53	837
TOTAL VOLUMES =	NL 0	NT 1880	NR 525	SL 0	ST 2917	SR 0	EL 0	ET 0	ER 0	WL 931	WT 0	WR 418	TOTAL 6671

PM Peak Hr Begins at: 500 PM

PEAK VOLUMES =	0	965	260	0	1541	0	0	0	0	483	0	218	3467
PEAK HR. FACTOR:		0.920			0.949			0.000			0.927		0.970

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Whittier Blvd and 605 Freeway SB Off Ramp/Esperanza Ave , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-001

AM Peak Hour:	715 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM

IN / OUT Peak Hour Summary

Southbound Approach (Whittier Blvd)

	IN	OUT	Total IN & OUT
AM	965	1632	2597
NOON	0	0	0
PM	1541	1183	2724

Northbound Approach

	IN	OUT	Total IN & OUT
AM	1699	1369	3068
NOON	0	0	0
PM	1225	2024	3249

Eastbound Approach (605 Freeway SB Off Ramp/Esperanza Ave)

	AM	NOON	PM
Total IN & OUT	0	0	0
IN	0	0	0
OUT	0	0	0

Westbound Approach

	AM	NOON	PM
Total IN & OUT	1039	0	961
IN	688	0	701
OUT	351	0	260

N

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

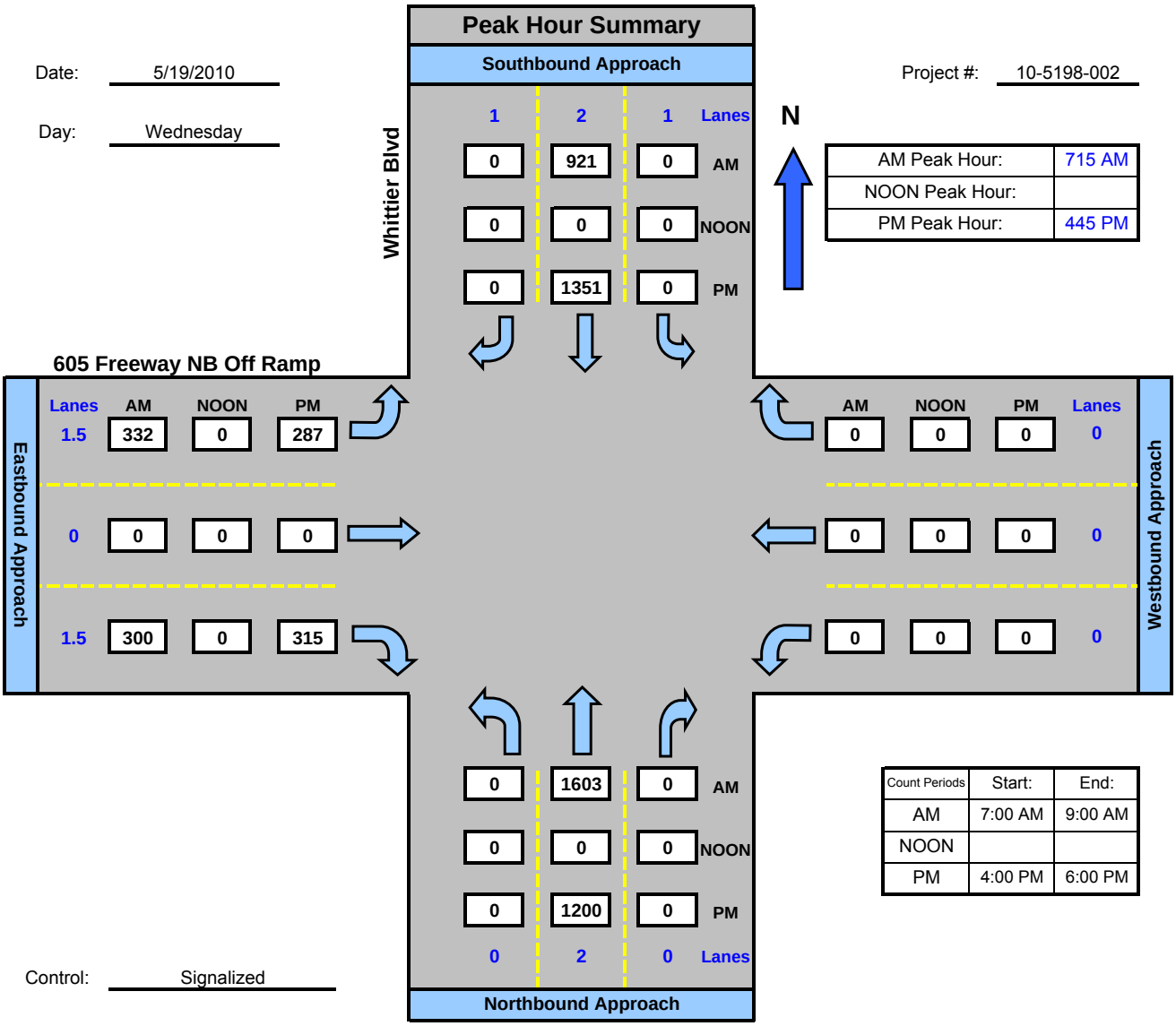
Whittier Blvd and 605 Freeway NB Off Ramp , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-002

AM Peak Hour:	715 AM
NOON Peak Hour:	
PM Peak Hour:	445 PM



Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Whittier Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: 605 Freeway NB Off Ramp DAY: WEDNESDAY PROJECT# 10-5198-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	1	1.5	0	1.5	0	0	0	
7:00 AM		348			136		83		77				644
7:15 AM		407			180		84		75				746
7:30 AM		396			258		76		66				796
7:45 AM		378			247		86		81				792
8:00 AM		422			236		86		78				822
8:15 AM		350			208		62		92				712
8:30 AM		311			199		53		79				642
8:45 AM		336			194		77		80				687
TOTAL VOLUMES =	NL 0	NT 2948	NR 0	SL 0	ST 1658	SR 0	EL 607	ET 0	ER 628	WL 0	WT 0	WR 0	TOTAL 5841

AM Peak Hr Begins at: 715 AM

PEAK VOLUMES =	0	1603	0	0	921	0	332	0	300	0	0	0	3156
PEAK HR. FACTOR:		0.950			0.892			0.946			0.000		0.960

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Whittier Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: 605 Freeway NB Off Ramp DAY: WEDNESDAY PROJECT# 10-5198-002

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	1	1.5	0	1.5	0	0	0	
4:00 PM		287			321		69		64				741
4:15 PM		302			290		79		88				759
4:30 PM		290			288		56		89				723
4:45 PM		286			363		74		68				791
5:00 PM		319			319		53		80				771
5:15 PM		303			335		69		75				782
5:30 PM		292			334		91		92				809
5:45 PM		264			352		71		76				763
TOTAL VOLUMES =	NL 0	NT 2343	NR 0	SL 0	ST 2602	SR 0	EL 562	ET 0	ER 632	WL 0	WT 0	WR 0	TOTAL 6139

PM Peak Hr Begins at: 445 PM

PEAK VOLUMES =	0	1200	0	0	1351	0	287	0	315	0	0	0	3153
PEAK HR. FACTOR:		0.940			0.930			0.822			0.000		0.974

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Whittier Blvd and 605 Freeway NB Off Ramp , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-002

AM Peak Hour:	715 AM
NOON Peak Hour:	
PM Peak Hour:	445 PM

IN / OUT Peak Hour Summary

Southbound Approach (Whittier Blvd)

	IN	OUT	Total IN & OUT
AM	921	1935	2856
NOON	0	0	0
PM	1351	1487	2838

N

605 Freeway NB Off Ramp — **Eastbound Approach**

	AM	NOON	PM
Total IN & OUT	632	0	602
IN	632	0	602
OUT	0	0	0

Westbound Approach

	AM	NOON	PM
Total IN & OUT	0	0	0
IN	0	0	0
OUT	0	0	0

Northbound Approach

	IN	OUT	Total IN & OUT
AM	1603	1221	2824
NOON	0	0	0
PM	1200	1666	2866

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

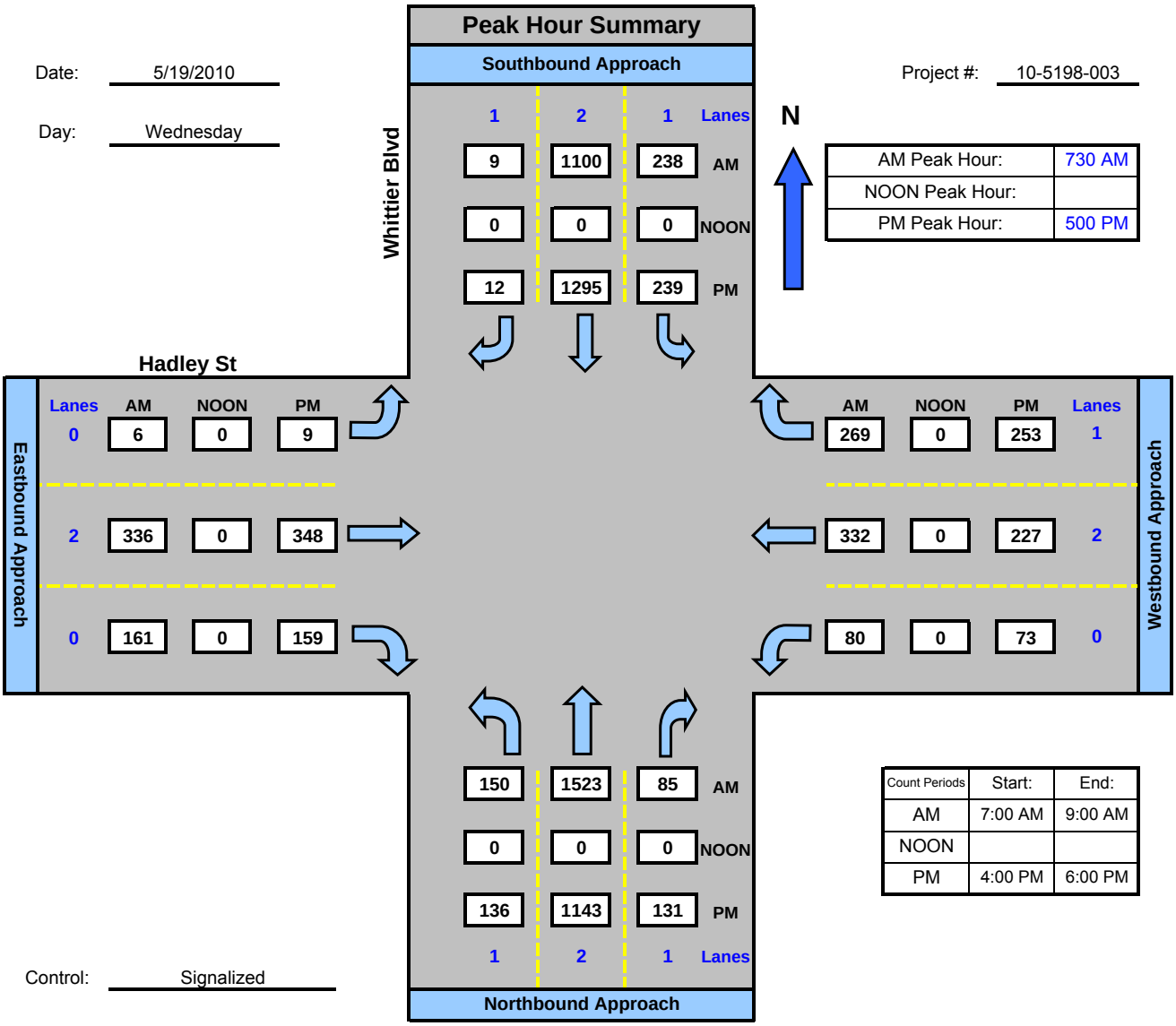
Whittier Blvd and Hadley St , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-003

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM



Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Whittier Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Hadley St DAY: WEDNESDAY PROJECT# 10-5198-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	0	2	0	0	2	1	
7:00 AM	10	367	7	21	141	2	0	22	10	14	51	66	711
7:15 AM	26	358	8	33	200	1	4	41	17	18	62	57	825
7:30 AM	46	428	17	48	231	1	1	90	42	18	86	66	1074
7:45 AM	43	429	26	69	339	1	1	107	49	16	106	73	1259
8:00 AM	28	367	24	62	312	6	1	72	45	21	86	75	1099
8:15 AM	33	299	18	59	218	1	3	67	25	25	54	55	857
8:30 AM	27	312	14	38	280	8	3	38	32	21	50	54	877
8:45 AM	31	274	11	43	218	7	4	49	26	25	40	63	791
TOTAL VOLUMES =	NL 244	NT 2834	NR 125	SL 373	ST 1939	SR 27	EL 17	ET 486	ER 246	WL 158	WT 535	WR 509	TOTAL 7493

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	150	1523	85	238	1100	9	6	336	161	80	332	269	4289
PEAK HR. FACTOR:		0.883			0.823			0.801			0.873		0.852

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Whittier Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Hadley St DAY: WEDNESDAY PROJECT# 10-5198-003

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	0	2	0	0	2	1	
4:00 PM	33	266	31	42	282	3	4	70	39	15	54	69	908
4:15 PM	35	270	25	51	299	4	3	65	43	25	41	58	919
4:30 PM	33	282	20	56	344	4	4	70	27	11	61	61	973
4:45 PM	40	265	32	36	324	14	5	84	38	14	51	63	966
5:00 PM	36	318	17	65	330	2	2	72	45	17	52	62	1018
5:15 PM	31	303	43	55	323	4	3	97	32	18	55	55	1019
5:30 PM	38	265	41	66	324	2	1	93	37	15	51	70	1003
5:45 PM	31	257	30	53	318	4	3	86	45	23	69	66	985
TOTAL VOLUMES =	NL 277	NT 2226	NR 239	SL 424	ST 2544	SR 37	EL 25	ET 637	ER 306	WL 138	WT 434	WR 504	TOTAL 7791

PM Peak Hr Begins at: 500 PM

PEAK VOLUMES =	136	1143	131	239	1295	12	9	348	159	73	227	253	4025
PEAK HR. FACTOR:		0.935			0.974			0.963			0.875		0.987

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Whittier Blvd and Hadley St , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-003

N

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM

IN / OUT Peak Hour Summary

Southbound Approach (Whittier Blvd)

	IN	OUT	Total IN & OUT
AM	1347	1798	3145
NOON	0	0	0
PM	1546	1405	2951

Hadley St

Eastbound Approach

	AM	NOON	PM
Total IN & OUT	994	0	891
IN	503	0	516
OUT	491	0	375

Westbound Approach

	AM	NOON	PM
Total IN & OUT	1340	0	1271
IN	681	0	553
OUT	659	0	718

Northbound Approach

	IN	OUT	Total IN & OUT
AM	1758	1341	3099
NOON	0	0	0
PM	1410	1527	2937

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

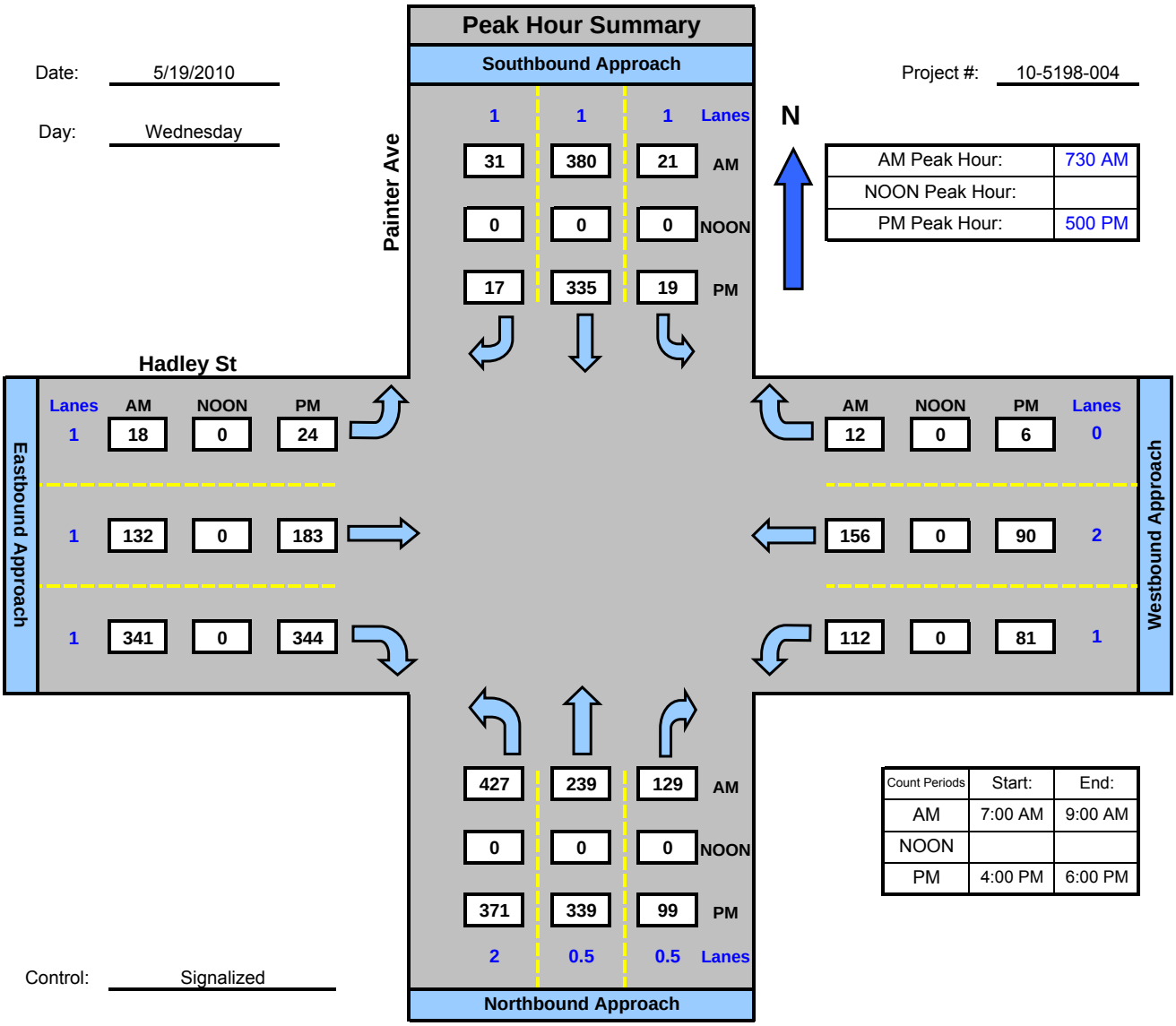
Painter Ave and Hadley St , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-004

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM



Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Painter Ave DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Hadley St DAY: WEDNESDAY PROJECT# 10-5198-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0.5	0.5	1	1	1	1	1	1	1	2	0	
7:00 AM	69	41	6	0	44	3	0	9	44	22	21	5	264
7:15 AM	104	75	12	1	64	4	3	17	50	21	34	6	391
7:30 AM	133	67	21	7	84	9	5	15	75	25	34	3	478
7:45 AM	125	61	23	5	99	11	6	30	81	35	48	1	525
8:00 AM	100	53	51	3	100	2	5	56	95	28	35	4	532
8:15 AM	69	58	34	6	97	9	2	31	90	24	39	4	463
8:30 AM	83	57	27	5	89	0	2	25	84	26	22	3	423
8:45 AM	60	59	23	6	78	5	2	13	65	34	37	3	385
TOTAL VOLUMES =	NL 743	NT 471	NR 197	SL 33	ST 655	SR 43	EL 25	ET 196	ER 584	WL 215	WT 270	WR 29	TOTAL 3461

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	427	239	129	21	380	31	18	132	341	112	156	12	1998
PEAK HR. FACTOR:		0.899			0.939			0.787			0.833		0.939

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Painter Ave DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Hadley St DAY: WEDNESDAY PROJECT# 10-5198-004

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0.5	0.5	1	1	1	1	1	1	1	2	0	
4:00 PM	94	72	19	5	90	0	7	43	71	21	14	5	441
4:15 PM	86	75	32	2	74	4	10	26	87	20	27	1	444
4:30 PM	92	78	23	2	80	0	4	21	92	29	12	1	434
4:45 PM	98	68	23	3	102	2	5	42	82	24	16	1	466
5:00 PM	105	88	27	6	81	2	5	43	81	18	25	2	483
5:15 PM	85	86	29	3	80	5	9	50	83	17	28	0	475
5:30 PM	82	84	25	6	88	6	6	52	88	24	18	2	481
5:45 PM	99	81	18	4	86	4	4	38	92	22	19	2	469
TOTAL VOLUMES =	NL 741	NT 632	NR 196	SL 31	ST 681	SR 23	EL 50	ET 315	ER 676	WL 175	WT 159	WR 14	TOTAL 3693

PM Peak Hr Begins at: 500 PM

PEAK VOLUMES =	371	339	99	19	335	17	24	183	344	81	90	6	1908
PEAK HR. FACTOR:		0.919			0.928			0.943			0.983		0.988

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Painter Ave and Hadley St , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-004

N

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM

IN / OUT Peak Hour Summary

Southbound Approach (Painter Ave)

	IN	OUT	Total IN & OUT
AM	432	269	701
NOON	0	0	0
PM	371	369	740

Hadley St

Eastbound Approach

	AM	NOON	PM
Total IN & OUT	1105	0	1029
IN	491	0	551
OUT	614	0	478

Westbound Approach

	AM	NOON	PM
Total IN & OUT	562	0	478
IN	280	0	177
OUT	282	0	301

Northbound Approach

	IN	OUT	Total IN & OUT
AM	795	833	1628
NOON	0	0	0
PM	809	760	1569

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

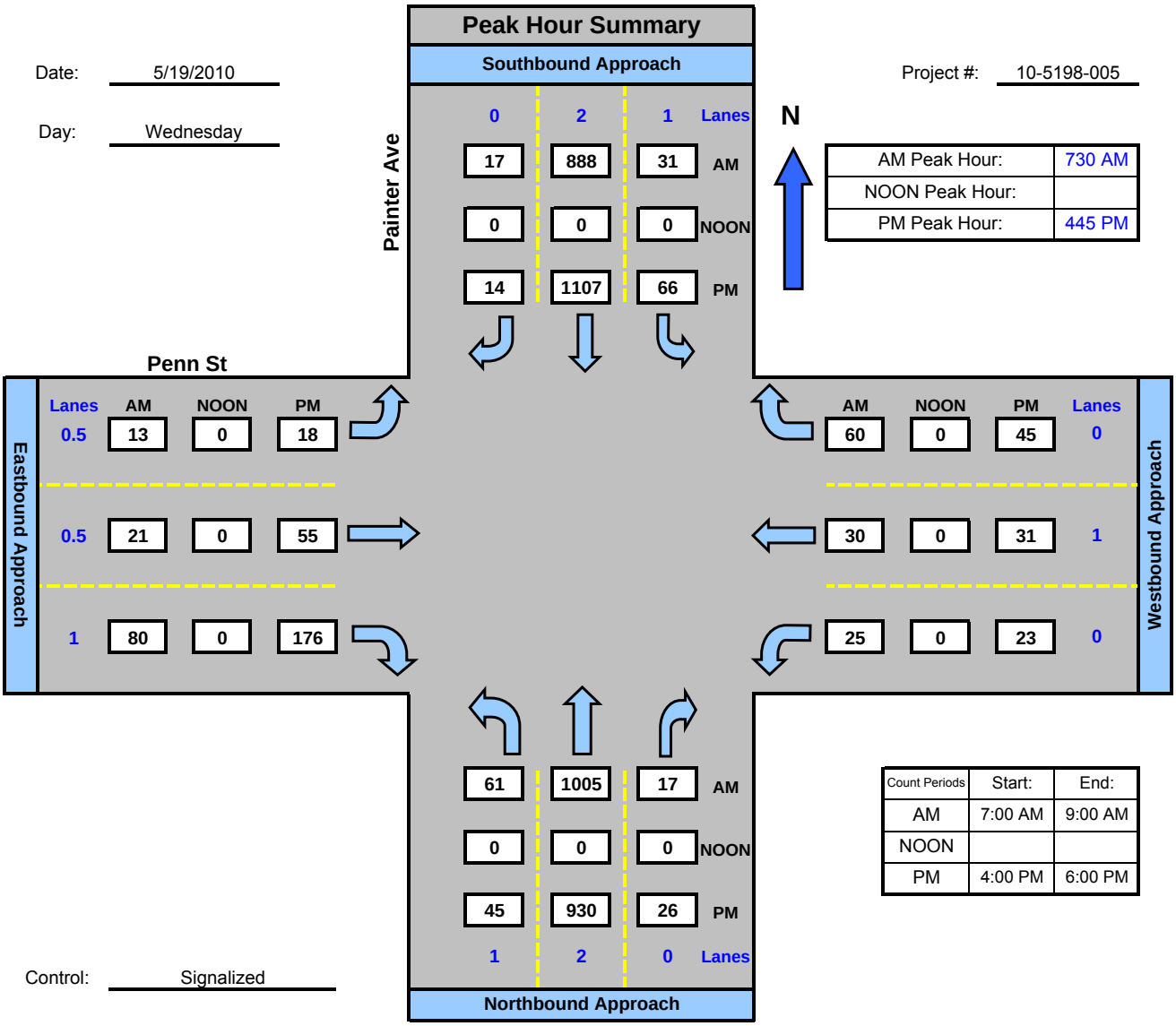
Painter Ave and Penn St , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-005

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	445 PM



Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Painter Ave DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Penn St DAY: WEDNESDAY PROJECT# 10-5198-005

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0.5	0.5	1	0	1	0	
7:00 AM	2	129	2	1	115	0	1	4	8	3	4	16	285
7:15 AM	13	190	3	7	144	1	1	1	7	5	8	10	390
7:30 AM	13	256	4	4	212	2	1	4	20	4	9	20	549
7:45 AM	17	269	5	5	222	8	4	4	14	6	11	17	582
8:00 AM	10	255	1	14	230	4	4	9	21	9	6	15	578
8:15 AM	21	225	7	8	224	3	4	4	25	6	4	8	539
8:30 AM	14	210	3	8	181	1	2	3	18	5	10	12	467
8:45 AM	23	197	5	11	173	3	4	4	16	5	7	11	459
TOTAL VOLUMES =	NL 113	NT 1731	NR 30	SL 58	ST 1501	SR 22	EL 21	ET 33	ER 129	WL 43	WT 59	WR 109	TOTAL 3849

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	61	1005	17	31	888	17	13	21	80	25	30	60	2248
PEAK HR. FACTOR:		0.930			0.944			0.838			0.846		0.966

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Painter Ave DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Penn St DAY: WEDNESDAY PROJECT# 10-5198-005

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0.5	0.5	1	0	1	0	
4:00 PM	11	229	6	11	240	4	5	17	40	5	7	13	588
4:15 PM	14	238	7	13	231	4	6	12	20	10	4	9	568
4:30 PM	8	205	7	11	289	4	1	13	42	10	2	12	604
4:45 PM	13	231	3	16	265	4	3	14	37	7	6	16	615
5:00 PM	11	233	7	18	305	6	5	16	50	6	10	13	680
5:15 PM	13	238	7	15	263	2	3	13	36	8	11	9	618
5:30 PM	8	228	9	17	274	2	7	12	53	2	4	7	623
5:45 PM	12	208	9	15	235	3	7	12	33	7	3	11	555
TOTAL VOLUMES =	NL 90	NT 1810	NR 55	SL 116	ST 2102	SR 29	EL 37	ET 109	ER 311	WL 55	WT 47	WR 90	TOTAL 4851

PM Peak Hr Begins at: 445 PM

PEAK VOLUMES =	45	930	26	66	1107	14	18	55	176	23	31	45	2536
PEAK HR. FACTOR:		0.970			0.902			0.865			0.853		0.932

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Painter Ave and Penn St , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-005

N

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	445 PM

IN / OUT Peak Hour Summary

Southbound Approach (Painter Ave)

	IN	OUT	Total IN & OUT
AM	936	1078	2014
NOON	0	0	0
PM	1187	993	2180

Eastbound Approach (Penn St)

	AM	NOON	PM
Total IN & OUT	222	0	339
IN	114	0	249
OUT	108	0	90

Westbound Approach

	AM	NOON	PM
Total IN & OUT	184	0	246
IN	115	0	99
OUT	69	0	147

Northbound Approach

	IN	OUT	Total IN & OUT
AM	1083	993	2076
NOON	0	0	0
PM	1001	1306	2307

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Catalina Ave and Mar Vista St , City of Whittier

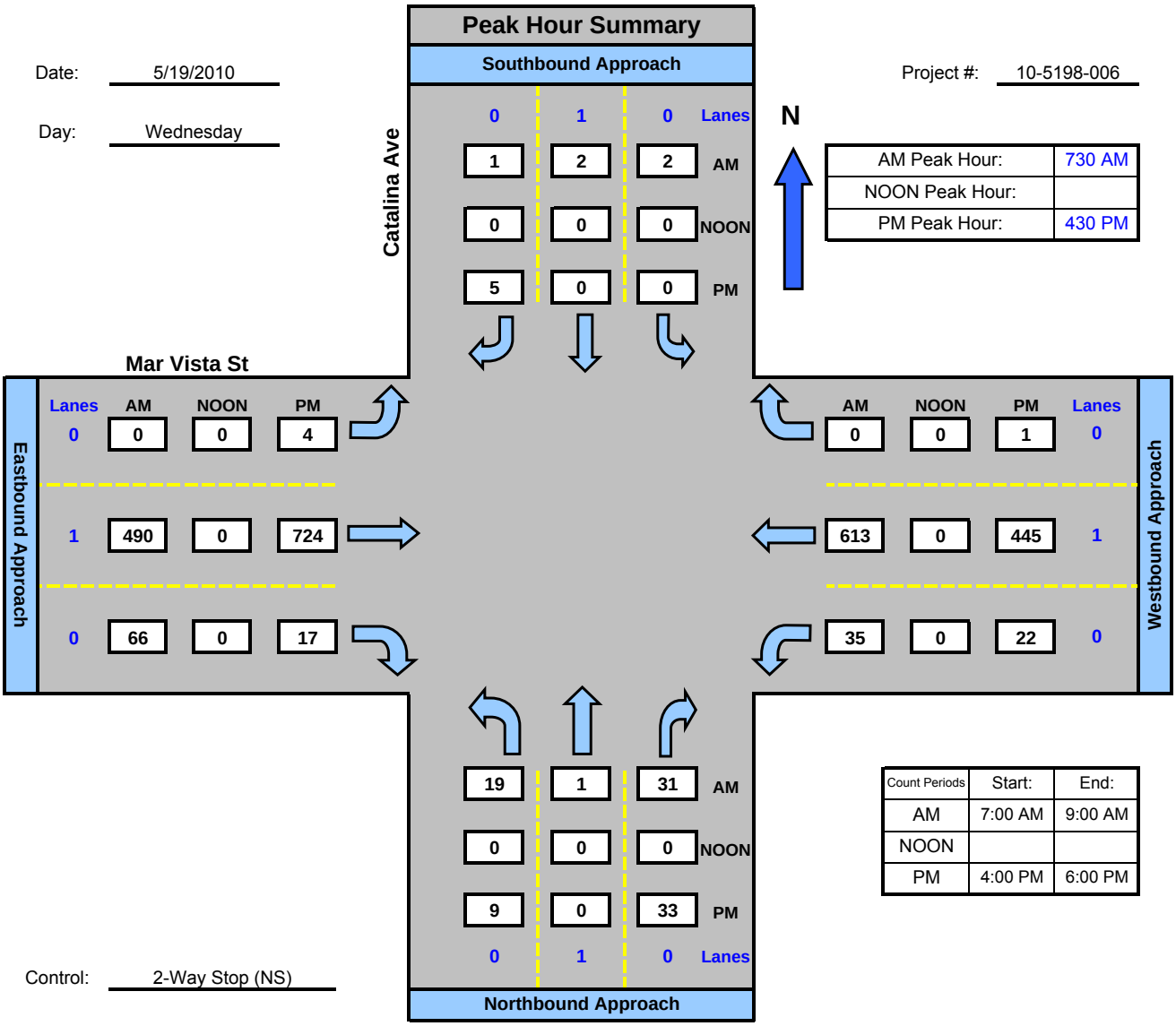
Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-006

Peak Hour Summary

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	430 PM



Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: 2-Way Stop (NS)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Catalina Ave DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Mar Vista St DAY: WEDNESDAY PROJECT# 10-5198-006

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
7:00 AM	0	0	10	0	0	1		84	3	5	106	0	209
7:15 AM	3	0	1	2	0	0		95	10	5	127	1	244
7:30 AM	6	0	8	0	1	0		107	24	12	170	0	328
7:45 AM	6	0	7	1	1	0		94	31	12	148	0	300
8:00 AM	5	1	13	0	0	1		146	8	7	140	0	321
8:15 AM	2	0	3	1	0	0		143	3	4	155	0	311
8:30 AM	5	1	5	0	0	0		96	2	5	166	0	280
8:45 AM	4	0	4	1	0	0		73	3	3	152	0	240
TOTAL VOLUMES =	NL 31	NT 2	NR 51	SL 5	ST 2	SR 2	EL 0	ET 838	ER 84	WL 53	WT 1164	WR 1	TOTAL 2233

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	19	1	31	2	2	1	0	490	66	35	613	0	1260
PEAK HR. FACTOR:		0.671			0.625			0.903			0.890		0.960

CONTROL: 2-Way Stop (NS)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Catalina Ave DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Mar Vista St DAY: WEDNESDAY PROJECT# 10-5198-006

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	0	1	0	0	1	0	
4:00 PM	0		6	1		1	0	145	3	3	115	0	274
4:15 PM	2		6	1		0	0	172	3	5	135	0	324
4:30 PM	3		6	0		1	1	184	3	7	110	1	316
4:45 PM	3		10	0		0	1	172	3	6	111	0	306
5:00 PM	2		6	0		0	0	179	6	2	116	0	311
5:15 PM	1		11	0		4	2	189	5	7	108	0	327
5:30 PM	1		6	0		1	1	157	4	2	117	1	290
5:45 PM	3		4	1		0	1	167	3	2	101	1	283
TOTAL VOLUMES =	NL 15	NT 0	NR 55	SL 3	ST 0	SR 7	EL 6	ET 1365	ER 30	WL 34	WT 913	WR 3	TOTAL 2431

PM Peak Hr Begins at: 430 PM

PEAK VOLUMES =	9	0	33	0	0	5	4	724	17	22	445	1	1260
PEAK HR. FACTOR:		0.808			0.313			0.950			0.992		0.963

CONTROL: 2-Way Stop (NS)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Catalina Ave and Mar Vista St , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-006

N

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	430 PM

IN / OUT Peak Hour Summary

Southbound Approach (Catalina Ave)

	IN	OUT	Total IN & OUT
AM	5	1	6
NOON	0	0	0
PM	5	5	10

Mar Vista St

Eastbound Approach

	AM	NOON	PM
Total IN & OUT	1189	0	1204
IN	556	0	745
OUT	633	0	459

Westbound Approach

	AM	NOON	PM
Total IN & OUT	1171	0	1225
IN	648	0	468
OUT	523	0	757

Northbound Approach

	IN	OUT	Total IN & OUT
AM	51	103	154
NOON	0	0	0
PM	42	39	81

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: 2-Way Stop (NS)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Catalina Ave and Whittier Blvd , City of Whittier

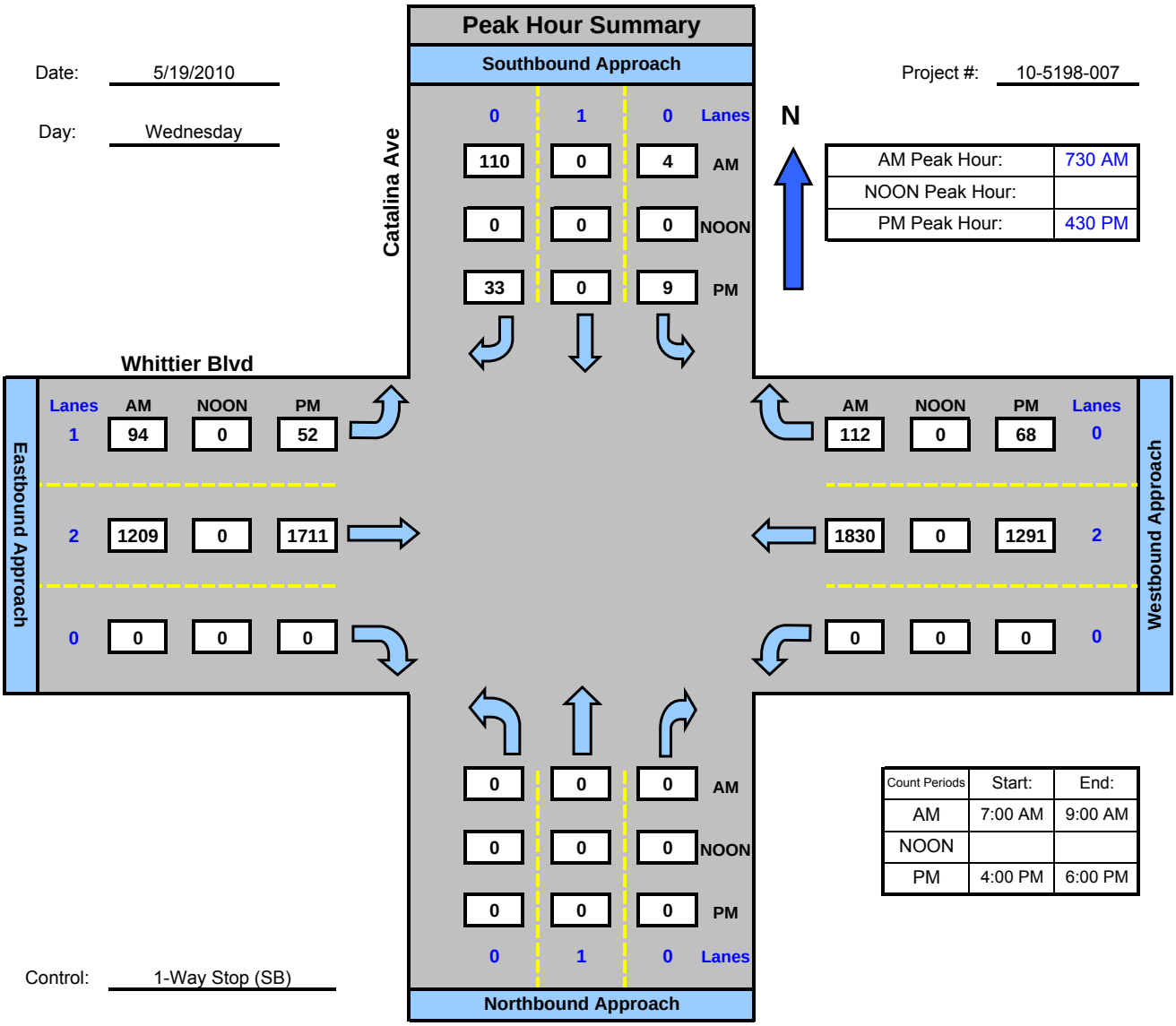
Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-007

Peak Hour Summary

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	430 PM



Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Catalina Ave DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Whittier Blvd DAY: WEDNESDAY PROJECT# 10-5198-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	2	0	0	2	0	
7:00 AM				2	0	13	12	186			392	17	622
7:15 AM				1	0	21	16	235			457	29	759
7:30 AM				0	0	36	38	274			512	37	897
7:45 AM				1	0	54	44	310			487	35	931
8:00 AM				2	0	9	5	320			390	21	747
8:15 AM				1	0	11	7	305			441	19	784
8:30 AM				2	0	4	4	259			429	8	706
8:45 AM				3	1	2	2	262			373	10	653
TOTAL VOLUMES =	NL 0	NT 0	NR 0	SL 12	ST 1	SR 150	EL 128	ET 2151	ER 0	WL 0	WT 3481	WR 176	TOTAL 6099

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	0	0	0	4	0	110	94	1209	0	0	1830	112	3359
PEAK HR. FACTOR:		0.000			0.518			0.920			0.884		0.902

CONTROL: 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Catalina Ave DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Whittier Blvd DAY: WEDNESDAY PROJECT# 10-5198-007

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	0	1	0	1	2	0	0	2	0	
4:00 PM				3		10	11	422			307	7	760
4:15 PM				1		5	12	383			326	10	737
4:30 PM				2		5	7	426			342	11	793
4:45 PM				1		5	11	423			335	21	796
5:00 PM				3		6	17	441			348	15	830
5:15 PM				3		17	17	421			266	21	745
5:30 PM				4		13	10	389			345	23	784
5:45 PM				2		13	12	430			298	18	773
TOTAL VOLUMES =	NL 0	NT 0	NR 0	SL 19	ST 0	SR 74	EL 97	ET 3335	ER 0	WL 0	WT 2567	WR 126	TOTAL 6218

PM Peak Hr Begins at: 430 PM

PEAK VOLUMES =	0	0	0	9	0	33	52	1711	0	0	1291	68	3164
PEAK HR. FACTOR:		0.000			0.525			0.962			0.936		0.953

CONTROL: 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Catalina Ave and Whittier Blvd , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-007

N

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	430 PM

IN / OUT Peak Hour Summary

Southbound Approach (Catalina Ave)

	IN	OUT	Total IN & OUT
AM	114	206	320
NOON	0	0	0
PM	42	120	162

Whittier Blvd

Eastbound Approach

	AM	NOON	PM
Total IN & OUT	3243	0	3087
IN	1303	0	1763
OUT	1940	0	1324

Westbound Approach

	AM	NOON	PM
Total IN & OUT	3155	0	3079
IN	1942	0	1359
OUT	1213	0	1720

Northbound Approach

	IN	OUT	Total IN & OUT
AM	0	0	0
NOON	0	0	0
PM	0	0	0

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: 1-Way Stop (SB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

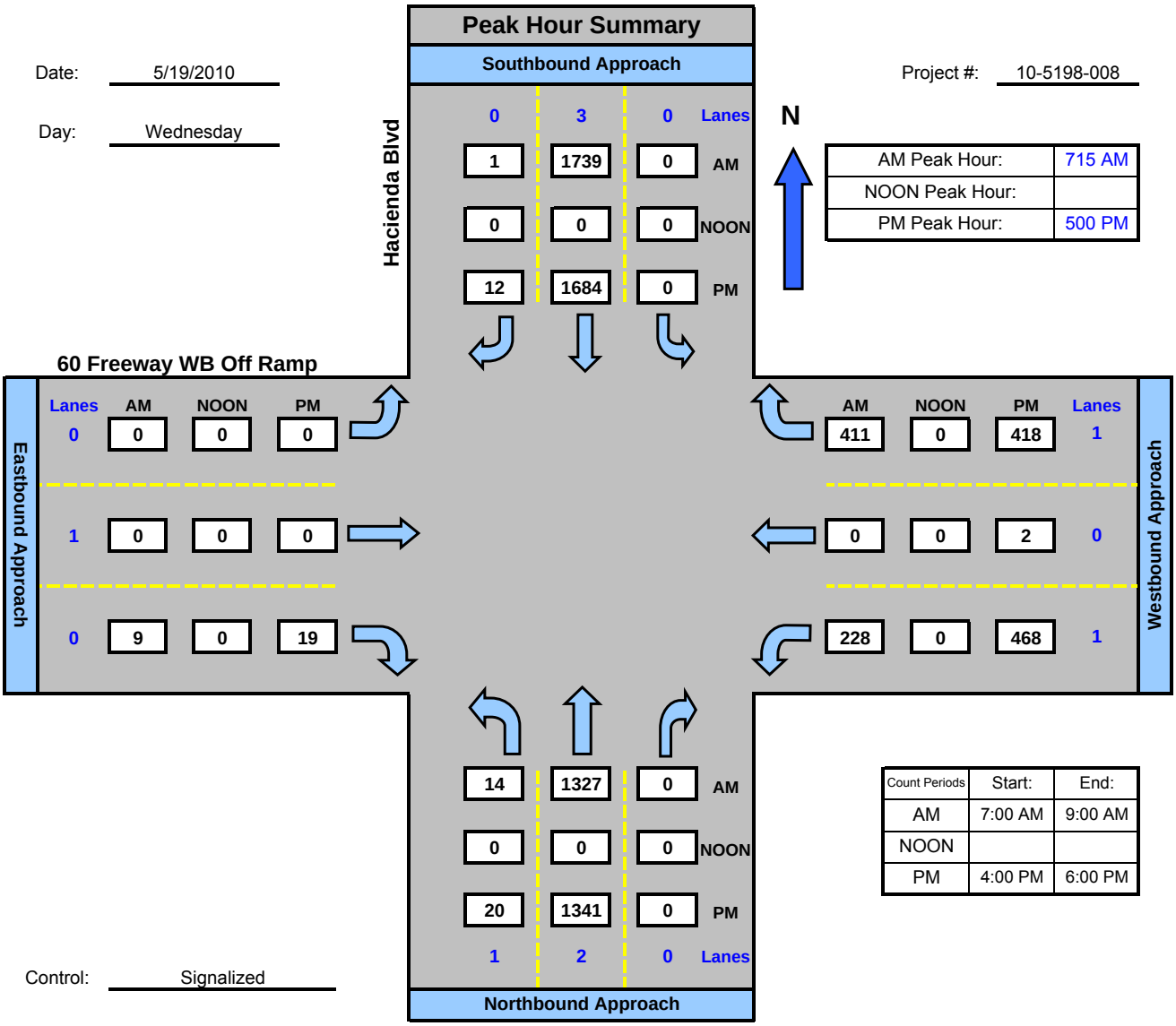
Hacienda Blvd and 60 Freeway WB Off Ramp , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-008

AM Peak Hour:	715 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM



Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Hacienda Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: 60 Freeway WB Off Ramp DAY: WEDNESDAY PROJECT# 10-5198-008

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	0	1	0	1	0	1	
7:00 AM	3	188			366	0			1	65		79	702
7:15 AM	1	266			491	1			1	54		103	917
7:30 AM	3	326			430	0			3	54		106	922
7:45 AM	4	414			474	0			2	67		100	1061
8:00 AM	6	321			344	0			3	53		102	829
8:15 AM	5	325			363	0			2	60		98	853
8:30 AM	2	283			361	0			1	61		95	803
8:45 AM	3	326			329	1			0	63		115	837
TOTAL VOLUMES =	NL 27	NT 2449	NR 0	SL 0	ST 3158	SR 2	EL 0	ET 0	ER 13	WL 477	WT 0	WR 798	TOTAL 6924

AM Peak Hr Begins at: 715 AM

PEAK VOLUMES =	14	1327	0	0	1739	1	0	0	9	228	0	411	3729
PEAK HR. FACTOR:		0.802			0.884			0.750			0.957		0.879

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Hacienda Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: 60 Freeway WB Off Ramp DAY: WEDNESDAY PROJECT# 10-5198-008

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	0	1	0	1	0	1	
4:00 PM	2	288			330	2			3	107	0	121	853
4:15 PM	3	320			373	0			7	144	0	106	953
4:30 PM	2	299			361	4			2	117	0	116	901
4:45 PM	1	301			401	2			7	110	0	113	935
5:00 PM	4	337			403	2			7	119	1	100	973
5:15 PM	7	362			456	5			4	118	0	105	1057
5:30 PM	4	310			389	2			3	136	1	128	973
5:45 PM	5	332			436	3			5	95	0	85	961
TOTAL VOLUMES =	NL 28	NT 2549	NR 0	SL 0	ST 3149	SR 20	EL 0	ET 0	ER 38	WL 946	WT 2	WR 874	TOTAL 7606

PM Peak Hr Begins at: 500 PM

PEAK VOLUMES =	20	1341	0	0	1684	12	0	0	19	468	2	418	3964
PEAK HR. FACTOR:		0.922			0.920			0.679			0.838		0.938

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Hacienda Blvd and 60 Freeway WB Off Ramp , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-008

N

AM Peak Hour:	715 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM

IN / OUT Peak Hour Summary

Southbound Approach (Hacienda Blvd)

	IN	OUT	Total IN & OUT
AM	1740	1738	3478
NOON	0	0	0
PM	1696	1759	3455

Northbound Approach

	IN	OUT	Total IN & OUT
AM	1341	1976	3317
NOON	0	0	0
PM	1361	2171	3532

Eastbound Approach (60 Freeway WB Off Ramp)

	AM	NOON	PM
Total IN & OUT	24	0	53
IN	9	0	19
OUT	15	0	34

Westbound Approach

	AM	NOON	PM
Total IN & OUT	639	0	888
IN	639	0	888
OUT	0	0	0

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

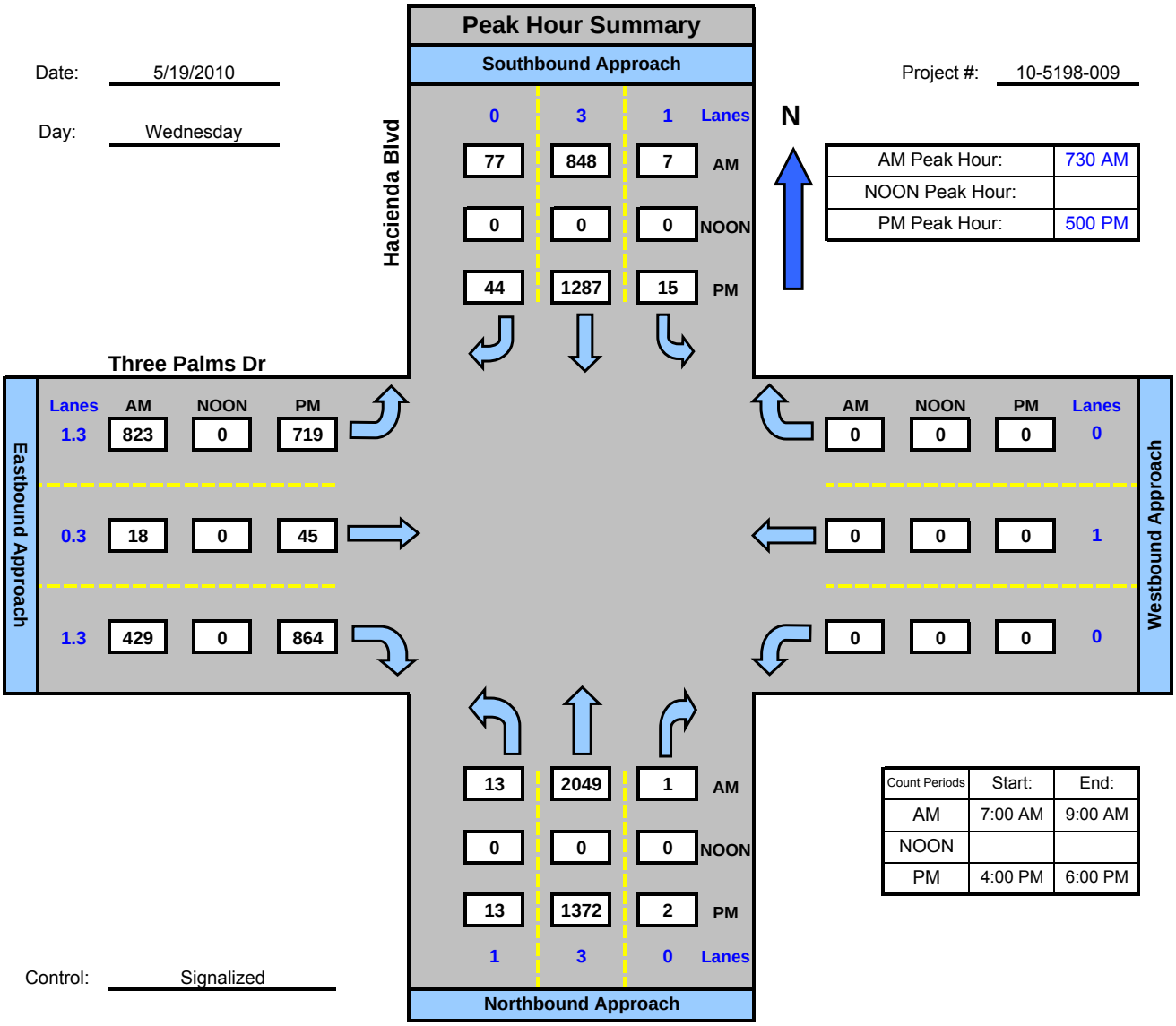
Hacienda Blvd and Three Palms Dr , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-009

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM



Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Hacienda Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Three Palms Dr DAY: WEDNESDAY PROJECT# 10-5198-009

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	3	0	1.3	0.3	1.3	0	1	0	
7:00 AM	4	410	0	0	183	25	127	4	70				823
7:15 AM	1	479	0	2	228	35	133	0	77				955
7:30 AM	5	512	0	2	207	39	231	5	91				1092
7:45 AM	2	567	1	1	255	22	220	3	98				1169
8:00 AM	3	470	0	2	193	8	186	5	120				987
8:15 AM	3	500	0	2	193	8	186	5	120				1017
8:30 AM	2	422	1	0	210	7	253	2	102				999
8:45 AM	4	425	0	2	191	7	197	0	97				923
TOTAL VOLUMES =	NL 24	NT 3785	NR 2	SL 11	ST 1660	SR 151	EL 1533	ET 24	ER 775	WL 0	WT 0	WR 0	TOTAL 7965

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	13	2049	1	7	848	77	823	18	429	0	0	0	4265
PEAK HR. FACTOR:		0.905			0.838			0.971			0.000		0.912

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Hacienda Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Three Palms Dr DAY: WEDNESDAY PROJECT# 10-5198-009

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	3	0	1.3	0.3	1.3	0	1	0	
4:00 PM	2	309	1	5	273	12	175	14	162				953
4:15 PM	2	283	0	6	291	20	238	7	182				1029
4:30 PM	2	328	1	5	281	14	172	10	182				995
4:45 PM	3	248	0	5	287	12	177	8	192				932
5:00 PM	1	377	1	4	308	12	187	11	168				1069
5:15 PM	3	332	0	2	333	10	177	9	228				1094
5:30 PM	3	379	1	3	324	15	155	8	222				1110
5:45 PM	6	284	0	6	322	7	200	17	246				1088
TOTAL VOLUMES =	NL 22	NT 2540	NR 4	SL 36	ST 2419	SR 102	EL 1481	ET 84	ER 1582	WL 0	WT 0	WR 0	TOTAL 8270

PM Peak Hr Begins at: 500 PM

PEAK VOLUMES =	13	1372	2	15	1287	44	719	45	864	0	0	0	4361
PEAK HR. FACTOR:		0.905			0.975			0.879			0.000		0.982

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Hacienda Blvd and Three Palms Dr , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-009

N

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM

IN / OUT Peak Hour Summary

Southbound Approach (Hacienda Blvd)

	IN	OUT	Total IN & OUT
AM	932	2872	3804
NOON	0	0	0
PM	1346	2091	3437

Three Palms Dr

Eastbound Approach

	AM	NOON	PM
Total IN & OUT	1360	0	1685
IN	1270	0	1628
OUT	90	0	57

Westbound Approach

	AM	NOON	PM
Total IN & OUT	26	0	62
IN	0	0	0
OUT	26	0	62

Northbound Approach

	IN	OUT	Total IN & OUT
AM	2063	1277	3340
NOON	0	0	0
PM	1387	2151	3538

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Hacienda Blvd and Colima Rd , City of Whittier

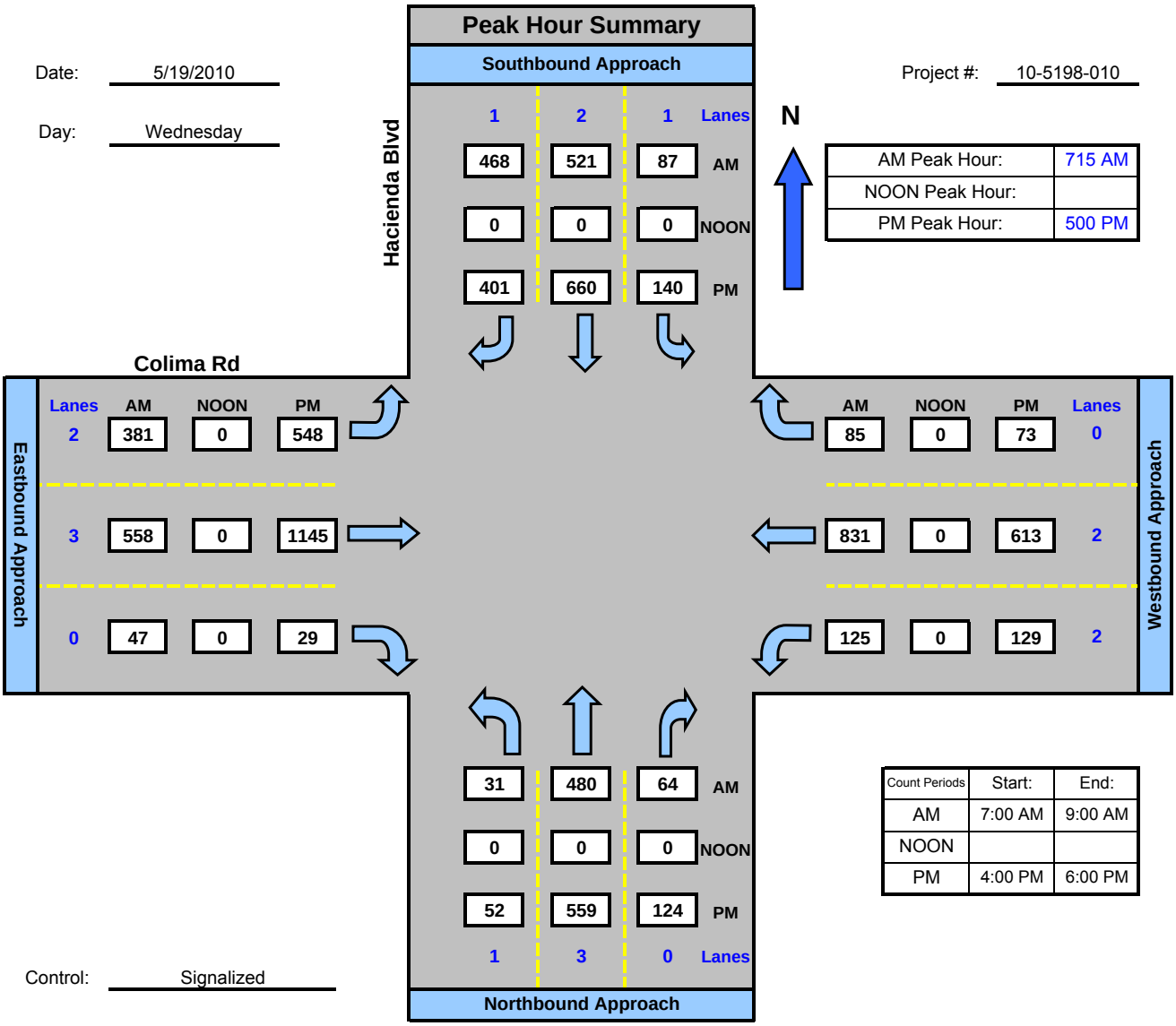
Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-010

Peak Hour Summary

AM Peak Hour:	715 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM



Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Hacienda Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Colima Rd DAY: WEDNESDAY PROJECT# 10-5198-010

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	2	3	0	2	2	0	
7:00 AM	3	122	10	6	89	126	91	106	7	33	235	13	841
7:15 AM	11	113	8	18	110	111	90	134	12	24	236	12	879
7:30 AM	8	126	21	21	130	109	93	146	12	30	204	14	914
7:45 AM	5	121	18	26	139	130	102	127	8	37	223	34	970
8:00 AM	7	120	17	22	142	118	96	151	15	34	168	25	915
8:15 AM	13	112	17	23	140	115	91	114	8	32	183	17	865
8:30 AM	5	93	24	33	125	83	104	132	9	47	200	12	867
8:45 AM	5	72	20	25	87	76	74	100	10	19	151	4	643
TOTAL VOLUMES =	NL 57	NT 879	NR 135	SL 174	ST 962	SR 868	EL 741	ET 1010	ER 81	WL 256	WT 1600	WR 131	TOTAL 6894

AM Peak Hr Begins at: 715 AM

PEAK VOLUMES =	31	480	64	87	521	468	381	558	47	125	831	85	3678
PEAK HR. FACTOR:		0.927			0.912			0.941			0.885		0.948

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Hacienda Blvd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Colima Rd DAY: WEDNESDAY PROJECT# 10-5198-010

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	2	3	0	2	2	0	
4:00 PM	15	122	27	40	153	94	114	200	12	48	122	23	970
4:15 PM	9	122	20	33	137	95	171	211	11	35	97	14	955
4:30 PM	9	119	4	23	149	96	105	250	9	36	141	27	968
4:45 PM	9	124	15	30	179	114	165	284	2	39	124	11	1096
5:00 PM	12	143	24	35	147	89	97	317	13	30	165	18	1090
5:15 PM	13	142	34	33	168	84	151	284	6	33	144	17	1109
5:30 PM	12	124	23	33	179	116	147	256	2	30	147	22	1091
5:45 PM	15	150	43	39	166	112	153	288	8	36	157	16	1183
TOTAL VOLUMES =	NL 94	NT 1046	NR 190	SL 266	ST 1278	SR 800	EL 1103	ET 2090	ER 63	WL 287	WT 1097	WR 148	TOTAL 8462

PM Peak Hr Begins at: 500 PM

PEAK VOLUMES =	52	559	124	140	660	401	548	1145	29	129	613	73	4473
PEAK HR. FACTOR:		0.883			0.915			0.959			0.957		0.945

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Hacienda Blvd and Colima Rd , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-010

N

AM Peak Hour:	715 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM

IN / OUT Peak Hour Summary

Southbound Approach (Hacienda Blvd)

	IN	OUT	Total IN & OUT
AM	1076	946	2022
NOON	0	0	0
PM	1201	1180	2381

Eastbound Approach (Colima Rd)

	AM	NOON	PM
Total IN & OUT	2316	0	2788
IN	986	0	1722
OUT	1330	0	1066

Westbound Approach (Colima Rd)

	AM	NOON	PM
Total IN & OUT	1750	0	2224
IN	1041	0	815
OUT	709	0	1409

Northbound Approach

	IN	OUT	Total IN & OUT
AM	575	693	1268
NOON	0	0	0
PM	735	818	1553

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Colima Rd and Mar Vista St , City of Whittier

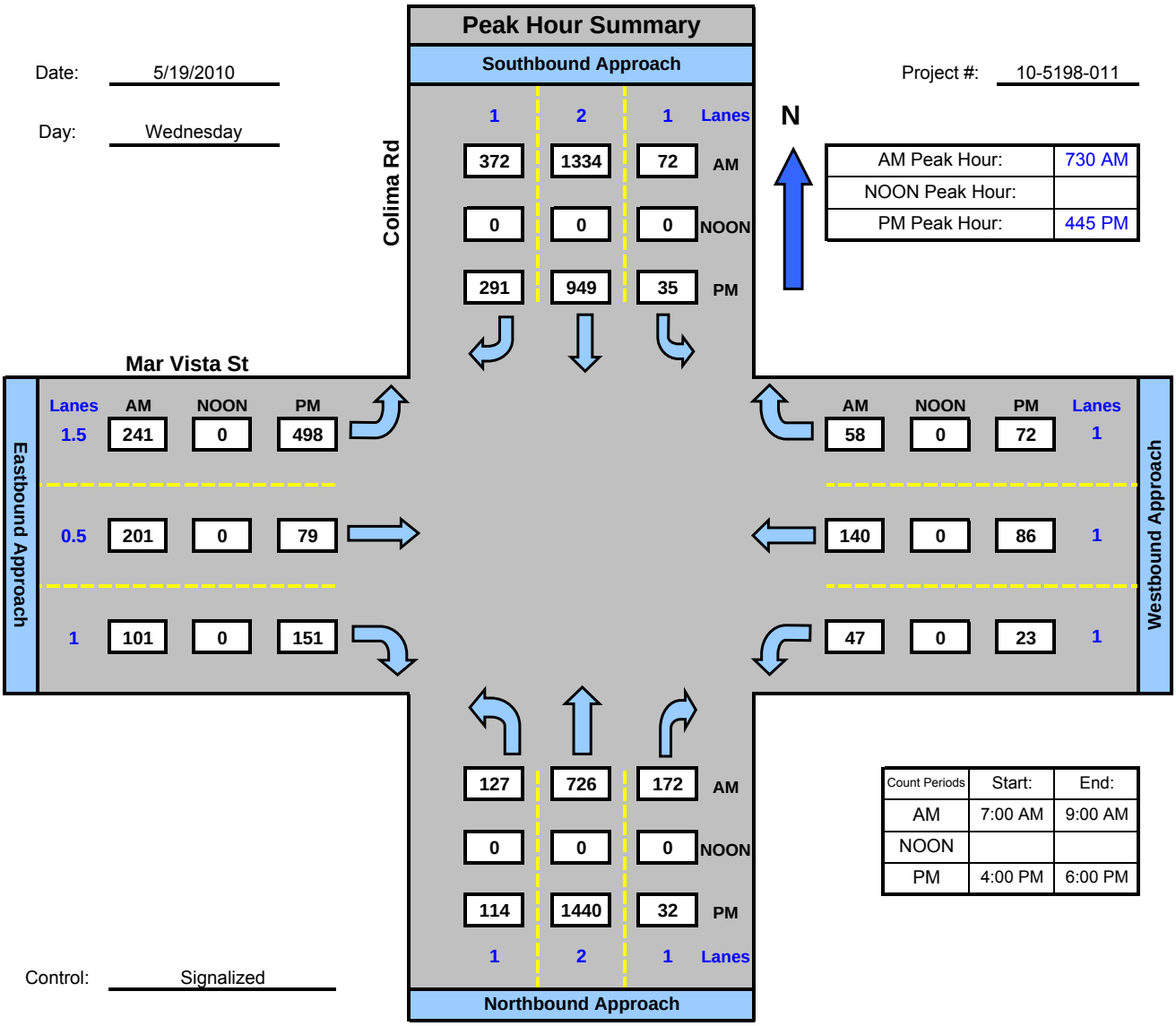
Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-011

Peak Hour Summary

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	445 PM



Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Colima Rd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Mar Vista St DAY: WEDNESDAY PROJECT# 10-5198-011

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	0.5	1	1	1	1	
7:00 AM	13	155	6	5	340	78	65	10	30	10	13	12	737
7:15 AM	25	204	10	16	411	92	61	17	18	3	22	5	884
7:30 AM	24	182	5	9	373	121	70	16	20	9	25	15	869
7:45 AM	26	200	19	13	349	105	61	37	16	5	25	14	870
8:00 AM	36	171	56	23	287	78	61	64	34	12	35	11	868
8:15 AM	41	173	92	27	325	68	49	84	31	21	55	18	984
8:30 AM	45	164	11	10	309	80	45	20	36	21	49	11	801
8:45 AM	34	158	5	5	322	91	35	16	28	5	16	12	727
TOTAL VOLUMES =	NL 244	NT 1407	NR 204	SL 108	ST 2716	SR 713	EL 447	ET 264	ER 213	WL 86	WT 240	WR 98	TOTAL 6740

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	127	726	172	72	1334	372	241	201	101	47	140	58	3591
PEAK HR. FACTOR:		0.837			0.884			0.828			0.652		0.912

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Colima Rd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Mar Vista St DAY: WEDNESDAY PROJECT# 10-5198-011

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1.5	0.5	1	1	1	1	
4:00 PM	54	267	9	10	213	54	82	13	49	8	21	8	788
4:15 PM	37	307	9	11	233	70	106	27	49	2	17	11	879
4:30 PM	37	299	13	8	228	69	110	26	38	3	25	24	880
4:45 PM	36	373	5	13	252	52	132	20	35	3	21	20	962
5:00 PM	35	328	12	6	220	80	129	26	35	6	24	17	918
5:15 PM	20	388	8	5	240	73	130	20	47	3	21	17	972
5:30 PM	23	351	7	11	237	86	107	13	34	11	20	18	918
5:45 PM	35	313	5	11	213	61	114	39	37	4	18	8	858
TOTAL VOLUMES =	NL 277	NT 2626	NR 68	SL 75	ST 1836	SR 545	EL 910	ET 184	ER 324	WL 40	WT 167	WR 123	TOTAL 7175

PM Peak Hr Begins at: 445 PM

PEAK VOLUMES =	114	1440	32	35	949	291	498	79	151	23	86	72	3770
PEAK HR. FACTOR:		0.953			0.954			0.924			0.923		0.970

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Colima Rd and Mar Vista St , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-011

IN / OUT Peak Hour Summary

Southbound Approach (Colima Rd)

	IN	OUT	Total IN & OUT
AM	1778	1025	2803
NOON	0	0	0
PM	1275	2010	3285

N

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	445 PM

Mar Vista St

Eastbound Approach

	AM	NOON	PM
Total IN & OUT	1182	0	1219
IN	543	0	728
OUT	639	0	491

Westbound Approach

	AM	NOON	PM
Total IN & OUT	690	0	327
IN	245	0	181
OUT	445	0	146

Northbound Approach

	IN	OUT	Total IN & OUT
AM	1025	1482	2507
NOON	0	0	0
PM	1586	1123	2709

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

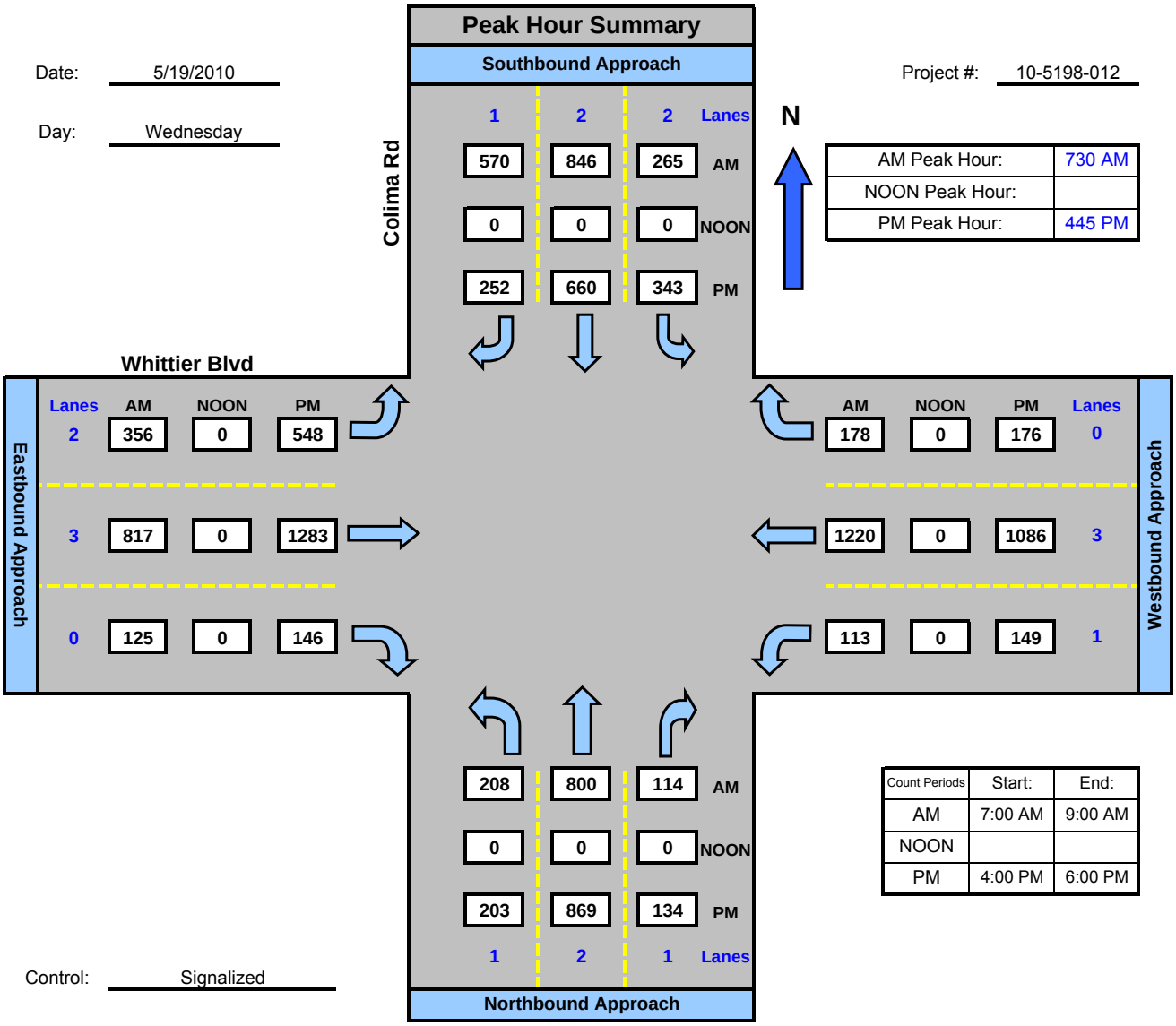
National Data & Surveying Services

Colima Rd and Whittier Blvd , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-012



AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	445 PM

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Colima Rd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Whittier Blvd DAY: WEDNESDAY PROJECT# 10-5198-012

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	2	2	1	2	3	0	1	3	0	
7:00 AM	27	143	14	47	194	120	59	132	25	10	296	32	1099
7:15 AM	60	132	21	52	214	145	63	131	23	21	342	30	1234
7:30 AM	47	172	17	55	210	167	73	181	35	22	343	26	1348
7:45 AM	64	157	34	69	191	121	72	216	33	23	321	38	1339
8:00 AM	44	242	28	59	233	139	121	202	33	30	240	54	1425
8:15 AM	53	229	35	82	212	143	90	218	24	38	316	60	1500
8:30 AM	47	113	20	68	250	155	84	149	22	35	273	34	1250
8:45 AM	50	127	30	75	148	110	68	197	34	26	300	32	1197
TOTAL VOLUMES =	NL 392	NT 1315	NR 199	SL 507	ST 1652	SR 1100	EL 630	ET 1426	ER 229	WL 205	WT 2431	WR 306	TOTAL 10392

AM Peak Hr Begins at: 730 AM

PEAK VOLUMES =	208	800	114	265	846	570	356	817	125	113	1220	178	5612
PEAK HR. FACTOR:		0.885			0.962			0.912			0.912		0.935

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Colima Rd DATE: 05/19/2010 LOCATION: City of Whittier

E-W STREET: Whittier Blvd DAY: WEDNESDAY PROJECT# 10-5198-012

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	2	2	1	2	3	0	1	3	0	
4:00 PM	58	210	37	82	153	71	93	281	40	36	225	36	1322
4:15 PM	53	195	34	94	146	62	130	297	40	38	247	43	1379
4:30 PM	59	194	37	104	161	49	117	288	43	29	248	44	1373
4:45 PM	49	205	32	85	139	68	170	318	30	41	284	42	1463
5:00 PM	48	223	33	92	158	73	109	320	40	43	277	45	1461
5:15 PM	44	214	32	78	203	47	138	350	34	35	263	37	1475
5:30 PM	62	227	37	88	160	64	131	295	42	30	262	52	1450
5:45 PM	39	221	26	73	154	51	128	337	47	37	274	43	1430
TOTAL VOLUMES =	NL 412	NT 1689	NR 268	SL 696	ST 1274	SR 485	EL 1016	ET 2486	ER 316	WL 289	WT 2080	WR 342	TOTAL 11353

PM Peak Hr Begins at: 445 PM

PEAK VOLUMES =	203	869	134	343	660	252	548	1283	146	149	1086	176	5849
PEAK HR. FACTOR:		0.925			0.957			0.947			0.961		0.991

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Colima Rd and Whittier Blvd , City of Whittier

Date: 5/19/2010

Day: Wednesday

Project #: 10-5198-012

N

AM Peak Hour:	730 AM
NOON Peak Hour:	
PM Peak Hour:	445 PM

IN / OUT Peak Hour Summary

Southbound Approach (Colima Rd)

	IN	OUT	Total IN & OUT
AM	1681	1334	3015
NOON	0	0	0
PM	1255	1593	2848

Eastbound Approach (Whittier Blvd)

	AM	NOON	PM
Total IN & OUT	3296	0	3518
IN	1298	0	1977
OUT	1998	0	1541

Westbound Approach

	AM	NOON	PM
Total IN & OUT	2707	0	3171
IN	1511	0	1411
OUT	1196	0	1760

Northbound Approach

	IN	OUT	Total IN & OUT
AM	1122	1084	2206
NOON	0	0	0
PM	1206	955	2161

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

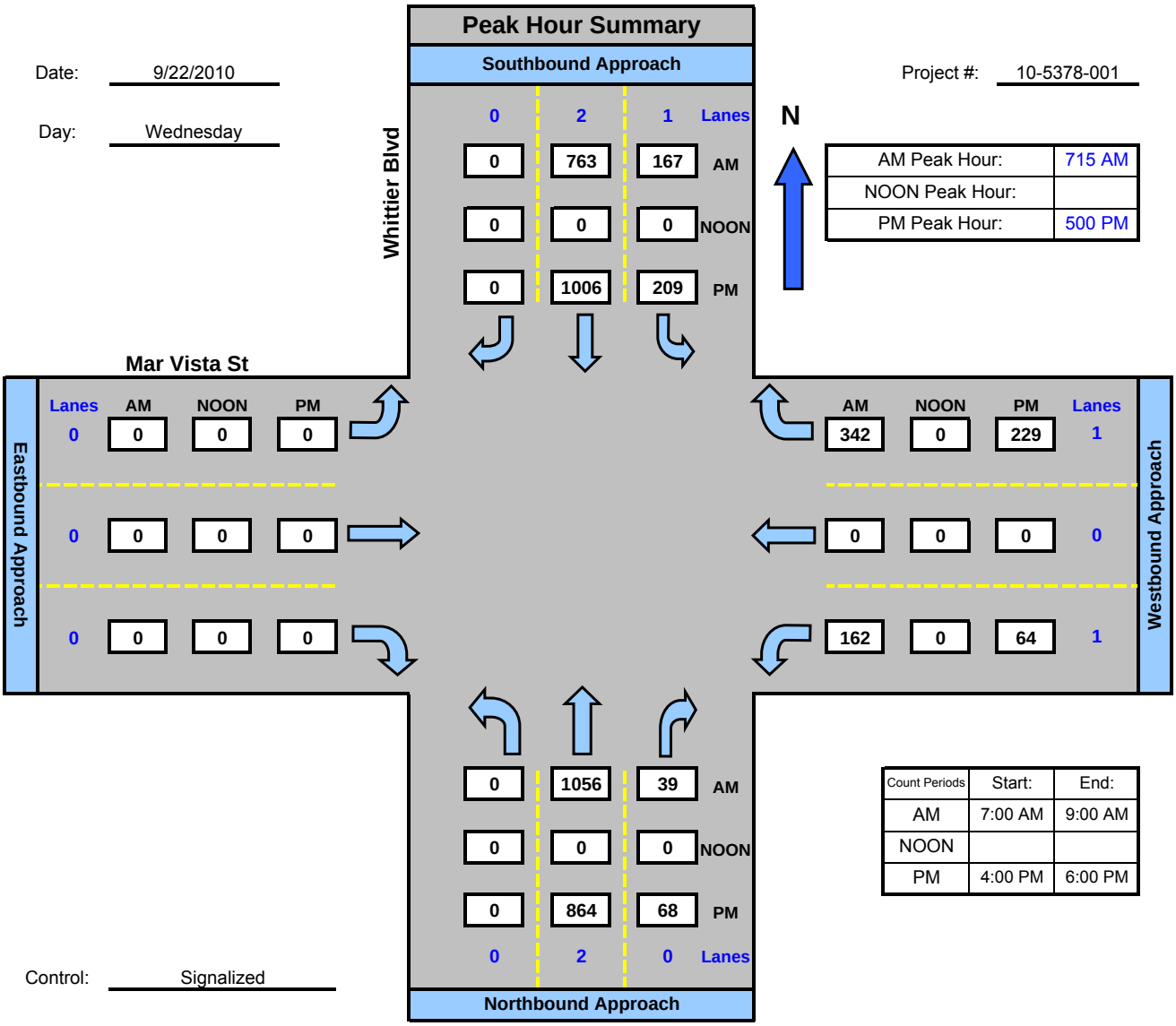
National Data & Surveying Services

Whittier Blvd and Mar Vista St , City of Whittier

Date: 9/22/2010

Day: Wednesday

Project #: 10-5378-001



AM Peak Hour:	715 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Whittier Blvd DATE: 9/22/2010 LOCATION: City of Whittier

E-W STREET: Mar Vista St DAY: WEDNESDAY PROJECT# 10-5378-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0	0	0	1	0	1	
7:00 AM		269	5	18	135					47		80	554
7:15 AM		277	13	43	146					21		93	593
7:30 AM		291	14	46	204					40		94	689
7:45 AM		270	5	38	220					44		82	659
8:00 AM		218	7	40	193					57		73	588
8:15 AM		212	8	36	173					43		66	538
8:30 AM		223	2	53	181					36		60	555
8:45 AM		221	9	41	162					21		43	497
TOTAL VOLUMES =	NL 0	NT 1981	NR 63	SL 315	ST 1414	SR 0	EL 0	ET 0	ER 0	WL 309	WT 0	WR 591	TOTAL 4673

AM Peak Hr Begins at: 715 AM

PEAK VOLUMES =	0	1056	39	167	763	0	0	0	0	162	0	342	2529
PEAK HR. FACTOR:		0.898			0.901			0.000			0.940		0.918

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

N-S STREET: Whittier Blvd DATE: 9/22/2010 LOCATION: City of Whittier

E-W STREET: Mar Vista St DAY: WEDNESDAY PROJECT# 10-5378-001

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0	0	0	1	0	1	
4:00 PM		194	19	51	204					28		68	564
4:15 PM		246	22	43	248					20		41	620
4:30 PM		213	21	45	215					20		58	572
4:45 PM		210	12	56	212					19		46	555
5:00 PM		245	20	43	234					15		63	620
5:15 PM		235	24	52	242					16		58	627
5:30 PM		189	16	57	278					17		63	620
5:45 PM		195	8	57	252					16		45	573
TOTAL VOLUMES =	NL 0	NT 1727	NR 142	SL 404	ST 1885	SR 0	EL 0	ET 0	ER 0	WL 151	WT 0	WR 442	TOTAL 4751

PM Peak Hr Begins at: 500 PM

PEAK VOLUMES =	0	864	68	209	1006	0	0	0	0	64	0	229	2440
PEAK HR. FACTOR:		0.879			0.907			0.000			0.916		0.973

CONTROL: Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Whittier Blvd and Mar Vista St , City of Whittier

Date: 9/22/2010

Day: Wednesday

Project #: 10-5378-001

N

AM Peak Hour:	715 AM
NOON Peak Hour:	
PM Peak Hour:	500 PM

IN / OUT Peak Hour Summary

Southbound Approach (Whittier Blvd)

	IN	OUT	Total IN & OUT
AM	930	1398	2328
NOON	0	0	0
PM	1215	1093	2308

Mar Vista St

Eastbound Approach

	AM	NOON	PM	Total IN & OUT
Total IN & OUT	0	0	0	
IN	0	0	0	
OUT	0	0	0	

Westbound Approach

	AM	NOON	PM	Total IN & OUT
Total IN & OUT	710	0	570	
IN	504	0	293	
OUT	206	0	277	

Northbound Approach

	IN	OUT	Total IN & OUT
AM	1095	925	2020
NOON	0	0	0
PM	932	1070	2002

Count Periods	Start:	End:
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Control: Signalized

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: Hadley St E/o Pickering Ave **Project: 10-5199-001**

Daily Totals	NB	SB	EB	WB	Total
	0	0	7,884	7,891	15,775

AM Period	NB	SB	EB	WB		PM Period	NB	SB	EB	WB	
00:00			25	19		12:00			112	119	
00:15			16	17		12:15			108	123	
00:30			12	25		12:30			140	125	
00:45			6 59	11 72	131	12:45			130 490	116 483	973
01:00			14	6		13:00			132	127	
01:15			6	4		13:15			123	112	
01:30			12	7		13:30			132	122	
01:45			3 35	10 27	62	13:45			123 510	117 478	988
02:00			5	4		14:00			144	120	
02:15			4	4		14:15			131	99	
02:30			5	2		14:30			135	118	
02:45			3 17	6 16	33	14:45			170 580	141 478	1058
03:00			3	2		15:00			150	160	
03:15			9	7		15:15			142	121	
03:30			3	8		15:30			144	127	
03:45			5 20	6 23	43	15:45			136 572	123 531	1103
04:00			2	9		16:00			157	137	
04:15			2	5		16:15			159	139	
04:30			5	15		16:30			165	141	
04:45			6 15	21 50	65	16:45			163 644	147 564	1208
05:00			10	32		17:00			166	165	
05:15			9	47		17:15			182	156	
05:30			14	48		17:30			191	132	
05:45			27 60	58 185	245	17:45			171 710	129 582	1292
06:00			21	63		18:00			183	155	
06:15			29	77		18:15			155	134	
06:30			32	100		18:30			123	124	
06:45			43 125	113 353	478	18:45			137 598	117 530	1128
07:00			53	117		19:00			128	94	
07:15			71	132		19:15			115	97	
07:30			108	188		19:30			119	95	
07:45			158 390	212 649	1039	19:45			98 460	76 362	822
08:00			161	161		20:00			93	75	
08:15			114	149		20:15			88	62	
08:30			106	126		20:30			91	93	
08:45			109 490	108 544	1034	20:45			69 341	65 295	636
09:00			115	90		21:00			73	86	
09:15			84	87		21:15			75	58	
09:30			98	80		21:30			71	67	
09:45			97 394	92 349	743	21:45			56 275	51 262	537
10:00			96	98		22:00			43	54	
10:15			94	82		22:15			45	45	
10:30			105	109		22:30			51	55	
10:45			95 390	113 402	792	22:45			38 177	29 183	360
11:00			113	81		23:00			19	19	
11:15			106	87		23:15			19	16	
11:30			109	115		23:30			24	27	
11:45			128 456	107 390	846	23:45			14 76	21 83	159
Total Vol.			2451	3060	**5511**				5433	4831	**10264**

	NB	SB	EB	WB	Total
Daily Totals :	**0**	**0**	**7,884**	**7,891**	**15,775**

	AM			PM		
Split %	44.5%	55.5%	**34.9%**	52.9%	47.1%	**65.1%**
AM				**PM**		
Peak Hr.	07:30	07:30	**07:30**	**Peak Hr.**	17:15	16:30	**16:45**
Volume	541	710	**1251**	**Volume**	727	609	**1302**
P.H.F.	0.840	0.837	**0.845**	**P.H.F.**	0.952	0.923	**0.963**
7 - 9 Vol.	880	1193	**2073**	**4 - 6 Vol.**	1354	1146	**2500**
Peak Hr.	07:30	07:30	**07:30**	**Peak Hr.**	17:00	16:30	**16:45**
Volume	541	710	**1251**	**Volume**	710	609	**1302**
P.H.F.	0.840	0.837	**0.845**	**P.H.F.**	0.929	0.923	**0.963**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: Painter Ave N/o Penn St **Project: 10-5199-012**

Daily Totals	NB	SB	EB	WB	Total
	12,739	12,852	0	0	25,591

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB		
00:00	24		28						12:00	200		197						
00:15	24		24						12:15	174		182						
00:30	15		19						12:30	186		185						
00:45	13	76	13	84				160	12:45	196	756	198	762					1518
01:00	15		12						13:00	177		200						
01:15	7		8						13:15	191		230						
01:30	11		7						13:30	171		249						
01:45	13	46	9	36				82	13:45	223	762	203	882					1644
02:00	4		5						14:00	216		233						
02:15	2		7						14:15	194		203						
02:30	4		9						14:30	203		211						
02:45	6	16	7	28				44	14:45	248	861	224	871					1732
03:00	2		5						15:00	229		275						
03:15	3		5						15:15	251		290						
03:30	2		10						15:30	227		265						
03:45	4	11	11	31				42	15:45	249	956	233	1063					2019
04:00	10		6						16:00	251		251						
04:15	7		5						16:15	264		227						
04:30	9		20						16:30	222		292						
04:45	17	43	11	42				85	16:45	248	985	266	1036					2021
05:00	23		19						17:00	248		308						
05:15	21		19						17:15	244		255						
05:30	49		38						17:30	227		276						
05:45	61	154	43	119				273	17:45	229	948	236	1075					2023
06:00	68		45						18:00	229		247						
06:15	75		63						18:15	224		219						
06:30	106		81						18:30	230		186						
06:45	138	387	92	281				668	18:45	233	916	177	829					1745
07:00	161		142						19:00	200		166						
07:15	195		160						19:15	147		149						
07:30	261		255						19:30	143		126						
07:45	293	910	229	786				1696	19:45	124	614	142	583					1197
08:00	286		217						20:00	134		140						
08:15	251		213						20:15	111		143						
08:30	227		185						20:30	114		132						
08:45	213	977	197	812				1789	20:45	120	479	132	547					1026
09:00	205		170						21:00	136		126						
09:15	204		181						21:15	79		95						
09:30	153		168						21:30	104		101						
09:45	204	766	163	682				1448	21:45	77	396	86	408					804
10:00	181		170						22:00	71		104						
10:15	152		173						22:15	67		86						
10:30	164		165						22:30	52		78						
10:45	175	672	154	662				1334	22:45	45	235	49	317					552
11:00	161		184						23:00	44		45						
11:15	162		165						23:15	35		32						
11:30	173		209						23:30	22		35						
11:45	153	649	214	772				1421	23:45	23	124	32	144					268
Total Vol.		4707		4335				**9042**			8032		8517					**16549**

	NB	SB	EB	WB	Total
Daily Totals :	**12,739**	**12,852**	**0**	**0**	**25,591**

	AM			PM		
Split %	52.1%	47.9%	**35.3%**	48.5%	51.5%	**64.7%**
AM				**PM**		
Peak Hr.	07:30	07:30	**07:30**	**Peak Hr.**	15:30	16:30	**16:30**
Volume	1091	914	**2005**	**Volume**	991	1121	**2083**
P.H.F.	0.931	0.896	**0.960**	**P.H.F.**	0.938	0.910	**0.937**
7 - 9 Vol.	1887	1598	**3485**	**4 - 6 Vol.**	1933	2111	**4044**
Peak Hr.	07:30	07:30	**07:30**	**Peak Hr.**	16:00	16:30	**16:30**
Volume	1091	914	**2005**	**Volume**	985	1121	**2083**
P.H.F.	0.931	0.896	**0.960**	**P.H.F.**	0.933	0.910	**0.937**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: Penn St E/o Pickering Ave **Project: 10-5199-011**

Daily Totals	NB	SB	EB	WB	Total
	0	0	2,306	2,021	4,327

AM Period	NB	SB	EB	WB			PM Period	NB	SB	EB	WB		
00:00			5	6			12:00			28	29		
00:15			4	2			12:15			35	35		
00:30			4	1			12:30			39	21		
00:45			5	18	5	14	32	12:45		28	130	31	116	246
01:00			2	0			13:00			39	40		
01:15			6	1			13:15			40	29		
01:30			2	3			13:30			52	33		
01:45			2	12	2	6	18	13:45		38	169	41	143	312
02:00			1	0			14:00			47	50		
02:15			0	1			14:15			35	34		
02:30			3	0			14:30			39	41		
02:45			1	5	1	2	7	14:45		52	173	47	172	345
03:00			1	1			15:00			49	45		
03:15			1	1			15:15			33	28		
03:30			0	1			15:30			43	28		
03:45			1	3	5	8	11	15:45		46	171	48	149	320
04:00			0	2			16:00			41	38		
04:15			0	1			16:15			44	36		
04:30			1	2			16:30			51	53		
04:45			7	8	2	7	15	16:45		56	192	45	172	364
05:00			0	7			17:00			52	31		
05:15			5	9			17:15			55	49		
05:30			5	9			17:30			63	38		
05:45			6	16	9	34	50	17:45		47	217	43	161	378
06:00			15	14			18:00			48	32		
06:15			10	17			18:15			33	29		
06:30			21	24			18:30			31	30		
06:45			12	58	19	74	132	18:45		33	145	34	125	270
07:00			24	15			19:00			31	26		
07:15			30	30			19:15			30	14		
07:30			33	36			19:30			22	22		
07:45			62	149	48	129	278	19:45		29	112	20	82	194
08:00			50	26			20:00			20	34		
08:15			34	21			20:15			24	14		
08:30			32	26			20:30			15	17		
08:45			25	141	21	94	235	20:45		33	92	19	84	176
09:00			39	26			21:00			33	15		
09:15			34	27			21:15			11	10		
09:30			28	28			21:30			17	13		
09:45			19	120	39	120	240	21:45		15	76	25	63	139
10:00			31	24			22:00			15	14		
10:15			22	28			22:15			26	15		
10:30			16	32			22:30			9	9		
10:45			23	92	24	108	200	22:45		7	57	6	44	101
11:00			31	25			23:00			7	7		
11:15			20	21			23:15			8	4		
11:30			38	23			23:30			4	5		
11:45			37	126	27	96	222	23:45		5	24	2	18	42
Total Vol.				748		692	**1440**				1558		1329	**2887**

Daily Totals :	NB	SB	EB	WB	Total
	0	0	2,306	2,021	4,327

	AM			PM		
Split %	51.9%	48.1%	**33.3%**	54.0%	46.0%	**66.7%**
AM				**PM**		
Peak Hr.	07:30	07:15	**07:15**	**Peak Hr.**	16:45	16:30	**16:30**
Volume	179	140	**315**	**Volume**	226	178	**392**
P.H.F.	0.722	0.729	**0.716**	**P.H.F.**	0.897	0.840	**0.942**
7 - 9 Vol.	290	223	**513**	**4 - 6 Vol.**	409	333	**742**
Peak Hr.	07:30	07:15	**07:15**	**Peak Hr.**	16:45	16:30	**16:30**
Volume	179	140	**315**	**Volume**	226	178	**392**
P.H.F.	0.722	0.729	**0.716**	**P.H.F.**	0.897	0.840	**0.942**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: Penn St E/o Painter Ave **Project: 10-5199-002**

Daily Totals	NB	SB	EB	WB	Total
	0	0	1,344	1,389	2,733

AM Period	NB	SB	EB	WB		PM Period	NB	SB	EB	WB	
00:00			2	3		12:00			14	22	
00:15			1	1		12:15			24	21	
00:30			0	1		12:30			20	23	
00:45			1 4	1 6	10	12:45			18 76	24 90	166
01:00			1	1		13:00			17	16	
01:15			0	3		13:15			28	29	
01:30			0	1		13:30			21	14	
01:45			0 1	2 7	8	13:45			15 81	27 86	167
02:00			0	0		14:00			25	20	
02:15			1	0		14:15			24	17	
02:30			0	0		14:30			11	15	
02:45			0 1	0	1	14:45			23 83	17 69	152
03:00			0	0		15:00			22	37	
03:15			0	1		15:15			29	20	
03:30			1	1		15:30			31	20	
03:45			0 1	2 4	5	15:45			28 110	28 105	215
04:00			0	2		16:00			31	27	
04:15			2	1		16:15			33	22	
04:30			0	1		16:30			26	16	
04:45			0 2	2 6	8	16:45			34 124	31 96	220
05:00			1	6		17:00			45	32	
05:15			0	4		17:15			33	27	
05:30			0	7		17:30			40	19	
05:45			1 2	7 24	26	17:45			38 156	26 104	260
06:00			8	8		18:00			37	24	
06:15			11	15		18:15			29	25	
06:30			15	26		18:30			18	19	
06:45			14 48	21 70	118	18:45			21 105	17 85	190
07:00			13	17		19:00			16	9	
07:15			15	36		19:15			17	9	
07:30			9	41		19:30			15	4	
07:45			11 48	30 124	172	19:45			16 64	17 39	103
08:00			20	44		20:00			20	8	
08:15			21	28		20:15			13	11	
08:30			13	18		20:30			12	10	
08:45			19 73	17 107	180	20:45			22 67	13 42	109
09:00			20	12		21:00			11	19	
09:15			21	32		21:15			14	9	
09:30			13	24		21:30			18	5	
09:45			12 66	25 93	159	21:45			7 50	11 44	94
10:00			9	18		22:00			18	5	
10:15			13	20		22:15			11	12	
10:30			8	16		22:30			9	8	
10:45			20 50	20 74	124	22:45			8 46	0 25	71
11:00			18	17		23:00			5	8	
11:15			13	16		23:15			4	8	
11:30			21	13		23:30			3	4	
11:45			22 74	22 68	142	23:45			0 12	1 21	33
Total Vol.			370	583	**953**				974	806	**1780**

Daily Totals :	NB	SB	EB	WB	Total
	0	0	1,344	1,389	2,733

	AM			PM		
Split %	38.8%	61.2%	**34.9%**	54.7%	45.3%	**65.1%**
AM				**PM**		
Peak Hr.	11:30	07:15	**07:15**	**Peak Hr.**	17:00	16:45	**16:45**
Volume	81	151	**206**	**Volume**	156	109	**261**
P.H.F.	0.844	0.858	**0.805**	**P.H.F.**	0.867	0.852	**0.847**
7 - 9 Vol.	121	231	**352**	**4 - 6 Vol.**	280	200	**480**
Peak Hr.	08:00	07:15	**07:15**	**Peak Hr.**	17:00	16:45	**16:45**
Volume	73	151	**206**	**Volume**	156	109	**261**
P.H.F.	0.869	0.858	**0.805**	**P.H.F.**	0.867	0.852	**0.847**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: California Ave S/o Mar Vista **Project: 10-5199-003**

Daily Totals	NB	SB	EB	WB	Total
	322	291	0	0	613

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB		
00:00	2		0						12:00	4		8						
00:15	0		0						12:15	1		4						
00:30	0		0						12:30	4		2						
00:45	1	3	0					3	12:45	3	12	2	16					28
01:00	0		0						13:00	3		4						
01:15	0		0						13:15	2		3						
01:30	1		1						13:30	8		6						
01:45	0	1	0	1				2	13:45	5	18	3	16					34
02:00	2		0						14:00	2		3						
02:15	0		0						14:15	3		5						
02:30	0		0						14:30	5		1						
02:45	0	2	0					2	14:45	4	14	3	12					26
03:00	0		0						15:00	5		2						
03:15	0		1						15:15	4		5						
03:30	0		0						15:30	4		5						
03:45	0		0	1				1	15:45	7	20	6	18					38
04:00	0		0						16:00	3		3						
04:15	1		0						16:15	7		4						
04:30	2		1						16:30	9		5						
04:45	1	4	2	3				7	16:45	8	27	8	20					47
05:00	3		1						17:00	9		6						
05:15	1		1						17:15	16		7						
05:30	3		3						17:30	7		4						
05:45	1	8	6	11				19	17:45	7	39	5	22					61
06:00	1		2						18:00	2		4						
06:15	3		2						18:15	8		8						
06:30	4		5						18:30	13		9						
06:45	3	11	3	12				23	18:45	8	31	7	28					59
07:00	6		1						19:00	8		7						
07:15	4		5						19:15	3		0						
07:30	8		7						19:30	5		1						
07:45	16	34	10	23				57	19:45	2	18	5	13					31
08:00	11		14						20:00	4		2						
08:15	12		8						20:15	1		0						
08:30	2		1						20:30	1		2						
08:45	3	28	7	30				58	20:45	2	8	3	7					15
09:00	3		3						21:00	0		3						
09:15	1		3						21:15	2		3						
09:30	4		2						21:30	7		2						
09:45	6	14	2	10				24	21:45	1	10	3	11					21
10:00	2		4						22:00	2		1						
10:15	2		2						22:15	0		0						
10:30	2		1						22:30	0		2						
10:45	1	7	2	9				16	22:45	1	3	3	6					9
11:00	2		3						23:00	0		1						
11:15	3		5						23:15	0		1						
11:30	2		3						23:30	0		0						
11:45	2	9	8	19				28	23:45	1	1	1	3					4
Total Vol.		121		119				**240**			201		172					**373**

	NB	SB	EB	WB	Total
Daily Totals :	**322**	**291**	**0**	**0**	**613**

	AM			PM		
Split %	50.4%	49.6%	**39.2%**	53.9%	46.1%	**60.8%**
AM				**PM**		
Peak Hr.	07:30	07:30	**07:30**	**Peak Hr.**	16:30	18:15	**16:30**
Volume	47	39	**86**	**Volume**	42	31	**68**
P.H.F.	0.734	0.696	**0.827**	**P.H.F.**	0.656	0.861	**0.739**
7 - 9 Vol.	62	53	**115**	**4 - 6 Vol.**	66	42	**108**
Peak Hr.	07:30	07:30	**07:30**	**Peak Hr.**	16:30	16:30	**16:30**
Volume	47	39	**86**	**Volume**	42	26	**68**
P.H.F.	0.734	0.696	**0.827**	**P.H.F.**	0.656	0.813	**0.739**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: Ocean View S/o Mar Vista **Project: 10-5199-013**

Daily Totals	NB	SB	EB	WB	Total
	1,321	1,140	0	0	2,461

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB	
00:00	3		1						12:00	14		13					
00:15	3		2						12:15	11		17					
00:30	1		0						12:30	17		20					
00:45	0	7	1	4				11	12:45	22	64	18	68				132
01:00	0		0						13:00	16		14					
01:15	0		1						13:15	19		22					
01:30	0		0						13:30	21		15					
01:45	1	1	0	1				2	13:45	21	77	17	68				145
02:00	1		0						14:00	16		19					
02:15	1		1						14:15	20		27					
02:30	0		0						14:30	45		26					
02:45	0	2	0	1				3	14:45	25	106	25	97				203
03:00	0		0						15:00	42		13					
03:15	0		1						15:15	36		11					
03:30	0		0						15:30	25		20					
03:45	0		0	1				1	15:45	35	138	25	69				207
04:00	0		0						16:00	26		20					
04:15	0		1						16:15	29		19					
04:30	0		0						16:30	26		26					
04:45	1	1	0	1				2	16:45	33	114	26	91				205
05:00	2		0						17:00	32		20					
05:15	1		1						17:15	30		40					
05:30	5		3						17:30	36		35					
05:45	4	12	3	7				19	17:45	34	132	33	128				260
06:00	3		6						18:00	18		14					
06:15	7		4						18:15	21		18					
06:30	11		8						18:30	30		18					
06:45	19	40	19	37				77	18:45	15	84	24	74				158
07:00	21		19						19:00	15		16					
07:15	31		16						19:15	13		6					
07:30	46		28						19:30	12		2					
07:45	39	137	43	106				243	19:45	12	52	7	31				83
08:00	23		54						20:00	11		8					
08:15	33		27						20:15	6		9					
08:30	20		22						20:30	11		6					
08:45	26	102	17	120				222	20:45	9	37	5	28				65
09:00	21		13						21:00	11		11					
09:15	18		11						21:15	7		9					
09:30	23		10						21:30	4		11					
09:45	9	71	11	45				116	21:45	4	26	4	35				61
10:00	13		8						22:00	2		3					
10:15	12		14						22:15	3		4					
10:30	5		12						22:30	5		2					
10:45	13	43	13	47				90	22:45	1	11	2	11				22
11:00	10		9						23:00	2		3					
11:15	12		19						23:15	3		3					
11:30	18		20						23:30	4		1					
11:45	12	52	14	62				114	23:45	3	12	1	8				20
Total Vol.		468		432				**900**			853		708				**1561**

	NB	SB	EB	WB	Total
Daily Totals :	**1,321**	**1,140**	**0**	**0**	**2,461**

	AM			PM		
Split %	52.0%	48.0%	**36.6%**	54.6%	45.4%	**63.4%**
AM				**PM**		
Peak Hr.	07:30	07:30	**07:30**	**Peak Hr.**	14:30	17:00	**17:00**
Volume	141	152	**293**	**Volume**	148	128	**260**
P.H.F.	0.766	0.704	**0.893**	**P.H.F.**	0.822	0.800	**0.915**
7 - 9 Vol.	239	226	**465**	**4 - 6 Vol.**	246	219	**465**
Peak Hr.	07:30	07:30	**07:30**	**Peak Hr.**	17:00	17:00	**17:00**
Volume	141	152	**293**	**Volume**	132	128	**260**
P.H.F.	0.766	0.704	**0.893**	**P.H.F.**	0.917	0.800	**0.915**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: Catalina Ave N/o Mar Vista **Project: 10-5199-004**

Daily Totals	NB	SB	EB	WB	Total
	58	43	0	0	101

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB	
00:00	0		1						12:00	0		0					
00:15	0		0						12:15	1		1					
00:30	0		0						12:30	0		1					
00:45	0		0	1				1	12:45	3	4	1	3				7
01:00	0		3						13:00	0		1					
01:15	0		0						13:15	3		2					
01:30	1		0						13:30	2		0					
01:45	0	1	0	3				4	13:45	0	5	0	3				8
02:00	1		1						14:00	0		0					
02:15	0		0						14:15	0		1					
02:30	0		0						14:30	0		0					
02:45	0	1	0	1				2	14:45	1	1	0	1				2
03:00	0		0						15:00	1		1					
03:15	0		0						15:15	0		0					
03:30	0		0						15:30	1		0					
03:45	0		0						15:45	1	3	0	1				4
04:00	0		0						16:00	0		1					
04:15	0		0						16:15	0		2					
04:30	0		0						16:30	2		1					
04:45	0		0						16:45	1	3	0	4				7
05:00	0		0						17:00	0		2					
05:15	0		0						17:15	2		2					
05:30	1		1						17:30	2		2					
05:45	0	1	0	1				2	17:45	1	5	0	6				11
06:00	0		0						18:00	1		1					
06:15	0		0						18:15	0		0					
06:30	0		0						18:30	2		0					
06:45	0		0						18:45	4	7	0	1				8
07:00	0		1						19:00	2		1					
07:15	1		0						19:15	1		1					
07:30	0		2						19:30	1		0					
07:45	0	1	2	5				6	19:45	1	5	1	3				8
08:00	0		0						20:00	0		0					
08:15	1		2						20:15	0		0					
08:30	2		3						20:30	1		0					
08:45	0	3	0	5				8	20:45	1	2	0					2
09:00	0		0						21:00	0		0					
09:15	0		0						21:15	2		0					
09:30	0		0						21:30	3		1					
09:45	1	1	1	1				2	21:45	1	6	0	1				7
10:00	1		0						22:00	1		0					
10:15	2		0						22:15	0		0					
10:30	0		1						22:30	2		0					
10:45	0	3	0	1				4	22:45	1	4	0					4
11:00	0		1						23:00	0		0					
11:15	0		1						23:15	0		0					
11:30	1		0						23:30	0		0					
11:45	0	1	0	2				3	23:45	1	1	0					1
Total Vol.		12		20				**32**			46		23				**69**

	NB	SB	EB	WB	Total
Daily Totals :	**58**	**43**	**0**	**0**	**101**

	AM			PM		
Split %	37.5%	62.5%	**31.7%**	66.7%	33.3%	**68.3%**
AM				**PM**		
Peak Hr.	09:30	07:45	**07:45**	**Peak Hr.**	18:30	16:45	**12:45**
Volume	4	7	**10**	**Volume**	9	6	**12**
P.H.F.	0.500	0.583	**0.500**	**P.H.F.**	0.563	0.750	**0.600**
7 - 9 Vol.	4	10	**14**	**4 - 6 Vol.**	8	10	**18**
Peak Hr.	07:45	07:45	**07:45**	**Peak Hr.**	16:30	16:45	**16:45**
Volume	3	7	**10**	**Volume**	5	6	**11**
P.H.F.	0.375	0.583	**0.500**	**P.H.F.**	0.625	0.750	**0.688**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: Catalina Ave S/o Mar Vista **Project: 10-5199-005**

Daily Totals	NB	SB	EB	WB	Total
	457	560	0	0	1,017

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB	
00:00	0		0						12:00	5		6					
00:15	0		1						12:15	5		4					
00:30	1		0						12:30	3		6					
00:45	0	1	0	1				2	12:45	5	18	9	25				43
01:00	0		0						13:00	5		4					
01:15	0		0						13:15	7		18					
01:30	0		0						13:30	20		20					
01:45	1	1	1	1				2	13:45	15	47	14	56				103
02:00	1		1						14:00	7		9					
02:15	0		0						14:15	4		9					
02:30	0		0						14:30	11		6					
02:45	0	1	0	1				2	14:45	5	27	11	35				62
03:00	0		0						15:00	19		9					
03:15	0		0						15:15	11		12					
03:30	0		0						15:30	13		11					
03:45	1	1	1	1				2	15:45	10	53	10	42				95
04:00	1		1						16:00	6		7					
04:15	1		0						16:15	8		8					
04:30	0		1						16:30	9		10					
04:45	0	2	0	2				4	16:45	11	34	9	34				68
05:00	1		1						17:00	9		8					
05:15	2		1						17:15	11		14					
05:30	1		4						17:30	10		8					
05:45	4	8	3	9				17	17:45	7	37	6	36				73
06:00	7		1						18:00	5		12					
06:15	7		5						18:15	11		5					
06:30	4		3						18:30	2		10					
06:45	5	23	5	14				37	18:45	4	22	8	35				57
07:00	9		14						19:00	3		3					
07:15	10		16						19:15	3		8					
07:30	11		36						19:30	5		2					
07:45	17	47	36	102				149	19:45	4	15	8	21				36
08:00	9		24						20:00	2		4					
08:15	9		8						20:15	4		5					
08:30	8		5						20:30	1		1					
08:45	7	33	8	45				78	20:45	6	13	5	15				28
09:00	3		1						21:00	2		6					
09:15	4		6						21:15	2		1					
09:30	5		4						21:30	4		0					
09:45	7	19	6	17				36	21:45	2	10	0	7				17
10:00	4		3						22:00	2		1					
10:15	5		3						22:15	4		3					
10:30	2		4						22:30	2		5					
10:45	6	17	7	17				34	22:45	1	9	1	10				19
11:00	3		10						23:00	2		2					
11:15	4		8						23:15	1		1					
11:30	3		7						23:30	1		1					
11:45	4	14	4	29				43	23:45	1	5	1	5				10
Total Vol.		167		239				**406**			290		321				**611**

	NB	SB	EB	WB	Total
Daily Totals :	**457**	**560**	**0**	**0**	**1,017**

	AM			PM		
Split %	41.1%	58.9%	**39.9%**	47.5%	52.5%	**60.1%**
AM				**PM**		
Peak Hr.	07:00	07:15	**07:15**	**Peak Hr.**	15:00	13:15	**13:15**
Volume	47	112	**159**	**Volume**	53	61	**110**
P.H.F.	0.691	0.778	**0.750**	**P.H.F.**	0.697	0.763	**0.688**
7 - 9 Vol.	80	147	**227**	**4 - 6 Vol.**	71	70	**141**
Peak Hr.	07:00	07:15	**07:15**	**Peak Hr.**	16:45	16:30	**16:30**
Volume	47	112	**159**	**Volume**	41	41	**81**
P.H.F.	0.691	0.778	**0.750**	**P.H.F.**	0.932	0.732	**0.810**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: Mar Vista W/o Colima Rd **Project: 10-5199-006**

Daily Totals	NB	SB	EB	WB	Total
	0	0	7,421	7,454	14,875

AM Period	NB	SB	EB		WB			PM Period	NB	SB	EB		WB		
00:00			13		11			12:00			102		111		
00:15			16		10			12:15			97		99		
00:30			9		5			12:30			104		92		
00:45			9	47	6	32	79	12:45			91	394	120	422	816
01:00			5		5			13:00			109		87		
01:15			5		9			13:15			102		130		
01:30			3		6			13:30			98		101		
01:45			4	17	4	24	41	13:45			117	426	102	420	846
02:00			3		5			14:00			141		117		
02:15			6		4			14:15			125		111		
02:30			3		2			14:30			135		108		
02:45			3	15	5	16	31	14:45			175	576	120	456	1032
03:00			1		3			15:00			191		158		
03:15			2		3			15:15			176		170		
03:30			6		1			15:30			167		138		
03:45			6	15	5	12	27	15:45			158	692	143	609	1301
04:00			5		2			16:00			153		127		
04:15			7		2			16:15			190		127		
04:30			15		3			16:30			199		130		
04:45			8	35	7	14	49	16:45			182	724	104	488	1212
05:00			19		15			17:00			191		132		
05:15			20		35			17:15			196		112		
05:30			34		34			17:30			154		122		
05:45			27	100	51	135	235	17:45			168	709	105	471	1180
06:00			45		59			18:00			149		121		
06:15			40		83			18:15			156		103		
06:30			67		99			18:30			119		114		
06:45			82	234	117	358	592	18:45			124	548	144	482	1030
07:00			87		142			19:00			99		82		
07:15			112		138			19:15			87		76		
07:30			173		189			19:30			95		80		
07:45			123	495	208	677	1172	19:45			95	376	59	297	673
08:00			91		182			20:00			72		53		
08:15			81		138			20:15			61		56		
08:30			96		136			20:30			61		52		
08:45			99	367	128	584	951	20:45			56	250	70	231	481
09:00			93		144			21:00			60		49		
09:15			93		114			21:15			54		59		
09:30			91		120			21:30			54		47		
09:45			75	352	149	527	879	21:45			47	215	36	191	406
10:00			70		96			22:00			51		31		
10:15			61		121			22:15			46		32		
10:30			64		107			22:30			29		35		
10:45			75	270	119	443	713	22:45			24	150	24	122	272
11:00			79		107			23:00			25		21		
11:15			76		91			23:15			16		11		
11:30			106		80			23:30			11		8		
11:45			79	340	114	392	732	23:45			22	74	11	51	125
Total Vol.				2287		3214	**5501**					5134		4240	**9374**

	NB	SB	EB	WB	Total
Daily Totals :	0	0	7,421	7,454	14,875

	AM			PM		
Split %	41.6%	58.4%	**37.0%**	54.8%	45.2%	**63.0%**
AM				**PM**		
Peak Hr.	07:15	07:15	**07:15**	**Peak Hr.**	16:30	15:00	**15:00**
Volume	499	717	**1216**	**Volume**	768	609	**1301**
P.H.F.	0.721	0.862	**0.840**	**P.H.F.**	0.965	0.896	**0.932**
7 - 9 Vol.	862	1261	**2123**	**4 - 6 Vol.**	1433	959	**2392**
Peak Hr.	07:15	07:15	**07:15**	**Peak Hr.**	16:30	16:15	**16:15**
Volume	499	717	**1216**	**Volume**	768	493	**1255**
P.H.F.	0.721	0.862	**0.840**	**P.H.F.**	0.965	0.934	**0.954**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: Colima Rd N/o Mar Vista **Project: 10-5199-007**

Daily Totals	NB	SB	EB	WB	Total
	17,123	18,581	0	0	35,704

AM Period	NB		SB		EB	WB		PM Period	NB		SB		EB	WB	
00:00	33		33					12:00	193		197				
00:15	34		23					12:15	204		199				
00:30	18		24					12:30	202		207				
00:45	17	102	17	97			199	12:45	193	792	215	818			1610
01:00	22		11					13:00	210		206				
01:15	17		20					13:15	202		191				
01:30	13		17					13:30	238		211				
01:45	17	69	15	63			132	13:45	239	889	223	831			1720
02:00	14		9					14:00	291		216				
02:15	13		12					14:15	258		184				
02:30	16		17					14:30	316		250				
02:45	13	56	20	58			114	14:45	308	1173	283	933			2106
03:00	15		20					15:00	356		248				
03:15	22		22					15:15	383		297				
03:30	19		22					15:30	358		289				
03:45	22	78	28	92			170	15:45	363	1460	315	1149			2609
04:00	33		25					16:00	360		267				
04:15	31		50					16:15	425		308				
04:30	53		80					16:30	401		295				
04:45	56	173	84	239			412	16:45	487	1673	313	1183			2856
05:00	76		96					17:00	435		290				
05:15	101		137					17:15	529		320				
05:30	128		206					17:30	446		316				
05:45	87	392	241	680			1072	17:45	437	1847	292	1218			3065
06:00	106		231					18:00	418		256				
06:15	147		367					18:15	337		252				
06:30	203		446					18:30	328		192				
06:45	197	653	462	1506			2159	18:45	313	1396	215	915			2311
07:00	216		480					19:00	243		158				
07:15	276		524					19:15	220		188				
07:30	249		507					19:30	189		138				
07:45	280	1021	467	1978			2999	19:45	172	824	144	628			1452
08:00	256		408					20:00	159		109				
08:15	216		431					20:15	140		118				
08:30	219		408					20:30	125		98				
08:45	169	860	405	1652			2512	20:45	140	564	133	458			1022
09:00	175		377					21:00	147		99				
09:15	166		335					21:15	117		122				
09:30	182		302					21:30	115		109				
09:45	179	702	289	1303			2005	21:45	122	501	84	414			915
10:00	158		283					22:00	94		96				
10:15	154		277					22:15	93		71				
10:30	152		253					22:30	86		74				
10:45	155	619	232	1045			1664	22:45	58	331	53	294			625
11:00	196		216					23:00	73		68				
11:15	190		182					23:15	54		45				
11:30	157		207					23:30	47		45				
11:45	198	741	232	837			1578	23:45	33	207	32	190			397
Total Vol.		5466		9550			**15016**			11657		9031			**20688**

	NB	SB	EB	WB	Total
Daily Totals :	**17,123**	**18,581**	**0**	**0**	**35,704**

	AM			PM		
Split %	36.4%	63.6%	**42.1%**	56.3%	43.7%	**57.9%**
AM				**PM**		
Peak Hr.	07:15	07:00	**07:00**	**Peak Hr.**	16:45	16:45	**16:45**
Volume	1061	1978	**2999**	**Volume**	1897	1239	**3136**
P.H.F.	0.947	0.944	**0.937**	**P.H.F.**	0.897	0.968	**0.923**
7 - 9 Vol.	1881	3630	**5511**	**4 - 6 Vol.**	3520	2401	**5921**
Peak Hr.	07:15	07:00	**07:00**	**Peak Hr.**	16:45	16:45	**16:45**
Volume	1061	1978	**2999**	**Volume**	1897	1239	**3136**
P.H.F.	0.947	0.944	**0.937**	**P.H.F.**	0.897	0.968	**0.923**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: Colima Rd S/o Mar Vista **Project: 10-5199-008**

Daily Totals	NB	SB	EB	WB	Total
	15,485	16,694	0	0	32,179

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB		
00:00	27		27						12:00	180		222						
00:15	26		22						12:15	197		185						
00:30	18		25						12:30	168		212						
00:45	22	93	18	92				185	12:45	188	733	186	805					1538
01:00	21		12						13:00	214		191						
01:15	18		15						13:15	207		195						
01:30	14		15						13:30	225		196						
01:45	16	69	14	56				125	13:45	224	870	214	796					1666
02:00	16		6						14:00	241		197						
02:15	14		11						14:15	232		205						
02:30	14		17						14:30	266		225						
02:45	14	58	17	51				109	14:45	301	1040	250	877					1917
03:00	15		18						15:00	317		255						
03:15	23		23						15:15	340		298						
03:30	19		22						15:30	318		239						
03:45	22	79	28	91				170	15:45	308	1283	309	1101					2384
04:00	27		24						16:00	330		285						
04:15	27		46						16:15	361		265						
04:30	42		79						16:30	347		277						
04:45	48	144	82	231				375	16:45	408	1446	269	1096					2542
05:00	61		82						17:00	371		263						
05:15	91		118						17:15	424		282						
05:30	104		181						17:30	365		268						
05:45	81	337	209	590				927	17:45	367	1527	256	1069					2596
06:00	78		175						18:00	361		241						
06:15	124		315						18:15	313		238						
06:30	178		343						18:30	299		176						
06:45	157	537	384	1217				1754	18:45	281	1254	182	837					2091
07:00	206		384						19:00	202		167						
07:15	242		403						19:15	218		175						
07:30	253		392						19:30	165		135						
07:45	328	1029	422	1601				2630	19:45	152	737	140	617					1354
08:00	242		439						20:00	150		110						
08:15	210		354						20:15	121		112						
08:30	202		343						20:30	121		116						
08:45	176	830	356	1492				2322	20:45	123	515	116	454					969
09:00	155		314						21:00	141		102						
09:15	183		297						21:15	96		106						
09:30	177		237						21:30	106		98						
09:45	183	698	262	1110				1808	21:45	105	448	79	385					833
10:00	151		250						22:00	76		81						
10:15	157		235						22:15	83		70						
10:30	150		225						22:30	75		60						
10:45	158	616	200	910				1526	22:45	51	285	44	255					540
11:00	172		184						23:00	63		56						
11:15	176		174						23:15	44		48						
11:30	149		205						23:30	41		44						
11:45	183	680	217	780				1460	23:45	29	177	33	181					358
Total Vol.		5170		8221				**13391**			10315		8473					**18788**

	NB	SB	EB	WB	Total
Daily Totals :	**15,485**	**16,694**	**0**	**0**	**32,179**

	AM			PM		
Split %	38.6%	61.4%	**41.6%**	54.9%	45.1%	**58.4%**
AM				**PM**		
Peak Hr.	07:15	07:15	**07:15**	16:45	15:45	**16:45**
Volume	1065	1656	**2721**	1568	1136	**2650**
P.H.F.	0.812	0.943	**0.907**	0.925	0.919	**0.938**
7 - 9 Vol.	1859	3093	**4952**	**4 - 6 Vol.**	2973	2165	**5138**
Peak Hr.	07:15	07:15	**07:15**	**Peak Hr.**	16:45	16:00	**16:45**
Volume	1065	1656	**2721**	**Volume**	1568	1096	**2650**
P.H.F.	0.812	0.943	**0.907**	**P.H.F.**	0.925	0.961	**0.938**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: Colima Rd S/o Whittier Blvd **Project: 10-5199-009**

Daily Totals	NB	SB	EB	WB	Total
	13,590	12,907	0	0	26,497

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
00:00	22		24							12:00	160		188						
00:15	17		12							12:15	193		182						
00:30	15		16							12:30	167		191						
00:45	13	67	16	68					135	12:45	173	693	169	730					1423
01:00	21		11							13:00	188		191						
01:15	6		7							13:15	210		163						
01:30	16		7							13:30	214		188						
01:45	9	52	18	43					95	13:45	224	836	194	736					1572
02:00	9		6							14:00	228		200						
02:15	13		6							14:15	213		196						
02:30	10		10							14:30	261		190						
02:45	8	40	11	33					73	14:45	306	1008	207	793					1801
03:00	7		11							15:00	302		237						
03:15	15		9							15:15	285		241						
03:30	13		14							15:30	262		215						
03:45	21	56	17	51					107	15:45	290	1139	207	900					2039
04:00	25		11							16:00	268		221						
04:15	14		23							16:15	307		237						
04:30	33		34							16:30	261		228						
04:45	32	104	43	111					215	16:45	296	1132	223	909					2041
05:00	43		50							17:00	283		243						
05:15	74		58							17:15	300		253						
05:30	83		103							17:30	291		210						
05:45	76	276	115	326					602	17:45	301	1175	231	937					2112
06:00	82		111							18:00	268		223						
06:15	108		155							18:15	241		218						
06:30	166		210							18:30	210		205						
06:45	169	525	264	740					1265	18:45	212	931	182	828					1759
07:00	186		271							19:00	175		180						
07:15	239		280							19:15	139		152						
07:30	309		286							19:30	131		154						
07:45	293	1027	253	1090					2117	19:45	108	553	101	587					1140
08:00	243		296							20:00	109		100						
08:15	219		236							20:15	93		92						
08:30	205		234							20:30	108		77						
08:45	219	886	233	999					1885	20:45	110	420	67	336					756
09:00	169		212							21:00	90		94						
09:15	197		200							21:15	99		79						
09:30	180		175							21:30	71		67						
09:45	160	706	192	779					1485	21:45	76	336	63	303					639
10:00	182		164							22:00	60		52						
10:15	152		193							22:15	68		39						
10:30	142		158							22:30	55		36						
10:45	151	627	172	687					1314	22:45	41	224	42	169					393
11:00	150		128							23:00	54		38						
11:15	148		168							23:15	33		33						
11:30	164		162							23:30	24		33						
11:45	175	637	169	627					1264	23:45	29	140	21	125					265
Total Vol.		5003		5554					**10557**			8587		7353					**15940**

	NB	SB	EB	WB	Total
Daily Totals :	**13,590**	**12,907**	**0**	**0**	**26,497**

	AM			PM		
Split %	47.4%	52.6%	**39.8%**	53.9%	46.1%	**60.2%**
AM				**PM**		
Peak Hr.	07:15	07:15	**07:15**	**Peak Hr.**	17:00	16:30	**17:00**
Volume	1084	1115	**2199**	**Volume**	1175	947	**2112**
P.H.F.	0.877	0.942	**0.924**	**P.H.F.**	0.976	0.936	**0.955**
7 - 9 Vol.	1913	2089	**4002**	**4 - 6 Vol.**	2307	1846	**4153**
Peak Hr.	07:15	07:15	**07:15**	**Peak Hr.**	17:00	16:30	**17:00**
Volume	1084	1115	**2199**	**Volume**	1175	947	**2112**
P.H.F.	0.877	0.942	**0.924**	**P.H.F.**	0.976	0.936	**0.955**

Prepared by NDS/ATD

Volumes for: Wednesday, May 19, 2010 **City: Whittier**

Location: La Mirada Blvd S/o Lambert **Project: 10-5199-010**

Daily Totals	NB	SB	EB	WB	Total
	7,429	7,298	0	0	14,727

AM Period	NB		SB		EB		WB		PM Period	NB		SB		EB		WB		
00:00	14		17						12:00	95		87						
00:15	17		9						12:15	85		101						
00:30	10		15						12:30	87		96						
00:45	6	47	10	51				98	12:45	77	344	110	394					738
01:00	14		8						13:00	116		100						
01:15	3		7						13:15	126		128						
01:30	6		4						13:30	183		119						
01:45	5	28	9	28				56	13:45	151	576	105	452					1028
02:00	2		6						14:00	136		98						
02:15	8		5						14:15	114		80						
02:30	3		4						14:30	135		111						
02:45	4	17	9	24				41	14:45	152	537	105	394					931
03:00	2		5						15:00	138		116						
03:15	4		4						15:15	153		155						
03:30	5		8						15:30	133		144						
03:45	8	19	3	20				39	15:45	140	564	135	550					1114
04:00	7		7						16:00	147		113						
04:15	5		13						16:15	144		140						
04:30	9		12						16:30	139		143						
04:45	13	34	31	63				97	16:45	151	581	124	520					1101
05:00	18		26						17:00	140		139						
05:15	33		26						17:15	150		156						
05:30	35		38						17:30	140		151						
05:45	24	110	45	135				245	17:45	156	586	129	575					1161
06:00	30		52						18:00	125		131						
06:15	44		73						18:15	122		126						
06:30	58		101						18:30	127		103						
06:45	70	202	109	335				537	18:45	117	491	84	444					935
07:00	116		130						19:00	115		92						
07:15	107		147						19:15	101		85						
07:30	168		211						19:30	66		84						
07:45	215	606	263	751				1357	19:45	74	356	61	322					678
08:00	195		180						20:00	74		61						
08:15	113		130						20:15	72		57						
08:30	115		111						20:30	57		74						
08:45	100	523	103	524				1047	20:45	62	265	66	258					523
09:00	104		103						21:00	58		51						
09:15	111		125						21:15	65		39						
09:30	87		90						21:30	57		50						
09:45	73	375	90	408				783	21:45	34	214	44	184					398
10:00	97		88						22:00	45		38						
10:15	88		96						22:15	37		33						
10:30	88		91						22:30	41		29						
10:45	94	367	92	367				734	22:45	21	144	23	123					267
11:00	78		72						23:00	32		18						
11:15	87		88						23:15	15		19						
11:30	101		76						23:30	14		14						
11:45	99	365	73	309				674	23:45	17	78	16	67					145
Total Vol.		2693		3015				**5708**			4736		4283					**9019**

	NB	SB	EB	WB	Total
Daily Totals :	**7,429**	**7,298**	**0**	**0**	**14,727**

	AM			PM		
Split %	47.2%	52.8%	**38.8%**	52.5%	47.5%	**61.2%**
AM				**PM**		
Peak Hr.	07:30	07:15	**07:15**	**Peak Hr.**	13:15	17:00	**17:00**
Volume	691	801	**1486**	**Volume**	596	575	**1161**
P.H.F.	0.803	0.761	**0.777**	**P.H.F.**	0.814	0.921	**0.949**
7 - 9 Vol.	1129	1275	**2404**	**4 - 6 Vol.**	1167	1095	**2262**
Peak Hr.	07:30	07:15	**07:15**	**Peak Hr.**	17:00	17:00	**17:00**
Volume	691	801	**1486**	**Volume**	586	575	**1161**
P.H.F.	0.803	0.761	**0.777**	**P.H.F.**	0.939	0.921	**0.949**

APPENDIX E

RELATED PROJECT TRIP GENERATION

RELATED PROJECTS

Proj No.	Location	Description		Daily	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
1	16050 Whittier Boulevard		The Gables							
		67 unit	Condominium Complex	389	5	24	29	23	12	35
			(29 units completed)							
2	9175 Villaverde Drive		Community Church							
		34,000 sf	New Church Sanctuary	310	12	7	19	9	10	19
3	15801 Whittier Boulevard		Sprouts Market							
		24,500 sf	Grocery Store	2,505	54	34	88	131	126	257
4	12401 Washington Boulevard		Presbyterian Intercommunity Hospital							
		105,600 sf	Hospital Expansion	1,742	70	48	118	50	70	120
5	Hacienda Heights		Community Plan Update	N/A						
6	Hacienda Heights misc roadways		Roadway & Infrastructure Improvement	0	0	0	0	0	0	0
7	1234 Valencia Avenue		Hacienda Heights Community Ctr	1,373	59	38	97	32	55	87
8	Pathfinder Park		Rowland Heights Community Ctr	1,373	59	38	97	32	55	87
9	Fullerton Road		Infrastructure Improve- Rowland Height	0	0	0	0	0	0	0
10	2500 Pellissier Place		Puente Hills Intermodal Facility							
	(Scenario 2)		Waste Hauler Truck	364	34	34	68	34	34	68
			Employees	56	18	10	28	10	18	28
11	Puente Hills		Irrigation System	0	0	0	0	0	0	0
12	Puente Hills Landfill		Gas Collection Wells	10	1	1	2	1	1	2
13	NWC Lambert Rd & Idaho St		Lambert Idaho Specific Plan							
		77 units	Single Family Homes	737	14	43	58	49	29	78
14	951 S. Beach Boulevard		La Habra International Market							
		115,000 sf	Shopping Center	4,938	70	45	115	210	219	429
15	1400 S La Habra Hills		Hilton Garden Inn							
		107 room	Hotel	874	37	23	60	33	30	63
16	600 S Harbor Boulevard		Home Depot							
		6,000 sf	Home Depot Expansion	179	4	3	8	7	7	14
17	520 E Park Industrial Drive	3,941 sf	Light Industrial	27	3	0	4	0	3	4
18	605 N Walnut Street	8 unit	Condominium Complex	46	1	3	4	3	1	4

RELATED PROJECTS

Proj No.	Location	Description		Daily	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
19	318 S Cypress Street	9,970 sf	Light Industrial	69	8	1	9	1	9	10
20	300 S Euclid Street		John Laing Residential							
		91 units	Single Family Homes	871	17	51	68	58	34	92
21	151 W Whittier Boulevard	8,724 sf	Restaurant	1,109	52	48	101	57	40	97
22	571 W La Habra Boulevard	2,160 sf	Office	24	3	0	3	1	3	3
23	1801 W La Habra Boulevard	19,082 sf	Office	210	26	4	30	5	24	28
24	531 S Euclid Street	4 unit	Condominium Complex	23	0	1	2	1	1	2
25	La Habra		La Habra Heights Trail Connectors Plar	0	0	0	0	0	0	0
26	Kern - Los Angeles & San		Tehachapi Renewable Transmission Project							
	Bernardino Counties	173 miles	Upgraded Transmission Infrastructure	0	0	0	0	0	0	0
27	Washington & Philadelphia		Linc Housing - Affordable Units							
		21 units	Condominium Complex	122	6	4	10	6	7	12
			SUM	17,353	554	462	1,017	754	786	1,540

RELATED PROJECTS

Proj No.	Location	Description	Daily	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
8th Edition									
Trip Generation Rates									
110		Light Industrial	6.97	88%	12%	0.92	12%	88%	0.97
210		Single Family Homes	9.57	25%	75%	0.75	63%	37%	1.01
220		Apartment	6.65	20%	80%	0.51	65%	35%	0.62
230		Condominiums	5.81	17%	83%	0.44	67%	33%	0.52
310		Hotel	8.17	61%	39%	0.56	53%	47%	0.59
495		Community & Recreation Center	22.88	61%	39%	1.62	37%	63%	1.45
560		Church	9.11	62%	38%	0.56	48%	52%	0.55
590		Library	56.24	71%	29%	1.04	48%	52%	7.30
610		Hospital	16.50	59%	41%	1.12	42%	58%	1.14
710		Office	11.01	88%	12%	1.55	17%	83%	1.49
814		Retail	44.32			0.00	44%	56%	2.71
820		Shopping Center	42.94	61%	39%	1.00	49%	51%	3.73
850		Supermarket	102.24	61%	39%	3.59	51%	49%	10.50
862		Home Improvement Center	29.80	57%	43%	1.26	48%	52%	2.37
932		Restaurant	127.15	52%	48%	11.52	59%	41%	11.15

Rates are per 1,000 sf with the exception of housing/hotel which is per unit

APPENDIX F

LEVEL OF SERVICE WORKSHEETS

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD
EXISTING CONDITION **(2010)**

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0.000			0	0.000		
NB THRU	0	0	0	0.000	*		0	0.000	*	
NB RIGHT	0	0	0	0.000	*		0	0.000	*	
						0.168				0.201
SB LEFT	1.5	2,400	404	0.168	*		483	0.201	*	
SB THRU	0	0	0	0.000			0	0.000		
SB RIGHT	1.5	2,400	284	0.118			218	0.091		
EB LEFT	0	0	0	0.000	*		0	0.000		
EB THRU	2	3,200	965	0.302			1541	0.482	*	
EB RIGHT	0	0	0	0.000			0	0.000		
						0.531				0.482
WB LEFT	0	0	0	0.000			0	0.000	*	
WB THRU	2	3,200	1348	0.531	*		965	0.383		
WB RIGHT	0	0	351	0.000			260	0.000		

NORTH/SOUTH CRITICAL SUM	0.168	NORTH/SOUTH CRITICAL SUM	0.201
EAST/WEST CRITICAL SUM	0.531	EAST/WEST CRITICAL SUM	0.482
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.799	INTERSECTION ICU VALUE	0.783
AM INTERSECTION LOS	C	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
								0.177						0.211
SB LEFT	1.5	2,400	404	20	424	0.177	*		483	24	507	0.211	*	
SB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
SB RIGHT	1.5	2,400	284	14	298	0.124			218	11	229	0.095		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	965	49	1014	0.317			1541	78	1619	0.506	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.558						0.506
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1348	68	1416	0.558	*		965	49	1014	0.402		
WB RIGHT	0	0	351	18	369	0.000			260	13	273	0.000		

NORTH/SOUTH CRITICAL SUM	0.177	NORTH/SOUTH CRITICAL SUM	0.211
EAST/WEST CRITICAL SUM	0.558	EAST/WEST CRITICAL SUM	0.506
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.835	INTERSECTION ICU VALUE	0.817

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.036	PM IMPACT	0.034

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
NB THRU	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
									0.178							0.212
SB LEFT	1.5	2,400	404	20	3	427	0.178	*		483	24	1	508	0.212	*	
SB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
SB RIGHT	1.5	2,400	284	14	0	298	0.124			218	11	0	229	0.095		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB THRU	2	3,200	965	49	2	1016	0.317			1541	78	1	1620	0.506	*	
EB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.558							0.506
WB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
WB THRU	2	3,200	1348	68	0	1416	0.558	*		965	49	1	1015	0.402		
WB RIGHT	0	0	351	18	0	369	0.000			260	13	0	273	0.000		

NORTH/SOUTH CRITICAL SUM	0.178	NORTH/SOUTH CRITICAL SUM	0.212
EAST/WEST CRITICAL SUM	0.558	EAST/WEST CRITICAL SUM	0.506
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.836	INTERSECTION ICU VALUE	0.818

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.001	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB THRU	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
										0.182								0.217
SB LEFT	1.5	2,400	404	20	10	3	437	0.182	*		483	24	12	1	520	0.217	*	
SB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
SB RIGHT	1.5	2,400	284	14	0	0	298	0.124			218	11	0	0	229	0.095		
EB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
EB THRU	2	3,200	965	49	3	2	1019	0.318			1541	78	2	1	1622	0.507	*	
EB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.558								0.507
WB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
WB THRU	2	3,200	1348	68	2	0	1418	0.558	*		965	49	3	1	1018	0.403		
WB RIGHT	0	0	351	18	0	0	369	0.000			260	13	0	0	273	0.000		

NORTH/SOUTH CRITICAL SUM	0.182	NORTH/SOUTH CRITICAL SUM	0.217
EAST/WEST CRITICAL SUM	0.558	EAST/WEST CRITICAL SUM	0.507
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.840	INTERSECTION ICU VALUE	0.824

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.005	PM IMPACT	0.007

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
								0.185						0.222
SB LEFT	1.5	2,400	404	41	445	0.185	*		483	49	532	0.222	*	
SB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
SB RIGHT	1.5	2,400	284	29	313	0.130			218	22	240	0.1		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	965	97	1062	0.332			1541	156	1697	0.530	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.585						0.530
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1348	136	1484	0.585	*		965	97	1062	0.421		
WB RIGHT	0	0	351	35	386	0.000			260	26	286	0.000		

NORTH/SOUTH CRITICAL SUM	0.185	NORTH/SOUTH CRITICAL SUM	0.222
EAST/WEST CRITICAL SUM	0.585	EAST/WEST CRITICAL SUM	0.530
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.870	INTERSECTION ICU VALUE	0.852

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.071	PM IMPACT	0.069

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
NB THRU	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
									0.188							0.224
SB LEFT	1.5	2,400	404	41	7	452	0.188	*		483	49	6	538	0.224	*	
SB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
SB RIGHT	1.5	2,400	284	29	0	313	0.130			218	22	0	240	0.1		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB THRU	2	3,200	965	97	2	1064	0.333			1541	156	0	1697	0.530	*	
EB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.585							0.530
WB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
WB THRU	2	3,200	1348	136	0	1484	0.585	*		965	97	2	1064	0.422		
WB RIGHT	0	0	351	35	0	386	0.000			260	26	0	286	0.000		

NORTH/SOUTH CRITICAL SUM	0.188	NORTH/SOUTH CRITICAL SUM	0.224
EAST/WEST CRITICAL SUM	0.585	EAST/WEST CRITICAL SUM	0.530
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.873	INTERSECTION ICU VALUE	0.854

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.003	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB THRU	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
										0.192								0.229
SB LEFT	1.5	2,400	404	41	10	7	462	0.192	*		483	49	12	6	550	0.229	*	
SB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
SB RIGHT	1.5	2,400	284	29	0	0	313	0.130			218	22	0	0	240	0.1		
EB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
EB THRU	2	3,200	965	97	3	2	1067	0.334			1541	156	2	0	1699	0.531	*	
EB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.585								0.531
WB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
WB THRU	2	3,200	1348	136	2	0	1486	0.585	*		965	97	3	2	1067	0.423		
WB RIGHT	0	0	351	35	0	0	386	0.000			260	26	0	0	286	0.000		

NORTH/SOUTH CRITICAL SUM	0.192	NORTH/SOUTH CRITICAL SUM	0.229
EAST/WEST CRITICAL SUM	0.585	EAST/WEST CRITICAL SUM	0.531
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.877	INTERSECTION ICU VALUE	0.860

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.007	PM IMPACT	0.008

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
								0.194						0.232
SB LEFT	1.5	2,400	404	61	465	0.194	*		483	73	556	0.232	*	
SB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
SB RIGHT	1.5	2,400	284	43	327	0.136			218	33	251	0.105		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	965	146	1111	0.347			1541	233	1774	0.555	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.611						0.555
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1348	204	1552	0.611	*		965	146	1111	0.441		
WB RIGHT	0	0	351	53	404	0.000			260	39	299	0.000		

NORTH/SOUTH CRITICAL SUM	0.194	NORTH/SOUTH CRITICAL SUM	0.232
EAST/WEST CRITICAL SUM	0.611	EAST/WEST CRITICAL SUM	0.555
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.905	INTERSECTION ICU VALUE	0.887

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.106	PM IMPACT	0.104

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
NB THRU	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
									0.194							0.232
SB LEFT	1.5	2,400	404	61	1	466	0.194	*		483	73	1	557	0.232	*	
SB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
SB RIGHT	1.5	2,400	284	43	0	327	0.136			218	33	0	251	0.105		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB THRU	2	3,200	965	146	2	1113	0.348			1541	233	0	1774	0.555	*	
EB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.611							0.555
WB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
WB THRU	2	3,200	1348	204	0	1552	0.611	*		965	146	2	1113	0.441		
WB RIGHT	0	0	351	53	0	404	0.000			260	39	0	299	0.000		

NORTH/SOUTH CRITICAL SUM	0.194	NORTH/SOUTH CRITICAL SUM	0.232
EAST/WEST CRITICAL SUM	0.611	EAST/WEST CRITICAL SUM	0.555
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.905	INTERSECTION ICU VALUE	0.887

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB THRU	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
										0.198								0.237
SB LEFT	1.5	2,400	404	61	10	1	476	0.198	*		483	73	12	1	569	0.237	*	
SB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
SB RIGHT	1.5	2,400	284	43	0	0	327	0.136			218	33	0	0	251	0.105		
EB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
EB THRU	2	3,200	965	146	3	2	1116	0.349			1541	233	2	0	1776	0.555	*	
EB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.612								0.555
WB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
WB THRU	2	3,200	1348	204	2	0	1554	0.612	*		965	146	3	2	1116	0.442		
WB RIGHT	0	0	351	53	0	0	404	0.000			260	39	0	0	299	0.000		

NORTH/SOUTH CRITICAL SUM	0.198	NORTH/SOUTH CRITICAL SUM	0.237
EAST/WEST CRITICAL SUM	0.612	EAST/WEST CRITICAL SUM	0.555
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.910	INTERSECTION ICU VALUE	0.892

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.005	PM IMPACT	0.005

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD
EXISTING CONDITION **(2010)**

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	0.138	*		287	0.12		
NB THRU	0	0	0	0.000			0	0.000		
NB RIGHT	1.5	2400	300	0.125			315	0.131	*	
						0.138				0.131
SB LEFT	0	0	0	0.000			0	0.000	*	
SB THRU	0	0	0	0.000	*		0	0.000		
SB RIGHT	0	0	0	0.000	*		0	0.000		
EB LEFT	0	0	0	0.000	*		0	0.000		
EB THRU	2	3,200	921	0.288			1351	0.422	*	
EB RIGHT	0	0	0	0.000			0	0.000		
						0.501				0.422
WB LEFT	0	0	0	0.000			0	0.000	*	
WB THRU	2	3,200	1603	0.501	*		1200	0.375		
WB RIGHT	0	0	0	0.000			0	0.000		

NORTH/SOUTH CRITICAL SUM	0.138	NORTH/SOUTH CRITICAL SUM	0.131
EAST/WEST CRITICAL SUM	0.501	EAST/WEST CRITICAL SUM	0.422
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.739	INTERSECTION ICU VALUE	0.653
AM INTERSECTION LOS	C	PM INTERSECTION LOS	B

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	17	349	0.145	*		287	14	301	0.126		
NB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
NB RIGHT	1.5	2400	300	15	315	0.131			315	16	331	0.138	*	
								0.145						0.138
SB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	921	47	968	0.302			1351	68	1419	0.444	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.526						0.444
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1603	81	1684	0.526	*		1200	61	1261	0.394		
WB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.145	NORTH/SOUTH CRITICAL SUM	0.138
EAST/WEST CRITICAL SUM	0.526	EAST/WEST CRITICAL SUM	0.444
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.771	INTERSECTION ICU VALUE	0.682

AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.032	PM IMPACT	0.029

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	17	0	349	0.145	*		287	14	0	301	0.126		
NB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
NB RIGHT	1.5	2400	300	15	2	317	0.132			315	16	0	331	0.138	*	
									0.145							0.138
SB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB THRU	2	3,200	921	47	5	973	0.304			1351	68	1	1420	0.444	*	
EB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.527							0.444
WB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
WB THRU	2	3,200	1603	81	1	1685	0.527	*		1200	61	5	1266	0.396		
WB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.145	NORTH/SOUTH CRITICAL SUM	0.138
EAST/WEST CRITICAL SUM	0.527	EAST/WEST CRITICAL SUM	0.444
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.772	INTERSECTION ICU VALUE	0.682

AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	17	0	0	349	0.145	*		287	14	0	0	301	0.126		
NB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB RIGHT	1.5	2400	300	15	12	2	329	0.137			315	16	14	0	345	0.144	*	
										0.145								0.144
SB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
EB THRU	2	3,200	921	47	14	5	987	0.308			1351	68	14	1	1434	0.448	*	
EB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.532								0.448
WB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
WB THRU	2	3,200	1603	81	17	1	1702	0.532	*		1200	61	31	5	1297	0.405		
WB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.145	NORTH/SOUTH CRITICAL SUM	0.144
EAST/WEST CRITICAL SUM	0.532	EAST/WEST CRITICAL SUM	0.448
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.777	INTERSECTION ICU VALUE	0.692

AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.006	PM IMPACT	0.010

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	34	366	0.152	*		287	29	316	0.132		
NB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
NB RIGHT	1.5	2400	300	30	330	0.138			315	32	347	0.145	*	
								0.152						0.145
SB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	921	93	1014	0.317			1351	136	1487	0.465	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.552						0.465
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1603	162	1765	0.552	*		1200	121	1321	0.413		
WB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.152	NORTH/SOUTH CRITICAL SUM	0.145
EAST/WEST CRITICAL SUM	0.552	EAST/WEST CRITICAL SUM	0.465
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.804	INTERSECTION ICU VALUE	0.710

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.065	PM IMPACT	0.057

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	34	0	366	0.152	*		287	29	0	316	0.132		
NB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
NB RIGHT	1.5	2400	300	30	7	337	0.141			315	32	6	353	0.147	*	
									0.152							0.147
SB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB THRU	2	3,200	921	93	9	1023	0.320			1351	136	6	1493	0.467	*	
EB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.556							0.467
WB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
WB THRU	2	3,200	1603	162	13	1778	0.556	*		1200	121	16	1337	0.418		
WB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.152	NORTH/SOUTH CRITICAL SUM	0.147
EAST/WEST CRITICAL SUM	0.556	EAST/WEST CRITICAL SUM	0.467
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.808	INTERSECTION ICU VALUE	0.714

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.004	PM IMPACT	0.004

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	34	0	0	366	0.152	*		287	29	0	0	316	0.132		
NB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB RIGHT	1.5	2400	300	30	12	7	349	0.146			315	32	14	6	367	0.153	*	
										0.152								0.153
SB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
EB THRU	2	3,200	921	93	14	9	1037	0.324			1351	136	14	6	1507	0.471	*	
EB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.561								0.471
WB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
WB THRU	2	3,200	1603	162	17	13	1795	0.561	*		1200	121	31	16	1368	0.428		
WB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.152	NORTH/SOUTH CRITICAL SUM	0.153
EAST/WEST CRITICAL SUM	0.561	EAST/WEST CRITICAL SUM	0.471
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.813	INTERSECTION ICU VALUE	0.724

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.009	PM IMPACT	0.014

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	50	382	0.159	*		287	43	330	0.138		
NB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
NB RIGHT	1.5	2400	300	45	345	0.144			315	48	363	0.151	*	
								0.159						0.151
SB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	921	140	1061	0.331			1351	205	1556	0.486	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.577						0.486
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1603	243	1846	0.577	*		1200	182	1382	0.432		
WB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.159	NORTH/SOUTH CRITICAL SUM	0.151
EAST/WEST CRITICAL SUM	0.577	EAST/WEST CRITICAL SUM	0.486
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.836	INTERSECTION ICU VALUE	0.737

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.097	PM IMPACT	0.084

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	50	0	382	0.159	*		287	43	0	330	0.138		
NB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
NB RIGHT	1.5	2400	300	45	1	346	0.144			315	48	0	363	0.151	*	
									0.159							0.151
SB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB THRU	2	3,200	921	140	3	1064	0.332			1351	205	0	1556	0.486	*	
EB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.578							0.486
WB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
WB THRU	2	3,200	1603	243	3	1849	0.578	*		1200	182	4	1386	0.433		
WB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.159	NORTH/SOUTH CRITICAL SUM	0.151
EAST/WEST CRITICAL SUM	0.578	EAST/WEST CRITICAL SUM	0.486
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.837	INTERSECTION ICU VALUE	0.737

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	50	0	0	382	0.159	*		287	43	0	0	330	0.138		
NB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB RIGHT	1.5	2400	300	45	12	1	358	0.149			315	48	14	0	377	0.157	*	
										0.159								0.157
SB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
EB THRU	2	3,200	921	140	14	3	1078	0.337			1351	205	14	0	1570	0.491	*	
EB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.583								0.491
WB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
WB THRU	2	3,200	1603	243	17	3	1866	0.583	*		1200	182	31	4	1417	0.443		
WB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.159	NORTH/SOUTH CRITICAL SUM	0.157
EAST/WEST CRITICAL SUM	0.583	EAST/WEST CRITICAL SUM	0.491
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.842	INTERSECTION ICU VALUE	0.748

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.006	PM IMPACT	0.011

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING CONDITION **(2010)**

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	0.094			136	0.085		
NB THRU	2	3,200	1523	0.476	*		1143	0.357	*	
NB RIGHT	1	1600	85	0.053			131	0.082		
						0.625				0.506
SB LEFT	1	1,600	238	0.149	*		239	0.149	*	
SB THRU	2	3,200	1100	0.344			1295	0.405		
SB RIGHT	1	1,600	9	0.006			12	0.008		
EB LEFT	0	0	6	0.000	*		9	0.000	*	
EB THRU	2	3,200	336	0.107			348	0.112		
EB RIGHT	1	1,600	161	0.101			159	0.099		
						0.168				0.158
WB LEFT	0	0	80	0.000			73	0.000		
WB THRU	2	3,200	332	0.129			227	0.094		
WB RIGHT	1	1,600	269	0.168	*		253	0.158	*	

NORTH/SOUTH CRITICAL SUM	0.625	NORTH/SOUTH CRITICAL SUM	0.506
EAST/WEST CRITICAL SUM	0.168	EAST/WEST CRITICAL SUM	0.158
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.893	INTERSECTION ICU VALUE	0.764
AM INTERSECTION LOS	D	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	8	158	0.098			136	7	143	0.089		
NB THRU	2	3,200	1523	77	1600	0.500	*		1143	58	1201	0.375	*	
NB RIGHT	1	1600	85	4	89	0.056			131	7	138	0.086		
								0.656						0.532
SB LEFT	1	1,600	238	12	250	0.156	*		239	12	251	0.157	*	
SB THRU	2	3,200	1100	56	1156	0.361			1295	65	1360	0.425		
SB RIGHT	1	1,600	9	0	9	0.006			12	1	13	0.008		
EB LEFT	0	0	6	0	6	0.000	*		9	0	9	0.000	*	
EB THRU	2	3,200	336	17	353	0.112			348	18	366	0.117		
EB RIGHT	1	1,600	161	8	169	0.106			159	8	167	0.104		
								0.177						0.166
WB LEFT	0	0	80	4	84	0.000			73	4	77	0.000		
WB THRU	2	3,200	332	17	349	0.135			227	11	238	0.098		
WB RIGHT	1	1,600	269	14	283	0.177	*		253	13	266	0.166	*	

NORTH/SOUTH CRITICAL SUM	0.656	NORTH/SOUTH CRITICAL SUM	0.532
EAST/WEST CRITICAL SUM	0.177	EAST/WEST CRITICAL SUM	0.166
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.933	INTERSECTION ICU VALUE	0.798

AM INTERSECTION LOS	E	PM INTERSECTION LOS	C
AM IMPACT	0.040	PM IMPACT	0.034

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	8	0	158	0.098			136	7	0	143	0.089		
NB THRU	2	3,200	1523	77	1	1601	0.500	*		1143	58	4	1205	0.376	*	
NB RIGHT	1	1600	85	4	0	89	0.056			131	7	0	138	0.086		
									0.657							0.533
SB LEFT	1	1,600	238	12	1	251	0.157	*		239	12	0	251	0.157	*	
SB THRU	2	3,200	1100	56	6	1162	0.363			1295	65	2	1362	0.426		
SB RIGHT	1	1,600	9	0	0	9	0.006			12	1	0	13	0.008		
EB LEFT	0	0	6	0	0	6	0.000	*		9	0	0	9	0.000	*	
EB THRU	2	3,200	336	17	0	353	0.112			348	18	0	366	0.117		
EB RIGHT	1	1,600	161	8	0	169	0.106			159	8	0	167	0.104		
									0.177							0.166
WB LEFT	0	0	80	4	0	84	0.000			73	4	0	77	0.000		
WB THRU	2	3,200	332	17	0	349	0.135			227	11	0	238	0.098		
WB RIGHT	1	1,600	269	14	0	283	0.177	*		253	13	0	266	0.166	*	

NORTH/SOUTH CRITICAL SUM	0.657	NORTH/SOUTH CRITICAL SUM	0.533
EAST/WEST CRITICAL SUM	0.177	EAST/WEST CRITICAL SUM	0.166
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.934	INTERSECTION ICU VALUE	0.799

AM INTERSECTION LOS	E	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	8	0	0	158	0.098			136	7	0	0	143	0.089		
NB THRU	2	3,200	1523	77	1	1	1602	0.501	*		1143	58	2	4	1207	0.377	*	
NB RIGHT	1	1600	85	4	0	0	89	0.056			131	7	0	0	138	0.086		
										0.659								0.535
SB LEFT	1	1,600	238	12	1	1	252	0.158	*		239	12	1	0	252	0.158	*	
SB THRU	2	3,200	1100	56	3	6	1165	0.364			1295	65	3	2	1365	0.427		
SB RIGHT	1	1,600	9	0	11	0	20	0.013			12	1	8	0	21	0.013		
EB LEFT	0	0	6	0	8	0	14	0.000	*		9	0	11	0	20	0.000	*	
EB THRU	2	3,200	336	17	12	0	365	0.119			348	18	20	0	386	0.127		
EB RIGHT	1	1,600	161	8	0	0	169	0.106			159	8	0	0	167	0.104		
										0.177								0.167
WB LEFT	0	0	80	4	0	0	84	0.000			73	4	0	0	77	0.000		
WB THRU	2	3,200	332	17	11	0	360	0.139			227	11	20	0	258	0.105		
WB RIGHT	1	1,600	269	14	0	0	283	0.177	*		253	13	1	0	267	0.167	*	

NORTH/SOUTH CRITICAL SUM	0.659	NORTH/SOUTH CRITICAL SUM	0.535
EAST/WEST CRITICAL SUM	0.177	EAST/WEST CRITICAL SUM	0.167
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.936	INTERSECTION ICU VALUE	0.802

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.003	PM IMPACT	0.004

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	15	165	0.103			136	14	150	0.094		
NB THRU	2	3,200	1523	154	1677	0.524	*		1143	115	1258	0.393	*	
NB RIGHT	1	1600	85	9	94	0.058			131	13	144	0.09		
								0.688						0.557
SB LEFT	1	1,600	238	24	262	0.164	*		239	24	263	0.164	*	
SB THRU	2	3,200	1100	111	1211	0.378			1295	131	1426	0.446		
SB RIGHT	1	1,600	9	1	10	0.006			12	1	13	0.008		
EB LEFT	0	0	6	1	7	0.000	*		9	1	10	0.000	*	
EB THRU	2	3,200	336	34	370	0.118			348	35	383	0.123		
EB RIGHT	1	1,600	161	16	177	0.111			159	16	175	0.109		
								0.185						0.174
WB LEFT	0	0	80	8	88	0.000			73	7	80	0.000		
WB THRU	2	3,200	332	34	366	0.142			227	23	250	0.103		
WB RIGHT	1	1,600	269	27	296	0.185	*		253	26	279	0.174	*	

NORTH/SOUTH CRITICAL SUM	0.688	NORTH/SOUTH CRITICAL SUM	0.557
EAST/WEST CRITICAL SUM	0.185	EAST/WEST CRITICAL SUM	0.174
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.973	INTERSECTION ICU VALUE	0.831

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.080	PM IMPACT	0.067

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	15	0	165	0.103			136	14	0	150	0.094		
NB THRU	2	3,200	1523	154	5	1682	0.526	*		1143	115	8	1266	0.396	*	
NB RIGHT	1	1600	85	9	0	94	0.058			131	13	0	144	0.09		
									0.695							0.565
SB LEFT	1	1,600	238	24	9	271	0.169	*		239	24	8	271	0.169	*	
SB THRU	2	3,200	1100	111	8	1219	0.381			1295	131	5	1431	0.447		
SB RIGHT	1	1,600	9	1	0	10	0.006			12	1	0	13	0.008		
EB LEFT	0	0	6	1	0	7	0.000	*		9	1	0	10	0.000	*	
EB THRU	2	3,200	336	34	0	370	0.118			348	35	0	383	0.123		
EB RIGHT	1	1,600	161	16	0	177	0.111			159	16	0	175	0.109		
									0.190							0.180
WB LEFT	0	0	80	8	0	88	0.000			73	7	0	80	0.000		
WB THRU	2	3,200	332	34	0	366	0.142			227	23	0	250	0.103		
WB RIGHT	1	1,600	269	27	8	304	0.190	*		253	26	9	288	0.18	*	

NORTH/SOUTH CRITICAL SUM	0.695	NORTH/SOUTH CRITICAL SUM	0.565
EAST/WEST CRITICAL SUM	0.190	EAST/WEST CRITICAL SUM	0.180
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.985	INTERSECTION ICU VALUE	0.845

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.012	PM IMPACT	0.014

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	15	0	0	165	0.103			136	14	0	0	150	0.094		
NB THRU	2	3,200	1523	154	1	5	1683	0.526	*		1143	115	2	8	1268	0.396	*	
NB RIGHT	1	1600	85	9	0	0	94	0.058			131	13	0	0	144	0.09		
										0.696								0.566
SB LEFT	1	1,600	238	24	1	9	272	0.170	*		239	24	1	8	272	0.17	*	
SB THRU	2	3,200	1100	111	3	8	1222	0.382			1295	131	3	5	1434	0.448		
SB RIGHT	1	1,600	9	1	11	0	21	0.013			12	1	8	0	21	0.013		
EB LEFT	0	0	6	1	8	0	15	0.000	*		9	1	11	0	21	0.000	*	
EB THRU	2	3,200	336	34	12	0	382	0.124			348	35	20	0	403	0.133		
EB RIGHT	1	1,600	161	16	0	0	177	0.111			159	16	0	0	175	0.109		
										0.190								0.180
WB LEFT	0	0	80	8	0	0	88	0.000			73	7	0	0	80	0.000		
WB THRU	2	3,200	332	34	11	0	377	0.145			227	23	20	0	270	0.109		
WB RIGHT	1	1,600	269	27	0	8	304	0.190	*		253	26	1	9	289	0.18	*	

NORTH/SOUTH CRITICAL SUM	0.696	NORTH/SOUTH CRITICAL SUM	0.566
EAST/WEST CRITICAL SUM	0.190	EAST/WEST CRITICAL SUM	0.180
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.986	INTERSECTION ICU VALUE	0.846

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.013	PM IMPACT	0.015

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	23	173	0.108			136	21	157	0.098		
NB THRU	2	3,200	1523	231	1754	0.548	*		1143	173	1316	0.411	*	
NB RIGHT	1	1600	85	13	98	0.061			131	20	151	0.094		
								0.719						0.583
SB LEFT	1	1,600	238	36	274	0.171	*		239	36	275	0.172	*	
SB THRU	2	3,200	1100	167	1267	0.396			1295	196	1491	0.466		
SB RIGHT	1	1,600	9	1	10	0.006			12	2	14	0.009		
EB LEFT	0	0	6	1	7	0.000	*		9	1	10	0.000	*	
EB THRU	2	3,200	336	51	387	0.123			348	53	401	0.128		
EB RIGHT	1	1,600	161	24	185	0.116			159	24	183	0.114		
								0.194						0.182
WB LEFT	0	0	80	12	92	0.000			73	11	84	0.000		
WB THRU	2	3,200	332	50	382	0.148			227	34	261	0.108		
WB RIGHT	1	1,600	269	41	310	0.194	*		253	38	291	0.182	*	

NORTH/SOUTH CRITICAL SUM	0.719	NORTH/SOUTH CRITICAL SUM	0.583
EAST/WEST CRITICAL SUM	0.194	EAST/WEST CRITICAL SUM	0.182
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	1.013	INTERSECTION ICU VALUE	0.865

AM INTERSECTION LOS	F	PM INTERSECTION LOS	D
AM IMPACT	0.120	PM IMPACT	0.101

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	23	0	173	0.108			136	21	0	157	0.098		
NB THRU	2	3,200	1523	231	1	1755	0.548	*		1143	173	3	1319	0.412	*	
NB RIGHT	1	1600	85	13	0	98	0.061			131	20	0	151	0.094		
									0.720							0.585
SB LEFT	1	1,600	238	36	1	275	0.172	*		239	36	1	276	0.173	*	
SB THRU	2	3,200	1100	167	3	1270	0.397			1295	196	1	1492	0.466		
SB RIGHT	1	1,600	9	1	0	10	0.006			12	2	0	14	0.009		
EB LEFT	0	0	6	1	0	7	0.000	*		9	1	0	10	0.000	*	
EB THRU	2	3,200	336	51	0	387	0.123			348	53	0	401	0.128		
EB RIGHT	1	1,600	161	24	0	185	0.116			159	24	0	183	0.114		
									0.194							0.183
WB LEFT	0	0	80	12	0	92	0.000			73	11	0	84	0.000		
WB THRU	2	3,200	332	50	0	382	0.148			227	34	0	261	0.108		
WB RIGHT	1	1,600	269	41	1	311	0.194	*		253	38	1	292	0.183	*	

NORTH/SOUTH CRITICAL SUM	0.720	NORTH/SOUTH CRITICAL SUM	0.585
EAST/WEST CRITICAL SUM	0.194	EAST/WEST CRITICAL SUM	0.183
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	1.014	INTERSECTION ICU VALUE	0.868

AM INTERSECTION LOS	F	PM INTERSECTION LOS	D
AM IMPACT	0.001	PM IMPACT	0.003

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	23	0	0	173	0.108			136	21	0	0	157	0.098		
NB THRU	2	3,200	1523	231	1	1	1756	0.549	*		1143	173	2	3	1321	0.413	*	
NB RIGHT	1	1600	85	13	0	0	98	0.061			131	20	0	0	151	0.094		
										0.722								0.586
SB LEFT	1	1,600	238	36	1	1	276	0.173	*		239	36	1	1	277	0.173	*	
SB THRU	2	3,200	1100	167	3	3	1273	0.398			1295	196	3	1	1495	0.467		
SB RIGHT	1	1,600	9	1	11	0	21	0.013			12	2	8	0	22	0.014		
EB LEFT	0	0	6	1	8	0	15	0.000	*		9	1	11	0	21	0.000	*	
EB THRU	2	3,200	336	51	12	0	399	0.129			348	53	20	0	421	0.138		
EB RIGHT	1	1,600	161	24	0	0	185	0.116			159	24	0	0	183	0.114		
										0.194								0.183
WB LEFT	0	0	80	12	0	0	92	0.000			73	11	0	0	84	0.000		
WB THRU	2	3,200	332	50	11	0	393	0.152			227	34	20	0	281	0.114		
WB RIGHT	1	1,600	269	41	0	1	311	0.194	*		253	38	1	1	293	0.183	*	

NORTH/SOUTH CRITICAL SUM	0.722	NORTH/SOUTH CRITICAL SUM	0.586
EAST/WEST CRITICAL SUM	0.194	EAST/WEST CRITICAL SUM	0.183
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	1.016	INTERSECTION ICU VALUE	0.869

AM INTERSECTION LOS	F	PM INTERSECTION LOS	D
AM IMPACT	0.003	PM IMPACT	0.004

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT+MITIGATION
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,650	150	15	0	165	0.100			136	14	0	150	0.091		
NB THRU	2	3,200	1523	154	5	1682	0.526	*		1143	115	8	1266	0.396	*	
NB RIGHT	1	1650	85	9	0	94	0.057			131	13	0	144	0.087		
									0.690							0.560
SB LEFT	1	1,650	238	24	9	271	0.164	*		239	24	8	271	0.164	*	
SB THRU	2	3,200	1100	111	8	1219	0.381			1295	131	5	1431	0.447		
SB RIGHT	1	1,650	9	1	0	10	0.006			12	1	0	13	0.008		
EB LEFT	0	0	6	1	0	7	0.000	*		9	1	0	10	0.000	*	
EB THRU	2	3,200	336	34	0	370	0.118			348	35	0	383	0.123		
EB RIGHT	1	1,650	161	16	0	177	0.107			159	16	0	175	0.106		
									0.184							0.174
WB LEFT	0	0	80	8	0	88	0.000			73	7	0	80	0.000		
WB THRU	2	3,200	332	34	0	366	0.142			227	23	0	250	0.103		
WB RIGHT	1	1,650	269	27	8	304	0.184	*		253	26	9	288	0.174	*	

NORTH/SOUTH CRITICAL SUM	0.690	NORTH/SOUTH CRITICAL SUM	0.560
EAST/WEST CRITICAL SUM	0.184	EAST/WEST CRITICAL SUM	0.174
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.974	INTERSECTION ICU VALUE	0.834

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.001	PM IMPACT	0.003

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT + Mitigation
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	15	0	0	165	0.103			136	14	0	0	150	0.094		
NB THRU	2	3,200	1523	154	1	5	1683	0.526	*		1143	115	2	8	1268	0.396	*	
NB RIGHT	1	1600	85	9	0	0	94	0.058			131	13	0	0	144	0.09		
										0.696								0.566
SB LEFT	1	1,600	238	24	1	9	272	0.170	*		239	24	1	8	272	0.17	*	
SB THRU	2	3,200	1100	111	3	8	1222	0.382			1295	131	3	5	1434	0.448		
SB RIGHT	1	1,600	9	1	11	0	21	0.013			12	1	8	0	21	0.013		
EB LEFT	0	0	6	1	8	0	15	0.000	*		9	1	11	0	21	0.000	*	
EB THRU	2	3,200	336	34	12	0	382	0.124			348	35	20	0	403	0.133		
EB RIGHT	1	1,600	161	16	0	0	177	0.111			159	16	0	0	175	0.109		
										0.190								0.180
WB LEFT	0	0	80	8	0	0	88	0.000			73	7	0	0	80	0.000		
WB THRU	2	3,200	332	34	11	0	377	0.145			227	23	20	0	270	0.109		
WB RIGHT	1	1,600	269	27	0	8	304	0.190	*		253	26	1	9	289	0.18	*	

NORTH/SOUTH CRITICAL SUM	0.696	NORTH/SOUTH CRITICAL SUM	0.566
EAST/WEST CRITICAL SUM	0.190	EAST/WEST CRITICAL SUM	0.180
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.986	INTERSECTION ICU VALUE	0.846

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.013	PM IMPACT	0.015

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING CONDITION **(2010)**

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	0.148	*		371	0.129	*	
NB THRU	1	1600	239	0.230			339	0.274		
NB RIGHT	0	0	129	0.000			99	0.000		
						0.386				0.338
SB LEFT	1	1,600	21	0.013			19	0.012		
SB THRU	1	1,600	380	0.238	*		335	0.209	*	
SB RIGHT	1	1,600	31	0.019			17	0.011		
EB LEFT	1	1,600	18	0.011			24	0.015		
EB THRU	1	1,600	132	0.083			183	0.114		
EB RIGHT	1	1,600	341	0.213	*		344	0.215	*	
						0.283				0.266
WB LEFT	1	1,600	112	0.070	*		81	0.051	*	
WB THRU	2	3,200	156	0.053			90	0.030		
WB RIGHT	0	0	12	0.000			6	0.000		

NORTH/SOUTH CRITICAL SUM	0.386	NORTH/SOUTH CRITICAL SUM	0.338
EAST/WEST CRITICAL SUM	0.283	EAST/WEST CRITICAL SUM	0.266
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.769	INTERSECTION ICU VALUE	0.704
AM INTERSECTION LOS	C	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	22	449	0.156	*		371	19	390	0.135	*	
NB THRU	1	1600	239	12	251	0.242			339	17	356	0.288		
NB RIGHT	0	0	129	7	136	0.000			99	5	104	0.000		
								0.405						0.355
SB LEFT	1	1,600	21	1	22	0.014			19	1	20	0.012		
SB THRU	1	1,600	380	19	399	0.249	*		335	17	352	0.220	*	
SB RIGHT	1	1,600	31	2	33	0.020			17	1	18	0.011		
EB LEFT	1	1,600	18	1	19	0.012			24	1	25	0.016		
EB THRU	1	1,600	132	7	139	0.087			183	9	192	0.120		
EB RIGHT	1	1,600	341	17	358	0.224	*		344	17	361	0.226	*	
								0.298						0.279
WB LEFT	1	1,600	112	6	118	0.074	*		81	4	85	0.053	*	
WB THRU	2	3,200	156	8	164	0.055			90	5	95	0.032		
WB RIGHT	0	0	12	1	13	0.000			6	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.405	NORTH/SOUTH CRITICAL SUM	0.355
EAST/WEST CRITICAL SUM	0.298	EAST/WEST CRITICAL SUM	0.279
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.803	INTERSECTION ICU VALUE	0.734

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.034	PM IMPACT	0.030

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	22	0	449	0.156	*		371	19	0	390	0.135	*	
NB THRU	1	1600	239	12	0	251	0.242			339	17	0	356	0.288		
NB RIGHT	0	0	129	7	0	136	0.000			99	5	0	104	0.000		
									0.405							0.355
SB LEFT	1	1,600	21	1	0	22	0.014			19	1	0	20	0.012		
SB THRU	1	1,600	380	19	0	399	0.249	*		335	17	0	352	0.220	*	
SB RIGHT	1	1,600	31	2	0	33	0.020			17	1	0	18	0.011		
EB LEFT	1	1,600	18	1	0	19	0.012			24	1	0	25	0.016		
EB THRU	1	1,600	132	7	0	139	0.087			183	9	0	192	0.120		
EB RIGHT	1	1,600	341	17	1	359	0.225	*		344	17	0	361	0.226	*	
									0.299							0.279
WB LEFT	1	1,600	112	6	0	118	0.074	*		81	4	0	85	0.053	*	
WB THRU	2	3,200	156	8	0	164	0.055			90	5	0	95	0.032		
WB RIGHT	0	0	12	1	0	13	0.000			6	0	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.405	NORTH/SOUTH CRITICAL SUM	0.355
EAST/WEST CRITICAL SUM	0.299	EAST/WEST CRITICAL SUM	0.279
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.804	INTERSECTION ICU VALUE	0.734

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	22	0	0	449	0.156	*		371	19	0	0	390	0.135	*	
NB THRU	1	1600	239	12	3	0	254	0.243			339	17	2	0	358	0.289		
NB RIGHT	0	0	129	7	0	0	136	0.000			99	5	0	0	104	0.000		
										0.407								0.357
SB LEFT	1	1,600	21	1	0	0	22	0.014			19	1	0	2	22	0.014		
SB THRU	1	1,600	380	19	2	0	401	0.251	*		335	17	4	0	356	0.222	*	
SB RIGHT	1	1,600	31	2	0	0	33	0.020			17	1	0	0	18	0.011		
EB LEFT	1	1,600	18	1	1	0	20	0.012			24	1	0	0	25	0.016		
EB THRU	1	1,600	132	7	0	0	139	0.087			183	9	0	0	192	0.120		
EB RIGHT	1	1,600	341	17	0	1	359	0.225	*		344	17	0	0	361	0.226	*	
										0.299								0.279
WB LEFT	1	1,600	112	6	0	0	118	0.074	*		81	4	0	0	85	0.053	*	
WB THRU	2	3,200	156	8	0	0	164	0.055			90	5	0	0	95	0.032		
WB RIGHT	0	0	12	1	0	0	13	0.000			6	0	0	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.407	NORTH/SOUTH CRITICAL SUM	0.357
EAST/WEST CRITICAL SUM	0.299	EAST/WEST CRITICAL SUM	0.279
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.806	INTERSECTION ICU VALUE	0.736

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.003	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	43	470	0.163	*		371	37	408	0.142	*	
NB THRU	1	1600	239	24	263	0.253			339	34	373	0.301		
NB RIGHT	0	0	129	13	142	0.000			99	10	109	0.000		
								0.424						0.373
SB LEFT	1	1,600	21	2	23	0.014			19	2	21	0.013		
SB THRU	1	1,600	380	38	418	0.261	*		335	34	369	0.231	*	
SB RIGHT	1	1,600	31	3	34	0.021			17	2	19	0.012		
EB LEFT	1	1,600	18	2	20	0.012			24	2	26	0.017		
EB THRU	1	1,600	132	13	145	0.091			183	18	201	0.126		
EB RIGHT	1	1,600	341	34	375	0.235	*		344	35	379	0.237	*	
								0.312						0.293
WB LEFT	1	1,600	112	11	123	0.077	*		81	8	89	0.056	*	
WB THRU	2	3,200	156	16	172	0.058			90	9	99	0.033		
WB RIGHT	0	0	12	1	13	0.000			6	1	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.424	NORTH/SOUTH CRITICAL SUM	0.373
EAST/WEST CRITICAL SUM	0.312	EAST/WEST CRITICAL SUM	0.293
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.836	INTERSECTION ICU VALUE	0.766

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.067	PM IMPACT	0.062

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	43	8	478	0.166	*		371	37	9	417	0.145	*	
NB THRU	1	1600	239	24	0	263	0.253			339	34	0	373	0.301		
NB RIGHT	0	0	129	13	0	142	0.000			99	10	0	109	0.000		
									0.427							0.376
SB LEFT	1	1,600	21	2	0	23	0.014			19	2	0	21	0.013		
SB THRU	1	1,600	380	38	0	418	0.261	*		335	34	0	369	0.231	*	
SB RIGHT	1	1,600	31	3	0	34	0.021			17	2	0	19	0.012		
EB LEFT	1	1,600	18	2	0	20	0.012			24	2	0	26	0.017		
EB THRU	1	1,600	132	13	0	145	0.091			183	18	0	201	0.126		
EB RIGHT	1	1,600	341	34	9	384	0.240	*		344	35	8	387	0.242	*	
									0.317							0.298
WB LEFT	1	1,600	112	11	0	123	0.077	*		81	8	0	89	0.056	*	
WB THRU	2	3,200	156	16	0	172	0.058			90	9	0	99	0.033		
WB RIGHT	0	0	12	1	0	13	0.000			6	1	0	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.427	NORTH/SOUTH CRITICAL SUM	0.376
EAST/WEST CRITICAL SUM	0.317	EAST/WEST CRITICAL SUM	0.298
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.844	INTERSECTION ICU VALUE	0.774

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.008	PM IMPACT	0.008

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	43	0	8	478	0.166	*		371	37	0	9	417	0.145	*	
NB THRU	1	1600	239	24	3	0	266	0.255			339	34	2	0	375	0.303		
NB RIGHT	0	0	129	13	0	0	142	0.000			99	10	0	0	109	0.000		
										0.429								0.378
SB LEFT	1	1,600	21	2	0	0	23	0.014			19	2	0	0	21	0.013		
SB THRU	1	1,600	380	38	2	0	420	0.263	*		335	34	4	0	373	0.233	*	
SB RIGHT	1	1,600	31	3	0	0	34	0.021			17	2	0	0	19	0.012		
EB LEFT	1	1,600	18	2	1	0	21	0.013			24	2	0	0	26	0.017		
EB THRU	1	1,600	132	13	0	0	145	0.091			183	18	0	0	201	0.126		
EB RIGHT	1	1,600	341	34	0	9	384	0.240	*		344	35	0	8	387	0.242	*	
										0.317								0.298
WB LEFT	1	1,600	112	11	0	0	123	0.077	*		81	8	0	0	89	0.056	*	
WB THRU	2	3,200	156	16	0	0	172	0.058			90	9	0	0	99	0.033		
WB RIGHT	0	0	12	1	0	0	13	0.000			6	1	0	0	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.429	NORTH/SOUTH CRITICAL SUM	0.378
EAST/WEST CRITICAL SUM	0.317	EAST/WEST CRITICAL SUM	0.298
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.846	INTERSECTION ICU VALUE	0.776

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.010	PM IMPACT	0.010

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	65	492	0.171	*		371	56	427	0.148	*	
NB THRU	1	1600	239	36	275	0.265			339	51	390	0.315		
NB RIGHT	0	0	129	20	149	0.000			99	15	114	0.000		
								0.444						0.389
SB LEFT	1	1,600	21	3	24	0.015			19	3	22	0.014		
SB THRU	1	1,600	380	58	438	0.273	*		335	51	386	0.241	*	
SB RIGHT	1	1,600	31	5	36	0.022			17	3	20	0.012		
EB LEFT	1	1,600	18	3	21	0.013			24	4	28	0.017		
EB THRU	1	1,600	132	20	152	0.095			183	28	211	0.132		
EB RIGHT	1	1,600	341	52	393	0.245	*		344	52	396	0.248	*	
								0.326						0.306
WB LEFT	1	1,600	112	17	129	0.081	*		81	12	93	0.058	*	
WB THRU	2	3,200	156	24	180	0.060			90	14	104	0.035		
WB RIGHT	0	0	12	2	14	0.000			6	1	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.444	NORTH/SOUTH CRITICAL SUM	0.389
EAST/WEST CRITICAL SUM	0.326	EAST/WEST CRITICAL SUM	0.306
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.870	INTERSECTION ICU VALUE	0.795

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.101	PM IMPACT	0.091

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	65	1	493	0.171	*		371	56	1	428	0.149	*	
NB THRU	1	1600	239	36	0	275	0.265			339	51	0	390	0.315		
NB RIGHT	0	0	129	20	0	149	0.000			99	15	0	114	0.000		
									0.444							0.390
SB LEFT	1	1,600	21	3	0	24	0.015			19	3	0	22	0.014		
SB THRU	1	1,600	380	58	0	438	0.273	*		335	51	0	386	0.241	*	
SB RIGHT	1	1,600	31	5	0	36	0.022			17	3	0	20	0.012		
EB LEFT	1	1,600	18	3	0	21	0.013			24	4	0	28	0.017		
EB THRU	1	1,600	132	20	0	152	0.095			183	28	0	211	0.132		
EB RIGHT	1	1,600	341	52	1	394	0.246	*		344	52	1	397	0.248	*	
									0.327							0.306
WB LEFT	1	1,600	112	17	0	129	0.081	*		81	12	0	93	0.058	*	
WB THRU	2	3,200	156	24	0	180	0.060			90	14	0	104	0.035		
WB RIGHT	0	0	12	2	0	14	0.000			6	1	0	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.444	NORTH/SOUTH CRITICAL SUM	0.390
EAST/WEST CRITICAL SUM	0.327	EAST/WEST CRITICAL SUM	0.306
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.871	INTERSECTION ICU VALUE	0.796

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	65	0	1	493	0.171	*		371	56	0	1	428	0.149	*	
NB THRU	1	1600	239	36	3	0	278	0.267			339	51	2	0	392	0.316		
NB RIGHT	0	0	129	20	0	0	149	0.000			99	15	0	0	114	0.000		
										0.446								0.393
SB LEFT	1	1,600	21	3	0	0	24	0.015			19	3	0	0	22	0.014		
SB THRU	1	1,600	380	58	2	0	440	0.275	*		335	51	4	0	390	0.244	*	
SB RIGHT	1	1,600	31	5	0	0	36	0.022			17	3	0	0	20	0.012		
EB LEFT	1	1,600	18	3	1	0	22	0.014			24	4	0	0	28	0.017		
EB THRU	1	1,600	132	20	0	0	152	0.095			183	28	0	0	211	0.132		
EB RIGHT	1	1,600	341	52	0	1	394	0.246	*		344	52	0	1	397	0.248	*	
										0.327								0.306
WB LEFT	1	1,600	112	17	0	0	129	0.081	*		81	12	0	0	93	0.058	*	
WB THRU	2	3,200	156	24	0	0	180	0.060			90	14	0	0	104	0.035		
WB RIGHT	0	0	12	2	0	0	14	0.000			6	1	0	0	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.446	NORTH/SOUTH CRITICAL SUM	0.393
EAST/WEST CRITICAL SUM	0.327	EAST/WEST CRITICAL SUM	0.306
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.873	INTERSECTION ICU VALUE	0.799

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.003	PM IMPACT	0.004

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING CONDITION **(2010)**

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	0.038			45	0.028	*	
NB THRU	2	3,200	1005	0.319	*		930	0.299		
NB RIGHT	0	0	17	0.000			26	0.000		
						0.338				0.378
SB LEFT	1	1,600	31	0.019	*		66	0.041		
SB THRU	2	3,200	888	0.283			1107	0.350	*	
SB RIGHT	0	0	17	0.000			14	0.000		
EB LEFT	0	0	13	0.000	*		18	0.000		
EB THRU	1	1,600	21	0.021			55	0.046		
EB RIGHT	1	1,600	80	0.050			176	0.11	*	
						0.072				0.110
WB LEFT	0	0	25	0.000			23	0.000	*	
WB THRU	1	1,600	30	0.072	*		31	0.062		
WB RIGHT	0	0	60	0.000			45	0.000		

NORTH/SOUTH CRITICAL SUM	0.338	NORTH/SOUTH CRITICAL SUM	0.378
EAST/WEST CRITICAL SUM	0.072	EAST/WEST CRITICAL SUM	0.110
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.510	INTERSECTION ICU VALUE	0.588
AM INTERSECTION LOS	A	PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	3	64	0.040			45	2	47	0.03	*	
NB THRU	2	3,200	1005	51	1056	0.336	*		930	47	977	0.314		
NB RIGHT	0	0	17	1	18	0.000			26	1	27	0.000		
								0.356						0.398
SB LEFT	1	1,600	31	2	33	0.020	*		66	3	69	0.043		
SB THRU	2	3,200	888	45	933	0.297			1107	56	1163	0.368	*	
SB RIGHT	0	0	17	1	18	0.000			14	1	15	0.000		
EB LEFT	0	0	13	1	14	0.000	*		18	1	19	0.000		
EB THRU	1	1,600	21	1	22	0.022			55	3	58	0.048		
EB RIGHT	1	1,600	80	4	84	0.053			176	9	185	0.116	*	
								0.076						0.116
WB LEFT	0	0	25	1	26	0.000			23	1	24	0.000	*	
WB THRU	1	1600	30	2	32	0.076	*		31	2	33	0.065		
WB RIGHT	0	0	60	3	63	0.000			45	2	47	0.000		

NORTH/SOUTH CRITICAL SUM	0.356	NORTH/SOUTH CRITICAL SUM	0.398
EAST/WEST CRITICAL SUM	0.076	EAST/WEST CRITICAL SUM	0.116
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.532	INTERSECTION ICU VALUE	0.614

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.022	PM IMPACT	0.026

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	3	0	64	0.040			45	2	0	47	0.03	*	
NB THRU	2	3,200	1005	51	1	1057	0.336	*		930	47	1	978	0.314		
NB RIGHT	0	0	17	1	0	18	0.000			26	1	0	27	0.000		
									0.356							0.398
SB LEFT	1	1,600	31	2	0	33	0.020	*		66	3	0	69	0.043		
SB THRU	2	3,200	888	45	0	933	0.297			1107	56	0	1163	0.368	*	
SB RIGHT	0	0	17	1	0	18	0.000			14	1	0	15	0.000		
EB LEFT	0	0	13	1	0	14	0.000	*		18	1	0	19	0.000		
EB THRU	1	1,600	21	1	0	22	0.022			55	3	0	58	0.048		
EB RIGHT	1	1,600	80	4	0	84	0.053			176	9	0	185	0.116	*	
									0.076							0.116
WB LEFT	0	0	25	1	0	26	0.000			23	1	0	24	0.000	*	
WB THRU	1	1600	30	2	0	32	0.076	*		31	2	0	33	0.065		
WB RIGHT	0	0	60	3	0	63	0.000			45	2	0	47	0.000		

NORTH/SOUTH CRITICAL SUM	0.356	NORTH/SOUTH CRITICAL SUM	0.398
EAST/WEST CRITICAL SUM	0.076	EAST/WEST CRITICAL SUM	0.116
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.532	INTERSECTION ICU VALUE	0.614

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	3	0	0	64	0.040			45	2	0	0	47	0.03	*	
NB THRU	2	3,200	1005	51	3	1	1060	0.337	*		930	47	2	1	980	0.315		
NB RIGHT	0	0	17	1	0	0	18	0.000			26	1	0	0	27	0.000		
										0.357								0.399
SB LEFT	1	1,600	31	2	0	0	33	0.020	*		66	3	0	0	69	0.043		
SB THRU	2	3,200	888	45	2	0	935	0.298			1107	56	4	0	1167	0.369	*	
SB RIGHT	0	0	17	1	0	0	18	0.000			14	1	0	0	15	0.000		
EB LEFT	0	0	13	1	0	0	14	0.000	*		18	1	0	0	19	0.000		
EB THRU	1	1,600	21	1	0	0	22	0.022			55	3	0	0	58	0.048		
EB RIGHT	1	1,600	80	4	0	0	84	0.053			176	9	0	0	185	0.116	*	
										0.076								0.116
WB LEFT	0	0	25	1	0	0	26	0.000			23	1	0	0	24	0.000	*	
WB THRU	1	1600	30	2	0	0	32	0.076	*		31	2	0	0	33	0.065		
WB RIGHT	0	0	60	3	0	0	63	0.000			45	2	0	0	47	0.000		

NORTH/SOUTH CRITICAL SUM	0.357	NORTH/SOUTH CRITICAL SUM	0.399
EAST/WEST CRITICAL SUM	0.076	EAST/WEST CRITICAL SUM	0.116
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.533	INTERSECTION ICU VALUE	0.615

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.001	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	6	67	0.042			45	5	50	0.031	*	
NB THRU	2	3,200	1005	102	1107	0.352	*		930	94	1024	0.329		
NB RIGHT	0	0	17	2	19	0.000			26	3	29	0.000		
								0.373						0.417
SB LEFT	1	1,600	31	3	34	0.021	*		66	7	73	0.045		
SB THRU	2	3,200	888	90	978	0.311			1107	112	1219	0.386	*	
SB RIGHT	0	0	17	2	19	0.000			14	1	15	0.000		
EB LEFT	0	0	13	1	14	0.000	*		18	2	20	0.000		
EB THRU	1	1,600	21	2	23	0.023			55	6	61	0.050		
EB RIGHT	1	1,600	80	8	88	0.055			176	18	194	0.121	*	
								0.079						0.121
WB LEFT	0	0	25	3	28	0.000			23	2	25	0.000	*	
WB THRU	1	1600	30	3	33	0.079	*		31	3	34	0.068		
WB RIGHT	0	0	60	6	66	0.000			45	5	50	0.000		

NORTH/SOUTH CRITICAL SUM	0.373	NORTH/SOUTH CRITICAL SUM	0.417
EAST/WEST CRITICAL SUM	0.079	EAST/WEST CRITICAL SUM	0.121
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.552	INTERSECTION ICU VALUE	0.638

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.042	PM IMPACT	0.050

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	6	0	67	0.042			45	5	0	50	0.031	*	
NB THRU	2	3,200	1005	102	1	1108	0.354	*		930	94	1	1025	0.332		
NB RIGHT	0	0	17	2	8	27	0.000			26	3	8	37	0.000		
									0.380							0.417
SB LEFT	1	1,600	31	3	8	42	0.026	*		66	7	8	81	0.05		
SB THRU	2	3,200	888	90	0	978	0.311			1107	112	0	1219	0.386	*	
SB RIGHT	0	0	17	2	0	19	0.000			14	1	0	15	0.000		
EB LEFT	0	0	13	1	0	14	0.000	*		18	2	0	20	0.000		
EB THRU	1	1,600	21	2	0	23	0.023			55	6	0	61	0.050		
EB RIGHT	1	1,600	80	8	0	88	0.055			176	18	0	194	0.121	*	
									0.089							0.121
WB LEFT	0	0	25	3	3	31	0.000			23	2	3	28	0.000	*	
WB THRU	1	1600	30	3	5	38	0.089	*		31	3	5	39	0.078		
WB RIGHT	0	0	60	6	8	74	0.000			45	5	8	58	0.000		

NORTH/SOUTH CRITICAL SUM	0.380	NORTH/SOUTH CRITICAL SUM	0.417
EAST/WEST CRITICAL SUM	0.089	EAST/WEST CRITICAL SUM	0.121
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.569	INTERSECTION ICU VALUE	0.638

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.017	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	6	0	0	67	0.042			45	5	0	0	50	0.031	*	
NB THRU	2	3,200	1005	102	3	1	1111	0.355	*		930	94	2	1	1027	0.332		
NB RIGHT	0	0	17	2	0	8	27	0.000			26	3	0	8	37	0.000		
										0.381								0.418
SB LEFT	1	1,600	31	3	0	8	42	0.026	*		66	7	0	8	81	0.05		
SB THRU	2	3,200	888	90	2	0	980	0.312			1107	112	4	0	1223	0.387	*	
SB RIGHT	0	0	17	2	0	0	19	0.000			14	1	0	0	15	0.000		
EB LEFT	0	0	13	1	0	0	14	0.000	*		18	2	0	0	20	0.000		
EB THRU	1	1,600	21	2	0	0	23	0.023			55	6	0	0	61	0.050		
EB RIGHT	1	1,600	80	8	0	0	88	0.055			176	18	0	0	194	0.121	*	
										0.089								0.121
WB LEFT	0	0	25	3	0	3	31	0.000			23	2	0	3	28	0.000	*	
WB THRU	1	1600	30	3	0	5	38	0.089	*		31	3	0	5	39	0.078		
WB RIGHT	0	0	60	6	0	8	74	0.000			45	5	0	8	58	0.000		

NORTH/SOUTH CRITICAL SUM	0.381	NORTH/SOUTH CRITICAL SUM	0.418
EAST/WEST CRITICAL SUM	0.089	EAST/WEST CRITICAL SUM	0.121
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.570	INTERSECTION ICU VALUE	0.639

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.018	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	9	70	0.044			45	7	52	0.032	*	
NB THRU	2	3,200	1005	152	1157	0.368	*		930	141	1071	0.344		
NB RIGHT	0	0	17	3	20	0.000			26	4	30	0.000		
								0.390						0.435
SB LEFT	1	1,600	31	5	36	0.022	*		66	10	76	0.047		
SB THRU	2	3,200	888	135	1023	0.326			1107	168	1275	0.403	*	
SB RIGHT	0	0	17	3	20	0.000			14	2	16	0.000		
EB LEFT	0	0	13	2	15	0.000	*		18	3	21	0.000		
EB THRU	1	1,600	21	3	24	0.024			55	8	63	0.053		
EB RIGHT	1	1,600	80	12	92	0.058			176	27	203	0.127	*	
								0.083						0.127
WB LEFT	0	0	25	4	29	0.000			23	3	26	0.000	*	
WB THRU	1	1600	30	5	35	0.083	*		31	5	36	0.071		
WB RIGHT	0	0	60	9	69	0.000			45	7	52	0.000		

NORTH/SOUTH CRITICAL SUM	0.390	NORTH/SOUTH CRITICAL SUM	0.435
EAST/WEST CRITICAL SUM	0.083	EAST/WEST CRITICAL SUM	0.127
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.573	INTERSECTION ICU VALUE	0.662

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.063	PM IMPACT	0.074

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	9	0	70	0.044			45	7	0	52	0.032	*	
NB THRU	2	3,200	1005	152	1	1158	0.368	*		930	141	1	1072	0.345		
NB RIGHT	0	0	17	3	0	20	0.000			26	4	1	31	0.000		
									0.390							0.435
SB LEFT	1	1,600	31	5	0	36	0.022	*		66	10	1	77	0.048		
SB THRU	2	3,200	888	135	0	1023	0.326			1107	168	0	1275	0.403	*	
SB RIGHT	0	0	17	3	0	20	0.000			14	2	0	16	0.000		
EB LEFT	0	0	13	2	0	15	0.000	*		18	3	0	21	0.000		
EB THRU	1	1,600	21	3	0	24	0.024			55	8	0	63	0.053		
EB RIGHT	1	1,600	80	12	0	92	0.058			176	27	0	203	0.127	*	
									0.084							0.127
WB LEFT	0	0	25	4	0	29	0.000			23	3	0	26	0.000	*	
WB THRU	1	1600	30	5	1	36	0.084	*		31	5	0	36	0.071		
WB RIGHT	0	0	60	9	1	70	0.000			45	7	0	52	0.000		

NORTH/SOUTH CRITICAL SUM	0.390	NORTH/SOUTH CRITICAL SUM	0.435
EAST/WEST CRITICAL SUM	0.084	EAST/WEST CRITICAL SUM	0.127
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.574	INTERSECTION ICU VALUE	0.662

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	9	0	0	70	0.044			45	7	0	0	52	0.032	*	
NB THRU	2	3,200	1005	152	3	1	1161	0.369	*		930	141	2	1	1074	0.345		
NB RIGHT	0	0	17	3	0	0	20	0.000			26	4	0	1	31	0.000		
										0.391								0.437
SB LEFT	1	1,600	31	5	0	0	36	0.022	*		66	10	0	1	77	0.048		
SB THRU	2	3,200	888	135	2	0	1025	0.326			1107	168	4	0	1279	0.405	*	
SB RIGHT	0	0	17	3	0	0	20	0.000			14	2	0	0	16	0.000		
EB LEFT	0	0	13	2	0	0	15	0.000	*		18	3	0	0	21	0.000		
EB THRU	1	1,600	21	3	0	0	24	0.024			55	8	0	0	63	0.053		
EB RIGHT	1	1,600	80	12	0	0	92	0.058			176	27	0	0	203	0.127	*	
										0.084								0.127
WB LEFT	0	0	25	4	0	0	29	0.000			23	3	0	0	26	0.000	*	
WB THRU	1	1600	30	5	0	1	36	0.084	*		31	5	0	0	36	0.071		
WB RIGHT	0	0	60	9	0	1	70	0.000			45	7	0	0	52	0.000		

NORTH/SOUTH CRITICAL SUM	0.391	NORTH/SOUTH CRITICAL SUM	0.437
EAST/WEST CRITICAL SUM	0.084	EAST/WEST CRITICAL SUM	0.127
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.575	INTERSECTION ICU VALUE	0.664

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.002	PM IMPACT	0.002

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*5/14/2011*
Analysis Time Period	*AM PEAK HOUR*

Site Information

Intersection	*6A*
Jurisdiction	*WHITTIER*
Analysis Year	*2010*

Project Description *EXISTING AM*

East/West Street: *MAR VISTA ST*

North/South Street: *CATALINA AVE - W LEG*

Intersection Orientation: *East-West*

Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*556*			*631*	*0*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*556*	*0*	*0*	*631*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*5*	
C (m) (veh/h)	*961*						*237*	
v/c	*0.00*						*0.02*	
95% queue length	*0.00*						*0.06*	
Control Delay (s/veh)	*8.7*						*20.5*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*20.5*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2010*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*741*			*454*	*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*741*	*0*	*0*	*454*	*1*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*0*		*5*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*5*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*5*	
C (m) (veh/h)	*1116*						*610*	
v/c	*0.00*						*0.01*	
95% queue length	*0.00*						*0.02*	
Control Delay (s/veh)	*8.2*						*11.0*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*11.0*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*584*			*663*	*0*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*584*	*0*	*0*	*663*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*5*	
C (m) (veh/h)	*935*						*219*	
v/c	*0.00*						*0.02*	
95% queue length	*0.00*						*0.07*	
Control Delay (s/veh)	*8.9*						*21.8*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*21.8*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*778*			*477*	*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*778*	*0*	*0*	*477*	*1*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*0*		*5*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*5*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*5*	
C (m) (veh/h)	*1095*						*591*	
v/c	*0.00*						*0.01*	
95% queue length	*0.00*						*0.03*	
Control Delay (s/veh)	*8.3*						*11.1*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*11.1*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH 1 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*584*			*663*	*12*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*584*	*0*	*0*	*663*	*12*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*6*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*6*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*2*						*7*	
C (m) (veh/h)	*926*						*208*	
v/c	*0.00*						*0.03*	
95% queue length	*0.01*						*0.10*	
Control Delay (s/veh)	*8.9*						*22.9*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*22.9*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+ PROJ PH1 PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*778*			*477*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*778*	*0*	*0*	*477*	*7*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*7*		*8*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*7*	*0*	*8*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*15*	
C (m) (veh/h)	*1089*						*298*	
v/c	*0.00*						*0.05*	
95% queue length	*0.00*						*0.16*	
Control Delay (s/veh)	*8.3*						*17.7*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*17.7*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH 1 + CUML AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*585*			*665*	*12*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*585*	*0*	*0*	*665*	*12*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*6*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*6*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*2*						*7*	
C (m) (veh/h)	*924*						*207*	
v/c	*0.00*						*0.03*	
95% queue length	*0.01*						*0.10*	
Control Delay (s/veh)	*8.9*						*23.0*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*23.0*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+ PROJ PH1 + CUML PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*782*			*480*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*782*	*0*	*0*	*480*	*7*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*7*		*8*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*7*	*0*	*8*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*15*	
C (m) (veh/h)	*1086*						*295*	
v/c	*0.00*						*0.05*	
95% queue length	*0.00*						*0.16*	
Control Delay (s/veh)	*8.3*						*17.9*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*17.9*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH 1 +MIT AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*584*			*663*	*12*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*584*	*0*	*0*	*663*	*12*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*6*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*6*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
v (veh/h)	*2*					*6*		*1*
C (m) (veh/h)	*926*					*205*		*479*
v/c	*0.00*					*0.03*		*0.00*
95% queue length	*0.01*					*0.09*		*0.01*
Control Delay (s/veh)	*8.9*					*23.1*		*12.5*
LOS	*A*					*C*		*B*
Approach Delay (s/veh)	--	--				*21.6*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+ PROJ PH1+MIT PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*778*			*477*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*778*	*0*	*0*	*477*	*7*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*7*		*8*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*7*	*0*	*8*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
v (veh/h)	*0*					*7*		*8*
C (m) (veh/h)	*1089*					*290*		*622*
v/c	*0.00*					*0.02*		*0.01*
95% queue length	*0.00*					*0.07*		*0.04*
Control Delay (s/veh)	*8.3*					*17.7*		*10.9*
LOS	*A*					*C*		*B*
Approach Delay (s/veh)	--	--				*14.1*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH 1 + CUML + MIT AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*585*			*665*	*12*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*585*	*0*	*0*	*665*	*12*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*6*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*6*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
v (veh/h)	*2*					*6*		*1*
C (m) (veh/h)	*924*					*204*		*477*
v/c	*0.00*					*0.03*		*0.00*
95% queue length	*0.01*					*0.09*		*0.01*
Control Delay (s/veh)	*8.9*					*23.2*		*12.6*
LOS	*A*					*C*		*B*
Approach Delay (s/veh)	--	--				*21.7*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+ PROJ PH1 + CUML + MIT PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*782*			*480*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*782*	*0*	*0*	*480*	*7*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*7*		*8*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*7*	*0*	*8*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
v (veh/h)	*0*					*7*		*8*
C (m) (veh/h)	*1086*					*287*		*619*
v/c	*0.00*					*0.02*		*0.01*
95% queue length	*0.00*					*0.07*		*0.04*
Control Delay (s/veh)	*8.3*					*17.9*		*10.9*
LOS	*A*					*C*		*B*
Approach Delay (s/veh)	--	--				*14.1*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + AMBIENT AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*612*			*695*	*0*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*612*	*0*	*0*	*695*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*5*	
C (m) (veh/h)	*910*						*216*	
v/c	*0.00*						*0.02*	
95% queue length	*0.00*						*0.07*	
Control Delay (s/veh)	*9.0*						*22.1*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*22.1*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*5/14/2011*
Analysis Time Period	*AM PEAK HOUR*

Site Information

Intersection	*6A*
Jurisdiction	*WHITTIER*
Analysis Year	*2020*

Project Description *EXISTING + AMBIENT PM*

East/West Street: *MAR VISTA ST* | North/South Street: *CATALINA AVE - W LEG*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*816*			*500*	*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*816*	*0*	*0*	*500*	*1*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*0*		*6*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*6*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*6*	
C (m) (veh/h)	*1074*						*575*	
v/c	*0.00*						*0.01*	
95% queue length	*0.00*						*0.03*	
Control Delay (s/veh)	*8.4*						*11.3*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*11.3*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJ PH2 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*8*	*612*			*695*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*8*	*612*	*0*	*0*	*695*	*7*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*8*						*6*	
C (m) (veh/h)	*905*						*215*	
v/c	*0.01*						*0.03*	
95% queue length	*0.03*						*0.09*	
Control Delay (s/veh)	*9.0*						*22.2*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*22.2*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJ PH2 PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*7*	*816*			*500*	*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*7*	*816*	*0*	*0*	*500*	*2*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*10*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*10*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*7*						*14*	
C (m) (veh/h)	*1073*						*343*	
v/c	*0.01*						*0.04*	
95% queue length	*0.02*						*0.13*	
Control Delay (s/veh)	*8.4*						*15.9*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*15.9*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJ PH2 + MIT PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*7*	*816*			*500*	*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*7*	*816*	*0*	*0*	*500*	*2*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*10*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*10*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
v (veh/h)	*7*					*4*		*10*
C (m) (veh/h)	*1073*					*266*		*607*
v/c	*0.01*					*0.02*		*0.02*
95% queue length	*0.02*					*0.05*		*0.05*
Control Delay (s/veh)	*8.4*					*18.7*		*11.0*
LOS	*A*					*C*		*B*
Approach Delay (s/veh)	--	--				*13.2*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJ PH2 + CUML AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*8*	*613*			*697*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*8*	*613*	*0*	*0*	*697*	*7*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*8*						*6*	
C (m) (veh/h)	*903*						*215*	
v/c	*0.01*						*0.03*	
95% queue length	*0.03*						*0.09*	
Control Delay (s/veh)	*9.0*						*22.2*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*22.2*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJ PH2 + CUML PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*7*	*820*			*503*	*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*7*	*820*	*0*	*0*	*503*	*2*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*10*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*10*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*7*						*14*	
C (m) (veh/h)	*1070*						*340*	
v/c	*0.01*						*0.04*	
95% queue length	*0.02*						*0.13*	
Control Delay (s/veh)	*8.4*						*16.0*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*16.0*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJ PH2 + CUML + MITPM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*7*	*820*			*503*	*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*7*	*820*	*0*	*0*	*503*	*2*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*10*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*10*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
v (veh/h)	*7*					*4*		*10*
C (m) (veh/h)	*1070*					*264*		*605*
v/c	*0.01*					*0.02*		*0.02*
95% queue length	*0.02*					*0.05*		*0.05*
Control Delay (s/veh)	*8.4*					*18.8*		*11.1*
LOS	*A*					*C*		*B*
Approach Delay (s/veh)	--	--				*13.3*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + AMBIENT AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*640*			*727*	*0*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*640*	*0*	*0*	*727*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*5*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*5*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*6*	
C (m) (veh/h)	*886*						*197*	
v/c	*0.00*						*0.03*	
95% queue length	*0.00*						*0.09*	
Control Delay (s/veh)	*9.1*						*23.8*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*23.8*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*5/14/2011*
Analysis Time Period	*PM PEAK HOUR*

Site Information

Intersection	*6A*
Jurisdiction	*WHITTIER*
Analysis Year	*2025*

Project Description *EXISTING+AMBIENT PM*

East/West Street: *MAR VISTA ST* | North/South Street: *CATALINA AVE - W LEG*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*853*			*523*	*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*853*	*0*	*0*	*523*	*1*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*0*		*6*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*6*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*6*	
C (m) (veh/h)	*1053*						*557*	
v/c	*0.00*						*0.01*	
95% queue length	*0.00*						*0.03*	
Control Delay (s/veh)	*8.4*						*11.5*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*11.5*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJECT PH3 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*640*			*727*	*6*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*640*	*0*	*0*	*727*	*6*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*5*		*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*5*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*2*						*7*	
C (m) (veh/h)	*881*						*197*	
v/c	*0.00*						*0.04*	
95% queue length	*0.01*						*0.11*	
Control Delay (s/veh)	*9.1*						*23.9*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*23.9*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH3 PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*853*			*523*	*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*853*	*0*	*0*	*523*	*2*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*10*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*10*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*14*	
C (m) (veh/h)	*1052*						*327*	
v/c	*0.00*						*0.04*	
95% queue length	*0.00*						*0.13*	
Control Delay (s/veh)	*8.4*						*16.5*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*16.5*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH3 + MIT PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*853*			*523*	*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*853*	*0*	*0*	*523*	*2*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*10*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*10*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
v (veh/h)	*0*					*4*		*10*
C (m) (veh/h)	*1052*					*255*		*591*
v/c	*0.00*					*0.02*		*0.02*
95% queue length	*0.00*					*0.05*		*0.05*
Control Delay (s/veh)	*8.4*					*19.3*		*11.2*
LOS	*A*					*C*		*B*
Approach Delay (s/veh)	--	--				*13.5*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJECT PH3 + CUML AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*641*			*729*	*6*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*641*	*0*	*0*	*729*	*6*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*5*		*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*5*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*2*						*7*	
C (m) (veh/h)	*879*						*196*	
v/c	*0.00*						*0.04*	
95% queue length	*0.01*						*0.11*	
Control Delay (s/veh)	*9.1*						*24.0*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*24.0*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH3 + CUML PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*857*			*526*	*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*857*	*0*	*0*	*526*	*2*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*10*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*10*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*14*	
C (m) (veh/h)	*1049*						*325*	
v/c	*0.00*						*0.04*	
95% queue length	*0.00*						*0.13*	
Control Delay (s/veh)	*8.4*						*16.6*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*16.6*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH3 + CUML+ MIT PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*857*			*526*	*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*857*	*0*	*0*	*526*	*2*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*10*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*10*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
v (veh/h)	*0*					*4*		*10*
C (m) (veh/h)	*1049*					*253*		*588*
v/c	*0.00*					*0.02*		*0.02*
95% queue length	*0.00*					*0.05*		*0.05*
Control Delay (s/veh)	*8.4*					*19.5*		*11.2*
LOS	*A*					*C*		*B*
Approach Delay (s/veh)	--	--				*13.6*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2010*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*492*	*68*	*35*	*613*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*492*	*68*	*35*	*613*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*20*		*31*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*20*	*0*	*31*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*35*		*51*				
C (m) (veh/h)		*1021*		*498*				
v/c		*0.03*		*0.10*				
95% queue length		*0.11*		*0.34*				
Control Delay (s/veh)		*8.7*		*13.1*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.1*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2010*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*724*	*17*	*22*	*446*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*724*	*17*	*22*	*446*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*		*33*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*33*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*22*		*42*				
C (m) (veh/h)		*875*		*435*				
v/c		*0.03*		*0.10*				
95% queue length		*0.08*		*0.32*				
Control Delay (s/veh)		*9.2*		*14.2*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*14.2*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*517*	*71*	*37*	*644*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*517*	*71*	*37*	*644*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*21*		*33*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*21*	*0*	*33*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*37*		*54*				
C (m) (veh/h)		*997*		*481*				
v/c		*0.04*		*0.11*				
95% queue length		*0.12*		*0.38*				
Control Delay (s/veh)		*8.7*		*13.4*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.4*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*5/14/2011*
Analysis Time Period	*PM PEAK HOUR*

Site Information

Intersection	*6B*
Jurisdiction	*WHITTIER*
Analysis Year	*2015*

Project Description *EXISTING+AMBIENT PM*

East/West Street: *MAR VISTA ST*

North/South Street: *CATALINA AVE - E LEG*

Intersection Orientation: *East-West*

Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*761*	*18*	*23*	*469*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*761*	*18*	*23*	*469*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*		*35*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*35*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*23*		*44*				
C (m) (veh/h)		*847*		*415*				
v/c		*0.03*		*0.11*				
95% queue length		*0.08*		*0.35*				
Control Delay (s/veh)		*9.4*		*14.7*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*14.7*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH1 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*519*	*71*	*37*	*656*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*519*	*71*	*37*	*656*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*21*		*33*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*21*	*0*	*33*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*37*		*54*				
C (m) (veh/h)		*995*		*477*				
v/c		*0.04*		*0.11*				
95% queue length		*0.12*		*0.38*				
Control Delay (s/veh)		*8.8*		*13.5*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.5*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH 1 PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*768*	*18*	*23*	*475*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*768*	*18*	*23*	*475*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*		*35*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*35*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*23*		*44*				
C (m) (veh/h)		*842*		*412*				
v/c		*0.03*		*0.11*				
95% queue length		*0.08*		*0.36*				
Control Delay (s/veh)		*9.4*		*14.8*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*14.8*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH1 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*520*	*71*	*37*	*658*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*520*	*71*	*37*	*658*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*21*		*33*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*21*	*0*	*33*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*37*		*54*				
C (m) (veh/h)		*995*		*476*				
v/c		*0.04*		*0.11*				
95% queue length		*0.12*		*0.38*				
Control Delay (s/veh)		*8.8*		*13.5*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.5*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2015*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJ PH 1 + CUML PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*772*	*18*	*23*	*478*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*772*	*18*	*23*	*478*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*		*35*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*35*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*23*		*44*				
C (m) (veh/h)		*839*		*410*				
v/c		*0.03*		*0.11*				
95% queue length		*0.08*		*0.36*				
Control Delay (s/veh)		*9.4*		*14.8*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*14.8*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*542*	*75*	*39*	*675*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*542*	*75*	*39*	*675*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*22*		*34*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*22*	*0*	*34*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*39*		*56*				
C (m) (veh/h)		*973*		*462*				
v/c		*0.04*		*0.12*				
95% queue length		*0.13*		*0.41*				
Control Delay (s/veh)		*8.9*		*13.9*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.9*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*5/14/2011*
Analysis Time Period	*PM PEAK HOUR*

Site Information

Intersection	*6B*
Jurisdiction	*WHITTIER*
Analysis Year	*2020*

Project Description *EXISTING+AMBIENT PM*

East/West Street: *MAR VISTA ST*

North/South Street: *CATALINA AVE - E LEG*

Intersection Orientation: *East-West*

Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*797*	*19*	*24*	*491*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*797*	*19*	*24*	*491*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*10*		*36*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*10*	*0*	*36*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*24*		*46*				
C (m) (veh/h)		*820*		*398*				
v/c		*0.03*		*0.12*				
95% queue length		*0.09*		*0.39*				
Control Delay (s/veh)		*9.5*		*15.2*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*15.2*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJECT PH2 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*542*	*75*	*39*	*682*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*542*	*75*	*39*	*682*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*22*		*34*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*22*	*0*	*34*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*39*		*56*				
C (m) (veh/h)		*973*		*461*				
v/c		*0.04*		*0.12*				
95% queue length		*0.13*		*0.41*				
Control Delay (s/veh)		*8.9*		*13.9*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.9*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+ PROJ PH2 PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*800*	*20*	*24*	*492*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*800*	*20*	*24*	*492*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*10*		*36*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*10*	*0*	*36*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*24*		*46*				
C (m) (veh/h)		*818*		*396*				
v/c		*0.03*		*0.12*				
95% queue length		*0.09*		*0.39*				
Control Delay (s/veh)		*9.5*		*15.3*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*15.3*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJECT PH2 + CUML AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*543*	*75*	*39*	*684*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*543*	*75*	*39*	*684*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*22*		*34*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*22*	*0*	*34*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*39*		*56*				
C (m) (veh/h)		*972*		*461*				
v/c		*0.04*		*0.12*				
95% queue length		*0.13*		*0.41*				
Control Delay (s/veh)		*8.9*		*13.9*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.9*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2020*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+ PROJ PH2 + CUML PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*804*	*20*	*24*	*495*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*804*	*20*	*24*	*495*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*10*		*36*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*10*	*0*	*36*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*24*		*46*				
C (m) (veh/h)		*815*		*394*				
v/c		*0.03*		*0.12*				
95% queue length		*0.09*		*0.39*				
Control Delay (s/veh)		*9.6*		*15.3*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*15.3*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*567*	*78*	*40*	*706*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*567*	*78*	*40*	*706*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*22*		*36*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*22*	*0*	*36*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*40*		*58*				
C (m) (veh/h)		*950*		*448*				
v/c		*0.04*		*0.13*				
95% queue length		*0.13*		*0.44*				
Control Delay (s/veh)		*9.0*		*14.2*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*14.2*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*5/14/2011*
Analysis Time Period	*PM PEAK HOUR*

Site Information

Intersection	*6B*
Jurisdiction	*WHITTIER*
Analysis Year	*2025*

Project Description *EXISTING+AMBIENT PM*

East/West Street: *MAR VISTA ST* | North/South Street: *CATALINA AVE - E LEG*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*834*	*20*	*25*	*514*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*834*	*20*	*25*	*514*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*10*		*38*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*10*	*0*	*38*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*25*		*48*				
C (m) (veh/h)		*794*		*379*				
v/c		*0.03*		*0.13*				
95% queue length		*0.10*		*0.43*				
Control Delay (s/veh)		*9.7*		*15.9*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*15.9*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+ PROJECT PH3 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*567*	*78*	*40*	*712*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*567*	*78*	*40*	*712*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*22*		*36*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*22*	*0*	*36*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*40*		*58*				
C (m) (veh/h)		*950*		*447*				
v/c		*0.04*		*0.13*				
95% queue length		*0.13*		*0.44*				
Control Delay (s/veh)		*9.0*		*14.3*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*14.3*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJECT PH3 PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*837*	*21*	*25*	*515*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*837*	*21*	*25*	*515*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*10*		*38*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*10*	*0*	*38*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*25*		*48*				
C (m) (veh/h)		*791*		*378*				
v/c		*0.03*		*0.13*				
95% queue length		*0.10*		*0.43*				
Control Delay (s/veh)		*9.7*		*15.9*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*15.9*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+ PROJECT PH3 + CUML AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*567*	*78*	*40*	*712*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*567*	*78*	*40*	*712*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*23*		*36*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*23*	*0*	*36*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*40*		*59*				
C (m) (veh/h)		*950*		*445*				
v/c		*0.04*		*0.13*				
95% queue length		*0.13*		*0.45*				
Control Delay (s/veh)		*9.0*		*14.3*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*14.3*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/14/2011*	Analysis Year	*2025*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING+AMBIENT+PROJECT PH3 + CUML PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*841*	*21*	*25*	*518*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*841*	*21*	*25*	*518*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*10*		*38*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*10*	*0*	*38*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*25*		*48*				
C (m) (veh/h)		*789*		*376*				
v/c		*0.03*		*0.13*				
95% queue length		*0.10*		*0.43*				
Control Delay (s/veh)		*9.7*		*16.0*				
LOS		*A*		*C*				
Approach Delay (s/veh)	--	--	*16.0*					
Approach LOS	--	--	*C*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2010*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*94*	*1209*	*0*	*0*	*1830*	*112*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*94*	*1209*	*0*	*0*	*1830*	*112*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*4*	*0*	*110*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*110*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*94*	*0*		*0*			*114*	
C (m) (veh/h)	*323*	*604*					*382*	
v/c	*0.29*	*0.00*					*0.30*	
95% queue length	*1.18*	*0.00*					*1.23*	
Control Delay (s/veh)	*20.7*	*11.0*					*18.4*	
LOS	*C*	*B*					*C*	
Approach Delay (s/veh)	--	--				*18.4*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*5/15/2011*
Analysis Time Period	*PM PEAK HOUR*

Site Information

Intersection	*7*
Jurisdiction	*WHITTIER*
Analysis Year	*2010*

Project Description *EXISTING PM*

East/West Street: *WHITTIER BOULEVARD* | North/South Street: *CATALINA AVENUE*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*52*	*1711*	*0*	*0*	*1291*	*68*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*52*	*1711*	*0*	*0*	*1291*	*68*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*9*	*0*	*33*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*9*	*0*	*33*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*52*	*0*		*0*			*42*	
C (m) (veh/h)	*532*	*394*					*402*	
v/c	*0.10*	*0.00*					*0.10*	
95% queue length	*0.32*	*0.00*					*0.35*	
Control Delay (s/veh)	*12.5*	*14.1*					*15.0*	
LOS	*B*	*B*					*B*	
Approach Delay (s/veh)	--	--				*15.0*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+ AMBIENT AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*99*	*1270*	*0*	*0*	*1922*	*118*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*99*	*1270*	*0*	*0*	*1922*	*118*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*4*	*0*	*116*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*116*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*99*	*0*		*0*			*120*	
C (m) (veh/h)	*297*	*574*					*361*	
v/c	*0.33*	*0.00*					*0.33*	
95% queue length	*1.42*	*0.00*					*1.43*	
Control Delay (s/veh)	*23.1*	*11.3*					*19.9*	
LOS	*C*	*B*					*C*	
Approach Delay (s/veh)	--	--				*19.9*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2015*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT PM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*55*	*1797*	*0*	*0*	*1356*	*71*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*55*	*1797*	*0*	*0*	*1356*	*71*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*9*	*0*	*35*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*9*	*0*	*35*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*55*	*0*		*0*			*44*	
C (m) (veh/h)	*502*	*366*					*385*	
v/c	*0.11*	*0.00*					*0.11*	
95% queue length	*0.37*	*0.00*					*0.38*	
Control Delay (s/veh)	*13.1*	*14.8*					*15.6*	
LOS	*B*	*B*					*C*	
Approach Delay (s/veh)	--	--				*15.6*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+ AMBIENT+ PROJECT PH1 AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*99*	*1276*	*0*	*0*	*1923*	*118*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*99*	*1276*	*0*	*0*	*1923*	*118*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*4*	*0*	*116*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*116*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*99*	*0*		*0*			*120*	
C (m) (veh/h)	*297*	*571*					*361*	
v/c	*0.33*	*0.00*					*0.33*	
95% queue length	*1.42*	*0.00*					*1.43*	
Control Delay (s/veh)	*23.1*	*11.3*					*19.9*	
LOS	*C*	*B*					*C*	
Approach Delay (s/veh)	--	--				*19.9*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2015*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJECT PH1 PM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*55*	*1800*	*0*	*0*	*1359*	*71*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*55*	*1800*	*0*	*0*	*1359*	*71*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*9*	*0*	*35*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*9*	*0*	*35*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*55*	*0*		*0*			*44*	
C (m) (veh/h)	*501*	*365*					*385*	
v/c	*0.11*	*0.00*					*0.11*	
95% queue length	*0.37*	*0.00*					*0.38*	
Control Delay (s/veh)	*13.1*	*14.9*					*15.6*	
LOS	*B*	*B*					*C*	
Approach Delay (s/veh)	--	--				*15.6*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2015*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+ AMBIENT+ PROJECT PH1 + CUML AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*99*	*1295*	*0*	*0*	*1955*	*118*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*99*	*1295*	*0*	*0*	*1955*	*118*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*4*	*0*	*116*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*116*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*99*	*0*		*0*			*120*	
C (m) (veh/h)	*288*	*562*					*354*	
v/c	*0.34*	*0.00*					*0.34*	
95% queue length	*1.48*	*0.00*					*1.47*	
Control Delay (s/veh)	*23.9*	*11.4*					*20.3*	
LOS	*C*	*B*					*C*	
Approach Delay (s/veh)	--	--				*20.3*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2015*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJECT PH1 + CUML PM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*55*	*1832*	*0*	*0*	*1399*	*71*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*55*	*1832*	*0*	*0*	*1399*	*71*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*9*	*0*	*35*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*9*	*0*	*35*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*55*	*0*		*0*			*44*	
C (m) (veh/h)	*484*	*355*					*373*	
v/c	*0.11*	*0.00*					*0.12*	
95% queue length	*0.38*	*0.00*					*0.40*	
Control Delay (s/veh)	*13.4*	*15.1*					*15.9*	
LOS	*B*	*C*					*C*	
Approach Delay (s/veh)	--	--				*15.9*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2020*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+ AMBIENT AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*103*	*1331*	*0*	*0*	*2015*	*123*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*103*	*1331*	*0*	*0*	*2015*	*123*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*4*	*0*	*121*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*121*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*103*	*0*		*0*			*125*	
C (m) (veh/h)	*273*	*545*					*342*	
v/c	*0.38*	*0.00*					*0.37*	
95% queue length	*1.68*	*0.00*					*1.63*	
Control Delay (s/veh)	*26.0*	*11.6*					*21.5*	
LOS	*D*	*B*					*C*	
Approach Delay (s/veh)	--	--				*21.5*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2020*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT PM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*57*	*1884*	*0*	*0*	*1421*	*75*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*57*	*1884*	*0*	*0*	*1421*	*75*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*10*	*0*	*36*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*10*	*0*	*36*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*57*	*0*		*0*			*46*	
C (m) (veh/h)	*474*	*340*					*357*	
v/c	*0.12*	*0.00*					*0.13*	
95% queue length	*0.41*	*0.00*					*0.44*	
Control Delay (s/veh)	*13.6*	*15.6*					*16.6*	
LOS	*B*	*C*					*C*	
Approach Delay (s/veh)	--	--				*16.6*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2020*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+ AMBIENT+PROJECT PH2 AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*103*	*1338*	*0*	*0*	*2018*	*123*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*103*	*1338*	*0*	*0*	*2018*	*123*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*4*	*0*	*121*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*121*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*103*	*0*		*0*			*125*	
C (m) (veh/h)	*272*	*542*					*341*	
v/c	*0.38*	*0.00*					*0.37*	
95% queue length	*1.69*	*0.00*					*1.64*	
Control Delay (s/veh)	*26.1*	*11.6*					*21.5*	
LOS	*D*	*B*					*C*	
Approach Delay (s/veh)	--	--				*21.5*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2020*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT + PROJECT PH2 PM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*57*	*1888*	*0*	*0*	*1424*	*75*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*57*	*1888*	*0*	*0*	*1424*	*75*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*11*	*0*	*37*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*11*	*0*	*37*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*57*	*0*		*0*			*48*	
C (m) (veh/h)	*472*	*338*					*350*	
v/c	*0.12*	*0.00*					*0.14*	
95% queue length	*0.41*	*0.00*					*0.47*	
Control Delay (s/veh)	*13.7*	*15.7*					*16.9*	
LOS	*B*	*C*					*C*	
Approach Delay (s/veh)	--	--				*16.9*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2020*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+ AMBIENT+PROJECT PH2 + CUML AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*103*	*1357*	*0*	*0*	*2050*	*123*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*103*	*1357*	*0*	*0*	*2050*	*123*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*4*	*0*	*121*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*121*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*103*	*0*		*0*			*125*	
C (m) (veh/h)	*264*	*533*					*334*	
v/c	*0.39*	*0.00*					*0.37*	
95% queue length	*1.76*	*0.00*					*1.69*	
Control Delay (s/veh)	*27.1*	*11.8*					*22.1*	
LOS	*D*	*B*					*C*	
Approach Delay (s/veh)	--	--				*22.1*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2020*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT + PROJECT PH2 + CUML PM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*57*	*1920*	*0*	*0*	*1464*	*75*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*57*	*1920*	*0*	*0*	*1464*	*75*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*11*	*0*	*37*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*11*	*0*	*37*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*57*	*0*		*0*			*48*	
C (m) (veh/h)	*457*	*329*					*345*	
v/c	*0.12*	*0.00*					*0.14*	
95% queue length	*0.42*	*0.00*					*0.48*	
Control Delay (s/veh)	*14.0*	*15.9*					*17.1*	
LOS	*B*	*C*					*C*	
Approach Delay (s/veh)	--	--				*17.1*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2025*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+ AMBIENT AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*104*	*1392*	*0*	*0*	*2107*	*129*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*104*	*1392*	*0*	*0*	*2107*	*129*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*5*	*0*	*127*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*5*	*0*	*127*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*104*	*0*		*0*			*132*	
C (m) (veh/h)	*250*	*517*					*313*	
v/c	*0.42*	*0.00*					*0.42*	
95% queue length	*1.93*	*0.00*					*2.01*	
Control Delay (s/veh)	*29.3*	*12.0*					*24.6*	
LOS	*D*	*B*					*C*	
Approach Delay (s/veh)	--	--				*24.6*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2025*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT PM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*60*	*1970*	*0*	*0*	*1487*	*78*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*60*	*1970*	*0*	*0*	*1487*	*78*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*10*	*0*	*38*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*10*	*0*	*38*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*60*	*0*		*0*			*48*	
C (m) (veh/h)	*447*	*315*					*341*	
v/c	*0.13*	*0.00*					*0.14*	
95% queue length	*0.46*	*0.00*					*0.49*	
Control Delay (s/veh)	*14.3*	*16.4*					*17.3*	
LOS	*B*	*C*					*C*	
Approach Delay (s/veh)	--	--				*17.3*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2025*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+ AMBIENT+ PROJECT PH3 AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*104*	*1395*	*0*	*0*	*2107*	*129*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*104*	*1395*	*0*	*0*	*2107*	*129*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*5*	*0*	*127*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*5*	*0*	*127*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*104*	*0*		*0*			*132*	
C (m) (veh/h)	*250*	*516*					*313*	
v/c	*0.42*	*0.00*					*0.42*	
95% queue length	*1.93*	*0.00*					*2.01*	
Control Delay (s/veh)	*29.3*	*12.0*					*24.6*	
LOS	*D*	*B*					*C*	
Approach Delay (s/veh)	--	--				*24.6*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2025*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJECT PH3 PM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*60*	*1971*	*0*	*0*	*1487*	*78*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*60*	*1971*	*0*	*0*	*1487*	*78*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*10*	*0*	*38*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*10*	*0*	*38*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*60*	*0*		*0*			*48*	
C (m) (veh/h)	*447*	*315*					*341*	
v/c	*0.13*	*0.00*					*0.14*	
95% queue length	*0.46*	*0.00*					*0.49*	
Control Delay (s/veh)	*14.3*	*16.4*					*17.3*	
LOS	*B*	*C*					*C*	
Approach Delay (s/veh)	--	--				*17.3*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2025*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+ AMBIENT+ PROJECT PH3 + CUML AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*104*	*1314*	*0*	*0*	*2139*	*129*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*104*	*1314*	*0*	*0*	*2139*	*129*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*		*0*	*5*	*0*	*127*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*5*	*0*	*127*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*1*	*0*
Configuration		*LR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LR*			*LTR*	
v (veh/h)	*104*	*0*		*0*			*132*	
C (m) (veh/h)	*243*	*553*					*310*	
v/c	*0.43*	*0.00*					*0.43*	
95% queue length	*2.01*	*0.00*					*2.04*	
Control Delay (s/veh)	*30.5*	*11.5*					*25.0*	
LOS	*D*	*B*					*C*	
Approach Delay (s/veh)	--	--				*25.0*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*5/15/2011*	Analysis Year	*2025*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING + AMBIENT+ PROJECT PH3 + CUML PM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*60*	*2003*	*0*	*0*	*1527*	*78*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*60*	*2003*	*0*	*0*	*1527*	*78*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*10*	*0*	*38*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*10*	*0*	*38*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*60*	*0*		*0*			*48*	
C (m) (veh/h)	*432*	*306*					*330*	
v/c	*0.14*	*0.00*					*0.15*	
95% queue length	*0.48*	*0.00*					*0.50*	
Control Delay (s/veh)	*14.7*	*16.8*					*17.8*	
LOS	*B*	*C*					*C*	
Approach Delay (s/veh)	--	--				*17.8*		
Approach LOS	--	--				*C*		

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WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD
EXISTING CONDITION **(2010)**

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	0.009			20	0.013		
NB THRU	2	3,200	1327	0.415	*		1341	0.419	*	
NB RIGHT	0	0	0	0.000			0	0.000		
						0.415				0.419
SB LEFT	0	0	0	0.000	*		0	0.000	*	
SB THRU	3	4,800	1739	0.363			1684	0.353		
SB RIGHT	0	0	1	0.000			12	0.000		
EB LEFT	0	0	0	0.000	*		0	0.000		
EB THRU	1	1,600	0	0.006			0	0.012	*	
EB RIGHT	0	0	9	0.000			19	0.000		
						0.257				0.305
WB LEFT	1	1,600	228	0.143			468	0.293	*	
WB THRU	0	0	0	0.000			2	0.000		
WB RIGHT	1	1,600	411	0.257	*		418	0.261		

NORTH/SOUTH CRITICAL SUM	0.415	NORTH/SOUTH CRITICAL SUM	0.419
EAST/WEST CRITICAL SUM	0.257	EAST/WEST CRITICAL SUM	0.305
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.772	INTERSECTION ICU VALUE	0.824
AM INTERSECTION LOS	C	PM INTERSECTION LOS	D

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	1	15	0.009			20	1	21	0.013		
NB THRU	2	3,200	1327	67	1394	0.436	*		1341	68	1409	0.440	*	
NB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.436						0.440
SB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
SB THRU	3	4,800	1739	88	1827	0.381			1684	85	1769	0.371		
SB RIGHT	0	0	1	0	1	0.000			12	1	13	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	1	1,600	0	0	0	0.006			0	0	0	0.012	*	
EB RIGHT	0	0	9	0	9	0.000			19	1	20	0.000		
								0.270						0.319
WB LEFT	1	1,600	228	12	240	0.150			468	24	492	0.307	*	
WB THRU	0	0	0	0	0	0.000			2	0	2	0.000		
WB RIGHT	1	1,600	411	21	432	0.270	*		418	21	439	0.274		

NORTH/SOUTH CRITICAL SUM	0.436	NORTH/SOUTH CRITICAL SUM	0.440
EAST/WEST CRITICAL SUM	0.270	EAST/WEST CRITICAL SUM	0.319
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.806	INTERSECTION ICU VALUE	0.859

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.034	PM IMPACT	0.035

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	1	0	15	0.009			20	1	0	21	0.013		
NB THRU	2	3,200	1327	67	0	1394	0.436	*		1341	68	0	1409	0.440	*	
NB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.436							0.440
SB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
SB THRU	3	4,800	1739	88	0	1827	0.381			1684	85	0	1769	0.371		
SB RIGHT	0	0	1	0	0	1	0.000			12	1	0	13	0.000		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB THRU	1	1,600	0	0	0	0	0.006			0	0	0	0	0.012	*	
EB RIGHT	0	0	9	0	0	9	0.000			19	1	0	20	0.000		
									0.270							0.319
WB LEFT	1	1,600	228	12	1	241	0.150			468	24	0	492	0.307	*	
WB THRU	0	0	0	0	0	0	0.000			2	0	0	2	0.000		
WB RIGHT	1	1,600	411	21	0	432	0.270	*		418	21	0	439	0.274		

NORTH/SOUTH CRITICAL SUM	0.436	NORTH/SOUTH CRITICAL SUM	0.440
EAST/WEST CRITICAL SUM	0.270	EAST/WEST CRITICAL SUM	0.319
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.806	INTERSECTION ICU VALUE	0.859

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	1	0	0	15	0.009			20	1	0	0	21	0.013		
NB THRU	2	3,200	1327	67	4	0	1398	0.437	*		1341	68	3	0	1412	0.441	*	
NB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.437								0.441
SB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
SB THRU	3	4,800	1739	88	4	0	1831	0.382			1684	85	6	0	1775	0.372		
SB RIGHT	0	0	1	0	0	0	1	0.000			12	1	0	0	13	0.000		
EB LEFT	0	0	0	0	1	0	1	0.000	*		0	0	1	0	1	0.000		
EB THRU	1	1,600	0	0	0	0	0	0.007			0	0	0	0	0	0.013	*	
EB RIGHT	0	0	9	0	0	0	9	0.000			19	1	0	0	20	0.000		
										0.270								0.325
WB LEFT	1	1,600	228	12	5	1	246	0.153			468	24	8	0	500	0.312	*	
WB THRU	0	0	0	0	0	0	0	0.000			2	0	0	0	2	0.000		
WB RIGHT	1	1,600	411	21	0	0	432	0.270	*		418	21	0	0	439	0.274		

NORTH/SOUTH CRITICAL SUM	0.437	NORTH/SOUTH CRITICAL SUM	0.441
EAST/WEST CRITICAL SUM	0.270	EAST/WEST CRITICAL SUM	0.325
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.807	INTERSECTION ICU VALUE	0.866

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.001	PM IMPACT	0.007

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	1	15	0.010			20	2	22	0.014		
NB THRU	2	3,200	1327	134	1461	0.457	*		1341	135	1476	0.461	*	
NB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.457						0.461
SB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
SB THRU	3	4,800	1739	176	1915	0.399			1684	170	1854	0.389		
SB RIGHT	0	0	1	0	1	0.000			12	1	13	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	1	1,600	0	0	0	0.006			0	0	0	0.013	*	
EB RIGHT	0	0	9	1	10	0.000			19	2	21	0.000		
								0.283						0.335
WB LEFT	1	1,600	228	23	251	0.157			468	47	515	0.322	*	
WB THRU	0	0	0	0	0	0.000			2	0	2	0.000		
WB RIGHT	1	1,600	411	42	453	0.283	*		418	42	460	0.288		

NORTH/SOUTH CRITICAL SUM	0.457	NORTH/SOUTH CRITICAL SUM	0.461
EAST/WEST CRITICAL SUM	0.283	EAST/WEST CRITICAL SUM	0.335
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.840	INTERSECTION ICU VALUE	0.896

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.068	PM IMPACT	0.072

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	1	0	15	0.010			20	2	0	22	0.014		
NB THRU	2	3,200	1327	134	0	1461	0.457	*		1341	135	0	1476	0.461	*	
NB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.457							0.461
SB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
SB THRU	3	4,800	1739	176	0	1915	0.399			1684	170	0	1854	0.389		
SB RIGHT	0	0	1	0	0	1	0.000			12	1	0	13	0.000		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB THRU	1	1,600	0	0	0	0	0.006			0	0	0	0	0.013	*	
EB RIGHT	0	0	9	1	0	10	0.000			19	2	0	21	0.000		
									0.283							0.336
WB LEFT	1	1,600	228	23	2	253	0.158			468	47	2	517	0.323	*	
WB THRU	0	0	0	0	0	0	0.000			2	0	0	2	0.000		
WB RIGHT	1	1,600	411	42	0	453	0.283	*		418	42	0	460	0.288		

NORTH/SOUTH CRITICAL SUM	0.457	NORTH/SOUTH CRITICAL SUM	0.461
EAST/WEST CRITICAL SUM	0.283	EAST/WEST CRITICAL SUM	0.336
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.840	INTERSECTION ICU VALUE	0.897

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.000	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	1	0	0	15	0.010			20	2	0	0	22	0.014		
NB THRU	2	3,200	1327	134	4	0	1465	0.458	*		1341	135	3	0	1479	0.462	*	
NB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.458								0.462
SB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
SB THRU	3	4,800	1739	176	4	0	1919	0.400			1684	170	6	0	1860	0.390		
SB RIGHT	0	0	1	0	0	0	1	0.000			12	1	0	0	13	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
EB THRU	1	1,600	0	0	0	0	0	0.006			0	0	0	0	0	0.013	*	
EB RIGHT	0	0	9	1	0	0	10	0.000			19	2	0	0	21	0.000		
										0.283								0.341
WB LEFT	1	1,600	228	23	5	2	258	0.161			468	47	8	2	525	0.328	*	
WB THRU	0	0	0	0	0	0	0	0.000			2	0	0	0	2	0.000		
WB RIGHT	1	1,600	411	42	0	0	453	0.283	*		418	42	0	0	460	0.288		

NORTH/SOUTH CRITICAL SUM	0.458	NORTH/SOUTH CRITICAL SUM	0.462
EAST/WEST CRITICAL SUM	0.283	EAST/WEST CRITICAL SUM	0.341
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.841	INTERSECTION ICU VALUE	0.903

AM INTERSECTION LOS	D	PM INTERSECTION LOS	E
AM IMPACT	0.001	PM IMPACT	0.007

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	2	16	0.010			20	3	23	0.014		
NB THRU	2	3,200	1327	201	1528	0.478	*		1341	203	1544	0.483	*	
NB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.478						0.483
SB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
SB THRU	3	4,800	1739	263	2002	0.417			1684	255	1939	0.407		
SB RIGHT	0	0	1	0	1	0.000			12	2	14	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	1	1,600	0	0	0	0.006			0	0	0	0.014	*	
EB RIGHT	0	0	9	1	10	0.000			19	3	22	0.000		
								0.296						0.351
WB LEFT	1	1,600	228	35	263	0.164			468	71	539	0.337	*	
WB THRU	0	0	0	0	0	0.000			2	0	2	0.000		
WB RIGHT	1	1,600	411	62	473	0.296	*		418	63	481	0.301		

NORTH/SOUTH CRITICAL SUM	0.478	NORTH/SOUTH CRITICAL SUM	0.483
EAST/WEST CRITICAL SUM	0.296	EAST/WEST CRITICAL SUM	0.351
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.874	INTERSECTION ICU VALUE	0.934

AM INTERSECTION LOS	D	PM INTERSECTION LOS	E
AM IMPACT	0.102	PM IMPACT	0.110

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	2	0	16	0.010			20	3	0	23	0.014		
NB THRU	2	3,200	1327	201	0	1528	0.478	*		1341	203	0	1544	0.483	*	
NB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.478							0.483
SB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
SB THRU	3	4,800	1739	263	0	2002	0.417			1684	255	0	1939	0.407		
SB RIGHT	0	0	1	0	0	1	0.000			12	2	0	14	0.000		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		
EB THRU	1	1,600	0	0	0	0	0.006			0	0	0	0	0.014	*	
EB RIGHT	0	0	9	1	0	10	0.000			19	3	0	22	0.000		
									0.296							0.351
WB LEFT	1	1,600	228	35	0	263	0.164			468	71	0	539	0.337	*	
WB THRU	0	0	0	0	0	0	0.000			2	0	0	2	0.000		
WB RIGHT	1	1,600	411	62	0	473	0.296	*		418	63	0	481	0.301		

NORTH/SOUTH CRITICAL SUM	0.478	NORTH/SOUTH CRITICAL SUM	0.483
EAST/WEST CRITICAL SUM	0.296	EAST/WEST CRITICAL SUM	0.351
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.874	INTERSECTION ICU VALUE	0.934

AM INTERSECTION LOS	D	PM INTERSECTION LOS	E
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	2	0	0	16	0.010			20	3	0	0	23	0.014		
NB THRU	2	3,200	1327	201	4	0	1532	0.479	*		1341	203	3	0	1547	0.483	*	
NB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.479								0.483
SB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
SB THRU	3	4,800	1739	263	4	0	2006	0.418			1684	255	6	0	1945	0.408		
SB RIGHT	0	0	1	0	0	0	1	0.000			12	2	0	0	14	0.000		
EB LEFT	0	0	0	0	1	0	1	0.000	*		0	0	1	0	1	0.000		
EB THRU	1	1,600	0	0	0	0	0	0.007			0	0	0	0	0	0.014	*	
EB RIGHT	0	0	9	1	0	0	10	0.000			19	3	0	0	22	0.000		
										0.296								0.356
WB LEFT	1	1,600	228	35	5	0	268	0.167			468	71	8	0	547	0.342	*	
WB THRU	0	0	0	0	0	0	0	0.000			2	0	0	0	2	0.000		
WB RIGHT	1	1,600	411	62	0	0	473	0.296	*		418	63	0	0	481	0.301		

NORTH/SOUTH CRITICAL SUM	0.479	NORTH/SOUTH CRITICAL SUM	0.483
EAST/WEST CRITICAL SUM	0.296	EAST/WEST CRITICAL SUM	0.356
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.875	INTERSECTION ICU VALUE	0.939

AM INTERSECTION LOS	D	PM INTERSECTION LOS	E
AM IMPACT	0.001	PM IMPACT	0.005

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD
EXISTING CONDITION **(2010)**

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	0.008			13	0.008		
NB THRU	3	4800	2049	0.427	*		1372	0.286	*	
NB RIGHT	0	0	1	0.000			2	0.000		
						0.431				0.295
SB LEFT	1	1,600	7	0.004	*		15	0.009	*	
SB THRU	3	4,800	848	0.193			1287	0.277		
SB RIGHT	0	0	77	0.000			44	0.000		
EB LEFT	1.5	2,400	823	0.343	*		719	0.318		
EB THRU	0	0	18	0.000			45	0.000		
EB RIGHT	1.5	2,400	429	0.186			864	0.36	*	
						0.343				0.360
WB LEFT	0	0	0	0.000			0	0.000	*	
WB THRU	1	1,600	0	0.000	*		0	0.000		
WB RIGHT	0	0	0	0.000	*		0	0.000		

NORTH/SOUTH CRITICAL SUM	0.431	NORTH/SOUTH CRITICAL SUM	0.295
EAST/WEST CRITICAL SUM	0.343	EAST/WEST CRITICAL SUM	0.360
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.874	INTERSECTION ICU VALUE	0.755
AM INTERSECTION LOS	D	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	1	14	0.009			13	1	14	0.009		
NB THRU	3	4800	2049	103	2152	0.449	*		1372	69	1441	0.301	*	
NB RIGHT	0	0	1	0	1	0.000			2	0	2	0.000		
								0.454						0.311
SB LEFT	1	1,600	7	0	7	0.005	*		15	1	16	0.01	*	
SB THRU	3	4,800	848	43	891	0.202			1287	65	1352	0.291		
SB RIGHT	0	0	77	4	81	0.000			44	2	46	0.000		
EB LEFT	1.5	2,400	823	42	865	0.360	*		719	36	755	0.315		
EB THRU	0	0	18	1	19	0.000			45	2	47	0.000		
EB RIGHT	1.5	2,400	429	22	451	0.188			864	44	908	0.378	*	
								0.360						0.378
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	1	1600	0	0	0	0.000	*		0	0	0	0.000		
WB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.454	NORTH/SOUTH CRITICAL SUM	0.311
EAST/WEST CRITICAL SUM	0.360	EAST/WEST CRITICAL SUM	0.378
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.914	INTERSECTION ICU VALUE	0.789

AM INTERSECTION LOS	E	PM INTERSECTION LOS	C
AM IMPACT	0.040	PM IMPACT	0.034

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	1	0	14	0.009			13	1	0	14	0.009		
NB THRU	3	4800	2049	103	1	2153	0.449	*		1372	69	4	1445	0.302	*	
NB RIGHT	0	0	1	0	0	1	0.000			2	0	0	2	0.000		
									0.454							0.312
SB LEFT	1	1,600	7	0	0	7	0.005	*		15	1	0	16	0.01	*	
SB THRU	3	4,800	848	43	2	893	0.203			1287	65	0	1352	0.291		
SB RIGHT	0	0	77	4	0	81	0.000			44	2	0	46	0.000		
EB LEFT	1.5	2,400	823	42	0	865	0.360	*		719	36	0	755	0.315		
EB THRU	0	0	18	1	0	19	0.000			45	2	0	47	0.000		
EB RIGHT	1.5	2,400	429	22	3	454	0.189			864	44	0	908	0.378	*	
									0.360							0.378
WB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
WB THRU	1	1600	0	0	0	0	0.000	*		0	0	0	0	0.000		
WB RIGHT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.454	NORTH/SOUTH CRITICAL SUM	0.312
EAST/WEST CRITICAL SUM	0.360	EAST/WEST CRITICAL SUM	0.378
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.914	INTERSECTION ICU VALUE	0.790

AM INTERSECTION LOS	E	PM INTERSECTION LOS	C
AM IMPACT	0.000	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	1	0	0	14	0.009			13	1	0	0	14	0.009		
NB THRU	3	4800	2049	103	14	1	2167	0.452	*		1372	69	23	4	1468	0.306	*	
NB RIGHT	0	0	1	0	0	0	1	0.000			2	0	0	0	2	0.000		
										0.457								0.316
SB LEFT	1	1,600	7	0	0	0	7	0.005	*		15	1	0	0	16	0.01	*	
SB THRU	3	4,800	848	43	10	2	903	0.205			1287	65	15	0	1367	0.294		
SB RIGHT	0	0	77	4	0	0	81	0.000			44	2	0	0	46	0.000		
EB LEFT	1.5	2,400	823	42	0	0	865	0.360	*		719	36	0	0	755	0.315		
EB THRU	0	0	18	1	0	0	19	0.000			45	2	0	0	47	0.000		
EB RIGHT	1.5	2,400	429	22	5	3	459	0.191			864	44	6	0	914	0.381	*	
										0.360								0.381
WB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
WB THRU	1	1600	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
WB RIGHT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.457	NORTH/SOUTH CRITICAL SUM	0.316
EAST/WEST CRITICAL SUM	0.360	EAST/WEST CRITICAL SUM	0.381
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.917	INTERSECTION ICU VALUE	0.797

AM INTERSECTION LOS	E	PM INTERSECTION LOS	C
AM IMPACT	0.003	PM IMPACT	0.008

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	1	14	0.009			13	1	14	0.009		
NB THRU	3	4800	2049	207	2256	0.470	*		1372	139	1511	0.315	*	
NB RIGHT	0	0	1	0	1	0.000			2	0	2	0.000		
								0.475						0.325
SB LEFT	1	1,600	7	1	8	0.005	*		15	2	17	0.01	*	
SB THRU	3	4,800	848	86	934	0.212			1287	130	1417	0.305		
SB RIGHT	0	0	77	8	85	0.000			44	4	48	0.000		
EB LEFT	1.5	2,400	823	83	906	0.378	*		719	73	792	0.330		
EB THRU	0	0	18	2	20	0.000			45	5	50	0.000		
EB RIGHT	1.5	2,400	429	43	472	0.197			864	87	951	0.396	*	
								0.378						0.396
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	1	1600	0	0	0	0.000	*		0	0	0	0.000		
WB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.475	NORTH/SOUTH CRITICAL SUM	0.325
EAST/WEST CRITICAL SUM	0.378	EAST/WEST CRITICAL SUM	0.396
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.953	INTERSECTION ICU VALUE	0.821

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.079	PM IMPACT	0.066

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	1	0	14	0.009			13	1	0	14	0.009		
NB THRU	3	4800	2049	207	3	2259	0.471	*		1372	139	5	1516	0.316	*	
NB RIGHT	0	0	1	0	0	1	0.000			2	0	0	2	0.000		
									0.476							0.326
SB LEFT	1	1,600	7	1	0	8	0.005	*		15	2	0	17	0.01	*	
SB THRU	3	4,800	848	86	3	937	0.213			1287	130	2	1419	0.306		
SB RIGHT	0	0	77	8	0	85	0.000			44	4	0	48	0.000		
EB LEFT	1.5	2,400	823	83	0	906	0.378	*		719	73	0	792	0.330		
EB THRU	0	0	18	2	0	20	0.000			45	5	0	50	0.000		
EB RIGHT	1.5	2,400	429	43	3	475	0.198			864	87	2	953	0.397	*	
									0.378							0.397
WB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
WB THRU	1	1600	0	0	0	0	0.000	*		0	0	0	0	0.000		
WB RIGHT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.476	NORTH/SOUTH CRITICAL SUM	0.326
EAST/WEST CRITICAL SUM	0.378	EAST/WEST CRITICAL SUM	0.397
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.954	INTERSECTION ICU VALUE	0.823

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.001	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	1	0	0	14	0.009			13	1	0	0	14	0.009		
NB THRU	3	4800	2049	207	14	3	2273	0.474	*		1372	139	23	5	1539	0.321	*	
NB RIGHT	0	0	1	0	0	0	1	0.000			2	0	0	0	2	0.000		
										0.479								0.331
SB LEFT	1	1,600	7	1	0	0	8	0.005	*		15	2	0	0	17	0.01	*	
SB THRU	3	4,800	848	86	10	3	947	0.215			1287	130	15	2	1434	0.309		
SB RIGHT	0	0	77	8	0	0	85	0.000			44	4	0	0	48	0.000		
EB LEFT	1.5	2,400	823	83	0	0	906	0.378	*		719	73	0	0	792	0.330		
EB THRU	0	0	18	2	0	0	20	0.000			45	5	0	0	50	0.000		
EB RIGHT	1.5	2,400	429	43	5	3	480	0.200			864	87	6	2	959	0.4	*	
										0.378								0.400
WB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
WB THRU	1	1600	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
WB RIGHT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.479	NORTH/SOUTH CRITICAL SUM	0.331
EAST/WEST CRITICAL SUM	0.378	EAST/WEST CRITICAL SUM	0.400
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.957	INTERSECTION ICU VALUE	0.831

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.004	PM IMPACT	0.010

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	2	15	0.009			13	2	15	0.009		
NB THRU	3	4800	2049	310	2359	0.492	*		1372	208	1580	0.330	*	
NB RIGHT	0	0	1	0	1	0.000			2	0	2	0.000		
								0.497						0.341
SB LEFT	1	1,600	7	1	8	0.005	*		15	2	17	0.011	*	
SB THRU	3	4,800	848	128	976	0.222			1287	195	1482	0.319		
SB RIGHT	0	0	77	12	89	0.000			44	7	51	0.000		
EB LEFT	1.5	2,400	823	125	948	0.395	*		719	109	828	0.345		
EB THRU	0	0	18	3	21	0.000			45	7	52	0.000		
EB RIGHT	1.5	2,400	429	65	494	0.206			864	131	995	0.415	*	
								0.395						0.415
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	1	1600	0	0	0	0.000	*		0	0	0	0.000		
WB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.497	NORTH/SOUTH CRITICAL SUM	0.341
EAST/WEST CRITICAL SUM	0.395	EAST/WEST CRITICAL SUM	0.415
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.992	INTERSECTION ICU VALUE	0.856

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.118	PM IMPACT	0.101

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	2	0	15	0.009			13	2	0	15	0.009		
NB THRU	3	4800	2049	310	0	2359	0.492	*		1372	208	2	1582	0.330	*	
NB RIGHT	0	0	1	0	0	1	0.000			2	0	0	2	0.000		
									0.497							0.341
SB LEFT	1	1,600	7	1	0	8	0.005	*		15	2	0	17	0.011	*	
SB THRU	3	4,800	848	128	1	977	0.222			1287	195	0	1482	0.319		
SB RIGHT	0	0	77	12	0	89	0.000			44	7	0	51	0.000		
EB LEFT	1.5	2,400	823	125	0	948	0.395	*		719	109	0	828	0.345		
EB THRU	0	0	18	3	0	21	0.000			45	7	0	52	0.000		
EB RIGHT	1.5	2,400	429	65	1	495	0.206			864	131	0	995	0.415	*	
									0.395							0.415
WB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000	*	
WB THRU	1	1600	0	0	0	0	0.000	*		0	0	0	0	0.000		
WB RIGHT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.497	NORTH/SOUTH CRITICAL SUM	0.341
EAST/WEST CRITICAL SUM	0.395	EAST/WEST CRITICAL SUM	0.415
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.992	INTERSECTION ICU VALUE	0.856

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	2	0	0	15	0.009			13	2	0	0	15	0.009		
NB THRU	3	4800	2049	310	14	0	2373	0.495	*		1372	208	23	2	1605	0.335	*	
NB RIGHT	0	0	1	0	0	0	1	0.000			2	0	0	0	2	0.000		
										0.500								0.346
SB LEFT	1	1,600	7	1	0	0	8	0.005	*		15	2	0	0	17	0.011	*	
SB THRU	3	4,800	848	128	10	1	987	0.224			1287	195	15	0	1497	0.322		
SB RIGHT	0	0	77	12	0	0	89	0.000			44	7	0	0	51	0.000		
EB LEFT	1.5	2,400	823	125	0	0	948	0.395	*		719	109	0	0	828	0.345		
EB THRU	0	0	18	3	0	0	21	0.000			45	7	0	0	52	0.000		
EB RIGHT	1.5	2,400	429	65	5	1	500	0.208			864	131	6	0	1001	0.417	*	
										0.395								0.417
WB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000	*	
WB THRU	1	1600	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		
WB RIGHT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.500	NORTH/SOUTH CRITICAL SUM	0.346
EAST/WEST CRITICAL SUM	0.395	EAST/WEST CRITICAL SUM	0.417
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.995	INTERSECTION ICU VALUE	0.863

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.003	PM IMPACT	0.007

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD
EXISTING CONDITION **(2010)**

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	0.019	*		52	0.033	*	
NB THRU	3	4800	480	0.113			559	0.142		
NB RIGHT	0	0	64	0.000			124	0.000		
						0.182				0.239
SB LEFT	1	1,600	87	0.054			140	0.088		
SB THRU	2	3,200	521	0.163	*		660	0.206	*	
SB RIGHT	1	1,600	468	0.054			401	0.000		
EB LEFT	2	2,880	381	0.132	*		548	0.190	*	
EB THRU	3	4,800	558	0.126			1145	0.245		
EB RIGHT	0	0	47	0.000			29	0.000		
						0.418				0.404
WB LEFT	2	2,880	125	0.043			129	0.045		
WB THRU	2	3,200	831	0.286	*		613	0.214	*	
WB RIGHT	0	0	85	0.000			73	0.000		

NORTH/SOUTH CRITICAL SUM	0.182	NORTH/SOUTH CRITICAL SUM	0.239
EAST/WEST CRITICAL SUM	0.418	EAST/WEST CRITICAL SUM	0.404
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.700	INTERSECTION ICU VALUE	0.743
AM INTERSECTION LOS	B	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	2	33	0.020	*		52	3	55	0.034	*	
NB THRU	3	4800	480	24	504	0.119			559	28	587	0.149		
NB RIGHT	0	0	64	3	67	0.000			124	6	130	0.000		
								0.191						0.251
SB LEFT	1	1,600	87	4	91	0.057			140	7	147	0.092		
SB THRU	2	3,200	521	26	547	0.171	*		660	33	693	0.217	*	
SB RIGHT	1	1,600	468	24	492	0.057			401	20	421	0.000		
EB LEFT	2	2,880	381	19	400	0.139	*		548	28	576	0.200	*	
EB THRU	3	4,800	558	28	586	0.132			1145	58	1203	0.257		
EB RIGHT	0	0	47	2	49	0.000			29	1	30	0.000		
								0.440						0.425
WB LEFT	2	2,880	125	6	131	0.046			129	7	136	0.047		
WB THRU	2	3,200	831	42	873	0.301	*		613	31	644	0.225	*	
WB RIGHT	0	0	85	4	89	0.000			73	4	77	0.000		

NORTH/SOUTH CRITICAL SUM	0.191	NORTH/SOUTH CRITICAL SUM	0.251
EAST/WEST CRITICAL SUM	0.440	EAST/WEST CRITICAL SUM	0.425
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.731	INTERSECTION ICU VALUE	0.776

AM INTERSECTION LOS	C	PM INTERSECTION LOS	C
AM IMPACT	0.031	PM IMPACT	0.033

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	2	0	33	0.020	*		52	3	0	55	0.034	*	
NB THRU	3	4800	480	24	0	504	0.119			559	28	0	587	0.149		
NB RIGHT	0	0	64	3	0	67	0.000			124	6	0	130	0.000		
									0.191							0.251
SB LEFT	1	1,600	87	4	0	91	0.057			140	7	0	147	0.092		
SB THRU	2	3,200	521	26	0	547	0.171	*		660	33	0	693	0.217	*	
SB RIGHT	1	1,600	468	24	5	497	0.060			401	20	2	423	0.000		
EB LEFT	2	2,880	381	19	1	401	0.139	*		548	28	4	580	0.201	*	
EB THRU	3	4,800	558	28	0	586	0.132			1145	58	0	1203	0.257		
EB RIGHT	0	0	47	2	0	49	0.000			29	1	0	30	0.000		
									0.440							0.426
WB LEFT	2	2,880	125	6	0	131	0.046			129	7	0	136	0.047		
WB THRU	2	3,200	831	42	0	873	0.301	*		613	31	0	644	0.225	*	
WB RIGHT	0	0	85	4	0	89	0.000			73	4	0	77	0.000		

NORTH/SOUTH CRITICAL SUM	0.191	NORTH/SOUTH CRITICAL SUM	0.251
EAST/WEST CRITICAL SUM	0.440	EAST/WEST CRITICAL SUM	0.426
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.731	INTERSECTION ICU VALUE	0.777

AM INTERSECTION LOS	C	PM INTERSECTION LOS	C
AM IMPACT	0.000	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	2	0	0	33	0.020	*		52	3	0	0	55	0.034	*	
NB THRU	3	4800	480	24	3	0	507	0.120			559	28	2	0	589	0.150		
NB RIGHT	0	0	64	3	0	0	67	0.000			124	6	0	0	130	0.000		
										0.192								0.252
SB LEFT	1	1,600	87	4	0	0	91	0.057			140	7	0	0	147	0.092		
SB THRU	2	3,200	521	26	2	0	549	0.172	*		660	33	3	0	696	0.218	*	
SB RIGHT	1	1,600	468	24	13	5	510	0.060			401	20	23	2	446	0		
EB LEFT	2	2,880	381	19	12	1	413	0.143	*		548	28	21	4	601	0.209	*	
EB THRU	3	4,800	558	28	0	0	586	0.132			1145	58	0	0	1203	0.257		
EB RIGHT	0	0	47	2	0	0	49	0.000			29	1	0	0	30	0.000		
										0.444								0.434
WB LEFT	2	2,880	125	6	0	0	131	0.046			129	7	0	0	136	0.047		
WB THRU	2	3,200	831	42	0	0	873	0.301	*		613	31	0	0	644	0.225	*	
WB RIGHT	0	0	85	4	0	0	89	0.000			73	4	0	0	77	0.000		

NORTH/SOUTH CRITICAL SUM	0.192	NORTH/SOUTH CRITICAL SUM	0.252
EAST/WEST CRITICAL SUM	0.444	EAST/WEST CRITICAL SUM	0.434
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.736	INTERSECTION ICU VALUE	0.786

AM INTERSECTION LOS	C	PM INTERSECTION LOS	C
AM IMPACT	0.005	PM IMPACT	0.010

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	3	34	0.021	*		52	5	57	0.036	*	
NB THRU	3	4800	480	48	528	0.125			559	56	615	0.157		
NB RIGHT	0	0	64	6	70	0.000			124	13	137	0.000		
								0.200						0.263
SB LEFT	1	1,600	87	9	96	0.060			140	14	154	0.096		
SB THRU	2	3,200	521	53	574	0.179	*		660	67	727	0.227	*	
SB RIGHT	1	1,600	468	47	515	0.060			401	41	442	0		
EB LEFT	2	2,880	381	38	419	0.146	*		548	55	603	0.209	*	
EB THRU	3	4,800	558	56	614	0.139			1145	116	1261	0.269		
EB RIGHT	0	0	47	5	52	0.000			29	3	32	0.000		
								0.461						0.445
WB LEFT	2	2,880	125	13	138	0.048			129	13	142	0.049		
WB THRU	2	3,200	831	84	915	0.315	*		613	62	675	0.236	*	
WB RIGHT	0	0	85	9	94	0.000			73	7	80	0.000		

NORTH/SOUTH CRITICAL SUM	0.200	NORTH/SOUTH CRITICAL SUM	0.263
EAST/WEST CRITICAL SUM	0.461	EAST/WEST CRITICAL SUM	0.445
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.761	INTERSECTION ICU VALUE	0.808

AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.061	PM IMPACT	0.065

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	3	0	34	0.021	*		52	5	0	57	0.036	*	
NB THRU	3	4800	480	48	0	528	0.125			559	56	0	615	0.157		
NB RIGHT	0	0	64	6	0	70	0.000			124	13	0	137	0.000		
									0.200							0.263
SB LEFT	1	1,600	87	9	0	96	0.060			140	14	0	154	0.096		
SB THRU	2	3,200	521	53	0	574	0.179	*		660	67	0	727	0.227	*	
SB RIGHT	1	1,600	468	47	5	520	0.063			401	41	3	445	0		
EB LEFT	2	2,880	381	38	0	419	0.146	*		548	55	2	605	0.210	*	
EB THRU	3	4,800	558	56	0	614	0.139			1145	116	0	1261	0.269		
EB RIGHT	0	0	47	5	0	52	0.000			29	3	0	32	0.000		
									0.462							0.447
WB LEFT	2	2,880	125	13	0	138	0.048			129	13	0	142	0.049		
WB THRU	2	3,200	831	84	3	918	0.316	*		613	62	3	678	0.237	*	
WB RIGHT	0	0	85	9	0	94	0.000			73	7	0	80	0.000		

NORTH/SOUTH CRITICAL SUM	0.200	NORTH/SOUTH CRITICAL SUM	0.263
EAST/WEST CRITICAL SUM	0.462	EAST/WEST CRITICAL SUM	0.447
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.762	INTERSECTION ICU VALUE	0.810

AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.001	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	3	0	0	34	0.021	*		52	5	0	0	57	0.036	*	
NB THRU	3	4800	480	48	3	0	531	0.125			559	56	2	0	617	0.157		
NB RIGHT	0	0	64	6	0	0	70	0.000			124	13	0	0	137	0.000		
										0.201								0.264
SB LEFT	1	1,600	87	9	0	0	96	0.060			140	14	0	0	154	0.096		
SB THRU	2	3,200	521	53	2	0	576	0.180	*		660	67	3	0	730	0.228	*	
SB RIGHT	1	1,600	468	47	13	5	533	0.064			401	41	23	3	468	0		
EB LEFT	2	2,880	381	38	12	0	431	0.150	*		548	55	21	2	626	0.217	*	
EB THRU	3	4,800	558	56	0	0	614	0.139			1145	116	0	0	1261	0.269		
EB RIGHT	0	0	47	5	0	0	52	0.000			29	3	0	0	32	0.000		
										0.466								0.454
WB LEFT	2	2,880	125	13	0	0	138	0.048			129	13	0	0	142	0.049		
WB THRU	2	3,200	831	84	0	3	918	0.316	*		613	62	0	3	678	0.237	*	
WB RIGHT	0	0	85	9	0	0	94	0.000			73	7	0	0	80	0.000		

NORTH/SOUTH CRITICAL SUM	0.201	NORTH/SOUTH CRITICAL SUM	0.264
EAST/WEST CRITICAL SUM	0.466	EAST/WEST CRITICAL SUM	0.454
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.767	INTERSECTION ICU VALUE	0.818

AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.006	PM IMPACT	0.010

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	5	36	0.022	*		52	8	60	0.037	*	
NB THRU	3	4800	480	73	553	0.131			559	85	644	0.164		
NB RIGHT	0	0	64	10	74	0.000			124	19	143	0.000		
								0.209						0.274
SB LEFT	1	1,600	87	13	100	0.063			140	21	161	0.101		
SB THRU	2	3,200	521	79	600	0.187	*		660	100	760	0.237	*	
SB RIGHT	1	1,600	468	71	539	0.063			401	61	462	0		
EB LEFT	2	2,880	381	58	439	0.152	*		548	83	631	0.219	*	
EB THRU	3	4,800	558	85	643	0.145			1145	173	1318	0.282		
EB RIGHT	0	0	47	7	54	0.000			29	4	33	0.000		
								0.482						0.466
WB LEFT	2	2,880	125	19	144	0.050			129	20	149	0.052		
WB THRU	2	3,200	831	126	957	0.330	*		613	93	706	0.247	*	
WB RIGHT	0	0	85	13	98	0.000			73	11	84	0.000		

NORTH/SOUTH CRITICAL SUM	0.209	NORTH/SOUTH CRITICAL SUM	0.274
EAST/WEST CRITICAL SUM	0.482	EAST/WEST CRITICAL SUM	0.466
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.791	INTERSECTION ICU VALUE	0.840

AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.091	PM IMPACT	0.097

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	5	0	36	0.022	*		52	8	0	60	0.037	*	
NB THRU	3	4800	480	73	0	553	0.131			559	85	0	644	0.164		
NB RIGHT	0	0	64	10	0	74	0.000			124	19	0	143	0.000		
									0.209							0.274
SB LEFT	1	1,600	87	13	0	100	0.063			140	21	0	161	0.101		
SB THRU	2	3,200	521	79	0	600	0.187	*		660	100	0	760	0.237	*	
SB RIGHT	1	1,600	468	71	2	541	0.064			401	61	0	462	0		
EB LEFT	2	2,880	381	58	0	439	0.152	*		548	83	2	633	0.220	*	
EB THRU	3	4,800	558	85	0	643	0.145			1145	173	0	1318	0.282		
EB RIGHT	0	0	47	7	0	54	0.000			29	4	0	33	0.000		
									0.482							0.467
WB LEFT	2	2,880	125	19	0	144	0.050			129	20	0	149	0.052		
WB THRU	2	3,200	831	126	0	957	0.330	*		613	93	0	706	0.247	*	
WB RIGHT	0	0	85	13	0	98	0.000			73	11	0	84	0.000		

NORTH/SOUTH CRITICAL SUM	0.209	NORTH/SOUTH CRITICAL SUM	0.274
EAST/WEST CRITICAL SUM	0.482	EAST/WEST CRITICAL SUM	0.467
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.791	INTERSECTION ICU VALUE	0.841
AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.000	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	5	0	0	36	0.022	*		52	8	0	0	60	0.037	*	
NB THRU	3	4800	480	73	3	0	556	0.131			559	85	2	0	646	0.164		
NB RIGHT	0	0	64	10	0	0	74	0.000			124	19	0	0	143	0.000		
										0.210								0.275
SB LEFT	1	1,600	87	13	0	0	100	0.063			140	21	0	0	161	0.101		
SB THRU	2	3,200	521	79	2	0	602	0.188	*		660	100	3	0	763	0.238	*	
SB RIGHT	1	1,600	468	71	13	2	554	0.064			401	61	23	0	485	0		
EB LEFT	2	2,880	381	58	12	0	451	0.157	*		548	83	21	2	654	0.227	*	
EB THRU	3	4,800	558	85	0	0	643	0.145			1145	173	0	0	1318	0.282		
EB RIGHT	0	0	47	7	0	0	54	0.000			29	4	0	0	33	0.000		
										0.487								0.474
WB LEFT	2	2,880	125	19	0	0	144	0.050			129	20	0	0	149	0.052		
WB THRU	2	3,200	831	126	0	0	957	0.330	*		613	93	0	0	706	0.247	*	
WB RIGHT	0	0	85	13	0	0	98	0.000			73	11	0	0	84	0.000		

NORTH/SOUTH CRITICAL SUM	0.210	NORTH/SOUTH CRITICAL SUM	0.275
EAST/WEST CRITICAL SUM	0.487	EAST/WEST CRITICAL SUM	0.474
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.797	INTERSECTION ICU VALUE	0.849

AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.006	PM IMPACT	0.009

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET
EXISTING CONDITION **(2010)**

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	0.079	*		114	0.071		
NB THRU	2	3,200	726	0.227			1440	0.450	*	
NB RIGHT	1	1600	172	0.108			32	0.02		
						0.496				0.472
SB LEFT	1	1,600	72	0.045			35	0.022	*	
SB THRU	2	3,200	1334	0.417	*		949	0.297		
SB RIGHT	1	1,600	372	0.233			291	0.182		
EB LEFT	1.5	2,400	241	0.100	*		498	0.208	*	
EB THRU	0.5	800	201	0.000			79	0.000		
EB RIGHT	1	1,600	101	0.063			151	0.094		
						0.188				0.262
WB LEFT	1	1,600	47	0.029			23	0.014		
WB THRU	1	1,600	140	0.088	*		86	0.054	*	
WB RIGHT	1	1,600	58	0.036			72	0.045		

NORTH/SOUTH CRITICAL SUM	0.496	NORTH/SOUTH CRITICAL SUM	0.472
EAST/WEST CRITICAL SUM	0.188	EAST/WEST CRITICAL SUM	0.262
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.784	INTERSECTION ICU VALUE	0.834
AM INTERSECTION LOS	C	PM INTERSECTION LOS	D

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	6	133	0.083	*		114	6	120	0.075		
NB THRU	2	3,200	726	37	763	0.238			1440	73	1513	0.473	*	
NB RIGHT	1	1600	172	9	181	0.113			32	2	34	0.021		
								0.521						0.496
SB LEFT	1	1,600	72	4	76	0.047			35	2	37	0.023	*	
SB THRU	2	3,200	1334	67	1401	0.438	*		949	48	997	0.312		
SB RIGHT	1	1,600	372	19	391	0.244			291	15	306	0.191		
EB LEFT	1.5	2,400	241	12	253	0.105	*		498	25	523	0.218	*	
EB THRU	0.5	800	201	10	211	0.000			79	4	83	0.000		
EB RIGHT	1	1,600	101	5	106	0.066			151	8	159	0.099		
								0.197						0.274
WB LEFT	1	1,600	47	2	49	0.031			23	1	24	0.015		
WB THRU	1	1600	140	7	147	0.092	*		86	4	90	0.056	*	
WB RIGHT	1	1,600	58	3	61	0.038			72	4	76	0.047		

NORTH/SOUTH CRITICAL SUM	0.521	NORTH/SOUTH CRITICAL SUM	0.496
EAST/WEST CRITICAL SUM	0.197	EAST/WEST CRITICAL SUM	0.274
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.818	INTERSECTION ICU VALUE	0.870

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.034	PM IMPACT	0.036

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	6	7	140	0.088	*		114	6	3	123	0.077		
NB THRU	2	3,200	726	37	0	763	0.238			1440	73	0	1513	0.473	*	
NB RIGHT	1	1600	172	9	0	181	0.113			32	2	0	34	0.021		
									0.526							0.496
SB LEFT	1	1,600	72	4	0	76	0.047			35	2	0	37	0.023	*	
SB THRU	2	3,200	1334	67	0	1401	0.438	*		949	48	0	997	0.312		
SB RIGHT	1	1,600	372	19	5	396	0.247			291	15	2	308	0.192		
EB LEFT	1.5	2,400	241	12	1	254	0.106	*		498	25	4	527	0.220	*	
EB THRU	0.5	800	201	10	0	211	0.000			79	4	0	83	0.000		
EB RIGHT	1	1,600	101	5	1	107	0.067			151	8	3	162	0.101		
									0.198							0.276
WB LEFT	1	1,600	47	2	0	49	0.031			23	1	0	24	0.015		
WB THRU	1	1600	140	7	0	147	0.092	*		86	4	0	90	0.056	*	
WB RIGHT	1	1,600	58	3	0	61	0.038			72	4	0	76	0.047		

NORTH/SOUTH CRITICAL SUM	0.526	NORTH/SOUTH CRITICAL SUM	0.496
EAST/WEST CRITICAL SUM	0.198	EAST/WEST CRITICAL SUM	0.276
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.824	INTERSECTION ICU VALUE	0.872

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.006	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	6	0	7	140	0.088	*		114	6	0	3	123	0.077		
NB THRU	2	3,200	726	37	10	0	773	0.241			1440	73	19	0	1532	0.479	*	
NB RIGHT	1	1600	172	9	1	0	182	0.114			32	2	3	0	37	0.023		
										0.531								0.502
SB LEFT	1	1,600	72	4	0	0	76	0.047			35	2	0	0	37	0.023	*	
SB THRU	2	3,200	1334	67	15	0	1416	0.443	*		949	48	22	0	1019	0.318		
SB RIGHT	1	1,600	372	19	0	5	396	0.247			291	15	0	2	308	0.192		
EB LEFT	1.5	2,400	241	12	0	1	254	0.106	*		498	25	0	4	527	0.220	*	
EB THRU	0.5	800	201	10	0	0	211	0.000			79	4	1	0	84	0.000		
EB RIGHT	1	1,600	101	5	1	1	108	0.068			151	8	3	3	165	0.103		
										0.199								0.276
WB LEFT	1	1,600	47	2	0	0	49	0.031			23	1	0	0	24	0.015		
WB THRU	1	1600	140	7	1	0	148	0.093	*		86	4	0	0	90	0.056	*	
WB RIGHT	1	1,600	58	3	0	0	61	0.038			72	4	0	0	76	0.047		

NORTH/SOUTH CRITICAL SUM	0.531	NORTH/SOUTH CRITICAL SUM	0.502
EAST/WEST CRITICAL SUM	0.199	EAST/WEST CRITICAL SUM	0.276
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.830	INTERSECTION ICU VALUE	0.878

AM INTERSECTION LOS	D	PM INTERSECTION LOS	D
AM IMPACT	0.012	PM IMPACT	0.008

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	13	140	0.087	*		114	12	126	0.078		
NB THRU	2	3,200	726	73	799	0.250			1440	145	1585	0.495	*	
NB RIGHT	1	1600	172	17	189	0.118			32	3	35	0.022		
								0.546						0.519
SB LEFT	1	1,600	72	7	79	0.050			35	4	39	0.024	*	
SB THRU	2	3,200	1334	135	1469	0.459	*		949	96	1045	0.327		
SB RIGHT	1	1,600	372	38	410	0.256			291	29	320	0.2		
EB LEFT	1.5	2,400	241	24	265	0.111	*		498	50	548	0.228	*	
EB THRU	0.5	800	201	20	221	0.000			79	8	87	0.000		
EB RIGHT	1	1,600	101	10	111	0.070			151	15	166	0.104		
								0.207						0.287
WB LEFT	1	1,600	47	5	52	0.032			23	2	25	0.016		
WB THRU	1	1600	140	14	154	0.096	*		86	9	95	0.059	*	
WB RIGHT	1	1,600	58	6	64	0.040			72	7	79	0.05		

NORTH/SOUTH CRITICAL SUM	0.546	NORTH/SOUTH CRITICAL SUM	0.519
EAST/WEST CRITICAL SUM	0.207	EAST/WEST CRITICAL SUM	0.287
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.853	INTERSECTION ICU VALUE	0.906

AM INTERSECTION LOS	D	PM INTERSECTION LOS	E
AM IMPACT	0.069	PM IMPACT	0.072

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	13	5	145	0.091	*		114	12	1	127	0.079		
NB THRU	2	3,200	726	73	3	802	0.251			1440	145	3	1588	0.496	*	
NB RIGHT	1	1600	172	17	0	189	0.118			32	3	0	35	0.022		
									0.551							0.520
SB LEFT	1	1,600	72	7	0	79	0.050			35	4	0	39	0.024	*	
SB THRU	2	3,200	1334	135	3	1472	0.460	*		949	96	3	1048	0.327		
SB RIGHT	1	1,600	372	38	2	412	0.257			291	29	0	320	0.2		
EB LEFT	1.5	2,400	241	24	0	265	0.111	*		498	50	2	550	0.229	*	
EB THRU	0.5	800	201	20	0	221	0.000			79	8	0	87	0.000		
EB RIGHT	1	1,600	101	10	0	111	0.070			151	15	1	167	0.105		
									0.207							0.288
WB LEFT	1	1,600	47	5	0	52	0.032			23	2	0	25	0.016		
WB THRU	1	1600	140	14	0	154	0.096	*		86	9	0	95	0.059	*	
WB RIGHT	1	1,600	58	6	0	64	0.040			72	7	0	79	0.05		

NORTH/SOUTH CRITICAL SUM	0.551	NORTH/SOUTH CRITICAL SUM	0.520
EAST/WEST CRITICAL SUM	0.207	EAST/WEST CRITICAL SUM	0.288
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.858	INTERSECTION ICU VALUE	0.908

AM INTERSECTION LOS	D	PM INTERSECTION LOS	E
AM IMPACT	0.005	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	13	0	5	145	0.091	*		114	12	0	1	127	0.079		
NB THRU	2	3,200	726	73	10	3	812	0.254			1440	145	19	3	1607	0.502	*	
NB RIGHT	1	1600	172	17	1	0	190	0.119			32	3	3	0	38	0.024		
										0.556								0.526
SB LEFT	1	1,600	72	7	0	0	79	0.050			35	4	0	0	39	0.024	*	
SB THRU	2	3,200	1334	135	15	3	1487	0.465	*		949	96	22	3	1070	0.334		
SB RIGHT	1	1,600	372	38	0	2	412	0.257			291	29	0	0	320	0.2		
EB LEFT	1.5	2,400	241	24	0	0	265	0.111	*		498	50	0	2	550	0.229	*	
EB THRU	0.5	800	201	20	0	0	221	0.000			79	8	1	0	88	0.000		
EB RIGHT	1	1,600	101	10	1	0	112	0.070			151	15	3	1	170	0.106		
										0.208								0.288
WB LEFT	1	1,600	47	5	0	0	52	0.032			23	2	0	0	25	0.016		
WB THRU	1	1600	140	14	1	0	155	0.097	*		86	9	0	0	95	0.059	*	
WB RIGHT	1	1,600	58	6	0	0	64	0.040			72	7	0	0	79	0.05		

NORTH/SOUTH CRITICAL SUM	0.556	NORTH/SOUTH CRITICAL SUM	0.526
EAST/WEST CRITICAL SUM	0.208	EAST/WEST CRITICAL SUM	0.288
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.864	INTERSECTION ICU VALUE	0.914

AM INTERSECTION LOS	D	PM INTERSECTION LOS	E
AM IMPACT	0.011	PM IMPACT	0.008

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	19	146	0.091	*		114	17	131	0.082		
NB THRU	2	3,200	726	110	836	0.261			1440	218	1658	0.518	*	
NB RIGHT	1	1600	172	26	198	0.124			32	5	37	0.023		
								0.571						0.543
SB LEFT	1	1,600	72	11	83	0.052			35	5	40	0.025	*	
SB THRU	2	3,200	1334	202	1536	0.480	*		949	144	1093	0.341		
SB RIGHT	1	1,600	372	56	428	0.268			291	44	335	0.209		
EB LEFT	1.5	2,400	241	37	278	0.116	*		498	75	573	0.239	*	
EB THRU	0.5	800	201	30	231	0.000			79	12	91	0.000		
EB RIGHT	1	1,600	101	15	116	0.073			151	23	174	0.109		
								0.217						0.301
WB LEFT	1	1,600	47	7	54	0.034			23	3	26	0.017		
WB THRU	1	1600	140	21	161	0.101	*		86	13	99	0.062	*	
WB RIGHT	1	1,600	58	9	67	0.042			72	11	83	0.052		

NORTH/SOUTH CRITICAL SUM	0.571	NORTH/SOUTH CRITICAL SUM	0.543
EAST/WEST CRITICAL SUM	0.217	EAST/WEST CRITICAL SUM	0.301
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.888	INTERSECTION ICU VALUE	0.944

AM INTERSECTION LOS	D	PM INTERSECTION LOS	E
AM IMPACT	0.104	PM IMPACT	0.110

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	19	4	150	0.094	*		114	17	0	131	0.082		
NB THRU	2	3,200	726	110	0	836	0.261			1440	218	0	1658	0.518	*	
NB RIGHT	1	1600	172	26	0	198	0.124			32	5	0	37	0.023		
									0.574							0.543
SB LEFT	1	1,600	72	11	0	83	0.052			35	5	0	40	0.025	*	
SB THRU	2	3,200	1334	202	0	1536	0.480	*		949	144	0	1093	0.341		
SB RIGHT	1	1,600	372	56	2	430	0.269			291	44	0	335	0.209		
EB LEFT	1.5	2,400	241	37	0	278	0.116	*		498	75	2	575	0.240	*	
EB THRU	0.5	800	201	30	0	231	0.000			79	12	0	91	0.000		
EB RIGHT	1	1,600	101	15	0	116	0.073			151	23	1	175	0.109		
									0.217							0.302
WB LEFT	1	1,600	47	7	0	54	0.034			23	3	0	26	0.017		
WB THRU	1	1600	140	21	0	161	0.101	*		86	13	0	99	0.062	*	
WB RIGHT	1	1,600	58	9	0	67	0.042			72	11	0	83	0.052		

NORTH/SOUTH CRITICAL SUM	0.574	NORTH/SOUTH CRITICAL SUM	0.543
EAST/WEST CRITICAL SUM	0.217	EAST/WEST CRITICAL SUM	0.302
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.891	INTERSECTION ICU VALUE	0.945

AM INTERSECTION LOS	D	PM INTERSECTION LOS	E
AM IMPACT	0.003	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	19	0	4	150	0.094	*		114	17	0	0	131	0.082		
NB THRU	2	3,200	726	110	10	0	846	0.264			1440	218	19	0	1677	0.524	*	
NB RIGHT	1	1600	172	26	1	0	199	0.124			32	5	3	0	40	0.025		
										0.579								0.549
SB LEFT	1	1,600	72	11	0	0	83	0.052			35	5	0	0	40	0.025	*	
SB THRU	2	3,200	1334	202	15	0	1551	0.485	*		949	144	22	0	1115	0.348		
SB RIGHT	1	1,600	372	56	0	2	430	0.269			291	44	0	0	335	0.209		
EB LEFT	1.5	2,400	241	37	0	0	278	0.116	*		498	75	0	2	575	0.240	*	
EB THRU	0.5	800	201	30	0	0	231	0.000			79	12	1	0	92	0.000		
EB RIGHT	1	1,600	101	15	1	0	117	0.073			151	23	3	1	178	0.111		
										0.217								0.302
WB LEFT	1	1,600	47	7	0	0	54	0.034			23	3	0	0	26	0.017		
WB THRU	1	1600	140	21	1	0	162	0.101	*		86	13	0	0	99	0.062	*	
WB RIGHT	1	1,600	58	9	0	0	67	0.042			72	11	0	0	83	0.052		

NORTH/SOUTH CRITICAL SUM	0.579	NORTH/SOUTH CRITICAL SUM	0.549
EAST/WEST CRITICAL SUM	0.217	EAST/WEST CRITICAL SUM	0.302
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.896	INTERSECTION ICU VALUE	0.951

AM INTERSECTION LOS	D	PM INTERSECTION LOS	E
AM IMPACT	0.008	PM IMPACT	0.007

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING CONDITION **(2010)**

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	0.130	*		203	0.127	*	
NB THRU	3	4800	800	0.167			869	0.181		
NB RIGHT	1	1600	114	0.001			134	0		
						0.394				0.333
SB LEFT	2	2,880	265	0.092			343	0.119		
SB THRU	2	3,200	846	0.264	*		660	0.206	*	
SB RIGHT	1	1,600	570	0.134			252	0		
EB LEFT	2	2,880	356	0.124	*		548	0.190	*	
EB THRU	3	4,800	817	0.196			1283	0.298		
EB RIGHT	0	0	125	0.000			146	0.000		
						0.415				0.453
WB LEFT	1	1,600	113	0.071			149	0.093		
WB THRU	3	4,800	1220	0.291	*		1086	0.263	*	
WB RIGHT	0	0	178	0.000			176	0.000		

NORTH/SOUTH CRITICAL SUM	0.394	NORTH/SOUTH CRITICAL SUM	0.333
EAST/WEST CRITICAL SUM	0.415	EAST/WEST CRITICAL SUM	0.453
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.909	INTERSECTION ICU VALUE	0.886
AM INTERSECTION LOS	E	PM INTERSECTION LOS	D

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	11	219	0.137	*		203	10	213	0.133	*	
NB THRU	3	4800	800	40	840	0.175			869	44	913	0.190		
NB RIGHT	1	1600	114	6	120	0.001			134	7	141	0		
								0.415						0.350
SB LEFT	2	2,880	265	13	278	0.097			343	17	360	0.125		
SB THRU	2	3,200	846	43	889	0.278	*		660	33	693	0.217	*	
SB RIGHT	1	1,600	570	29	599	0.141			252	13	265	0		
EB LEFT	2	2,880	356	18	374	0.130	*		548	28	576	0.200	*	
EB THRU	3	4,800	817	41	858	0.206			1283	65	1348	0.313		
EB RIGHT	0	0	125	6	131	0.000			146	7	153	0.000		
								0.436						0.476
WB LEFT	1	1,600	113	6	119	0.074			149	8	157	0.098		
WB THRU	3	4800	1220	62	1282	0.306	*		1086	55	1141	0.276	*	
WB RIGHT	0	0	178	9	187	0.000			176	9	185	0.000		

NORTH/SOUTH CRITICAL SUM	0.415	NORTH/SOUTH CRITICAL SUM	0.350
EAST/WEST CRITICAL SUM	0.436	EAST/WEST CRITICAL SUM	0.476
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.951	INTERSECTION ICU VALUE	0.926

AM INTERSECTION LOS	E	PM INTERSECTION LOS	E
AM IMPACT	0.042	PM IMPACT	0.040

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	11	0	219	0.137	*		203	10	0	213	0.133	*	
NB THRU	3	4800	800	40	1	841	0.175			869	44	0	913	0.190		
NB RIGHT	1	1600	114	6	0	120	0.001			134	7	0	141	0		
									0.415							0.350
SB LEFT	2	2,880	265	13	0	278	0.097			343	17	0	360	0.125		
SB THRU	2	3,200	846	43	0	889	0.278	*		660	33	0	693	0.217	*	
SB RIGHT	1	1,600	570	29	1	600	0.137			252	13	3	268	0		
EB LEFT	2	2,880	356	18	6	380	0.132	*		548	28	0	576	0.200	*	
EB THRU	3	4,800	817	41	0	858	0.206			1283	65	0	1348	0.313		
EB RIGHT	0	0	125	6	0	131	0.000			146	7	0	153	0.000		
									0.438							0.476
WB LEFT	1	1,600	113	6	0	119	0.074			149	8	0	157	0.098		
WB THRU	3	4800	1220	62	0	1282	0.306	*		1086	55	0	1141	0.276	*	
WB RIGHT	0	0	178	9	0	187	0.000			176	9	0	185	0.000		

NORTH/SOUTH CRITICAL SUM	0.415	NORTH/SOUTH CRITICAL SUM	0.350
EAST/WEST CRITICAL SUM	0.438	EAST/WEST CRITICAL SUM	0.476
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.953	INTERSECTION ICU VALUE	0.926

AM INTERSECTION LOS	E	PM INTERSECTION LOS	E
AM IMPACT	0.002	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	11	4	0	223	0.139	*		203	10	2	0	215	0.135	*	
NB THRU	3	4800	800	40	4	1	845	0.176			869	44	6	0	919	0.191		
NB RIGHT	1	1600	114	6	3	0	123	0.001			134	7	2	0	143	0		
										0.418								0.354
SB LEFT	2	2,880	265	13	7	0	285	0.099			343	17	17	0	377	0.131		
SB THRU	2	3,200	846	43	3	0	892	0.279	*		660	33	6	0	699	0.219	*	
SB RIGHT	1	1,600	570	29	7	1	607	0.137			252	13	6	3	274	0		
EB LEFT	2	2,880	356	18	7	6	387	0.134	*		548	28	7	0	583	0.202	*	
EB THRU	3	4,800	817	41	15	0	873	0.210			1283	65	24	0	1372	0.319		
EB RIGHT	0	0	125	6	2	0	133	0.000			146	7	4	0	157	0.000		
										0.445								0.486
WB LEFT	1	1,600	113	6	2	0	121	0.075			149	8	3	0	160	0.100		
WB THRU	3	4800	1220	62	14	0	1296	0.311	*		1086	55	22	0	1163	0.284	*	
WB RIGHT	0	0	178	9	8	0	195	0.000			176	9	16	0	201	0.000		

NORTH/SOUTH CRITICAL SUM	0.418	NORTH/SOUTH CRITICAL SUM	0.354
EAST/WEST CRITICAL SUM	0.445	EAST/WEST CRITICAL SUM	0.486
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.963	INTERSECTION ICU VALUE	0.940

AM INTERSECTION LOS	E	PM INTERSECTION LOS	E
AM IMPACT	0.012	PM IMPACT	0.014

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	21	229	0.143	*		203	21	224	0.14	*	
NB THRU	3	4800	800	81	881	0.184			869	88	957	0.199		
NB RIGHT	1	1600	114	12	126	0.001			134	14	148	0		
								0.434						0.367
SB LEFT	2	2,880	265	27	292	0.101			343	35	378	0.131		
SB THRU	2	3,200	846	85	931	0.291	*		660	67	727	0.227	*	
SB RIGHT	1	1,600	570	58	628	0.147			252	25	277	0		
EB LEFT	2	2,880	356	36	392	0.136	*		548	55	603	0.209	*	
EB THRU	3	4,800	817	83	900	0.216			1283	130	1413	0.328		
EB RIGHT	0	0	125	13	138	0.000			146	15	161	0.000		
								0.457						0.498
WB LEFT	1	1,600	113	11	124	0.078			149	15	164	0.103		
WB THRU	3	4800	1220	123	1343	0.321	*		1086	110	1196	0.289	*	
WB RIGHT	0	0	178	18	196	0.000			176	18	194	0.000		

NORTH/SOUTH CRITICAL SUM	0.434	NORTH/SOUTH CRITICAL SUM	0.367
EAST/WEST CRITICAL SUM	0.457	EAST/WEST CRITICAL SUM	0.498
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.991	INTERSECTION ICU VALUE	0.965

AM INTERSECTION LOS	E	PM INTERSECTION LOS	E
AM IMPACT	0.082	PM IMPACT	0.079

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	21	0	229	0.143	*		203	21	0	224	0.14	*	
NB THRU	3	4800	800	81	1	882	0.184			869	88	0	957	0.199		
NB RIGHT	1	1600	114	12	0	126	0.001			134	14	0	148	0		
									0.434							0.367
SB LEFT	2	2,880	265	27	3	295	0.102			343	35	3	381	0.132		
SB THRU	2	3,200	846	85	0	931	0.291	*		660	67	0	727	0.227	*	
SB RIGHT	1	1,600	570	58	0	628	0.144			252	25	0	277	0		
EB LEFT	2	2,880	356	36	6	398	0.138	*		548	55	3	606	0.211	*	
EB THRU	3	4,800	817	83	0	900	0.216			1283	130	0	1413	0.328		
EB RIGHT	0	0	125	13	0	138	0.000			146	15	0	161	0.000		
									0.459							0.500
WB LEFT	1	1,600	113	11	0	124	0.078			149	15	0	164	0.103		
WB THRU	3	4800	1220	123	0	1343	0.321	*		1086	110	0	1196	0.289	*	
WB RIGHT	0	0	178	18	0	196	0.000			176	18	0	194	0.000		

NORTH/SOUTH CRITICAL SUM	0.434	NORTH/SOUTH CRITICAL SUM	0.367
EAST/WEST CRITICAL SUM	0.459	EAST/WEST CRITICAL SUM	0.500
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.993	INTERSECTION ICU VALUE	0.967

AM INTERSECTION LOS	E	PM INTERSECTION LOS	E
AM IMPACT	0.002	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	21	4	0	233	0.146	*		203	21	2	0	226	0.141	*	
NB THRU	3	4800	800	81	4	1	886	0.185			869	88	6	0	963	0.201		
NB RIGHT	1	1600	114	12	3	0	129	0.001			134	14	2	0	150	0		
										0.438								0.370
SB LEFT	2	2,880	265	27	7	3	302	0.105			343	35	17	3	398	0.138		
SB THRU	2	3,200	846	85	3	0	934	0.292	*		660	67	6	0	733	0.229	*	
SB RIGHT	1	1,600	570	58	7	0	635	0.144			252	25	6	0	283	0		
EB LEFT	2	2,880	356	36	7	6	405	0.141	*		548	55	7	3	613	0.213	*	
EB THRU	3	4,800	817	83	15	0	915	0.220			1283	130	24	0	1437	0.334		
EB RIGHT	0	0	125	13	2	0	140	0.000			146	15	4	0	165	0.000		
										0.466								0.510
WB LEFT	1	1,600	113	11	2	0	126	0.079			149	15	3	0	167	0.104		
WB THRU	3	4800	1220	123	14	0	1357	0.325	*		1086	110	22	0	1218	0.297	*	
WB RIGHT	0	0	178	18	8	0	204	0.000			176	18	16	0	210	0.000		

NORTH/SOUTH CRITICAL SUM	0.438	NORTH/SOUTH CRITICAL SUM	0.370
EAST/WEST CRITICAL SUM	0.466	EAST/WEST CRITICAL SUM	0.510
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	1.004	INTERSECTION ICU VALUE	0.980

AM INTERSECTION LOS	F	PM INTERSECTION LOS	E
AM IMPACT	0.013	PM IMPACT	0.015

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	32	240	0.150	*		203	31	234	0.146	*	
NB THRU	3	4800	800	121	921	0.192			869	132	1001	0.208		
NB RIGHT	1	1600	114	17	131	0.001			134	20	154	0		
								0.454						0.383
SB LEFT	2	2,880	265	40	305	0.106			343	52	395	0.137		
SB THRU	2	3,200	846	128	974	0.304	*		660	100	760	0.237	*	
SB RIGHT	1	1,600	570	86	656	0.154			252	38	290	0		
EB LEFT	2	2,880	356	54	410	0.142	*		548	83	631	0.219	*	
EB THRU	3	4,800	817	124	941	0.226			1283	194	1477	0.343		
EB RIGHT	0	0	125	19	144	0.000			146	22	168	0.000		
								0.477						0.522
WB LEFT	1	1,600	113	17	130	0.081			149	23	172	0.107		
WB THRU	3	4800	1220	185	1405	0.335	*		1086	165	1251	0.303	*	
WB RIGHT	0	0	178	27	205	0.000			176	27	203	0.000		

NORTH/SOUTH CRITICAL SUM	0.454	NORTH/SOUTH CRITICAL SUM	0.383
EAST/WEST CRITICAL SUM	0.477	EAST/WEST CRITICAL SUM	0.522
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	1.031	INTERSECTION ICU VALUE	1.005

AM INTERSECTION LOS	F	PM INTERSECTION LOS	F
AM IMPACT	0.122	PM IMPACT	0.119

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	32	0	240	0.150	*		203	31	0	234	0.146	*	
NB THRU	3	4800	800	121	1	922	0.192			869	132	0	1001	0.208		
NB RIGHT	1	1600	114	17	0	131	0.001			134	20	0	154	0		
									0.454							0.383
SB LEFT	2	2,880	265	40	0	305	0.106			343	52	0	395	0.137		
SB THRU	2	3,200	846	128	0	974	0.304	*		660	100	0	760	0.237	*	
SB RIGHT	1	1,600	570	86	0	656	0.152			252	38	0	290	0		
EB LEFT	2	2,880	356	54	3	413	0.143	*		548	83	0	631	0.219	*	
EB THRU	3	4,800	817	124	0	941	0.226			1283	194	0	1477	0.343		
EB RIGHT	0	0	125	19	0	144	0.000			146	22	0	168	0.000		
									0.478							0.522
WB LEFT	1	1,600	113	17	0	130	0.081			149	23	0	172	0.107		
WB THRU	3	4800	1220	185	0	1405	0.335	*		1086	165	0	1251	0.303	*	
WB RIGHT	0	0	178	27	0	205	0.000			176	27	0	203	0.000		

NORTH/SOUTH CRITICAL SUM	0.454	NORTH/SOUTH CRITICAL SUM	0.383
EAST/WEST CRITICAL SUM	0.478	EAST/WEST CRITICAL SUM	0.522
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	1.032	INTERSECTION ICU VALUE	1.005

AM INTERSECTION LOS	F	PM INTERSECTION LOS	F
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	32	4	0	244	0.152	*		203	31	2	0	236	0.147	*	
NB THRU	3	4800	800	121	4	1	926	0.193			869	132	6	0	1007	0.210		
NB RIGHT	1	1600	114	17	3	0	134	0.001			134	20	2	0	156	0		
										0.457								0.386
SB LEFT	2	2,880	265	40	7	0	312	0.108			343	52	17	0	412	0.143		
SB THRU	2	3,200	846	128	3	0	977	0.305	*		660	100	6	0	766	0.239	*	
SB RIGHT	1	1,600	570	86	7	0	663	0.152			252	38	6	0	296	0		
EB LEFT	2	2,880	356	54	7	3	420	0.146	*		548	83	7	0	638	0.222	*	
EB THRU	3	4,800	817	124	15	0	956	0.230			1283	194	24	0	1501	0.349		
EB RIGHT	0	0	125	19	2	0	146	0.000			146	22	4	0	172	0.000		
										0.486								0.533
WB LEFT	1	1,600	113	17	2	0	132	0.083			149	23	3	0	175	0.109		
WB THRU	3	4800	1220	185	14	0	1419	0.340	*		1086	165	22	0	1273	0.311	*	
WB RIGHT	0	0	178	27	8	0	213	0.000			176	27	16	0	219	0.000		

NORTH/SOUTH CRITICAL SUM	0.457	NORTH/SOUTH CRITICAL SUM	0.386
EAST/WEST CRITICAL SUM	0.486	EAST/WEST CRITICAL SUM	0.533
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	1.043	INTERSECTION ICU VALUE	1.019

AM INTERSECTION LOS	F	PM INTERSECTION LOS	F
AM IMPACT	0.012	PM IMPACT	0.014

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT + Mitigation
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	208	11	6	0	225	0.078	*		203	10	7	0	220	0.076		
NB THRU	3	4800	800	40	4	1	845	0.176			869	44	17	0	930	0.194	*	
NB RIGHT	1	1600	114	6	3	0	123	0.001			134	7	2	0	143	0.000		
										0.357								0.325
SB LEFT	2	2,880	265	13	7	0	285	0.099			343	17	18	0	378	0.131	*	
SB THRU	2	3,200	846	43	3	0	892	0.279	*		660	33	7	0	700	0.219		
SB RIGHT	1	1,600	570	29	7	1	607	0.137			252	13	6	3	274	0.000		
EB LEFT	2	2,880	356	18	7	6	387	0.134	*		548	28	7	0	583	0.202	*	
EB THRU	3	4,800	817	41	18	0	876	0.211			1283	65	40	0	1388	0.325		
EB RIGHT	0	0	125	6	5	0	136	0.000			146	7	19	0	172	0.000		
										0.445								0.489
WB LEFT	1	1,600	113	6	2	0	121	0.075			149	8	3	0	160	0.100		
WB THRU	3	4800	1220	62	16	0	1298	0.311	*		1086	55	38	0	1179	0.287	*	
WB RIGHT	0	0	178	9	9	0	196	0.000			176	9	16	0	201	0.000		

NORTH/SOUTH CRITICAL SUM	0.357	NORTH/SOUTH CRITICAL SUM	0.325
EAST/WEST CRITICAL SUM	0.445	EAST/WEST CRITICAL SUM	0.489
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.902	INTERSECTION ICU VALUE	0.914

AM INTERSECTION LOS	E	PM INTERSECTION LOS	E
AM IMPACT	-0.049	PM IMPACT	-0.012

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT + Mitigation
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	208	21	4	0	233	0.081	*		203	21	2	0	226	0.078		
NB THRU	3	4800	800	81	4	1	886	0.185			869	88	6	0	963	0.201	*	
NB RIGHT	1	1600	114	12	3	0	129	0.001			134	14	2	0	150	-0.011		
										0.373								0.339
SB LEFT	2	2,880	265	27	7	3	302	0.105			343	35	17	3	398	0.138	*	
SB THRU	2	3,200	846	85	3	0	934	0.292	*		660	67	6	0	733	0.229		
SB RIGHT	1	1,600	570	58	7	0	635	0.144			252	25	6	0	283	-0.206		
EB LEFT	2	2,880	356	36	7	6	405	0.141	*		548	55	7	3	613	0.213	*	
EB THRU	3	4,800	817	83	15	0	915	0.220			1283	130	24	0	1437	0.334		
EB RIGHT	0	0	125	13	2	0	140	0.000			146	15	4	0	165	0.000		
										0.466								0.510
WB LEFT	1	1,600	113	11	2	0	126	0.079			149	15	3	0	167	0.104		
WB THRU	3	4800	1220	123	14	0	1357	0.325	*		1086	110	22	0	1218	0.297	*	
WB RIGHT	0	0	178	18	8	0	204	0.000			176	18	16	0	210	0.000		

NORTH/SOUTH CRITICAL SUM	0.373	NORTH/SOUTH CRITICAL SUM	0.339
EAST/WEST CRITICAL SUM	0.466	EAST/WEST CRITICAL SUM	0.510
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.939	INTERSECTION ICU VALUE	0.949

AM INTERSECTION LOS	E	PM INTERSECTION LOS	E
AM IMPACT	-0.052	PM IMPACT	-0.016

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT + Mitigation
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	208	32	4	0	244	0.085	*		203	31	2	0	236	0.082		
NB THRU	3	4800	800	121	4	1	926	0.193			869	132	6	0	1007	0.210	*	
NB RIGHT	1	1600	114	17	3	0	134	0.001			134	20	2	0	156	-0.011		
										0.390								0.353
SB LEFT	2	2,880	265	40	7	0	312	0.108			343	52	17	0	412	0.143	*	
SB THRU	2	3,200	846	128	3	0	977	0.305	*		660	100	6	0	766	0.239		
SB RIGHT	1	1,600	570	86	7	0	663	0.152			252	38	6	0	296	-0.214		
EB LEFT	2	2,880	356	54	7	3	420	0.146	*		548	83	7	0	638	0.222	*	
EB THRU	3	4,800	817	124	15	0	956	0.230			1283	194	24	0	1501	0.349		
EB RIGHT	0	0	125	19	2	0	146	0.000			146	22	4	0	172	0.000		
										0.486								0.533
WB LEFT	1	1,600	113	17	2	0	132	0.083			149	23	3	0	175	0.109		
WB THRU	3	4800	1220	185	14	0	1419	0.340	*		1086	165	22	0	1273	0.311	*	
WB RIGHT	0	0	178	27	8	0	213	0.000			176	27	16	0	219	0.000		

NORTH/SOUTH CRITICAL SUM	0.390	NORTH/SOUTH CRITICAL SUM	0.353
EAST/WEST CRITICAL SUM	0.486	EAST/WEST CRITICAL SUM	0.533
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.976	INTERSECTION ICU VALUE	0.986

AM INTERSECTION LOS	E	PM INTERSECTION LOS	E
AM IMPACT	-0.055	PM IMPACT	-0.019

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD
EXISTING CONDITION **(2010)**

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0.000			0	0.000		
NB THRU	2	3,200	1056	0.342	*		864	0.291	*	
NB RIGHT	0	0	39	0.000			68	0.000		
						0.446				0.422
SB LEFT	1	1,600	167	0.104	*		209	0.131	*	
SB THRU	2	3,200	763	0.238			1006	0.314		
SB RIGHT	0	0	0	0.000			0	0.000		
EB LEFT	0	0	0	0.000	*		0	0.000	*	
EB THRU	0	0	0	0.000			0	0.000		
EB RIGHT	0	0	0	0.000			0	0.000		
						0.214				0.143
WB LEFT	1	1,600	162	0.101			64	0.040		
WB THRU	0	0	0	0.000			0	0.000		
WB RIGHT	1	1,600	342	0.214	*		229	0.143	*	

NORTH/SOUTH CRITICAL SUM	0.446	NORTH/SOUTH CRITICAL SUM	0.422
EAST/WEST CRITICAL SUM	0.214	EAST/WEST CRITICAL SUM	0.143
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.760	INTERSECTION ICU VALUE	0.665
AM INTERSECTION LOS	C	PM INTERSECTION LOS	B

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	2	3,200	1056	53	1109	0.359	*		864	44	908	0.306	*	
NB RIGHT	0	0	39	2	41	0.000			68	3	71	0.000		
								0.469						0.443
SB LEFT	1	1,600	167	8	175	0.110	*		209	11	220	0.137	*	
SB THRU	2	3,200	763	39	802	0.250			1006	51	1057	0.330		
SB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.225						0.150
WB LEFT	1	1,600	162	8	170	0.106			64	3	67	0.042		
WB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
WB RIGHT	1	1,600	342	17	359	0.225	*		229	12	241	0.15	*	

NORTH/SOUTH CRITICAL SUM	0.469	NORTH/SOUTH CRITICAL SUM	0.443
EAST/WEST CRITICAL SUM	0.225	EAST/WEST CRITICAL SUM	0.150
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.794	INTERSECTION ICU VALUE	0.693

AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.034	PM IMPACT	0.028

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
NB THRU	2	3,200	1056	53	1	1110	0.360	*		864	44	3	911	0.307	*	
NB RIGHT	0	0	39	2	0	41	0.000			68	3	0	71	0.000		
									0.470							0.444
SB LEFT	1	1,600	167	8	0	175	0.110	*		209	11	0	220	0.137	*	
SB THRU	2	3,200	763	39	6	808	0.252			1006	51	2	1059	0.331		
SB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.225							0.151
WB LEFT	1	1,600	162	8	0	170	0.106			64	3	0	67	0.042		
WB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
WB RIGHT	1	1,600	342	17	0	359	0.225	*		229	12	1	242	0.151	*	

NORTH/SOUTH CRITICAL SUM	0.470	NORTH/SOUTH CRITICAL SUM	0.444
EAST/WEST CRITICAL SUM	0.225	EAST/WEST CRITICAL SUM	0.151
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.795	INTERSECTION ICU VALUE	0.695

AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.001	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB THRU	2	3,200	1056	53	19	1	1129	0.366	*		864	44	32	3	943	0.317	*	
NB RIGHT	0	0	39	2	0	0	41	0.000			68	3	0	0	71	0.000		
										0.476								0.454
SB LEFT	1	1,600	167	8	0	0	175	0.110	*		209	11	0	0	220	0.137	*	
SB THRU	2	3,200	763	39	32	6	840	0.262			1006	51	40	2	1099	0.343		
SB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.225								0.151
WB LEFT	1	1,600	162	8	0	0	170	0.106			64	3	0	0	67	0.042		
WB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
WB RIGHT	1	1,600	342	17	0	0	359	0.225	*		229	12	0	1	242	0.151	*	

NORTH/SOUTH CRITICAL SUM	0.476	NORTH/SOUTH CRITICAL SUM	0.454
EAST/WEST CRITICAL SUM	0.225	EAST/WEST CRITICAL SUM	0.151
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.801	INTERSECTION ICU VALUE	0.705

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.007	PM IMPACT	0.012

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	2	3,200	1056	107	1163	0.377	*		864	87	951	0.321	*	
NB RIGHT	0	0	39	4	43	0.000			68	7	75	0.000		
								0.492						0.465
SB LEFT	1	1,600	167	17	184	0.115	*		209	21	230	0.144	*	
SB THRU	2	3,200	763	77	840	0.263			1006	102	1108	0.346		
SB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.235						0.158
WB LEFT	1	1,600	162	16	178	0.111			64	6	70	0.044		
WB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
WB RIGHT	1	1,600	342	35	377	0.235	*		229	23	252	0.158	*	

NORTH/SOUTH CRITICAL SUM	0.492	NORTH/SOUTH CRITICAL SUM	0.465
EAST/WEST CRITICAL SUM	0.235	EAST/WEST CRITICAL SUM	0.158
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.827	INTERSECTION ICU VALUE	0.723

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.067	PM IMPACT	0.058

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
NB THRU	2	3,200	1056	107	0	1163	0.378	*		864	87	0	951	0.322	*	
NB RIGHT	0	0	39	4	3	46	0.000			68	7	3	78	0.000		
									0.496							0.469
SB LEFT	1	1,600	167	17	5	189	0.118	*		209	21	5	235	0.147	*	
SB THRU	2	3,200	763	77	3	843	0.263			1006	102	0	1108	0.346		
SB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.235							0.159
WB LEFT	1	1,600	162	16	3	181	0.113			64	6	3	73	0.046		
WB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
WB RIGHT	1	1,600	342	35	0	377	0.235	*		229	23	3	255	0.159	*	

NORTH/SOUTH CRITICAL SUM	0.496	NORTH/SOUTH CRITICAL SUM	0.469
EAST/WEST CRITICAL SUM	0.235	EAST/WEST CRITICAL SUM	0.159
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.831	INTERSECTION ICU VALUE	0.728

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.004	PM IMPACT	0.005

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB THRU	2	3,200	1056	107	19	0	1182	0.384	*		864	87	32	0	983	0.332	*	
NB RIGHT	0	0	39	4	0	3	46	0.000			68	7	0	3	78	0.000		
										0.502								0.479
SB LEFT	1	1,600	167	17	0	5	189	0.118	*		209	21	0	5	235	0.147	*	
SB THRU	2	3,200	763	77	32	3	875	0.273			1006	102	40	0	1148	0.359		
SB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.235								0.159
WB LEFT	1	1,600	162	16	0	3	181	0.113			64	6	0	3	73	0.046		
WB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
WB RIGHT	1	1,600	342	35	0	0	377	0.235	*		229	23	0	3	255	0.159	*	

NORTH/SOUTH CRITICAL SUM	0.502	NORTH/SOUTH CRITICAL SUM	0.479
EAST/WEST CRITICAL SUM	0.235	EAST/WEST CRITICAL SUM	0.159
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.837	INTERSECTION ICU VALUE	0.738

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.010	PM IMPACT	0.015

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	2	3,200	1056	160	1216	0.394	*		864	131	995	0.335	*	
NB RIGHT	0	0	39	6	45	0.000			68	10	78	0.000		
								0.514						0.485
SB LEFT	1	1,600	167	25	192	0.120	*		209	32	241	0.15	*	
SB THRU	2	3,200	763	116	879	0.275			1006	152	1158	0.362		
SB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.246						0.165
WB LEFT	1	1,600	162	25	187	0.117			64	10	74	0.046		
WB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
WB RIGHT	1	1,600	342	52	394	0.246	*		229	35	264	0.165	*	

NORTH/SOUTH CRITICAL SUM	0.514	NORTH/SOUTH CRITICAL SUM	0.485
EAST/WEST CRITICAL SUM	0.246	EAST/WEST CRITICAL SUM	0.165
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.860	INTERSECTION ICU VALUE	0.750

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.100	PM IMPACT	0.085

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
NB THRU	2	3,200	1056	160	0	1216	0.394	*		864	131	0	995	0.335	*	
NB RIGHT	0	0	39	6	0	45	0.000			68	10	0	78	0.000		
									0.514							0.485
SB LEFT	1	1,600	167	25	0	192	0.120	*		209	32	0	241	0.15	*	
SB THRU	2	3,200	763	116	3	882	0.275			1006	152	2	1160	0.363		
SB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
									0.246							0.167
WB LEFT	1	1,600	162	25	0	187	0.117			64	10	0	74	0.046		
WB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
WB RIGHT	1	1,600	342	52	0	394	0.246	*		229	35	3	267	0.167	*	

NORTH/SOUTH CRITICAL SUM	0.514	NORTH/SOUTH CRITICAL SUM	0.485
EAST/WEST CRITICAL SUM	0.246	EAST/WEST CRITICAL SUM	0.167
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.860	INTERSECTION ICU VALUE	0.752

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.000	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
NB THRU	2	3,200	1056	160	19	0	1235	0.400	*		864	131	32	0	1027	0.345	*	
NB RIGHT	0	0	39	6	0	0	45	0.000			68	10	0	0	78	0.000		
										0.520								0.495
SB LEFT	1	1,600	167	25	0	0	192	0.120	*		209	32	0	0	241	0.15	*	
SB THRU	2	3,200	763	116	32	3	914	0.285			1006	152	40	2	1200	0.375		
SB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB LEFT	0	0	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
										0.246								0.167
WB LEFT	1	1,600	162	25	0	0	187	0.117			64	10	0	0	74	0.046		
WB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
WB RIGHT	1	1,600	342	52	0	0	394	0.246	*		229	35	0	3	267	0.167	*	

NORTH/SOUTH CRITICAL SUM	0.520	NORTH/SOUTH CRITICAL SUM	0.495
EAST/WEST CRITICAL SUM	0.246	EAST/WEST CRITICAL SUM	0.167
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.866	INTERSECTION ICU VALUE	0.762

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.006	PM IMPACT	0.012

APPENDIX G

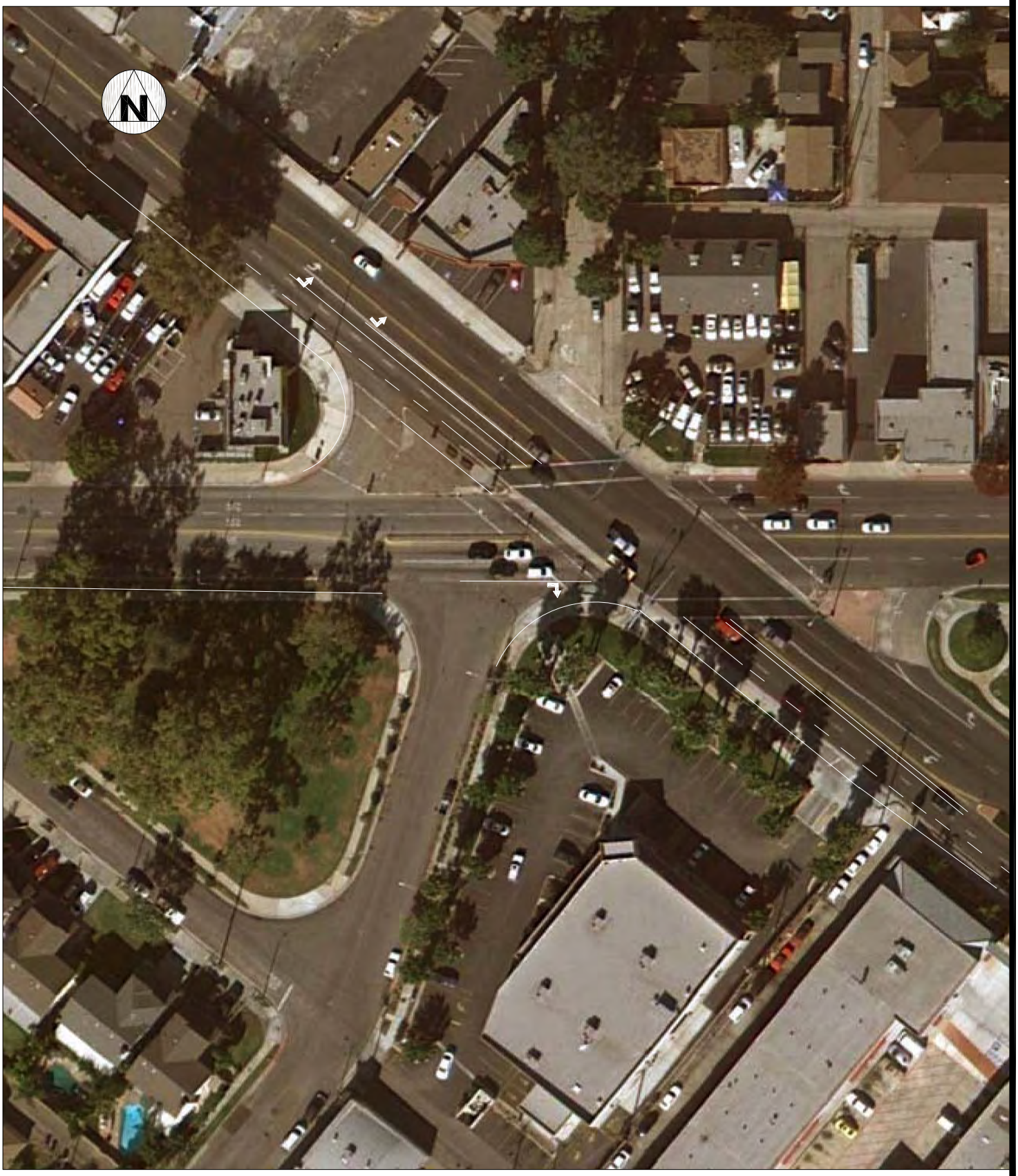
CONCEPT MITIGATION DRAWINGS

5/2011

CONCEPT MITIGATION DRAWING
HADLEY STREET & WHITTIER BOULEVARD

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTCINC@attbi.com

WHITTIER HILLS OIL FIELDS

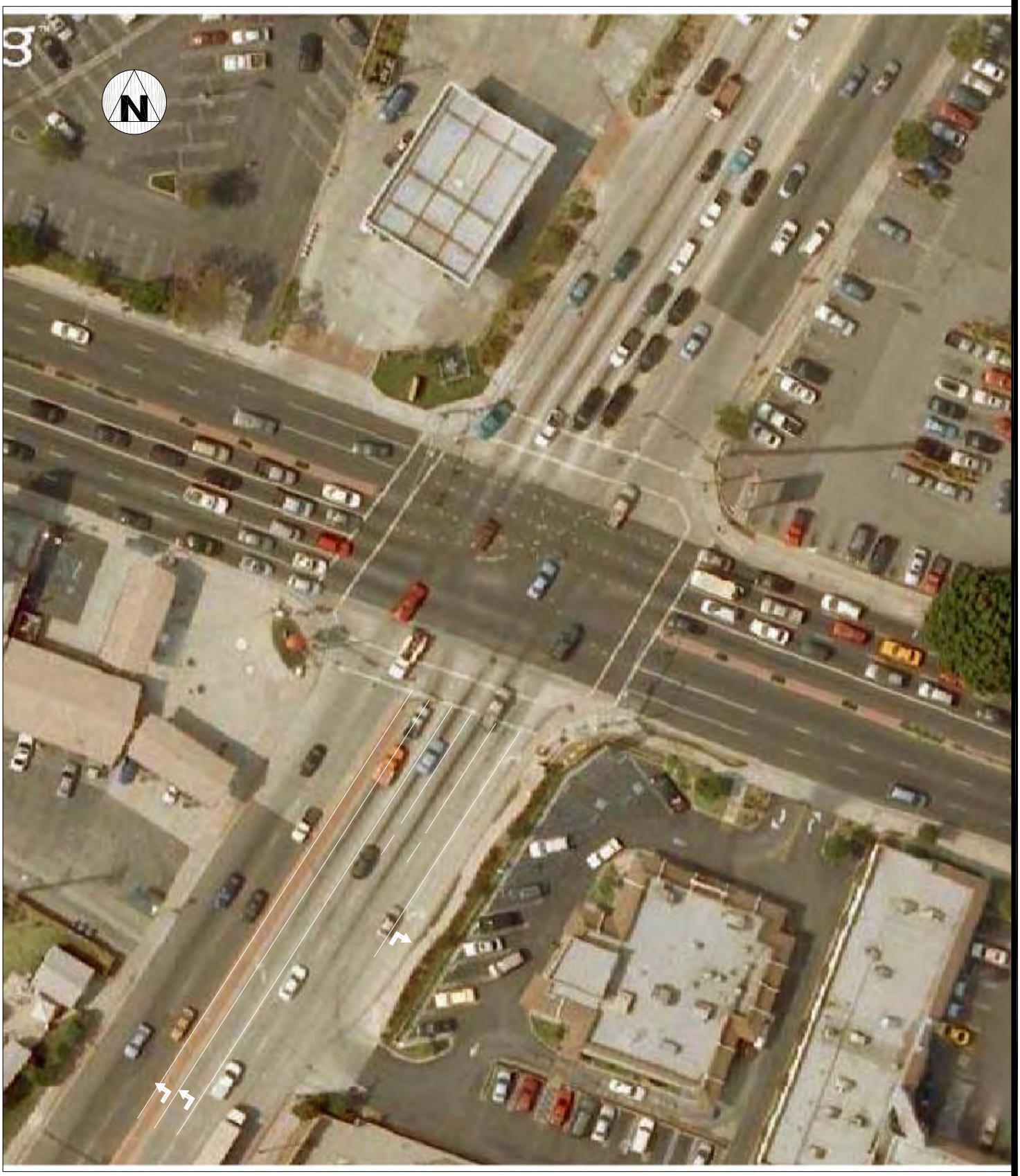


3/2011

CONCEPT MITIGATION DRAWING
HADLEY STREET & WHITTIER BOULEVARD

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTCINC@attbi.com

WHITTIER HILLS OIL FIELDS



3/2011

CONCEPT MITIGATION DRAWING
cOLIMA ROAD & WHITTIER BLVD

Overland Traffic Consultants, Inc.
27201 Tourney Road #206, Santa Clarita, CA 91355
(661)799-8423 v, (661)799-8456 f, OTCINC@attbi.com

WHITTIER HILLS OIL FIELDS

APPENDIX H

PROJECT ALTERNATIVE ANALYSIS

ALTERNATIVE SUMMARY

Savage Canyon Alternatives Analysis

The Savage Canyon alternative incorporate changes in access from the proposed project in that the trucks use the Penn Street access for all three phases. In addition the employees will be using the Penn Street access for all three phases instead of a Catalina Avenue access. The analysis process is the same as with the project analysis.

The altered traffic distribution using Penn Street would reduce traffic using Mar Vista Street, Catalina Avenue, California Avenue and Ocean View Avenue. It would increase traffic in the Hadley Street, Penn Street and Painter Avenue area. The results of the analysis for each phase are provided below.

Summary

Phase 1

Existing + Ambient + Project Significant Impacts

No intersection or street segment significant impacts.

Future Existing + Ambient + Cumulative + Project Significant Impacts

#12 Colima Road & Whittier Boulevard during the AM & PM peak hours is significantly impacted. No significant street segment impacts.

Phase 2

Existing + Ambient + Project Significant Impacts

#3 Hadley Street & Whittier Boulevard during the PM peak hour is significantly impacted. No significant street segment impacts.

Future Existing + Ambient + Cumulative + Project Significant Impacts

3 Hadley Street & Whittier Boulevard during the PM peak hour and #12 Colima Road & Whittier Boulevard during the AM and PM peak hours are significantly impacted. No significant street segment impacts.

Phase 3

Existing + Ambient + Project Significant Impacts

No intersection or street segment significant impacts.

Future Existing + Ambient + Cumulative + Project Significant Impacts

#12 Colima Road & Whittier Boulevard during the AM and PM peak hours is significantly impact.

Whittier Main Oil Field

Phase 1

SAVAGE CANYON ALTERERNATIVE

ICU SUMARY

No.	Intersection	Peak Hour		Future (2015) Exist+Ambient ICU DELAY	LOS		Growth	Future (2015) Exist+Ambient+Phase 1 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	Future (2015) Exist+Amb+Related+Phase 1 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	% project	Future (2025) Cuml+Ph 1+Mit ICU DELAY	LOS	IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.835	D	+	0.036	0.836	D	+	0.001		NO	0.840	D	+	0.005		NO					
	& Whittier Boulevard	PM		0.817	D	+	0.034	0.818	D	+	0.001		NO	0.824	D	+	0.007		NO					
2	605 Fwy NB Offramp &	AM		0.771	C	+	0.032	0.772	C	+	0.001		NO	0.777	C	+	0.006		NO					
	Whittier Boulevard	PM		0.682	B	+	0.029	0.682	B	+	0.000		NO	0.693	B	+	0.011		NO					
3	Hadley Street &	AM		0.933	E	+	0.040	0.937	E	+	0.004		NO	0.939	E	+	0.006		NO					
	Whittier Boulevard	PM		0.798	C	+	0.034	0.804	D	+	0.006		NO	0.805	D	+	0.007		NO					
4	Hadley Street &	AM		0.803	D	+	0.034	0.807	D	+	0.004		NO	0.809	D	+	0.006		NO					
	Painter Avenue	PM		0.734	C	+	0.030	0.738	C	+	0.004		NO	0.74	C	+	0.006		NO					
5	Painter Avenue &	AM		0.532	A	+	0.022	0.538	A	+	0.006		NO	0.539	A	+	0.007		NO					
	Penn Street	PM		0.614	B	+	0.026	0.614	B	+	0.000		NO	0.615	B	+	0.001		NO					
6A	Catalina Av (W Leg) &	AM	SB	21.8	C	+	1.3	21.8	C	+	0.0	0.0%	No	22.0	C	+	0.2	0.9%	NO					
	Mar Vista Street	PM	SB	11.1	B	+	0.1	11.1	B	+	0.0	0.0%	NO	11.2	B	+	0.1	0.9%	NO					
6B	Catalina Av (E Leg) &	AM	NB	13.4	B	+	0.3	13.4	B	+	0.0	0.0%	NO	13.5	B	+	0.1	0.7%	NO					
	Mar Vista Street	PM	NB	14.7	B	+	0.5	14.7	B	+	0.0	0.0%	NO	14.8	B	+	0.1	0.7%	NO					
7	Catalina Avenue &	AM	SB	19.9	C	+	1.5	19.9	C	+	0.0	0.0%	NO	20.3	C	+	0.4	2.0%	NO					
	Whittier Boulevard	PM	SB	15.6	C	+	0.6	15.6	C	+	0.0	0.0%	NO	15.6	C	+	0.0	0.0%	NO					
8	60 Fwy WB Off Ramp &	AM		0.806	D	+	0.034	0.806	D	+	0.000		NO	0.807	D	+	0.001		NO					
	Hacienda Boulevard	PM		0.859	D	+	0.035	0.859	D	+	0.000		NO	0.866	D	+	0.007		NO					
9	Three Palms Drive &	AM		0.914	E	+	0.040	0.914	E	+	0.000		NO	0.917	E	+	0.003		NO					
	Hacienda Boulevard	PM		0.789	C	+	0.034	0.789	C	+	0.000		NO	0.797	C	+	0.008		NO					
10	Colima Road &	AM		0.731	C	+	0.031	0.731	C	+	0.000		NO	0.736	C	+	0.005		NO					
	Hacienda Boulevard	PM		0.776	C	+	0.033	0.777	C	+	0.001		NO	0.785	C	+	0.009		NO					
11	Colima Road &	AM		0.818	D	+	0.034	0.818	D	+	0.000		NO	0.824	D	+	0.006		NO					
	Mar Vista Street	PM		0.870	D	+	0.036	0.870	D	+	0.000		NO	0.876	D	+	0.006		NO					
12	Colima Road &	AM		0.951	E	+	0.042	0.951	E	+	0.000		NO	0.961	E	+	0.010		**YES**	0.0%	0.902	E	-0.049	NO
	Whittier Boulevard	PM		0.926	E	+	0.040	0.926	E	+	0.000		NO	0.941	E	+	0.015		**YES**	0.0%	0.914	E	-0.012	NO
13	Mar Vista Street &	AM		0.794	C	+	0.034	0.796	C	+	0.002		NO	0.802	D	+	0.008		NO					
	Whittier Boulevard	PM		0.693	B	+	0.028	0.693	B	+	0.000		NO	0.703	C	+	0.010		NO					

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)

Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Whittier Main Oil Field

Phase 2

SAVAGE CANYON ALTERNATIVE

ICU SUMARY

No.	Intersection	Peak Hour		Future (2020) Exist+Ambient ICU DELAY	LOS		Growth	Future (2020) Exist+Ambient+Phase 2 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	Future (2020) Exist+Amb+Related+Phase 2 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	% project	Future (2020) Exist+Amb+Phase 2+ MIT ICU DELAY	LOS	IMPACT	Significant Impact	Future (2020) Exist+Amb+Ph2+ CUML + MIT ICU DELAY	LOS	IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.870	D	+	0.071	0.873	D	+	0.003		NO	0.877	D	+	0.007		NO									
	& Whittier Boulevard	PM		0.852	D	+	0.069	0.854	D	+	0.002		NO	0.860	D	+	0.008		NO									
2	605 Fwy NB Offramp &	AM		0.804	D	+	0.065	0.808	D	+	0.004		NO	0.813	D	+	0.009		NO									
	Whittier Boulevard	PM		0.710	C	+	0.057	0.714	C	+	0.004		NO	0.724	C	+	0.014		NO									
3	Hadley Street &	AM		0.973	E	+	0.080	0.989	E	+	0.016		**YES**	0.990	E	+	0.017		**YES**	94.1%	0.978	D	0.005	NO	0.971	D	-0.002	NO
	Whittier Boulevard	PM		0.831	D	+	0.067	0.849	D	+	0.018		NO	0.850	D	+	0.019		NO									
4	Hadley Street &	AM		0.836	D	+	0.067	0.848	D	+	0.012		NO	0.850	D	+	0.014		NO									
	Painter Avenue	PM		0.766	C	+	0.062	0.777	C	+	0.011		NO	0.779	C	+	0.013		NO									
5	Painter Avenue &	AM		0.552	A	+	0.042	0.576	A	+	0.024		NO	0.577	A	+	0.025		NO									
	Penn Street	PM		0.638	B	+	0.050	0.638	B	+	0.000		NO	0.639	B	+	0.001		NO									
6A	Catalina Av (W Leg) &	AM	SB	22.1	C	+	1.6	22.1	C	+	0.0	0.0%	NO	22.1	C	+	0.0	0.0%	NO									
	Mar Vista Street	PM	SB	11.3	B	+	0.3	11.3	B	+	0.0	0.0%	NO	11.4	B	+	0.1	0.9%	NO									
6B	Catalina Av (E Leg) &	AM	NB	13.9	B	+	0.8	13.9	B	+	0.0	0.0%	NO	13.9	B	+	0.0	0.0%	NO									
	Mar Vista Street	PM	NB	15.2	C	+	1.0	15.3	C	+	0.1	0.7%	NO	15.3	C	+	0.1	0.7%	NO									
7	Catalina Avenue &	AM	SB	21.5	C	+	3.1	21.5	C	+	0.0	0.0%	NO	22.1	C	+	0.6	2.7%	NO									
	Whittier Boulevard	PM	SB	16.6	C	+	1.6	16.9	C	+	0.3	1.8%	NO	17.1	C	+	0.5	2.9%	NO									
8	60 Fwy WB Off Ramp &	AM		0.840	D	+	0.068	0.840	D	+	0.000		NO	0.841	D	+	0.001		NO									
	Hacienda Boulevard	PM		0.896	D	+	0.072	0.897	D	+	0.001		NO	0.903	E	+	0.007		NO									
9	Three Palms Drive &	AM		0.953	E	+	0.079	0.954	E	+	0.001		NO	0.957	E	+	0.004		NO									
	Hacienda Boulevard	PM		0.821	D	+	0.066	0.823	D	+	0.002		NO	0.831	D	+	0.010		No									
10	Colima Road &	AM		0.761	C	+	0.061	0.762	C	+	0.001		NO	0.767	C	+	0.006		NO									
	Hacienda Boulevard	PM		0.808	D	+	0.065	0.810	D	+	0.002		NO	0.818	D	+	0.010		NO									
11	Colima Road &	AM		0.853	D	+	0.069	0.854	D	+	0.001		NO	0.860	D	+	0.007		NO									
	Mar Vista Street	PM		0.906	E	+	0.072	0.908	E	+	0.002		NO	0.914	E	+	0.008		NO									
12	Colima Road &	AM		0.991	F	+	0.082	0.992	E	+	0.001		NO	1.003	F	+	0.012		**YES**	8.3%					0.939	E	-0.052	NO
	Whittier Boulevard	PM		0.965	E	+	0.079	0.967	E	+	0.002		NO	0.980	E	+	0.015		**YES**	13.3%					0.949	E	-0.016	NO
13	Mar Vista Street &	AM		0.827	D	+	0.067	0.831	D	+	0.004		NO	0.837	D	+	0.010		NO									
	Whittier Boulevard	PM		0.723	C	+	0.058	0.727	C	+	0.004		NO	0.737	C	+	0.014		NO									

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)

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Whittier Main Oil Field

Phase 3

SAVAGE CANYON ALTERNATIVE

ICU SUMARY

No.	Intersection	Peak Hour		Future (2025) Exist+Ambient ICU DELAY	LOS		Growth	Future (2025) Exist+Ambient+Phase 3 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	Future (2025) Exist+Amb+Related+Phase 3 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact		Future (2025) Exist+Amb+Ph 3+CUML+MIT ICU DELAY	LOS	IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.905	E	+	0.106	0.905	E	+	0.000		NO	0.910	E	+	0.005		NO					
	& Whittier Boulevard	PM		0.887	D	+	0.104	0.887	D	+	0.000		NO	0.892	D	+	0.005		NO					
2	605 Fwy NB Offramp &	AM		0.836	D	+	0.097	0.837	D	+	0.001		NO	0.842	D	+	0.006		NO					
	Whittier Boulevard	PM		0.737	C	+	0.084	0.737	C	+	0.000		NO	0.748	C	+	0.011		NO					
3	Hadley Street &	AM		1.013	F	+	0.120	1.016	F	+	0.003		NO	1.018	F	+	0.005		NO					
	Whittier Boulevard	PM		0.865	D	+	0.101	0.870	D	+	0.005		NO	0.871	E	+	0.006		NO					
4	Hadley Street &	AM		0.870	D	+	0.101	0.872	D	+	0.002		NO	0.874	D	+	0.004		NO					
	Painter Avenue	PM		0.795	C	+	0.091	0.797	C	+	0.002		NO	0.800	D	+	0.005		NO					
5	Painter Avenue &	AM		0.573	A	+	0.063	0.578	A	+	0.005		NO	0.579	A	+	0.006		NO					
	Penn Street	PM		0.662	B	+	0.074	0.662	B	+	0.000		NO	0.664	B	+	0.002		NO					
6A	Catalina Av (W Leg) &	AM	SB	23.8	C	+	3.3	24.7	C	+	0.9	3.6%	NO	24.7	C	+	0.9	3.6%	NO					
	Mar Vista Street	PM	SB	11.5	B	+	0.5	11.5	B	+	0.0	0.0%	NO	11.5	B	+	0.0	0.0%	NO					
6B	Catalina Av (E Leg) &	AM	NB	14.2	B	+	1.1	14.3	B	+	0.1	0.7%	NO	14.3	B	+	0.1	0.7%	NO					
	Mar Vista Street	PM	NB	15.9	C	+	1.7	15.9	C	+	0.0	0.0%	NO	15.9	C	+	0.0	0.0%	NO					
7	Catalina Avenue &	AM	SB	24.6	C	+	6.2	24.6	C	+	0.0	0.0%	NO	25.3	C	+	0.7	2.8%	NO					
	Whittier Boulevard	PM	SB	17.3	C	+	2.3	17.3	C	+	0.0	0.0%	NO	17.8	C	+	0.5	2.8%	NO					
8	60 Fwy WB Off Ramp &	AM		0.874	D	+	0.102	0.874	D	+	0.000		NO	0.875	D	+	0.001		NO					
	Hacienda Boulevard	PM		0.934	E	+	0.110	0.934	E	+	0.000		NO	0.939	E	+	0.005		NO					
9	Three Palms Drive &	AM		0.992	E	+	0.118	0.992	E	+	0.000		NO	0.995	E	+	0.003		NO					
	Hacienda Boulevard	PM		0.856	D	+	0.101	0.856	D	+	0.000		NO	0.863	D	+	0.007		NO					
10	Colima Road &	AM		0.791	C	+	0.091	0.791	C	+	0.000		NO	0.797	C	+	0.006		NO					
	Hacienda Boulevard	PM		0.840	D	+	0.097	0.841	D	+	0.001		NO	0.849	D	+	0.009		NO					
11	Colima Road &	AM		0.888	D	+	0.104	0.888	D	+	0.000		NO	0.893	D	+	0.005		NO					
	Mar Vista Street	PM		0.944	E	+	0.110	0.945	E	+	0.001		NO	0.951	E	+	0.007		NO					
12	Colima Road &	AM		1.031	F	+	0.122	1.031	F	+	0.000		NO	1.042	F	+	0.011		**YES**	0.0%	0.976	E	-0.055	NO
	Whittier Boulevard	PM		1.005	F	+	0.119	1.005	F	+	0.000		NO	1.019	F	+	0.014		**YES**	0.0%	0.986	E	-0.019	NO
13	Mar Vista Street &	AM		0.860	D	+	0.100	0.860	D	+	0.000		NO	0.866	D	+	0.006		NO					
	Whittier Boulevard	PM		0.751	C	+	0.086	0.752	C	+	0.001		NO	0.761	C	+	0.010		NO					

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

STREET SEGMENT ANALYSIS
PHASE 1 PROJECT
SAVAGE CANYON ALTERNATIVE

	Street Segment	Time 2010 Period	Capacity	Existing Volume	V/C	LOS	Existng '+ Project Project volume	Total	V/C	LOS	% impact	Significant?	Existing + Ambient 2015 With Ambient	V/C	LOS	Existng + Ambient '+ Project Project volume	Total	V/C	LOS	% impact	Significant?	Existing + Ambient + Cumulative + Project Related volume	Total	V/C	LOS	% Impact	Sig?	% Project
1	Hadley Street	AM	2,800	1251	0.447	A	8	1259	0.450	A	0.6	No	1314	0.469	A	8	1322	0.472	A	0.6	No	23	1345	0.480	A	2.3	No	
	E/O Pickering Ave.	PM	2,800	1302	0.465	A	4	1306	0.466	A	0.3	No	1367	0.488	A	4	1371	0.490	A	0.3	No	40	1411	0.504	A	3.1	No	
	minor arterial	DAILY	50,000	15775	0.316	A	58	15833	0.317	A	0.4	No	16564	0.331	A	58	16622	0.332	A	0.3	No	315	16937	0.339	A	2.2	No	
2	Painter Avenue	AM	2,800	2005	0.716	C	8	2013	0.719	C	0.4	No	2105	0.752	C	8	2113	0.755	C	0.4	No	5	2118	0.756	C	0.6	No	
	N/O Penn Street	PM	2,800	2083	0.744	C	4	2087	0.745	C	0.2	No	2187	0.781	C	4	2191	0.782	C	0.2	No	6	2197	0.785	C	0.4	No	
	minor arterial	DAILY	50,000	25591	0.512	A	58	25649	0.513	A	0.2	No	26871	0.537	A	58	26929	0.539	A	0.2	No	55	26984	0.540	A	0.4	No	
3	Penn Street	AM	1,200	315	0.263	A	2	317	0.264	A	0.6	No	331	0.276	A	2	333	0.277	A	0.5	No	0	333	0.277	A	0.5	No	
	E/O Pickering Ave.	PM	1,200	392	0.327	A	3	395	0.329	A	0.8	No	412	0.343	A	3	415	0.346	A	0.7	No	0	415	0.346	A	0.7	No	
	collector	DAILY	10,000	4327	0.433	A	18	4345	0.435	A	0.4	No	4543	0.454	A	18	4561	0.456	A	0.4	No	42	4603	0.460	A	1.3	No	
4	Penn Street	AM	1,200	206	0.172	A	16	222	0.185	A	7.2	No	216	0.180	A	16	232	0.193	A	6.9	No	0	232	0.193	A	6.9	No	
	E/O Painter Ave.	PM	1,200	261	0.218	A	16	277	0.231	A	5.8	No	274	0.228	A	16	290	0.242	A	5.5	No	0	290	0.242	A	5.5	No	
	colllector	DAILY	10,000	2733	0.273	A	120	2853	0.285	A	4.2	No	2870	0.287	A	120	2990	0.299	A	4.0	No	82	3072	0.307	A	6.6	No	
5	California Avenue	AM	1,000	86	0.086	A	0	86	0.086	A	0.0	No	90	0.090	A	0	90	0.090	A	0.0	No	0	90	0.090	A	0.0	No	
	S/O Mar Vista St.	PM	1,000	68	0.068	A	0	68	0.068	A	0.3	No	71	0.071	A	0	71	0.071	A	0.3	No	0	71	0.071	A	0.3	No	
	local	DAILY	5,000	613	0.123	A	0	613	0.123	A	0.0	No	644	0.129	A	0	644	0.129	A	0.0	No	0	644	0.129	A	0.0	No	
6	Ocean View	AM	1,000	293	0.293	A	0	293	0.293	A	0.0	No	308	0.308	A	0	308	0.308	A	0.0	No	0	308	0.308	A	0.0	No	
	S/O Mar Vista	PM	1,000	260	0.260	A	0	260	0.260	A	0.1	No	273	0.273	A	0	273	0.273	A	0.1	No	0	273	0.273	A	0.1	No	
	local	DAILY	5,000	2461	0.492	A	0	2461	0.492	A	0.0	No	2584	0.517	A	0	2584	0.517	A	0.0	No	0	2584	0.517	A	0.0	No	
7	Catalina Avenue	AM	1,000	10	0.010	A	0	10	0.010	A	0.0	No	11	0.011	A	0	11	0.011	A	0.0	No	0	11	0.011	A	0.0	No	
	N/O Mar Vista St.	PM	1,000	11	0.011	A	0	11	0.011	A	0.0	No	12	0.012	A	0	12	0.012	A	0.0	No	0	12	0.012	A	0.0	No	
	local	DAILY	5,000	101	0.020	A	0	101	0.020	A	0.0	No	106	0.021	A	0	106	0.021	A	0.0	No	0	106	0.021	A	0.0	No	
8	Catalina Avenue	AM	1,000	159	0.159	A	0	159	0.159	A	0.1	No	167	0.167	A	0	167	0.167	A	0.1	No	0	167	0.167	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	81	0.081	A	0	81	0.081	A	0.6	No	85	0.085	A	0	85	0.085	A	0.6	No	0	85	0.085	A	0.6	No	
	local	DAILY	5,000	1017	0.203	A	0	1017	0.203	A	0.0	No	1068	0.214	A	0	1068	0.214	A	0.0	No	0	1068	0.214	A	0.0	No	
9	Mar Vista Street	AM	1,200	1216	1.013	F	2	1218	1.015	F	0.2	No	1277	1.064	F	2	1279	1.066	F	0.2	No	2	1281	1.068	F	0.3	No	
	W/O Colima Rd.	PM	1,200	1255	1.046	F	2	1257	1.048	F	0.2	No	1318	1.098	F	2	1320	1.100	F	0.2	No	4	1324	1.103	F	0.5	No	
	collector	DAILY	10,000	14875	1.488	F	10	14885	1.489	F	0.1	No	15619	1.562	F	10	15629	1.563	F	0.1	No	30	15659	1.566	F	0.3	No	
10	Colima Road	AM	3,600	2999	0.833	D	4	3003	0.834	D	0.1	No	3149	0.875	D	4	3153	0.876	D	0.1	No	10	3163	0.879	D	0.4	No	
	N/O Mar Vista St.	PM	3,600	3136	0.871	D	4	3140	0.872	D	0.1	No	3293	0.915	E	4	3297	0.916	E	0.1	No	15	3312	0.920	E	0.6	No	
	minor arterial	DAILY	50,000	35704	0.714	C	26	35730	0.715	C	0.1	No	37489	0.750	C	26	37515	0.750	C	0.1	No	125	37640	0.753	C	0.4	No	
11	Colima Road	AM	3,600	2721	0.756	C	0	2721	0.756	C	0.0	No	2857	0.794	C	0	2857	0.794	C	0.0	No	25	2882	0.801	D	0.9	No	
	S/O Mar Vista St.	PM	3,600	2650	0.736	C	0	2650	0.736	C	0.0	No	2783	0.773	C	0	2783	0.773	C	0.0	No	41	2824	0.784	C	1.5	No	
	minor arterial	DAILY	50,000	32179	0.644	B	0	32179	0.644	B	0.0	No	33788	0.676	B	0	33788	0.676	B	0.0	No	330	34118	0.682	B	1.0	No	
12	Colima Road	AM	3,600	2199	0.611	B	1	2200	0.611	B	0.0	No	2309	0.641	B	1	2310	0.642	B	0.0	No	25	2335	0.649	B	1.1	No	
	S/O Whittier Bl.	PM	3,600	2112	0.587	A	1	2113	0.587	A	0.0	No	2218	0.616	B	1	2219	0.616	B	0.0	No	41	2260	0.628	B	1.8	No	
	minor arterial	DAILY	50,000	26497	0.530	A	4	26501	0.530	A	0.0	No	27822	0.556	A	4	27826	0.557	A	0.0	No	330	28156	0.563	A	1.2	No	
13	La Mirada Blvd	AM	4,800	1486	0.310	A	1	1487	0.310	A	0.1	No	1560	0.325	A	1	1561	0.325	A	0.1	No	28	1589	0.331	A	1.8	No	
	S/O Lambert	PM	4,800	1161	0.242	A	1	1162	0.242	A	0.1	No	1219	0.254	A	1	1220	0.254	A	0.1	No	39	1259	0.262	A	3.2	No	
	major arterial	DAILY	50,000	14727	0.295	A	4	14731	0.295	A	0.0	No	15463	0.309	A	4	15467	0.309	A	0.0	No	335	15802	0.316	A	2.1	No	

STREET SEGMENT ANALYSIS
PHASE 2
SAVAGE CANYON ALTERNATIVE

	Street Segment	Time 2010 Period	Capacity	Existing Volume	V/C	LOS	Existng + Project Project Volume	Total	V/C	LOS	% impact	Significant?	Existing + Ambient 2020 With Ambient	V/C	LOS	Existng + Ambient '+ Project Project Volume	Total	V/C	LOS	% impact	Significant?	Existing + Ambient + Cumulative + Project Related Volume	Total	V/C	LOS	% Impact	Sig?	% Project
1	Hadley Street	AM	2,800	1251	0.447	A	23	1274	0.455	A	1.8	No	1376	0.491	A	23	1399	0.500	A	1.7	No	23	1422	0.508	A	3.2	No	
	E/O Pickering Ave.	PM	2,800	1302	0.465	A	22	1324	0.473	A	1.7	No	1432	0.511	A	22	1454	0.519	A	1.5	No	40	1494	0.534	A	4.2	No	
	minor arterial	DAILY	50,000	15775	0.316	A	194	15969	0.319	A	1.2	No	17353	0.347	A	194	17547	0.351	A	1.1	No	315	17862	0.357	A	2.8	No	
2	Painter Avenue	AM	2,800	2005	0.716	C	23	2028	0.724	C	1.1	No	2206	0.788	C	23	2229	0.796	C	1.0	No	5	2234	0.798	C	1.3	No	
	N/O Penn Street	PM	2,800	2083	0.744	C	22	2105	0.752	C	1.1	No	2291	0.818	D	22	2313	0.826	D	1.0	No	6	2319	0.828	D	1.2	No	
	minor arterial	DAILY	50,000	25591	0.512	A	194	25785	0.516	A	0.8	No	28150	0.563	A	194	28344	0.567	A	0.7	No	55	28399	0.568	A	0.9	No	
3	Penn Street	AM	1,200	315	0.263	A	7	322	0.269	A	2.2	No	347	0.289	A	7	354	0.295	A	2.0	No	0	354	0.295	A	2.0	No	
	E/O Pickering Ave.	PM	1,200	392	0.327	A	7	399	0.332	A	1.7	No	431	0.359	A	7	438	0.365	A	1.6	No	0	438	0.365	A	1.6	No	
	collector	DAILY	10,000	4327	0.433	A	59	4386	0.439	A	1.4	No	4760	0.476	A	59	4819	0.482	A	1.2	No	42	4861	0.486	A	2.1	No	
4	Penn Street	AM	1,200	206	0.172	A	48	254	0.212	A	18.9	No	227	0.189	A	48	275	0.229	A	17.5	No	0	275	0.229	A	17.5	No	
	E/O Painter Ave.	PM	1,200	261	0.218	A	46	307	0.256	A	15.0	No	287	0.239	A	46	333	0.278	A	13.8	No	0	333	0.278	A	13.8	No	
	colllector	DAILY	10,000	2733	0.273	A	396	3129	0.313	A	12.7	No	3006	0.301	A	396	3402	0.340	A	11.6	No	82	3484	0.348	A	13.7	No	
5	California Avenue	AM	1,000	86	0.086	A	0	86	0.086	A	0.1	No	95	0.095	A	0	95	0.095	A	0.1	No	0	95	0.095	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	68	0.068	A	0	68	0.068	A	0.6	No	75	0.075	A	0	75	0.075	A	0.5	No	0	75	0.075	A	0.5	No	
	local	DAILY	5,000	613	0.123	A	0	613	0.123	A	0.0	No	674	0.135	A	0	674	0.135	A	0.0	No	0	674	0.135	A	0.0	No	
6	Ocean View	AM	1,000	293	0.293	A	0	293	0.293	A	0.0	No	322	0.322	A	0	322	0.322	A	0.0	No	0	322	0.322	A	0.0	No	
	S/O Mar Vista	PM	1,000	260	0.260	A	0	260	0.26	A	0.2	No	286	0.286	A	0	286	0.286	A	0.1	No	0	286	0.286	A	0.1	No	
	local	DAILY	5,000	2461	0.492	A	0	2461	0.492	A	0.0	No	2707	0.541	A	0	2707	0.541	A	0.0	No	0	2707	0.541	A	0.0	No	
7	Catalina Avenue	AM	1,000	10	0.010	A	0	10	0.01	A	0.0	No	11	0.011	A	0	11	0.011	A	0.0	No	0	11	0.011	A	0.0	No	
	N/O Mar Vista St.	PM	1,000	11	0.011	A	0	11	0.011	A	0.0	No	12	0.012	A	0	12	0.012	A	0.0	No	0	12	0.012	A	0.0	No	
	local	DAILY	5,000	101	0.020	A	0	101	0.02	A	0.0	No	111	0.022	A	0	111	0.022	A	0.0	No	0	111	0.022	A	0.0	No	
8	Catalina Avenue	AM	1,000	159	0.159	A	0	159	0.159	A	0.3	No	175	0.175	A	0	175	0.175	A	0.2	No	0	175	0.175	A	0.2	No	
	S/O Mar Vista St.	PM	1,000	81	0.081	A	0	81	0.081	A	0.0	No	89	0.089	A	0	89	0.089	A	0.0	No	0	89	0.089	A	0.0	No	
	local	DAILY	5,000	1017	0.203	A	0	1017	0.203	A	0.0	No	1119	0.224	A	0	1119	0.224	A	0.0	No	0	1119	0.224	A	0.0	No	
9	Mar Vista Street	AM	1,200	1216	1.013	F	4	1220	1.017	F	0.3	No	1338	1.115	F	4	1342	1.118	F	0.3	No	2	1344	1.120	F	0.4	No	
	W/O Colima Rd.	PM	1,200	1255	1.046	F	4	1259	1.049	F	0.3	No	1381	1.151	F	4	1385	1.154	F	0.3	No	4	1389	1.158	F	0.6	No	
	collector	DAILY	10,000	14875	1.488	F	20	14895	1.490	F	0.1	No	16363	1.636	F	20	16383	1.638	F	0.1	No	30	16413	1.641	F	0.3	No	
10	Colima Road	AM	3,600	2999	0.833	D	10	3009	0.836	D	0.3	No	3299	0.916	E	10	3309	0.919	E	0.3	No	10	3319	0.922	E	0.6	No	
	N/O Mar Vista St.	PM	3,600	3136	0.871	D	10	3146	0.874	D	0.3	No	3450	0.958	E	10	3460	0.961	E	0.3	No	15	3475	0.965	E	0.7	No	
	minor arterial	DAILY	50,000	35704	0.714	C	83	35787	0.716	C	0.2	No	39274	0.785	C	83	39357	0.787	C	0.2	No	125	39482	0.790	C	0.5	No	
11	Colima Road	AM	3,600	2721	0.756	C	0	2721	0.756	C	0.0	No	2993	0.831	D	0	2993	0.831	D	0.0	No	25	3018	0.838	D	0.8	No	
	S/O Mar Vista St.	PM	3,600	2650	0.736	C	0	2650	0.736	C	0.0	No	2915	0.810	D	0	2915	0.810	D	0.0	No	41	2956	0.821	D	1.4	No	
	minor arterial	DAILY	50,000	32179	0.644	B	0	32179	0.644	B	0.0	No	35397	0.708	C	0	35397	0.708	C	0.0	No	330	35727	0.715	C	0.9	No	
12	Colima Road	AM	3,600	2199	0.611	B	2	2201	0.611	B	0.1	No	2419	0.672	B	2	2421	0.672	B	0.1	No	25	2446	0.679	B	1.1	No	
	S/O Whittier Bl.	PM	3,600	2112	0.587	A	2	2114	0.587	A	0.1	No	2323	0.645	B	2	2325	0.646	B	0.1	No	41	2366	0.657	B	1.8	No	
	minor arterial	DAILY	50,000	26497	0.530	D	8	26505	0.530	A	0.0	No	29147	0.583	A	8	29155	0.583	A	0.0	No	330	29485	0.590	A	1.1	No	
13	La Mirada Blvd	AM	4,800	1486	0.310	A	2	1488	0.310	A	0.1	No	1635	0.341	A	2	1637	0.341	A	0.1	No	28	1665	0.347	A	1.8	No	
	S/O Lambert	PM	4,800	1161	0.242	A	2	1163	0.242	A	0.1	No	1277	0.266	A	2	1279	0.266	A	0.1	No	39	1318	0.275	A	3.1	No	
	major arterial	DAILY	50,000	14727	0.295	A	8	14735	0.295	A	0.1	No	16200	0.324	A	8	16208	0.324	A	0.0	No	335	16543	0.331	A	2.1	No	

STREET SEGMENT ANALYSIS
PHASE 3
SAVAGE CANYON ALTERNATIVE

	Street Segment	Time 2010 Period	Capacity	Existing Volume	V/C	LOS	Existng + Project Project Volume	Total	V/C	LOS	% impact	Significant?	Existing + Ambient 2025 With Ambient	V/C	LOS	Existng + Ambient '+ Project Projec Volume	Total	V/C	LOS	% impact	Significant?	Existing + Ambient + Cumulative + Project Relatec Volume	Total	V/C	LOS	% impact	Sig?	% Project
1	Hadley Street	AM	2,800	1251	0.447	A	5	1256	0.449	A	0.4	No	1439	0.514	A	5	1444	0.516	A	0.3	No	23	1467	0.524	A	1.9	No	
	E/O Pickering Ave.	PM	2,800	1302	0.465	A	5	1307	0.467	A	0.4	No	1497	0.535	A	5	1502	0.536	A	0.3	No	40	1542	0.551	A	2.9	No	
	minor arterial	DAILY	50,000	15775	0.316	A	54	15829	0.317	A	0.3	No	18141	0.363	A	54	18195	0.364	A	0.3	No	315	18510	0.370	A	2.0	No	
2	Painter Avenue	AM	2,800	2005	0.716	C	5	2010	0.718	C	0.3	No	2306	0.824	D	5	2311	0.825	D	0.2	No	5	2316	0.827	D	0.4	No	
	N/O Penn Street	PM	2,800	2083	0.744	C	5	2088	0.746	C	0.2	No	2395	0.855	D	5	2400	0.857	D	0.2	No	6	2406	0.859	D	0.5	No	
	minor arterial	DAILY	50,000	25591	0.512	A	54	25645	0.513	A	0.2	No	29430	0.589	A	54	29484	0.590	A	0.2	No	55	29539	0.591	A	0.4	No	
3	Penn Street	AM	1,200	315	0.263	A	2	317	0.264	A	0.6	No	362	0.302	A	2	364	0.303	A	0.5	No	0	364	0.303	A	0.5	No	
	E/O Pickering Ave.	PM	1,200	392	0.327	A	1	393	0.328	A	0.3	No	451	0.376	A	1	452	0.377	A	0.3	No	0	452	0.377	A	0.3	No	
	collector	DAILY	10,000	4327	0.433	A	17	4344	0.434	A	0.4	No	4976	0.498	A	17	4993	0.499	A	0.3	No	42	5035	0.503	A	1.2	No	
4	Penn Street	AM	1,200	206	0.172	A	11	217	0.181	A	5.1	No	237	0.198	A	11	248	0.207	A	4.4	No	0	248	0.207	A	4.4	No	
	E/O Painter Ave.	PM	1,200	261	0.218	A	11	272	0.227	A	4.0	No	300	0.250	A	11	311	0.259	A	3.5	No	0	311	0.259	A	3.5	No	
	colllector	DAILY	10,000	2733	0.273	A	112	2845	0.285	A	3.9	No	3143	0.314	A	112	3255	0.326	A	3.4	No	82	3337	0.334	A	5.8	No	
5	California Avenue	AM	1,000	86	0.086	A	0	86	0.086	A	0.1	No	99	0.099	A	0	99	0.099	A	0.1	No	0	99	0.099	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	68	0.068	A	0	68	0.068	A	0.6	No	78	0.078	A	0	78	0.078	A	0.5	No	0	78	0.078	A	0.5	No	
	local	DAILY	5,000	613	0.123	A	0	613	0.123	A	0.0	No	705	0.141	A	0	705	0.141	A	0.0	No	0	705	0.141	A	0.0	No	
6	Ocean View	AM	1,000	293	0.293	A	0	293	0.293	A	0.0	No	337	0.337	A	0	337	0.337	A	0.0	No	0	337	0.337	A	0.0	No	
	S/O Mar Vista	PM	1,000	260	0.260	A	0	260	0.260	A	0.2	No	299	0.299	A	0	299	0.299	A	0.1	No	0	299	0.299	A	0.1	No	
	local	DAILY	5,000	2461	0.492	A	0	2461	0.492	A	0.0	No	2830	0.566	A	0	2830	0.566	A	0.0	No	0	2830	0.566	A	0.0	No	
7	Catalina Avenue	AM	1,000	10	0.010	A	0	10	0.010	A	0.0	No	12	0.012	A	0	12	0.012	A	0.0	No	0	12	0.012	A	0.0	No	
	N/O Mar Vista St.	PM	1,000	11	0.011	A	0	11	0.011	A	0.0	No	13	0.013	A	0	13	0.013	A	0.0	No	0	13	0.013	A	0.0	No	
	local	DAILY	5,000	101	0.020	A	0	101	0.020	A	0.0	No	116	0.023	A	0	116	0.023	A	0.0	No	0	116	0.023	A	0.0	No	
8	Catalina Avenue	AM	1,000	159	0.159	A	0	159	0.159	A	0.2	No	183	0.183	A	0	183	0.183	A	0.1	No	0	183	0.183	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	81	0.081	A	0	81	0.081	A	0.0	No	93	0.093	A	0	93	0.093	A	0.0	No	0	93	0.093	A	0.0	No	
	local	DAILY	5,000	1017	0.203	A	0	1017	0.203	A	0.0	No	1170	0.234	A	0	1170	0.234	A	0.0	No	0	1170	0.234	A	0.0	No	
9	Mar Vista Street	AM	1,200	1216	1.013	F	2	1218	1.015	F	0.2	No	1398	1.165	F	2	1400	1.167	F	0.2	No	2	1402	1.169	F	0.3	No	
	W/O Colima Rd.	PM	1,200	1255	1.046	F	2	1257	1.048	F	0.2	No	1443	1.203	F	2	1445	1.204	F	0.2	No	4	1449	1.208	F	0.4	No	
	collector	DAILY	10,000	14875	1.488	F	11	14886	1.489	F	0.1	No	17106	1.711	F	11	17117	1.712	F	0.1	No	30	17147	1.715	F	0.2	No	
10	Colima Road	AM	3,600	2999	0.833	D	3	3002	0.834	D	0.1	No	3449	0.958	E	3	3452	0.959	E	0.1	No	10	3462	0.962	E	0.4	No	
	N/O Mar Vista St.	PM	3,600	3136	0.871	D	3	3139	0.872	D	0.1	No	3606	1.002	F	3	3609	1.002	F	0.1	No	15	3624	1.007	F	0.5	No	
	minor arterial	DAILY	50,000	35704	0.714	C	25	35729	0.715	C	0.1	No	41060	0.821	D	25	41085	0.822	D	0.1	No	125	41210	0.824	D	0.4	No	
11	Colima Road	AM	3,600	2721	0.756	C	0	2721	0.756	C	0.0	No	3129	0.869	D	0	3129	0.869	D	0.0	No	25	3154	0.876	D	0.8	No	
	S/O Mar Vista St.	PM	3,600	2650	0.736	C	0	2650	0.736	C	0.0	No	3048	0.847	D	0	3048	0.847	D	0.0	No	41	3089	0.858	D	1.3	No	
	minor arterial	DAILY	50,000	32179	0.644	B	0	32179	0.644	B	0.0	No	37006	0.740	C	0	37006	0.740	C	0.0	No	330	37336	0.747	C	0.9	No	
12	Colima Road	AM	3,600	2199	0.611	B	1	2200	0.611	B	0.0	No	2529	0.703	C	1	2530	0.703	C	0.0	No	25	2555	0.710	C	1.0	No	
	S/O Whittier Bl.	PM	3,600	2112	0.587	A	1	2113	0.587	A	0.0	No	2429	0.675	B	1	2430	0.675	B	0.0	No	41	2471	0.686	B	1.7	No	
	minor arterial	DAILY	50,000	26497	0.530	A	4	26501	0.530	A	0.0	No	30472	0.609	B	4	30476	0.610	B	0.0	No	330	30806	0.616	B	1.1	No	
13	La Mirada Blvd	AM	4,800	1486	0.310	A	1	1487	0.310	A	0.1	No	1709	0.356	A	1	1710	0.356	A	0.1	No	28	1738	0.362	A	1.7	No	
	S/O Lambert	PM	4,800	1161	0.242	A	1	1162	0.242	A	0.1	No	1335	0.278	A	1	1336	0.278	A	0.1	No	39	1375	0.286	A	2.9	No	
	major arterial	DAILY	50,000	14727	0.295	A	4	14731	0.295	A	0.0	No	16936	0.339	A	4	16940	0.339	A	0.0	No	335	17275	0.346	A	2.0	No	

APPENDIX I

EXISTING + PROJECT ANALYSIS

Analysis of Existing + Project Traffic Conditions

A determination of what project traffic would do to existing conditions has been conducted. The project traffic was added to the existing conditions and compared to determine if there were any significant traffic impacts. Significant impact criteria as noted in the Significant Impact Definition Section on page 35 and 36 was used to determine significant impacts. Analysis indicates that the Existing+Project Conditions created fewer significant impacts than the Future Impact analysis. The significant impacts are at lower ICU values and lower delay values. Project mitigation as noted in the body of the report in the Mitigation section on page 71 and 72 reduces these impacts to a level of insignificance. The tables on the following pages present the results of this analysis. Significant impacts occur during phase 1 only at the intersection of Catalina Avenue (West Leg) and Mar Vista Street and at the segment of Mar Vista Street west of Colima Road. Intersection Analysis worksheets follow the summary tables.

Appendix I

Table 1a-I
Intersection Analysis Existing + Project Phase 1

No.	Intersection	Peak Hour		Existing ICU DELAY	Existing LOS	Existing + Phase 1 Project ICU DELAY	Existing + Phase 1 Project LOS		IMPACT	% IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.799	C	0.801	D	+	0.002		NO
	& Whittier Boulevard	PM		0.783	C	0.784	C	+	0.001		NO
2	605 Fwy NB Offramp &	AM		0.739	C	0.739	C	+	0.000		NO
	Whittier Boulevard	PM		0.653	B	0.654	B	+	0.001		NO
3	Hadley Street &	AM		0.893	D	0.893	D	+	0.000		NO
	Whittier Boulevard	PM		0.764	C	0.765	C	+	0.001		NO
4	Hadley Street &	AM		0.769	C	0.770	C	+	0.001		NO
	Painter Avenue	PM		0.704	C	0.704	C	+	0.000		NO
5	Painter Avenue &	AM		0.510	A	0.511	A	+	0.001		NO
	Penn Street	PM		0.588	A	0.588	A	+	0.000		NO
6A	Catalina Av (W Leg) &	AM	SB	20.5	C	21.5	C	+	1.0	4.7%	**YES**
	Mar Vista Street	PM	SB	11.0	B	16.8	C	+	5.8	34.5%	**YES**
6B	Catalina Av (E Leg) &	AM	NB	13.1	B	13.1	B	+	0.0	0.0%	NO
	Mar Vista Street	PM	NB	14.2	B	14.3	B	+	0.1	0.7%	NO
7	Catalina Avenue &	AM	SB	18.4	C	18.4	C	+	0.0	0.0%	NO
	Whittier Boulevard	PM	SB	15.0	B	15.0	C	+	0.0	0.0%	NO
8	60 Fwy WB Off Ramp &	AM		0.772	C	0.772	C	+	0.000		NO
	Hacienda Boulevard	PM		0.824	D	0.824	D	+	0.000		NO
9	Three Palms Drive &	AM		0.874	D	0.874	D	+	0.000		NO
	Hacienda Boulevard	PM		0.755	C	0.755	C	+	0.000		NO
10	Colima Road &	AM		0.700	C	0.701	C	+	0.001		NO
	Hacienda Boulevard	PM		0.743	C	0.745	C	+	0.002		NO
11	Colima Road &	AM		0.784	C	0.790	C	+	0.006		NO
	Mar Vista Street	PM		0.834	D	0.835	D	+	0.001		NO
12	Colima Road &	AM		0.909	E	0.911	E	+	0.002		NO
	Whittier Boulevard	PM		0.886	D	0.886	D	+	0.000		NO
13	Mar Vista Street &	AM		0.760	C	0.761	C	+	0.001		NO
	Whittier Boulevard	PM		0.665	B	0.667	B	+	0.002		NO

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Appendix I

Table 1b-I
Intersection Analysis Existing + Project Phase 2

No.	Intersection	Peak Hour		Existing ICU DELAY	Existing LOS	Existing + Phase 2 Project ICU DELAY	Existing + Phase 2 Project LOS		IMPACT	% IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.799	C	0.801	D	+	0.002		NO
	& Whittier Boulevard	PM		0.783	C	0.786	C	+	0.003		NO
2	605 Fwy NB Offramp &	AM		0.739	C	0.743	C	+	0.004		NO
	Whittier Boulevard	PM		0.653	B	0.655	B	+	0.002		NO
3	Hadley Street &	AM		0.893	D	0.900	E	+	0.007		NO
	Whittier Boulevard	PM		0.764	C	0.772	C	+	0.008		NO
4	Hadley Street &	AM		0.769	C	0.778	C	+	0.009		NO
	Painter Avenue	PM		0.704	C	0.712	C	+	0.008		NO
5	Painter Avenue &	AM		0.510	A	0.528	A	+	0.018		NO
	Penn Street	PM		0.588	A	0.588	A	+	0.000		NO
6A	Catalina Av (W Leg) &	AM	SB	20.5	C	20.6	C	+	0.1	0.5%	NO
	Mar Vista Street	PM	SB	11.0	B	14.9	B	+	3.9	26.2%	NO
6B	Catalina Av (E Leg) &	AM	NB	13.1	B	13.1	B	+	0.0	0.0%	NO
	Mar Vista Street	PM	NB	14.2	B	14.2	B	+	0.0	0.0%	NO
7	Catalina Avenue &	AM	SB	18.4	C	18.5	C	+	0.1	0.5%	NO
	Whittier Boulevard	PM	SB	15.0	B	15.3	C	+	0.3	2.0%	NO
8	60 Fwy WB Off Ramp &	AM		0.772	C	0.772	C	+	0.000		NO
	Hacienda Boulevard	PM		0.824	D	0.825	D	+	0.001		NO
9	Three Palms Drive &	AM		0.874	D	0.875	D	+	0.001		NO
	Hacienda Boulevard	PM		0.755	C	0.757	C	+	0.002		NO
10	Colima Road &	AM		0.700	C	0.701	C	+	0.001		NO
	Hacienda Boulevard	PM		0.743	C	0.745	C	+	0.002		NO
11	Colima Road &	AM		0.784	C	0.789	C	+	0.005		NO
	Mar Vista Street	PM		0.834	D	0.835	D	+	0.001		NO
12	Colima Road &	AM		0.909	E	0.911	E	+	0.002		NO
	Whittier Boulevard	PM		0.886	D	0.887	D	+	0.001		NO
13	Mar Vista Street &	AM		0.760	C	0.765	C	+	0.005		NO
	Whittier Boulevard	PM		0.665	B	0.671	B	+	0.006		NO

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Appendix I

Table 1c-I
Intersection Analysis Existing + Project Phase 3

No.	Intersection	Peak Hour		Existing ICU DELAY	Existing LOS	Existing + Phase 3 Project ICU DELAY	Existing + Phase 3 Project LOS		IMPACT	% IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.799	C	0.800	D	+	0.001		NO
	& Whittier Boulevard	PM		0.783	C	0.784	C	+	0.001		NO
2	605 Fwy NB Offramp &	AM		0.739	C	0.740	C	+	0.001		NO
	Whittier Boulevard	PM		0.653	B	0.653	B	+	0.000		NO
3	Hadley Street &	AM		0.893	D	0.893	D	+	0.000		NO
	Whittier Boulevard	PM		0.764	C	0.766	C	+	0.002		NO
4	Hadley Street &	AM		0.769	C	0.771	C	+	0.002		NO
	Painter Avenue	PM		0.704	C	0.705	C	+	0.001		NO
5	Painter Avenue &	AM		0.510	A	0.518	A	+	0.008		NO
	Penn Street	PM		0.588	A	0.588	A	+	0.000		NO
6A	Catalina Av (W Leg) &	AM	SB	20.5	C	20.5	C	+	0.0	0.0%	NO
	Mar Vista Street	PM	SB	11.0	B	14.8	B	+	3.8	25.7%	NO
6B	Catalina Av (E Leg) &	AM	NB	13.1	B	13.1	B	+	0.0	0.0%	NO
	Mar Vista Street	PM	NB	14.2	B	14.2	B	+	0.0	0.0%	NO
7	Catalina Avenue &	AM	SB	18.4	C	18.4	C	+	0.0	0.0%	NO
	Whittier Boulevard	PM	SB	15.0	B	15.0	C	+	0.0	0.0%	NO
8	60 Fwy WB Off Ramp &	AM		0.772	C	0.772	C	+	0.000		NO
	Hacienda Boulevard	PM		0.824	D	0.825	D	+	0.001		NO
9	Three Palms Drive &	AM		0.874	D	0.874	D	+	0.000		NO
	Hacienda Boulevard	PM		0.755	C	0.756	C	+	0.001		NO
10	Colima Road &	AM		0.700	C	0.700	C	+	0.000		NO
	Hacienda Boulevard	PM		0.743	C	0.745	C	+	0.002		NO
11	Colima Road &	AM		0.784	C	0.787	C	+	0.003		NO
	Mar Vista Street	PM		0.834	D	0.834	D	+	0.000		NO
12	Colima Road &	AM		0.909	E	0.910	E	+	0.001		NO
	Whittier Boulevard	PM		0.886	D	0.886	D	+	0.000		NO
13	Mar Vista Street &	AM		0.760	C	0.76	C	+	0.000		NO
	Whittier Boulevard	PM		0.665	B	0.667	B	+	0.002		NO

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Appendix I

Table 2a-I
Street Segment Analysis Existing + Project Phase 1

	Street Segment	Time 2010 Period	Capacity	Existing Volume	V/C	LOS	Existng + Phase 1 Project: Project volume	Total	V/C	LOS	% impact	Significant?
1	Hadley Street	AM	2,800	1251	0.447	A	1	1252	0.447	A	0.1	No
	E/O Pickering Ave.	PM	2,800	1302	0.465	A	1	1303	0.465	A	0.1	No
	minor arterial	DAILY	50,000	15775	0.316	A	4	15779	0.316	A	0.0	No
2	Painter Avenue	AM	2,800	2005	0.716	C	1	2006	0.716	C	0.0	No
	N/O Penn Street	PM	2,800	2083	0.744	C	1	2084	0.744	C	0.0	No
	minor arterial	DAILY	50,000	25591	0.512	A	4	25595	0.512	A	0.0	No
3	Penn Street	AM	1,200	315	0.263	A	0	315	0.263	A	0.1	No
	E/O Pickering Ave.	PM	1,200	392	0.327	A	0	392	0.327	A	0.1	No
	collector	DAILY	10,000	4327	0.433	A	1	4328	0.433	A	0.0	No
4	Penn Street	AM	1,200	206	0.172	A	0	206	0.172	A	0.0	No
	E/O Painter Ave.	PM	1,200	261	0.218	A	0	261	0.218	A	0.0	No
	colllector	DAILY	10,000	2733	0.273	A	0	2733	0.273	A	0.0	No
5	California Avenue	AM	1,000	86	0.086	A	0	86	0.086	A	0.0	No
	S/O Mar Vista St.	PM	1,000	68	0.068	A	0	68	0.068	A	0.3	No
	local	DAILY	5,000	613	0.123	A	1	614	0.123	A	0.2	No
6	Ocean View	AM	1,000	293	0.293	A	0	293	0.293	A	0.0	No
	S/O Mar Vista	PM	1,000	260	0.260	A	0	260	0.260	A	0.1	No
	local	DAILY	5,000	2461	0.492	A	1	2462	0.492	A	0.0	No
7	Catalina Avenue	AM	1,000	10	0.010	A	16	26	0.026	A	61.5	No
	N/O Mar Vista St.	PM	1,000	11	0.011	A	16	27	0.027	A	59.3	No
	local	DAILY	5,000	101	0.020	A	120	221	0.044	A	54.3	No
8	Catalina Avenue	AM	1,000	159	0.159	A	0	159	0.159	A	0.1	No
	S/O Mar Vista St.	PM	1,000	81	0.081	A	0	81	0.081	A	0.6	No
	local	DAILY	5,000	1017	0.203	A	2	1019	0.204	A	0.2	No
9	Mar Vista Street	AM	1,200	1216	1.013	F	15	1231	1.026	F	1.2	**YES**
	W/O Colima Rd.	PM	1,200	1255	1.046	F	13	1268	1.056	F	1.0	**YES**
	collector	DAILY	10,000	14875	1.488	F	104	14979	1.498	F	0.7	No
10	Colima Road	AM	3,600	2999	0.833	D	6	3005	0.835	D	0.2	No
	N/O Mar Vista St.	PM	3,600	3136	0.871	D	6	3142	0.873	D	0.2	No
	minor arterial	DAILY	50,000	35704	0.714	C	50	35754	0.715	C	0.1	No
11	Colima Road	AM	3,600	2721	0.756	C	9	2730	0.758	C	0.3	No
	S/O Mar Vista St.	PM	3,600	2650	0.736	C	7	2657	0.738	C	0.3	No
	minor arterial	DAILY	50,000	32179	0.644	B	54	32233	0.645	B	0.2	No
12	Colima Road	AM	3,600	2199	0.611	B	1	2200	0.611	B	0.0	No
	S/O Whittier Bl.	PM	3,600	2112	0.587	A	1	2113	0.587	A	0.0	No
	minor arterial	DAILY	50,000	26497	0.530	A	4	26501	0.530	A	0.0	No
13	La Mirada Blvd	AM	4,800	1486	0.310	A	1	1487	0.310	A	0.1	No
	S/O Lambert	PM	4,800	1161	0.242	A	1	1162	0.242	A	0.1	No
	major arterial	DAILY	50,000	14727	0.295	A	4	14731	0.295	A	0.0	No

Appendix I

Table 2b-I
Street Segment Analysis Existing + Project Phase 2

	Street Segment	Time 2 Period	Capacity	Existing 010 Volume	V/C	LOS	Existng + Phase 2 Project: Project Volume	Total	V/C	LOS	% impact	Significant?
1	Hadley Street	AM	2,800	1251	0.447	A	18	1269	0.453	A	1.4	No
	E/O Pickering Ave.	PM	2,800	1302	0.465	A	17	1319	0.471	A	1.3	No
	minor arterial	DAILY	50,000	15775	0.316	A	166	15941	0.319	A	1.0	No
2	Painter Avenue	AM	2,800	2005	0.716	C	18	2023	0.722	C	0.9	No
	N/O Penn Street	PM	2,800	2083	0.744	C	17	2100	0.750	C	0.8	No
	minor arterial	DAILY	50,000	25591	0.512	A	166	25757	0.515	A	0.6	No
3	Penn Street	AM	1,200	315	0.263	A	6	321	0.267	A	1.7	No
	E/O Pickering Ave.	PM	1,200	392	0.327	A	5	397	0.331	A	1.2	No
	collector	DAILY	10,000	4327	0.433	A	49	4376	0.438	A	1.1	No
4	Penn Street	AM	1,200	206	0.172	A	16	222	0.185	A	7.2	No
	E/O Painter Ave.	PM	1,200	261	0.218	A	15	276	0.230	A	5.4	No
	colllector	DAILY	10,000	2733	0.273	A	316	3049	0.305	A	10.4	No
5	California Avenue	AM	1,000	86	0.086	A	0	86	0.086	A	0.1	No
	S/O Mar Vista St.	PM	1,000	68	0.068	A	0	68	0.068	A	0.6	No
	local	DAILY	5,000	613	0.123	A	2	615	0.123	A	0.3	No
6	Ocean View	AM	1,000	293	0.293	A	0	293	0.293	A	0.0	No
	S/O Mar Vista	PM	1,000	260	0.260	A	0	260	0.260	A	0.2	No
	local	DAILY	5,000	2461	0.492	A	2	2463	0.493	A	0.1	No
7	Catalina Avenue	AM	1,000	10	0.010	A	16	26	0.026	A	61.5	No
	N/O Mar Vista St.	PM	1,000	11	0.011	A	16	27	0.027	A	59.3	No
	local	DAILY	5,000	101	0.020	A	80	181	0.036	A	44.2	No
8	Catalina Avenue	AM	1,000	159	0.159	A	0	159	0.159	A	0.3	No
	S/O Mar Vista St.	PM	1,000	81	0.081	A	1	82	0.082	A	1.2	No
	local	DAILY	5,000	1017	0.203	A	5	1022	0.204	A	0.5	No
9	Mar Vista Street	AM	1,200	1216	1.013	F	13	1229	1.024	F	0.9	No
	W/O Colima Rd.	PM	1,200	1255	1.046	F	9	1264	1.054	F	0.7	No
	collector	DAILY	10,000	14875	1.488	F	47	14922	1.492	F	0.3	No
10	Colima Road	AM	3,600	2999	0.833	D	10	3009	0.836	D	0.3	No
	N/O Mar Vista St.	PM	3,600	3136	0.871	D	10	3146	0.874	D	0.3	No
	minor arterial	DAILY	50,000	35704	0.714	C	83	35787	0.716	C	0.2	No
11	Colima Road	AM	3,600	2721	0.756	C	9	2730	0.758	C	0.3	No
	S/O Mar Vista St.	PM	3,600	2650	0.736	C	5	2655	0.738	C	0.2	No
	minor arterial	DAILY	50,000	32179	0.644	B	27	32206	0.644	B	0.1	No
12	Colima Road	AM	3,600	2199	0.611	B	2	2201	0.611	B	0.1	No
	S/O Whittier Bl.	PM	3,600	2112	0.587	A	2	2114	0.587	A	0.1	No
	minor arterial	DAILY	50,000	26497	0.530	A	8	26505	0.530	A	0.0	No
13	La Mirada Blvd	AM	4,800	1486	0.310	A	2	1488	0.310	A	0.1	No
	S/O Lambert	PM	4,800	1161	0.242	A	2	1163	0.242	A	0.1	No
	major arterial	DAILY	50,000	14727	0.295	A	8	14735	0.295	A	0.1	No

APPENDIX I

Table 2c-I
Street Segment Analysis Existing + Project Phase 3

	Street Segment	Time Period	201 Capacity	Existing 0 Volume	V/C	LOS	Existng + Phase 3 Project: Project Volume	Total	V/C	LOS	% impact	Significant?
1	Hadley Street	AM	2,800	1251	0.447	A	2	1253	0.447	A	0.2	No
	E/O Pickering Ave.	PM	2,800	1302	0.465	A	2	1304	0.466	A	0.1	No
	minor arterial	DAILY	50,000	15775	0.316	A	38	15813	0.316	A	0.2	No
2	Painter Avenue	AM	2,800	2005	0.716	C	2	2007	0.717	C	0.1	No
	N/O Penn Street	PM	2,800	2083	0.744	C	2	2085	0.745	C	0.1	No
	minor arterial	DAILY	50,000	25591	0.512	A	38	25629	0.513	A	0.1	No
3	Penn Street	AM	1,200	315	0.263	A	1	316	0.263	A	0.3	No
	E/O Pickering Ave.	PM	1,200	392	0.327	A	0	392	0.327	A	0.0	No
	collector	DAILY	10,000	4327	0.433	A	11	4338	0.434	A	0.3	No
4	Penn Street	AM	1,200	206	0.172	A	2	208	0.173	A	1.0	No
	E/O Painter Ave.	PM	1,200	261	0.218	A	2	263	0.219	A	0.8	No
	colllector	DAILY	10,000	2733	0.273	A	68	2801	0.280	A	2.4	No
5	California Avenue	AM	1,000	86	0.086	A	0	86	0.086	A	0.1	No
	S/O Mar Vista St.	PM	1,000	68	0.068	A	0	68	0.068	A	0.6	No
	local	DAILY	5,000	613	0.123	A	1	614	0.123	A	0.2	No
6	Ocean View	AM	1,000	293	0.293	A	0	293	0.293	A	0.0	No
	S/O Mar Vista	PM	1,000	260	0.260	A	0	260	0.260	A	0.2	No
	local	DAILY	5,000	2461	0.492	A	1	2462	0.492	A	0.0	No
7	Catalina Avenue	AM	1,000	10	0.010	A	9	19	0.019	A	47.4	No
	N/O Mar Vista St.	PM	1,000	11	0.011	A	9	20	0.020	A	45.0	No
	local	DAILY	5,000	101	0.020	A	44	145	0.029	A	30.3	No
8	Catalina Avenue	AM	1,000	159	0.159	A	0	159	0.159	A	0.2	No
	S/O Mar Vista St.	PM	1,000	81	0.081	A	1	82	0.082	A	1.0	No
	local	DAILY	5,000	1017	0.203	A	3	1020	0.204	A	0.3	No
9	Mar Vista Street	AM	1,200	1216	1.013	F	7	1223	1.019	F	0.6	No
	W/O Colima Rd.	PM	1,200	1255	1.046	F	4	1259	1.049	F	0.3	No
	collector	DAILY	10,000	14875	1.488	F	26	14901	1.490	F	0.2	No
10	Colima Road	AM	3,600	2999	0.833	D	3	3002	0.834	D	0.1	No
	N/O Mar Vista St.	PM	3,600	3136	0.871	D	3	3139	0.872	D	0.1	No
	minor arterial	DAILY	50,000	35704	0.714	C	25	35729	0.715	C	0.1	No
11	Colima Road	AM	3,600	2721	0.756	C	5	2726	0.757	C	0.2	No
	S/O Mar Vista St.	PM	3,600	2650	0.736	C	1	2651	0.736	C	0.1	No
	minor arterial	DAILY	50,000	32179	0.644	B	15	32194	0.644	B	0.0	No
12	Colima Road	AM	3,600	2199	0.611	B	1	2200	0.611	B	0.0	No
	S/O Whittier Bl.	PM	3,600	2112	0.587	A	1	2113	0.587	A	0.0	No
	minor arterial	DAILY	50,000	26497	0.530	A	4	26501	0.530	A	0.0	No
13	La Mirada Blvd	AM	4,800	1486	0.310	A	1	1487	0.310	A	0.1	No
	S/O Lambert	PM	4,800	1161	0.242	A	1	1162	0.242	A	0.1	No
	major arterial	DAILY	50,000	14727	0.295	A	4	14731	0.295	A	0.0	No

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD

EXISTING+ Phase 1 Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	Project Volumes	Total	V/C		CRITICAL PAIR	2010 VOLUMES	Project Volumes	Total	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
								0.170						0.202
SB LEFT	1.5	2,400	404	3	407	0.170	*		483	1	484	0.202	*	
SB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
SB RIGHT	1.5	2,400	284	0	284	0.118			218	0	218	0.091		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	965	2	967	0.302			1541	1	1542	0.482	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.531						0.482
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1348	0	1348	0.531	*		965	1	966	0.383		
WB RIGHT	0	0	351	0	351	0.000			260	0	260	0.000		

NORTH/SOUTH CRITICAL SUM	0.170	NORTH/SOUTH CRITICAL SUM	0.202
EAST/WEST CRITICAL SUM	0.531	EAST/WEST CRITICAL SUM	0.482
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.801	INTERSECTION ICU VALUE	0.784
AM INTERSECTION LOS	D	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD

EXISTING+ Phase 2 Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	Project Volumes	Total	V/C		CRITICAL PAIR	2010 VOLUMES	Project Volumes	Total	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
								0.171						0.204
SB LEFT	1.5	2,400	404	7	411	0.171	*		483	6	489	0.204	*	
SB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
SB RIGHT	1.5	2,400	284	0	284	0.118			218	0	218	0.091		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	965	2	967	0.302			1541	0	1541	0.482	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.531						0.482
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1348	0	1348	0.531	*		965	2	967	0.383		
WB RIGHT	0	0	351	0	351	0.000			260	0	260	0.000		

NORTH/SOUTH CRITICAL SUM	0.171	NORTH/SOUTH CRITICAL SUM	0.204
EAST/WEST CRITICAL SUM	0.531	EAST/WEST CRITICAL SUM	0.482
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.802	INTERSECTION ICU VALUE	0.786
AM INTERSECTION LOS	D	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 1. 605 FREEWAY SB OFF/ESPERANO & WHITTIER BOULEVARD

EXISTING+ Phase 3 Project

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	Project Volumes	Total	V/C		CRITICAL PAIR	2010 VOLUMES	Project Volumes	Total	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
NB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
								0.169						0.202
SB LEFT	1.5	2,400	404	1	405	0.169	*		483	1	484	0.202	*	
SB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
SB RIGHT	1.5	2,400	284	0	284	0.118			218	0	218	0.091		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	965	2	967	0.302			1541	0	1541	0.482	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.531						0.482
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1348	0	1348	0.531	*		965	2	967	0.383		
WB RIGHT	0	0	351	0	351	0.000			260	0	260	0.000		

NORTH/SOUTH CRITICAL SUM	0.169	NORTH/SOUTH CRITICAL SUM	0.202
EAST/WEST CRITICAL SUM	0.531	EAST/WEST CRITICAL SUM	0.482
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.800	INTERSECTION ICU VALUE	0.784
AM INTERSECTION LOS	C	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD

EXISTING CONDITION + PHASE 1 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	0	332	0.138	*		287	0	287	0.120		
NB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
NB RIGHT	1.5	2400	300	2	302	0.126			315	0	315	0.131	*	
								0.138						0.131
SB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	921	5	926	0.289			1351	1	1352	0.423	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.501						0.423
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1603	1	1604	0.501	*		1200	5	1205	0.377		
WB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.138	NORTH/SOUTH CRITICAL SUM	0.131
EAST/WEST CRITICAL SUM	0.501	EAST/WEST CRITICAL SUM	0.423
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.739	INTERSECTION ICU VALUE	0.654
AM INTERSECTION LOS	C	PM INTERSECTION LOS	B

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD

EXISTING CONDITION + PHASE 2 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	0	332	0.138	*		287	0	287	0.120		
NB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
NB RIGHT	1.5	2400	300	7	307	0.128			315	6	321	0.131	*	
								0.138						0.131
SB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	921	9	930	0.291			1351	6	1357	0.424	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.505						0.424
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1603	13	1616	0.505	*		1200	16	1216	0.380		
WB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.138	NORTH/SOUTH CRITICAL SUM	0.131
EAST/WEST CRITICAL SUM	0.505	EAST/WEST CRITICAL SUM	0.424
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.743	INTERSECTION ICU VALUE	0.655
AM INTERSECTION LOS	C	PM INTERSECTION LOS	B

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 2. 605 FREEWAY NORTHBOUND OFFRAMP & WHITTIER BOULEVARD

EXISTING CONDITION + PHASE 3 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1.5	2,400	332	0	332	0.138	*		287	0	287	0.120		
NB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
NB RIGHT	1.5	2400	300	1	301	0.125			315	0	315	0.131	*	
								0.138						0.131
SB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
SB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000		
SB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	2	3,200	921	3	924	0.289			1351	0	1351	0.422	*	
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.502						0.422
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	2	3,200	1603	3	1606	0.502	*		1200	4	1204	0.376		
WB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.138	NORTH/SOUTH CRITICAL SUM	0.131
EAST/WEST CRITICAL SUM	0.502	EAST/WEST CRITICAL SUM	0.422
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.740	INTERSECTION ICU VALUE	0.653
AM INTERSECTION LOS	C	PM INTERSECTION LOS	B

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING CONDITION + PHASE 1 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	0	150	0.094			136	0	136	0.085		
NB THRU	2	3,200	1523	1	1524	0.476	*		1143	4	1147	0.358	*	
NB RIGHT	1	1600	85	0	85	0.053			131	0	131	0.082		
								0.625						0.507
SB LEFT	1	1,600	238	1	239	0.149	*		239	0	239	0.149	*	
SB THRU	2	3,200	1100	6	1106	0.346			1295	2	1297	0.405		
SB RIGHT	1	1,600	9	0	9	0.006			12	0	12	0.008		
EB LEFT	0	0	6	0	6	0.000	*		9	0	9	0.000	*	
EB THRU	2	3,200	336	0	336	0.107			348	0	348	0.112		
EB RIGHT	1	1,600	161	0	161	0.101			159	0	159	0.099		
								0.168						0.158
WB LEFT	0	0	80	0	80	0.000			73	0	73	0.000		
WB THRU	2	3,200	332	0	332	0.129			227	0	227	0.094		
WB RIGHT	1	1,600	269	0	269	0.168	*		253	0	253	0.158	*	

NORTH/SOUTH CRITICAL SUM	0.625	NORTH/SOUTH CRITICAL SUM	0.507
EAST/WEST CRITICAL SUM	0.168	EAST/WEST CRITICAL SUM	0.158
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.893	INTERSECTION ICU VALUE	0.765
AM INTERSECTION LOS	D	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING CONDITION + PHASE 2 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	0	150	0.094			136	0	136	0.085		
NB THRU	2	3,200	1523	5	1528	0.478	*		1143	8	1151	0.360	*	
NB RIGHT	1	1600	85	0	85	0.053			131	0	131	0.082		
								0.632						0.514
SB LEFT	1	1,600	238	9	247	0.154	*		239	8	247	0.154	*	
SB THRU	2	3,200	1100	8	1108	0.346			1295	5	1300	0.406		
SB RIGHT	1	1,600	9	0	9	0.006			12	0	12	0.008		
EB LEFT	0	0	6	0	6	0.000	*		9	0	9	0.000	*	
EB THRU	2	3,200	336	0	336	0.107			348	0	348	0.112		
EB RIGHT	1	1,600	161	0	161	0.101			159	0	159	0.099		
								0.168						0.158
WB LEFT	0	0	80	0	80	0.000			73	0	73	0.000		
WB THRU	2	3,200	332	0	332	0.129			227	0	227	0.094		
WB RIGHT	1	1,600	269	8	277	0.168	*		253	9	262	0.158	*	

NORTH/SOUTH CRITICAL SUM	0.632	NORTH/SOUTH CRITICAL SUM	0.514
EAST/WEST CRITICAL SUM	0.168	EAST/WEST CRITICAL SUM	0.158
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.900	INTERSECTION ICU VALUE	0.772
AM INTERSECTION LOS	D	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 3. HADLEY STREET & WHITTIER BOULEVARD
EXISTING CONDITION + PHASE 3 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR	2010 VOLUMES	PROJECT VOLUMES	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	150	0	150	0.094			136	0	136	0.085		
NB THRU	2	3,200	1523	1	1524	0.476	*		1143	3	1146	0.358	*	
NB RIGHT	1	1600	85	0	85	0.053			131	0	131	0.082		
								0.625						0.508
SB LEFT	1	1,600	238	1	239	0.149	*		239	1	240	0.150	*	
SB THRU	2	3,200	1100	3	1103	0.345			1295	1	1296	0.405		
SB RIGHT	1	1,600	9	0	9	0.006			12	0	12	0.008		
EB LEFT	0	0	6	0	6	0.000	*		9	0	9	0.000	*	
EB THRU	2	3,200	336	0	336	0.107			348	0	348	0.112		
EB RIGHT	1	1,600	161	0	161	0.101			159	0	159	0.099		
								0.168						0.158
WB LEFT	0	0	80	0	80	0.000			73	0	73	0.000		
WB THRU	2	3,200	332	0	332	0.129			227	0	227	0.094		
WB RIGHT	1	1,600	269	1	270	0.168	*		253	1	254	0.158	*	

NORTH/SOUTH CRITICAL SUM	0.625	NORTH/SOUTH CRITICAL SUM	0.508
EAST/WEST CRITICAL SUM	0.168	EAST/WEST CRITICAL SUM	0.158
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.893	INTERSECTION ICU VALUE	0.766
AM INTERSECTION LOS	D	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE

EXISTING + PHASE 1 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	0	427	0.148	*		371	0	371	0.129	*	
NB THRU	1	1600	239	0	239	0.230			339	0	339	0.274		
NB RIGHT	0	0	129	0	129	0.000			99	0	99	0.000		
								0.386						0.338
SB LEFT	1	1,600	21	0	21	0.013			19	0	19	0.012		
SB THRU	1	1,600	380	0	380	0.238	*		335	0	335	0.209	*	
SB RIGHT	1	1,600	31	0	31	0.019			17	0	17	0.011		
EB LEFT	1	1,600	18	0	18	0.011			24	0	24	0.015		
EB THRU	1	1,600	132	0	132	0.083			183	0	183	0.114		
EB RIGHT	1	1,600	341	1	342	0.214	*		344	0	344	0.215	*	
								0.284						0.266
WB LEFT	1	1,600	112	0	112	0.070	*		81	0	81	0.051	*	
WB THRU	2	3,200	156	0	156	0.053			90	0	90	0.030		
WB RIGHT	0	0	12	0	12	0.000			6	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.386	NORTH/SOUTH CRITICAL SUM	0.338
EAST/WEST CRITICAL SUM	0.284	EAST/WEST CRITICAL SUM	0.266
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.770	INTERSECTION ICU VALUE	0.704

AM INTERSECTION LOS	C	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE

EXISTING + PHASE 2 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	8	435	0.151	*		371	9	380	0.132	*	
NB THRU	1	1600	239	0	239	0.230			339	0	339	0.274		
NB RIGHT	0	0	129	0	129	0.000			99	0	99	0.000		
								0.389						0.341
SB LEFT	1	1,600	21	0	21	0.013			19	0	19	0.012		
SB THRU	1	1,600	380	0	380	0.238	*		335	0	335	0.209	*	
SB RIGHT	1	1,600	31	0	31	0.019			17	0	17	0.011		
EB LEFT	1	1,600	18	0	18	0.011			24	0	24	0.015		
EB THRU	1	1,600	132	0	132	0.083			183	0	183	0.114		
EB RIGHT	1	1,600	341	9	350	0.219	*		344	8	352	0.22	*	
								0.289						0.271
WB LEFT	1	1,600	112	0	112	0.070	*		81	0	81	0.051	*	
WB THRU	2	3,200	156	0	156	0.053			90	0	90	0.030		
WB RIGHT	0	0	12	0	12	0.000			6	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.389	NORTH/SOUTH CRITICAL SUM	0.341
EAST/WEST CRITICAL SUM	0.289	EAST/WEST CRITICAL SUM	0.271
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.778	INTERSECTION ICU VALUE	0.712
AM INTERSECTION LOS	C	PM INTERSECTION LOS	C
AM IMPACT	0.009	PM IMPACT	0.008

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE

EXISTING + PHASE 3 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	427	1	428	0.149	*		371	1	372	0.129	*	
NB THRU	1	1600	239	0	239	0.230			339	0	339	0.274		
NB RIGHT	0	0	129	0	129	0.000			99	0	99	0.000		
								0.387						0.338
SB LEFT	1	1,600	21	0	21	0.013			19	0	19	0.012		
SB THRU	1	1,600	380	0	380	0.238	*		335	0	335	0.209	*	
SB RIGHT	1	1,600	31	0	31	0.019			17	0	17	0.011		
EB LEFT	1	1,600	18	0	18	0.011			24	0	24	0.015		
EB THRU	1	1,600	132	0	132	0.083			183	0	183	0.114		
EB RIGHT	1	1,600	341	1	342	0.214	*		344	1	345	0.216	*	
								0.284						0.267
WB LEFT	1	1,600	112	0	112	0.070	*		81	0	81	0.051	*	
WB THRU	2	3,200	156	0	156	0.053			90	0	90	0.030		
WB RIGHT	0	0	12	0	12	0.000			6	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.387	NORTH/SOUTH CRITICAL SUM	0.338
EAST/WEST CRITICAL SUM	0.284	EAST/WEST CRITICAL SUM	0.267
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.771	INTERSECTION ICU VALUE	0.705

AM INTERSECTION LOS	C	PM INTERSECTION LOS	C
AM IMPACT	0.002	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET

EXISTING + PHASE 1 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	0	61	0.038			45	0	45	0.028	*	
NB THRU	2	3,200	1005	1	1006	0.320	*		930	1	931	0.299		
NB RIGHT	0	0	17	0	17	0.000			26	0	26	0.000		
								0.339						0.378
SB LEFT	1	1,600	31	0	31	0.019	*		66	0	66	0.041		
SB THRU	2	3,200	888	0	888	0.283			1107	0	1107	0.350	*	
SB RIGHT	0	0	17	0	17	0.000			14	0	14	0.000		
EB LEFT	0	0	13	0	13	0.000	*		18	0	18	0.000		
EB THRU	1	1,600	21	0	21	0.021			55	0	55	0.046		
EB RIGHT	1	1,600	80	0	80	0.050			176	0	176	0.11	*	
								0.072						0.110
WB LEFT	0	0	25	0	25	0.000			23	0	23	0.000	*	
WB THRU	1	1600	30	0	30	0.072	*		31	0	31	0.062		
WB RIGHT	0	0	60	0	60	0.000			45	0	45	0.000		

NORTH/SOUTH CRITICAL SUM	0.339	NORTH/SOUTH CRITICAL SUM	0.378
EAST/WEST CRITICAL SUM	0.072	EAST/WEST CRITICAL SUM	0.110
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.511	INTERSECTION ICU VALUE	0.588

AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET

EXISTING + PHASE 2 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	0	61	0.038			45	0	45	0.028	*	
NB THRU	2	3,200	1005	1	1006	0.322	*		930	1	931	0.302		
NB RIGHT	0	0	17	8	25	0.000			26	8	34	0.000		
								0.346						0.378
SB LEFT	1	1,600	31	8	39	0.024	*		66	8	74	0.046		
SB THRU	2	3,200	888	0	888	0.283			1107	0	1107	0.350	*	
SB RIGHT	0	0	17	0	17	0.000			14	0	14	0.000		
EB LEFT	0	0	13	0	13	0.000	*		18	0	18	0.000		
EB THRU	1	1,600	21	0	21	0.021			55	0	55	0.046		
EB RIGHT	1	1,600	80	0	80	0.050			176	0	176	0.11	*	
								0.082						0.110
WB LEFT	0	0	25	3	28	0.000			23	3	26	0.000	*	
WB THRU	1	1600	30	5	35	0.082	*		31	5	36	0.072		
WB RIGHT	0	0	60	8	68	0.000			45	8	53	0.000		

NORTH/SOUTH CRITICAL SUM	0.346	NORTH/SOUTH CRITICAL SUM	0.378
EAST/WEST CRITICAL SUM	0.082	EAST/WEST CRITICAL SUM	0.110
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.528	INTERSECTION ICU VALUE	0.588

AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.018	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET

EXISTING + PHASE 3 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	0	61	0.038			45	0	45	0.028	*	
NB THRU	2	3,200	1005	1	1006	0.320	*		930	1	931	0.299		
NB RIGHT	0	0	17	0	17	0.000			26	1	27	0.000		
								0.339						0.378
SB LEFT	1	1,600	31	0	31	0.019	*		66	1	67	0.042		
SB THRU	2	3,200	888	0	888	0.283			1107	0	1107	0.350	*	
SB RIGHT	0	0	17	0	17	0.000			14	0	14	0.000		
EB LEFT	0	0	13	0	13	0.000	*		18	0	18	0.000		
EB THRU	1	1,600	21	0	21	0.021			55	0	55	0.046		
EB RIGHT	1	1,600	80	0	80	0.050			176	0	176	0.11	*	
								0.073						0.110
WB LEFT	0	0	25	0	25	0.000			23	0	23	0.000	*	
WB THRU	1	1600	30	1	31	0.073	*		31	0	31	0.062		
WB RIGHT	0	0	60	1	61	0.000			45	0	45	0.000		

NORTH/SOUTH CRITICAL SUM	0.339	NORTH/SOUTH CRITICAL SUM	0.378
EAST/WEST CRITICAL SUM	0.073	EAST/WEST CRITICAL SUM	0.110
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.512	INTERSECTION ICU VALUE	0.588

AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.002	PM IMPACT	0.000

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6-2-11*	Analysis Year	*EX+PROJ*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + PROJECT PHASE 1 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*556*			*631*	*12*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*556*	*0*	*0*	*631*	*12*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*6*		*1*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*6*	*0*	*1*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*2*						*7*	
C (m) (veh/h)	*951*						*225*	
v/c	*0.00*						*0.03*	
95% queue length	*0.01*						*0.10*	
Control Delay (s/veh)	*8.8*						*21.5*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*21.5*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6-2-2011*	Analysis Year	*EX+PROJ*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + PROJECT PHASE 1 PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*741*			*454*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*741*	*0*	*0*	*454*	*7*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*7*		*8*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*7*	*0*	*8*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*15*	
C (m) (veh/h)	*1111*						*319*	
v/c	*0.00*						*0.05*	
95% queue length	*0.00*						*0.15*	
Control Delay (s/veh)	*8.2*						*16.8*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*16.8*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6-2-11*	Analysis Year	*EX+PROJ*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + PROJECT PHASE 2 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*8*	*556*			*631*	*7*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*8*	*556*	*0*	*0*	*631*	*7*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*8*						*6*	
C (m) (veh/h)	*956*						*237*	
v/c	*0.01*						*0.03*	
95% queue length	*0.03*						*0.08*	
Control Delay (s/veh)	*8.8*						*20.6*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*20.6*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6-2-2011*	Analysis Year	*EX+PROJ*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + PROJECT PHASE 2 PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*7*	*741*			*454*	*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*7*	*741*	*0*	*0*	*454*	*2*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*9*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*9*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*7*						*13*	
C (m) (veh/h)	*1115*						*377*	
v/c	*0.01*						*0.03*	
95% queue length	*0.02*						*0.11*	
Control Delay (s/veh)	*8.2*						*14.9*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*14.9*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*6-2-11*
Analysis Time Period	*AM PEAK HOUR*

Site Information

Intersection	*6A*
Jurisdiction	*WHITTIER*
Analysis Year	*EX+PROJ*

Project Description *EXISTING + PROJECT PHASE 3 AM*

East/West Street: *MAR VISTA ST* | North/South Street: *CATALINA AVE - W LEG*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*2*	*556*			*631*	*6*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*2*	*556*	*0*	*0*	*631*	*6*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*2*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*2*						*6*	
C (m) (veh/h)	*956*						*238*	
v/c	*0.00*						*0.03*	
95% queue length	*0.01*						*0.08*	
Control Delay (s/veh)	*8.8*						*20.5*	
LOS	*A*						*C*	
Approach Delay (s/veh)	--	--				*20.5*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6A*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6-2-2011*	Analysis Year	*EX+PROJ*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + PROJECT PHASE 3 PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - W LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*741*			*454*	*2*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*741*	*0*	*0*	*454*	*2*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*4*		*9*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*9*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (veh/h)	*0*						*13*	
C (m) (veh/h)	*1115*						*382*	
v/c	*0.00*						*0.03*	
95% queue length	*0.00*						*0.11*	
Control Delay (s/veh)	*8.2*						*14.8*	
LOS	*A*						*B*	
Approach Delay (s/veh)	--	--				*14.8*		
Approach LOS	--	--				*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6/2/2011*	Analysis Year	*EX+PROJ*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + PROJECT PHASE 1 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*494*	*68*	*35*	*625*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*494*	*68*	*35*	*625*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*20*		*31*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*20*	*0*	*31*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*35*		*51*				
C (m) (veh/h)		*1019*		*495*				
v/c		*0.03*		*0.10*				
95% queue length		*0.11*		*0.34*				
Control Delay (s/veh)		*8.7*		*13.1*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.1*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6/2/2011*	Analysis Year	*EX+PROJ*
Analysis Time Period	*PM PEAK HOUR*		

Project Description *EXISTING+PROJECT PHASE 1 PM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*731*	*17*	*22*	*452*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*731*	*17*	*22*	*452*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*		*33*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*33*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*22*		*42*				
C (m) (veh/h)		*870*		*431*				
v/c		*0.03*		*0.10*				
95% queue length		*0.08*		*0.32*				
Control Delay (s/veh)		*9.2*		*14.3*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*14.3*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6/2/2011*	Analysis Year	*EX+PROJ*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + PROJECT PHASE 2 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*492*	*68*	*35*	*620*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*492*	*68*	*35*	*620*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*20*		*31*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*20*	*0*	*31*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*35*		*51*				
C (m) (veh/h)		*1021*		*496*				
v/c		*0.03*		*0.10*				
95% queue length		*0.11*		*0.34*				
Control Delay (s/veh)		*8.7*		*13.1*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.1*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*6/2/2011*
Analysis Time Period	*PM PEAK HOUR*

Site Information

Intersection	*6B*
Jurisdiction	*WHITTIER*
Analysis Year	*EX+PROJ*

Project Description *EXISTING+PROJECT PHASE 2 PM*

East/West Street: *MAR VISTA ST* | North/South Street: *CATALINA AVE - E LEG*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*727*	*18*	*22*	*447*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*727*	*18*	*22*	*447*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*		*33*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*33*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*22*		*42*				
C (m) (veh/h)		*872*		*433*				
v/c		*0.03*		*0.10*				
95% queue length		*0.08*		*0.32*				
Control Delay (s/veh)		*9.2*		*14.2*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*14.2*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*6B*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6/2/2011*	Analysis Year	*EX+PROJ*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING + PROJECT PHASE 3 AM*

East/West Street: *MAR VISTA ST*	North/South Street: *CATALINA AVE - E LEG*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*492*	*68*	*35*	*619*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*492*	*68*	*35*	*619*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*20*		*31*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*20*	*0*	*31*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*35*		*51*				
C (m) (veh/h)		*1021*		*497*				
v/c		*0.03*		*0.10*				
95% queue length		*0.11*		*0.34*				
Control Delay (s/veh)		*8.7*		*13.1*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*13.1*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*6/2/2011*
Analysis Time Period	*PM PEAK HOUR*

Site Information

Intersection	*6B*
Jurisdiction	*WHITTIER*
Analysis Year	*EX+PROJ*

Project Description *EXISTING+PROJECT PHASE 2 PM*

East/West Street: *MAR VISTA ST* | North/South Street: *CATALINA AVE - E LEG*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*727*	*18*	*22*	*447*	
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*727*	*18*	*22*	*447*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*9*		*33*			
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*33*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*22*		*42*				
C (m) (veh/h)		*872*		*433*				
v/c		*0.03*		*0.10*				
95% queue length		*0.08*		*0.32*				
Control Delay (s/veh)		*9.2*		*14.2*				
LOS		*A*		*B*				
Approach Delay (s/veh)	--	--	*14.2*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6/2/2011*	Analysis Year	*EX+PROJ*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+PROJECT PHASE 1 AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*94*	*1215*	*0*	*0*	*1831*	*112*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*94*	*1215*	*0*	*0*	*1831*	*112*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*4*	*0*	*110*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*110*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*94*	*0*		*0*			*114*	
C (m) (veh/h)	*323*	*601*					*381*	
v/c	*0.29*	*0.00*					*0.30*	
95% queue length	*1.18*	*0.00*					*1.24*	
Control Delay (s/veh)	*20.7*	*11.0*					*18.4*	
LOS	*C*	*B*					*C*	
Approach Delay (s/veh)	--	--				*18.4*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*6/2/2011*
Analysis Time Period	*PM PEAK HOUR*

Site Information

Intersection	*7*
Jurisdiction	*WHITTIER*
Analysis Year	*EX+PROJ*

Project Description *EXISTING+PROJECT PHASE 1 PM*

East/West Street: *WHITTIER BOULEVARD* | North/South Street: *CATALINA AVENUE*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*52*	*1714*	*0*	*0*	*1294*	*68*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*52*	*1714*	*0*	*0*	*1294*	*68*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*9*	*0*	*33*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*9*	*0*	*33*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*52*	*0*		*0*			*42*	
C (m) (veh/h)	*531*	*393*					*401*	
v/c	*0.10*	*0.00*					*0.10*	
95% queue length	*0.32*	*0.00*					*0.35*	
Control Delay (s/veh)	*12.5*	*14.2*					*15.0*	
LOS	*B*	*B*					*C*	
Approach Delay (s/veh)	--	--				*15.0*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6/2/2011*	Analysis Year	*EX+PROJ*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+PROJECT PHASE 2 AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*94*	*1216*	*0*	*0*	*1833*	*112*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*94*	*1216*	*0*	*0*	*1833*	*112*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*4*	*0*	*110*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*110*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*94*	*0*		*0*			*114*	
C (m) (veh/h)	*322*	*601*					*380*	
v/c	*0.29*	*0.00*					*0.30*	
95% queue length	*1.19*	*0.00*					*1.24*	
Control Delay (s/veh)	*20.7*	*11.0*					*18.5*	
LOS	*C*	*B*					*C*	
Approach Delay (s/veh)	--	--				*18.5*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	LC	Intersection	7
Agency/Co.	OTC	Jurisdiction	WHITTIER
Date Performed	6/2/2011	Analysis Year	EX+PROJ
Analysis Time Period	PM PEAK HOUR		

Project Description EXISTING+PROJECT PHASE 2 PM

East/West Street: WHITTIER BOULEVARD | North/South Street: CATALINA AVENUE

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	52	1715	0	0	1294	68
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	52	1715	0	0	1294	68
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Raised curb					
RT Channelized			0			0
Lanes	1	2	0	0	2	0
Configuration	L	T	TR	LT		TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	0	10	0	34
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Hourly Flow Rate, HFR (veh/h)	0	0	0	10	0	34
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	LT		LTR			LTR	
v (veh/h)	52	0		0			44	
C (m) (veh/h)	531	393					394	
v/c	0.10	0.00					0.11	
95% queue length	0.32	0.00					0.37	
Control Delay (s/veh)	12.5	14.2					15.3	
LOS	B	B					C	
Approach Delay (s/veh)	--	--				15.3		
Approach LOS	--	--				C		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*LC*	Intersection	*7*
Agency/Co.	*OTC*	Jurisdiction	*WHITTIER*
Date Performed	*6/2/2011*	Analysis Year	*EX+PROJ*
Analysis Time Period	*AM PEAK HOUR*		

Project Description *EXISTING+PROJECT PHASE 3 AM*

East/West Street: *WHITTIER BOULEVARD*	North/South Street: *CATALINA AVENUE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*94*	*1212*	*0*	*0*	*1830*	*112*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*94*	*1212*	*0*	*0*	*1830*	*112*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*4*	*0*	*110*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*4*	*0*	*110*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*94*	*0*		*0*			*114*	
C (m) (veh/h)	*323*	*603*					*382*	
v/c	*0.29*	*0.00*					*0.30*	
95% queue length	*1.18*	*0.00*					*1.23*	
Control Delay (s/veh)	*20.7*	*11.0*					*18.4*	
LOS	*C*	*B*					*C*	
Approach Delay (s/veh)	--	--				*18.4*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*LC*
Agency/Co.	*OTC*
Date Performed	*6/2/2011*
Analysis Time Period	*PM PEAK HOUR*

Site Information

Intersection	*7*
Jurisdiction	*WHITTIER*
Analysis Year	*EX+PROJ*

Project Description *EXISTING+PROJECT PHASE 3 PM*

East/West Street: *WHITTIER BOULEVARD* | North/South Street: *CATALINA AVENUE*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*52*	*1712*	*0*	*0*	*1294*	*68*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*52*	*1712*	*0*	*0*	*1294*	*68*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*	*TR*	*LT*		*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*9*	*0*	*33*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*9*	*0*	*33*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*LT*		*LTR*			*LTR*	
v (veh/h)	*52*	*0*		*0*			*42*	
C (m) (veh/h)	*531*	*394*					*401*	
v/c	*0.10*	*0.00*					*0.10*	
95% queue length	*0.32*	*0.00*					*0.35*	
Control Delay (s/veh)	*12.5*	*14.1*					*15.0*	
LOS	*B*	*B*					*C*	
Approach Delay (s/veh)	--	--				*15.0*		
Approach LOS	--	--				*C*		

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Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD

EXISTING + PHASE 1 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	0	14	0.009			20	0	20	0.013		
NB THRU	2	3,200	1327	0	1327	0.415	*		1341	0	1341	0.419	*	
NB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.415						0.419
SB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
SB THRU	3	4,800	1739	0	1739	0.363			1684	0	1684	0.353		
SB RIGHT	0	0	1	0	1	0.000			12	0	12	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	1	1,600	0	0	0	0.006			0	0	0	0.012	*	
EB RIGHT	0	0	9	0	9	0.000			19	0	19	0.000		
								0.257						0.305
WB LEFT	1	1,600	228	1	229	0.143			468	0	468	0.293	*	
WB THRU	0	0	0	0	0	0.000			2	0	2	0.000		
WB RIGHT	1	1,600	411	0	411	0.257	*		418	0	418	0.261		

NORTH/SOUTH CRITICAL SUM	0.415	NORTH/SOUTH CRITICAL SUM	0.419
EAST/WEST CRITICAL SUM	0.257	EAST/WEST CRITICAL SUM	0.305
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.772	INTERSECTION ICU VALUE	0.824

AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD

EXISTING + PHASE 2 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	0	14	0.009			20	0	20	0.013		
NB THRU	2	3,200	1327	0	1327	0.415	*		1341	0	1341	0.419	*	
NB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.415						0.419
SB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
SB THRU	3	4,800	1739	0	1739	0.363			1684	0	1684	0.353		
SB RIGHT	0	0	1	0	1	0.000			12	0	12	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	1	1,600	0	0	0	0.006			0	0	0	0.012	*	
EB RIGHT	0	0	9	0	9	0.000			19	0	19	0.000		
								0.257						0.306
WB LEFT	1	1,600	228	2	230	0.144			468	2	470	0.294	*	
WB THRU	0	0	0	0	0	0.000			2	0	2	0.000		
WB RIGHT	1	1,600	411	0	411	0.257	*		418	0	418	0.261		

NORTH/SOUTH CRITICAL SUM	0.415	NORTH/SOUTH CRITICAL SUM	0.419
EAST/WEST CRITICAL SUM	0.257	EAST/WEST CRITICAL SUM	0.306
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.772	INTERSECTION ICU VALUE	0.825

AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.000	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 8. 60 FREEWAY WESTBOUND OFFRAMP & HACIENDA BOULEVARD

EXISTING + PHASE 3 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	14	0	14	0.009			20	0	20	0.013		
NB THRU	2	3,200	1327	0	1327	0.415	*		1341	0	1341	0.419	*	
NB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.415						0.419
SB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
SB THRU	3	4,800	1739	0	1739	0.363			1684	0	1684	0.353		
SB RIGHT	0	0	1	0	1	0.000			12	0	12	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB THRU	1	1,600	0	0	0	0.006			0	0	0	0.012	*	
EB RIGHT	0	0	9	0	9	0.000			19	0	19	0.000		
								0.257						0.305
WB LEFT	1	1,600	228	0	228	0.143			468	0	468	0.293	*	
WB THRU	0	0	0	0	0	0.000			2	0	2	0.000		
WB RIGHT	1	1,600	411	0	411	0.257	*		418	0	418	0.261		

NORTH/SOUTH CRITICAL SUM	0.415	NORTH/SOUTH CRITICAL SUM	0.419
EAST/WEST CRITICAL SUM	0.257	EAST/WEST CRITICAL SUM	0.305
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.772	INTERSECTION ICU VALUE	0.824

AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD

EXISTING + PHASE 1 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	0	13	0.008			13	0	13	0.008		
NB THRU	3	4800	2049		2049	0.427	*		1372		1372	0.286	*	
NB RIGHT	0	0	1		1	0.000			2		2	0.000		
								0.431						0.295
SB LEFT	1	1,600	7		7	0.004	*		15		15	0.009	*	
SB THRU	3	4,800	848		848	0.193			1287		1287	0.277		
SB RIGHT	0	0	77		77	0.000			44		44	0.000		
EB LEFT	1.5	2,400	823		823	0.343	*		719		719	0.300		
EB THRU	0	0	18		18	0.000			45		45	0.000		
EB RIGHT	1.5	2,400	429		429	0.179			864		864	0.36	*	
								0.343						0.360
WB LEFT	0	0	0		0	0.000			0		0	0.000	*	
WB THRU	1	1600	0		0	0.000	*		0		0	0.000		
WB RIGHT	0	0	0		0	0.000	*		0		0	0.000		

NORTH/SOUTH CRITICAL SUM	0.431	NORTH/SOUTH CRITICAL SUM	0.295
EAST/WEST CRITICAL SUM	0.343	EAST/WEST CRITICAL SUM	0.360
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.874	INTERSECTION ICU VALUE	0.755

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD

EXISTING + PHASE 2 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	0	13	0.008			13	0	13	0.008		
NB THRU	3	4800	2049	3	2052	0.428	*		1372	5	1377	0.287	*	
NB RIGHT	0	0	1	0	1	0.000			2	0	2	0.000		
								0.432						0.296
SB LEFT	1	1,600	7	0	7	0.004	*		15	0	15	0.009	*	
SB THRU	3	4,800	848	3	851	0.193			1287	2	1289	0.278		
SB RIGHT	0	0	77	0	77	0.000			44	0	44	0.000		
EB LEFT	1.5	2,400	823	0	823	0.343	*		719	0	719	0.300		
EB THRU	0	0	18	0	18	0.000			45	0	45	0.000		
EB RIGHT	1.5	2,400	429	3	432	0.180			864	2	866	0.361	*	
								0.343						0.361
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	1	1600	0	0	0	0.000	*		0	0	0	0.000		
WB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.432	NORTH/SOUTH CRITICAL SUM	0.296
EAST/WEST CRITICAL SUM	0.343	EAST/WEST CRITICAL SUM	0.361
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.875	INTERSECTION ICU VALUE	0.757

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 9. THREE PALMS DRIVE & HACIENDA BOULEVARD

EXISTING + PHASE 3 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	13	0	13	0.008			13	0	13	0.008		
NB THRU	3	4800	2049	0	2049	0.427	*		1372	2	1374	0.287	*	
NB RIGHT	0	0	1	0	1	0.000			2	0	2	0.000		
								0.431						0.296
SB LEFT	1	1,600	7	0	7	0.004	*		15	0	15	0.009	*	
SB THRU	3	4,800	848	1	849	0.193			1287	0	1287	0.277		
SB RIGHT	0	0	77	0	77	0.000			44	0	44	0.000		
EB LEFT	1.5	2,400	823	0	823	0.343	*		719	0	719	0.300		
EB THRU	0	0	18	0	18	0.000			45	0	45	0.000		
EB RIGHT	1.5	2,400	429	1	430	0.179			864	0	864	0.36	*	
								0.343						0.360
WB LEFT	0	0	0	0	0	0.000			0	0	0	0.000	*	
WB THRU	1	1600	0	0	0	0.000	*		0	0	0	0.000		
WB RIGHT	0	0	0	0	0	0.000	*		0	0	0	0.000		

NORTH/SOUTH CRITICAL SUM	0.431	NORTH/SOUTH CRITICAL SUM	0.296
EAST/WEST CRITICAL SUM	0.343	EAST/WEST CRITICAL SUM	0.360
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.874	INTERSECTION ICU VALUE	0.756

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.000	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD

EXISTING + PHASE 1 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	0	31	0.019	*		52	0	52	0.033	*	
NB THRU	3	4800	480	0	480	0.113			559	0	559	0.142		
NB RIGHT	0	0	64	0	64	0.000			124	0	124	0.000		
								0.182						0.239
SB LEFT	1	1,600	87	0	87	0.054			140	0	140	0.088		
SB THRU	2	3,200	521	0	521	0.163	*		660	0	660	0.206	*	
SB RIGHT	1	1,600	468	5	473	0.057			401	2	403	0.000		
EB LEFT	2	2,880	381	1	382	0.133	*		548	4	552	0.192	*	
EB THRU	3	4,800	558	0	558	0.126			1145	0	1145	0.245		
EB RIGHT	0	0	47	0	47	0.000			29	0	29	0.000		
								0.419						0.406
WB LEFT	2	2,880	125	0	125	0.043			129	0	129	0.045		
WB THRU	2	3,200	831	0	831	0.286	*		613	0	613	0.214	*	
WB RIGHT	0	0	85	0	85	0.000			73	0	73	0.000		

NORTH/SOUTH CRITICAL SUM	0.182	NORTH/SOUTH CRITICAL SUM	0.239
EAST/WEST CRITICAL SUM	0.419	EAST/WEST CRITICAL SUM	0.406
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.701	INTERSECTION ICU VALUE	0.745

AM INTERSECTION LOS	C	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD

EXISTING + PHASE 2 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	0	31	0.019	*		52	0	52	0.033	*	
NB THRU	3	4800	480	0	480	0.113			559	0	559	0.142		
NB RIGHT	0	0	64	0	64	0.000			124	0	124	0.000		
								0.182						0.239
SB LEFT	1	1,600	87	0	87	0.054			140	0	140	0.088		
SB THRU	2	3,200	521	0	521	0.163	*		660	0	660	0.206	*	
SB RIGHT	1	1,600	468	5	473	0.058			401	3	404	0.000		
EB LEFT	2	2,880	381	0	381	0.132	*		548	2	550	0.191	*	
EB THRU	3	4,800	558	0	558	0.126			1145	0	1145	0.245		
EB RIGHT	0	0	47	0	47	0.000			29	0	29	0.000		
								0.419						0.406
WB LEFT	2	2,880	125	0	125	0.043			129	0	129	0.045		
WB THRU	2	3,200	831	3	834	0.287	*		613	3	616	0.215	*	
WB RIGHT	0	0	85	0	85	0.000			73	0	73	0.000		

NORTH/SOUTH CRITICAL SUM	0.182	NORTH/SOUTH CRITICAL SUM	0.239
EAST/WEST CRITICAL SUM	0.419	EAST/WEST CRITICAL SUM	0.406
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.701	INTERSECTION ICU VALUE	0.745

AM INTERSECTION LOS	C	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 10. COLIMA ROAD & HACIENDA BOULEVARD

EXISTING + PHASE 3 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	31	0	31	0.019	*		52	0	52	0.033	*	
NB THRU	3	4800	480	0	480	0.113			559	0	559	0.142		
NB RIGHT	0	0	64	0	64	0.000			124	0	124	0.000		
								0.182						0.239
SB LEFT	1	1,600	87	0	87	0.054			140	0	140	0.088		
SB THRU	2	3,200	521	0	521	0.163	*		660	0	660	0.206	*	
SB RIGHT	1	1,600	468	2	470	0.056			401	0	401	0.000		
EB LEFT	2	2,880	381	0	381	0.132	*		548	2	550	0.191	*	
EB THRU	3	4,800	558	0	558	0.126			1145	0	1145	0.245		
EB RIGHT	0	0	47	0	47	0.000			29	0	29	0.000		
								0.418						0.405
WB LEFT	2	2,880	125	0	125	0.043			129	0	129	0.045		
WB THRU	2	3,200	831	0	831	0.286	*		613	0	613	0.214	*	
WB RIGHT	0	0	85	0	85	0.000			73	0	73	0.000		

NORTH/SOUTH CRITICAL SUM	0.182	NORTH/SOUTH CRITICAL SUM	0.239
EAST/WEST CRITICAL SUM	0.418	EAST/WEST CRITICAL SUM	0.405
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.700	INTERSECTION ICU VALUE	0.744

AM INTERSECTION LOS	B	PM INTERSECTION LOS	C
AM IMPACT	0.000	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET

EXISTING + PHASE 1 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	7	134	0.084	*		114	3	117	0.073		
NB THRU	2	3,200	726	0	726	0.227			1440	0	1440	0.450	*	
NB RIGHT	1	1600	172	0	172	0.108			32	0	32	0.02		
								0.501						0.472
SB LEFT	1	1,600	72	0	72	0.045			35	0	35	0.022	*	
SB THRU	2	3,200	1334	0	1334	0.417	*		949	0	949	0.297		
SB RIGHT	1	1,600	372	5	377	0.236			291	2	293	0.183		
EB LEFT	1.5	2,400	241	1	242	0.101	*		498	4	502	0.209	*	
EB THRU	0.5	800	201	0	201	0.000			79	0	79	0.000		
EB RIGHT	1	1,600	101	1	102	0.064			151	3	154	0.096		
								0.189						0.263
WB LEFT	1	1,600	47	0	47	0.029			23	0	23	0.014		
WB THRU	1	1600	140	0	140	0.088	*		86	0	86	0.054	*	
WB RIGHT	1	1,600	58	0	58	0.036			72	0	72	0.045		

NORTH/SOUTH CRITICAL SUM	0.501	NORTH/SOUTH CRITICAL SUM	0.472
EAST/WEST CRITICAL SUM	0.189	EAST/WEST CRITICAL SUM	0.263
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.790	INTERSECTION ICU VALUE	0.835

AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.006	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET

EXISTING + PHASE 2 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	5	132	0.083	*		114	1	115	0.072		
NB THRU	2	3,200	726	3	729	0.228			1440	3	1443	0.451	*	
NB RIGHT	1	1600	172	0	172	0.108			32	0	32	0.02		
								0.501						0.473
SB LEFT	1	1,600	72	0	72	0.045			35	0	35	0.022	*	
SB THRU	2	3,200	1334	3	1337	0.418	*		949	3	952	0.298		
SB RIGHT	1	1,600	372	2	374	0.234			291	0	291	0.182		
EB LEFT	1.5	2,400	241	0	241	0.100	*		498	2	500	0.208	*	
EB THRU	0.5	800	201	0	201	0.000			79	0	79	0.000		
EB RIGHT	1	1,600	101	0	101	0.063			151	1	152	0.095		
								0.188						0.262
WB LEFT	1	1,600	47	0	47	0.029			23	0	23	0.014		
WB THRU	1	1600	140	0	140	0.088	*		86	0	86	0.054	*	
WB RIGHT	1	1,600	58	0	58	0.036			72	0	72	0.045		

NORTH/SOUTH CRITICAL SUM	0.501	NORTH/SOUTH CRITICAL SUM	0.473
EAST/WEST CRITICAL SUM	0.188	EAST/WEST CRITICAL SUM	0.262
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.789	INTERSECTION ICU VALUE	0.835

AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.005	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 11. COLIMA ROAD & MAR VISTA STREET

EXISTING + PHASE 3 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	127	4	131	0.082	*		114	0	114	0.071		
NB THRU	2	3,200	726	0	726	0.227			1440	0	1440	0.450	*	
NB RIGHT	1	1600	172	0	172	0.108			32	0	32	0.02		
								0.499						0.472
SB LEFT	1	1,600	72	0	72	0.045			35	0	35	0.022	*	
SB THRU	2	3,200	1334	0	1334	0.417	*		949	0	949	0.297		
SB RIGHT	1	1,600	372	2	374	0.234			291	0	291	0.182		
EB LEFT	1.5	2,400	241	0	241	0.100	*		498	2	500	0.208	*	
EB THRU	0.5	800	201	0	201	0.000			79	0	79	0.000		
EB RIGHT	1	1,600	101	0	101	0.063			151	1	152	0.095		
								0.188						0.262
WB LEFT	1	1,600	47	0	47	0.029			23	0	23	0.014		
WB THRU	1	1600	140	0	140	0.088	*		86	0	86	0.054	*	
WB RIGHT	1	1,600	58	0	58	0.036			72	0	72	0.045		

NORTH/SOUTH CRITICAL SUM	0.499	NORTH/SOUTH CRITICAL SUM	0.472
EAST/WEST CRITICAL SUM	0.188	EAST/WEST CRITICAL SUM	0.262
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.787	INTERSECTION ICU VALUE	0.834

AM INTERSECTION LOS	C	PM INTERSECTION LOS	D
AM IMPACT	0.003	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD

EXISTING + PHASE 1 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	0	208	0.130	*		203	0	203	0.127	*	
NB THRU	3	4800	800	1	801	0.167			869	0	869	0.181		
NB RIGHT	1	1600	114	0	114	0.001			134	0	134	0		
								0.394						0.333
SB LEFT	2	2,880	265	0	265	0.092			343	0	343	0.119		
SB THRU	2	3,200	846	0	846	0.264	*		660	0	660	0.206	*	
SB RIGHT	1	1,600	570	1	571	0.131			252	3	255	0		
EB LEFT	2	2,880	356	6	362	0.126	*		548	0	548	0.190	*	
EB THRU	3	4,800	817	0	817	0.196			1283	0	1283	0.298		
EB RIGHT	0	0	125	0	125	0.000			146	0	146	0.000		
								0.417						0.453
WB LEFT	1	1,600	113	0	113	0.071			149	0	149	0.093		
WB THRU	3	4800	1220	0	1220	0.291	*		1086	0	1086	0.263	*	
WB RIGHT	0	0	178	0	178	0.000			176	0	176	0.000		

NORTH/SOUTH CRITICAL SUM	0.394	NORTH/SOUTH CRITICAL SUM	0.333
EAST/WEST CRITICAL SUM	0.417	EAST/WEST CRITICAL SUM	0.453
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.911	INTERSECTION ICU VALUE	0.886

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.002	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD

EXISTING + PHASE 2 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	0	208	0.130	*		203	0	203	0.127	*	
NB THRU	3	4800	800	1	801	0.167			869	0	869	0.181		
NB RIGHT	1	1600	114	0	114	0.001			134	0	134	0		
								0.394						0.333
SB LEFT	2	2,880	265	3	268	0.093			343	3	346	0.12		
SB THRU	2	3,200	846	0	846	0.264	*		660	0	660	0.206	*	
SB RIGHT	1	1,600	570	0	570	0.130			252	0	252	0		
EB LEFT	2	2,880	356	6	362	0.126	*		548	3	551	0.191	*	
EB THRU	3	4,800	817	0	817	0.196			1283	0	1283	0.298		
EB RIGHT	0	0	125	0	125	0.000			146	0	146	0.000		
								0.417						0.454
WB LEFT	1	1,600	113	0	113	0.071			149	0	149	0.093		
WB THRU	3	4800	1220	0	1220	0.291	*		1086	0	1086	0.263	*	
WB RIGHT	0	0	178	0	178	0.000			176	0	176	0.000		

NORTH/SOUTH CRITICAL SUM	0.394	NORTH/SOUTH CRITICAL SUM	0.333
EAST/WEST CRITICAL SUM	0.417	EAST/WEST CRITICAL SUM	0.454
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.911	INTERSECTION ICU VALUE	0.887

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.002	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 12. COLIMA ROAD & WHITTIER BOULEVARD

EXISTING + PHASE 3 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	208	0	208	0.130	*		203	0	203	0.127	*	
NB THRU	3	4800	800	1	801	0.167			869	0	869	0.181		
NB RIGHT	1	1600	114	0	114	0.001			134	0	134	0		
								0.394						0.333
SB LEFT	2	2,880	265	0	265	0.092			343	0	343	0.119		
SB THRU	2	3,200	846	0	846	0.264	*		660	0	660	0.206	*	
SB RIGHT	1	1,600	570	0	570	0.132			252	0	252	0		
EB LEFT	2	2,880	356	3	359	0.125	*		548	0	548	0.190	*	
EB THRU	3	4,800	817	0	817	0.196			1283	0	1283	0.298		
EB RIGHT	0	0	125	0	125	0.000			146	0	146	0.000		
								0.416						0.453
WB LEFT	1	1,600	113	0	113	0.071			149	0	149	0.093		
WB THRU	3	4800	1220	0	1220	0.291	*		1086	0	1086	0.263	*	
WB RIGHT	0	0	178	0	178	0.000			176	0	176	0.000		

NORTH/SOUTH CRITICAL SUM	0.394	NORTH/SOUTH CRITICAL SUM	0.333
EAST/WEST CRITICAL SUM	0.416	EAST/WEST CRITICAL SUM	0.453
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.910	INTERSECTION ICU VALUE	0.886

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD

EXISTING + PHASE 1

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	2	3,200	1056	1	1057	0.343	*		864	3	867	0.292	*	
NB RIGHT	0	0	39	0	39	0.000			68	0	68	0.000		
								0.447						0.423
SB LEFT	1	1,600	167	0	167	0.104	*		209	0	209	0.131	*	
SB THRU	2	3,200	763	6	769	0.240			1006	2	1008	0.315		
SB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.214						0.144
WB LEFT	1	1,600	162	0	162	0.101			64	0	64	0.040		
WB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
WB RIGHT	1	1,600	342	0	342	0.214	*		229	1	230	0.144	*	

NORTH/SOUTH CRITICAL SUM	0.447	NORTH/SOUTH CRITICAL SUM	0.423
EAST/WEST CRITICAL SUM	0.214	EAST/WEST CRITICAL SUM	0.144
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.761	INTERSECTION ICU VALUE	0.667

AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.001	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD

EXISTING + PHASE 2

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	2	3,200	1056	0	1056	0.343	*		864	0	864	0.292	*	
NB RIGHT	0	0	39	3	42	0.000			68	3	71	0.000		
								0.451						0.426
SB LEFT	1	1,600	167	5	172	0.108	*		209	5	214	0.134	*	
SB THRU	2	3,200	763	3	766	0.239			1006	0	1006	0.314		
SB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.214						0.145
WB LEFT	1	1,600	162	3	165	0.103			64	3	67	0.042		
WB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
WB RIGHT	1	1,600	342	0	342	0.214	*		229	3	232	0.145	*	

NORTH/SOUTH CRITICAL SUM	0.451	NORTH/SOUTH CRITICAL SUM	0.426
EAST/WEST CRITICAL SUM	0.214	EAST/WEST CRITICAL SUM	0.145
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.765	INTERSECTION ICU VALUE	0.671

AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.005	PM IMPACT	0.006

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 13. MAR VISTA STREET & WHITTIER BOULEVARD

EXISTING + PHASE 3

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	0	0	0	0	0	0.000			0	0	0	0.000		
NB THRU	2	3,200	1056	0	1056	0.342	*		864	0	864	0.291	*	
NB RIGHT	0	0	39	0	39	0.000			68	0	68	0.000		
								0.446						0.422
SB LEFT	1	1,600	167	0	167	0.104	*		209	0	209	0.131	*	
SB THRU	2	3,200	763	3	766	0.239			1006	2	1008	0.315		
SB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
EB LEFT	0	0	0	0	0	0.000	*		0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
EB RIGHT	0	0	0	0	0	0.000			0	0	0	0.000		
								0.214						0.145
WB LEFT	1	1,600	162	0	162	0.101			64	0	64	0.040		
WB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
WB RIGHT	1	1,600	342	0	342	0.214	*		229	3	232	0.145	*	

NORTH/SOUTH CRITICAL SUM	0.446	NORTH/SOUTH CRITICAL SUM	0.422
EAST/WEST CRITICAL SUM	0.214	EAST/WEST CRITICAL SUM	0.145
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.760	INTERSECTION ICU VALUE	0.667

AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.000	PM IMPACT	0.002

APPENDIX H

PROJECT ALTERNATIVE ANALYSIS

APPENDIX H

PROJECT ALTERNATIVE ANALYSIS

ALTERNATIVE SUMMARY

Savage Canyon Alternatives Analysis

The Savage Canyon alternative incorporate changes in access from the proposed project in that the trucks use the Penn Street access for all three phases. In addition the employees will be using the Penn Street access for all three phases instead of a Catalina Avenue access. The analysis process is the same as with the project analysis.

The altered traffic distribution using Penn Street would reduce traffic using Mar Vista Street, Catalina Avenue, California Avenue and Ocean View Avenue. It would increase traffic in the Hadley Street, Penn Street and Painter Avenue area. The results of the analysis for each phase are provided below.

Summary

Phase 1

Existing + Ambient + Project Significant Impacts

No intersection or street segment significant impacts.

Future Existing + Ambient + Cumulative + Project Significant Impacts

#12 Colima Road & Whittier Boulevard during the AM & PM peak hours is significantly impacted. No significant street segment impacts.

Phase 2

Existing + Ambient + Project Significant Impacts

#3 Hadley Street & Whittier Boulevard during the PM peak hour is significantly impacted. No significant street segment impacts.

Future Existing + Ambient + Cumulative + Project Significant Impacts

3 Hadley Street & Whittier Boulevard during the PM peak hour and #12 Colima Road & Whittier Boulevard during the AM and PM peak hours are significantly impacted. No significant street segment impacts.

Phase 3

Existing + Ambient + Project Significant Impacts

No intersection or street segment significant impacts.

Future Existing + Ambient + Cumulative + Project Significant Impacts

#12 Colima Road & Whittier Boulevard during the AM and PM peak hours is significantly impact.

Whittier Main Oil Field

Phase 1

SAVAGE CANYON ALTERERNATIVE

ICU SUMARY

No.	Intersection	Peak Hour		Future (2015) Exist+Ambient ICU DELAY	LOS		Growth	Future (2015) Exist+Ambient+Phase 1 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	Future (2015) Exist+Amb+Related+Phase 1 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	% project	Future (2025) Cuml+Ph 1+Mit ICU DELAY	LOS	IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.835	D	+	0.036	0.836	D	+	0.001		NO	0.840	D	+	0.005		NO					
	& Whittier Boulevard	PM		0.817	D	+	0.034	0.818	D	+	0.001		NO	0.824	D	+	0.007		NO					
2	605 Fwy NB Offramp &	AM		0.771	C	+	0.032	0.772	C	+	0.001		NO	0.777	C	+	0.006		NO					
	Whittier Boulevard	PM		0.682	B	+	0.029	0.682	B	+	0.000		NO	0.693	B	+	0.011		NO					
3	Hadley Street &	AM		0.933	E	+	0.040	0.937	E	+	0.004		NO	0.939	E	+	0.006		NO					
	Whittier Boulevard	PM		0.798	C	+	0.034	0.804	D	+	0.006		NO	0.805	D	+	0.007		NO					
4	Hadley Street &	AM		0.803	D	+	0.034	0.807	D	+	0.004		NO	0.809	D	+	0.006		NO					
	Painter Avenue	PM		0.734	C	+	0.030	0.738	C	+	0.004		NO	0.74	C	+	0.006		NO					
5	Painter Avenue &	AM		0.532	A	+	0.022	0.538	A	+	0.006		NO	0.539	A	+	0.007		NO					
	Penn Street	PM		0.614	B	+	0.026	0.614	B	+	0.000		NO	0.615	B	+	0.001		NO					
6A	Catalina Av (W Leg) &	AM	SB	21.8	C	+	1.3	21.8	C	+	0.0	0.0%	No	22.0	C	+	0.2	0.9%	NO					
	Mar Vista Street	PM	SB	11.1	B	+	0.1	11.1	B	+	0.0	0.0%	NO	11.2	B	+	0.1	0.9%	NO					
6B	Catalina Av (E Leg) &	AM	NB	13.4	B	+	0.3	13.4	B	+	0.0	0.0%	NO	13.5	B	+	0.1	0.7%	NO					
	Mar Vista Street	PM	NB	14.7	B	+	0.5	14.7	B	+	0.0	0.0%	NO	14.8	B	+	0.1	0.7%	NO					
7	Catalina Avenue &	AM	SB	19.9	C	+	1.5	19.9	C	+	0.0	0.0%	NO	20.3	C	+	0.4	2.0%	NO					
	Whittier Boulevard	PM	SB	15.6	C	+	0.6	15.6	C	+	0.0	0.0%	NO	15.6	C	+	0.0	0.0%	NO					
8	60 Fwy WB Off Ramp &	AM		0.806	D	+	0.034	0.806	D	+	0.000		NO	0.807	D	+	0.001		NO					
	Hacienda Boulevard	PM		0.859	D	+	0.035	0.859	D	+	0.000		NO	0.866	D	+	0.007		NO					
9	Three Palms Drive &	AM		0.914	E	+	0.040	0.914	E	+	0.000		NO	0.917	E	+	0.003		NO					
	Hacienda Boulevard	PM		0.789	C	+	0.034	0.789	C	+	0.000		NO	0.797	C	+	0.008		NO					
10	Colima Road &	AM		0.731	C	+	0.031	0.731	C	+	0.000		NO	0.736	C	+	0.005		NO					
	Hacienda Boulevard	PM		0.776	C	+	0.033	0.777	C	+	0.001		NO	0.785	C	+	0.009		NO					
11	Colima Road &	AM		0.818	D	+	0.034	0.818	D	+	0.000		NO	0.824	D	+	0.006		NO					
	Mar Vista Street	PM		0.870	D	+	0.036	0.870	D	+	0.000		NO	0.876	D	+	0.006		NO					
12	Colima Road &	AM		0.951	E	+	0.042	0.951	E	+	0.000		NO	0.961	E	+	0.010		**YES**	0.0%	0.902	E	-0.049	NO
	Whittier Boulevard	PM		0.926	E	+	0.040	0.926	E	+	0.000		NO	0.941	E	+	0.015		**YES**	0.0%	0.914	E	-0.012	NO
13	Mar Vista Street &	AM		0.794	C	+	0.034	0.796	C	+	0.002		NO	0.802	D	+	0.008		NO					
	Whittier Boulevard	PM		0.693	B	+	0.028	0.693	B	+	0.000		NO	0.703	C	+	0.010		NO					

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)

Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Whittier Main Oil Field

Phase 2

SAVAGE CANYON ALTERNATIVE

ICU SUMARY

No.	Intersection	Peak Hour		Future (2020) Exist+Ambient ICU DELAY	LOS		Growth	Future (2020) Exist+Ambient+Phase 2 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	Future (2020) Exist+Amb+Related+Phase 2 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	% project	Future (2020) Exist+Amb+Phase 2+ MIT ICU DELAY	LOS	IMPACT	Significant Impact	Future (2020) Exist+Amb+Ph2+ CUML + MIT ICU DELAY	LOS	IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.870	D	+	0.071	0.873	D	+	0.003		NO	0.877	D	+	0.007		NO									
	& Whittier Boulevard	PM		0.852	D	+	0.069	0.854	D	+	0.002		NO	0.860	D	+	0.008		NO									
2	605 Fwy NB Offramp &	AM		0.804	D	+	0.065	0.808	D	+	0.004		NO	0.813	D	+	0.009		NO									
	Whittier Boulevard	PM		0.710	C	+	0.057	0.714	C	+	0.004		NO	0.724	C	+	0.014		NO									
3	Hadley Street &	AM		0.973	E	+	0.080	0.989	E	+	0.016		**YES**	0.990	E	+	0.017		**YES**	94.1%	0.978	D	0.005	NO	0.971	D	-0.002	NO
	Whittier Boulevard	PM		0.831	D	+	0.067	0.849	D	+	0.018		NO	0.850	D	+	0.019		NO									
4	Hadley Street &	AM		0.836	D	+	0.067	0.848	D	+	0.012		NO	0.850	D	+	0.014		NO									
	Painter Avenue	PM		0.766	C	+	0.062	0.777	C	+	0.011		NO	0.779	C	+	0.013		NO									
5	Painter Avenue &	AM		0.552	A	+	0.042	0.576	A	+	0.024		NO	0.577	A	+	0.025		NO									
	Penn Street	PM		0.638	B	+	0.050	0.638	B	+	0.000		NO	0.639	B	+	0.001		NO									
6A	Catalina Av (W Leg) &	AM	SB	22.1	C	+	1.6	22.1	C	+	0.0	0.0%	NO	22.1	C	+	0.0	0.0%	NO									
	Mar Vista Street	PM	SB	11.3	B	+	0.3	11.3	B	+	0.0	0.0%	NO	11.4	B	+	0.1	0.9%	NO									
6B	Catalina Av (E Leg) &	AM	NB	13.9	B	+	0.8	13.9	B	+	0.0	0.0%	NO	13.9	B	+	0.0	0.0%	NO									
	Mar Vista Street	PM	NB	15.2	C	+	1.0	15.3	C	+	0.1	0.7%	NO	15.3	C	+	0.1	0.7%	NO									
7	Catalina Avenue &	AM	SB	21.5	C	+	3.1	21.5	C	+	0.0	0.0%	NO	22.1	C	+	0.6	2.7%	NO									
	Whittier Boulevard	PM	SB	16.6	C	+	1.6	16.9	C	+	0.3	1.8%	NO	17.1	C	+	0.5	2.9%	NO									
8	60 Fwy WB Off Ramp &	AM		0.840	D	+	0.068	0.840	D	+	0.000		NO	0.841	D	+	0.001		NO									
	Hacienda Boulevard	PM		0.896	D	+	0.072	0.897	D	+	0.001		NO	0.903	E	+	0.007		NO									
9	Three Palms Drive &	AM		0.953	E	+	0.079	0.954	E	+	0.001		NO	0.957	E	+	0.004		NO									
	Hacienda Boulevard	PM		0.821	D	+	0.066	0.823	D	+	0.002		NO	0.831	D	+	0.010		No									
10	Colima Road &	AM		0.761	C	+	0.061	0.762	C	+	0.001		NO	0.767	C	+	0.006		NO									
	Hacienda Boulevard	PM		0.808	D	+	0.065	0.810	D	+	0.002		NO	0.818	D	+	0.010		NO									
11	Colima Road &	AM		0.853	D	+	0.069	0.854	D	+	0.001		NO	0.860	D	+	0.007		NO									
	Mar Vista Street	PM		0.906	E	+	0.072	0.908	E	+	0.002		NO	0.914	E	+	0.008		NO									
12	Colima Road &	AM		0.991	F	+	0.082	0.992	E	+	0.001		NO	1.003	F	+	0.012		**YES**	8.3%					0.939	E	-0.052	NO
	Whittier Boulevard	PM		0.965	E	+	0.079	0.967	E	+	0.002		NO	0.980	E	+	0.015		**YES**	13.3%					0.949	E	-0.016	NO
13	Mar Vista Street &	AM		0.827	D	+	0.067	0.831	D	+	0.004		NO	0.837	D	+	0.010		NO									
	Whittier Boulevard	PM		0.723	C	+	0.058	0.727	C	+	0.004		NO	0.737	C	+	0.014		NO									

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)

Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Whittier Main Oil Field

Phase 3

SAVAGE CANYON ALTERNATIVE

ICU SUMARY

No.	Intersection	Peak Hour		Future (2025) Exist+Ambient ICU DELAY	LOS		Growth	Future (2025) Exist+Ambient+Phase 3 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact	Future (2025) Exist+Amb+Related+Phase 3 ICU DELAY	LOS		IMPACT	% IMPACT	Significant Impact		Future (2025) Exist+Amb+Ph 3+CUML+MIT ICU DELAY	LOS	IMPACT	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.905	E	+	0.106	0.905	E	+	0.000		NO	0.910	E	+	0.005		NO					
	& Whittier Boulevard	PM		0.887	D	+	0.104	0.887	D	+	0.000		NO	0.892	D	+	0.005		NO					
2	605 Fwy NB Offramp &	AM		0.836	D	+	0.097	0.837	D	+	0.001		NO	0.842	D	+	0.006		NO					
	Whittier Boulevard	PM		0.737	C	+	0.084	0.737	C	+	0.000		NO	0.748	C	+	0.011		NO					
3	Hadley Street &	AM		1.013	F	+	0.120	1.016	F	+	0.003		NO	1.018	F	+	0.005		NO					
	Whittier Boulevard	PM		0.865	D	+	0.101	0.870	D	+	0.005		NO	0.871	E	+	0.006		NO					
4	Hadley Street &	AM		0.870	D	+	0.101	0.872	D	+	0.002		NO	0.874	D	+	0.004		NO					
	Painter Avenue	PM		0.795	C	+	0.091	0.797	C	+	0.002		NO	0.800	D	+	0.005		NO					
5	Painter Avenue &	AM		0.573	A	+	0.063	0.578	A	+	0.005		NO	0.579	A	+	0.006		NO					
	Penn Street	PM		0.662	B	+	0.074	0.662	B	+	0.000		NO	0.664	B	+	0.002		NO					
6A	Catalina Av (W Leg) &	AM	SB	23.8	C	+	3.3	24.7	C	+	0.9	3.6%	NO	24.7	C	+	0.9	3.6%	NO					
	Mar Vista Street	PM	SB	11.5	B	+	0.5	11.5	B	+	0.0	0.0%	NO	11.5	B	+	0.0	0.0%	NO					
6B	Catalina Av (E Leg) &	AM	NB	14.2	B	+	1.1	14.3	B	+	0.1	0.7%	NO	14.3	B	+	0.1	0.7%	NO					
	Mar Vista Street	PM	NB	15.9	C	+	1.7	15.9	C	+	0.0	0.0%	NO	15.9	C	+	0.0	0.0%	NO					
7	Catalina Avenue &	AM	SB	24.6	C	+	6.2	24.6	C	+	0.0	0.0%	NO	25.3	C	+	0.7	2.8%	NO					
	Whittier Boulevard	PM	SB	17.3	C	+	2.3	17.3	C	+	0.0	0.0%	NO	17.8	C	+	0.5	2.8%	NO					
8	60 Fwy WB Off Ramp &	AM		0.874	D	+	0.102	0.874	D	+	0.000		NO	0.875	D	+	0.001		NO					
	Hacienda Boulevard	PM		0.934	E	+	0.110	0.934	E	+	0.000		NO	0.939	E	+	0.005		NO					
9	Three Palms Drive &	AM		0.992	E	+	0.118	0.992	E	+	0.000		NO	0.995	E	+	0.003		NO					
	Hacienda Boulevard	PM		0.856	D	+	0.101	0.856	D	+	0.000		NO	0.863	D	+	0.007		NO					
10	Colima Road &	AM		0.791	C	+	0.091	0.791	C	+	0.000		NO	0.797	C	+	0.006		NO					
	Hacienda Boulevard	PM		0.840	D	+	0.097	0.841	D	+	0.001		NO	0.849	D	+	0.009		NO					
11	Colima Road &	AM		0.888	D	+	0.104	0.888	D	+	0.000		NO	0.893	D	+	0.005		NO					
	Mar Vista Street	PM		0.944	E	+	0.110	0.945	E	+	0.001		NO	0.951	E	+	0.007		NO					
12	Colima Road &	AM		1.031	F	+	0.122	1.031	F	+	0.000		NO	1.042	F	+	0.011		**YES**	0.0%	0.976	E	-0.055	NO
	Whittier Boulevard	PM		1.005	F	+	0.119	1.005	F	+	0.000		NO	1.019	F	+	0.014		**YES**	0.0%	0.986	E	-0.019	NO
13	Mar Vista Street &	AM		0.860	D	+	0.100	0.860	D	+	0.000		NO	0.866	D	+	0.006		NO					
	Whittier Boulevard	PM		0.751	C	+	0.086	0.752	C	+	0.001		NO	0.761	C	+	0.010		NO					

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

STREET SEGMENT ANALYSIS
PHASE 1 PROJECT
SAVAGE CANYON ALTERNATIVE

	Street Segment	Time Period	Capacity	Existing + Ambient 2015 With Ambient	V/C	LOS	Existng + Ambient '+ Project Project Volume	Total	V/C	LOS	impact	Significant?	Existing + Ambient + Cumulative + Project Related Volume	Total	V/C	LOS	% Impact	Sig?	% Project
1	Hadley Street	AM	2,800	1314	0.469	A	8	1322	0.472	A	0.6	No	23	1345	0.480	A	2.3	No	
	E/O Pickering Ave.	PM	2,800	1367	0.488	A	4	1371	0.490	A	0.3	No	40	1411	0.504	A	3.1	No	
	minor arterial	DAILY	50,000	16564	0.331	A	58	16622	0.332	A	0.3	No	315	16937	0.339	A	2.2	No	
2	Painter Avenue	AM	2,800	2105	0.752	C	8	2113	0.755	C	0.4	No	5	2118	0.756	C	0.6	No	
	N/O Penn Street	PM	2,800	2187	0.781	C	4	2191	0.782	C	0.2	No	6	2197	0.785	C	0.4	No	
	minor arterial	DAILY	50,000	26871	0.537	A	58	26929	0.539	A	0.2	No	55	26984	0.540	A	0.4	No	
3	Penn Street	AM	1,200	331	0.276	A	2	333	0.277	A	0.5	No	0	333	0.277	A	0.5	No	
	E/O Pickering Ave.	PM	1,200	412	0.343	A	3	415	0.346	A	0.7	No	0	415	0.346	A	0.7	No	
	collector	DAILY	10,000	4543	0.454	A	18	4561	0.456	A	0.4	No	42	4603	0.460	A	1.3	No	
4	Penn Street	AM	1,200	216	0.180	A	16	232	0.193	A	6.9	No	0	232	0.193	A	6.9	No	
	E/O Painter Ave.	PM	1,200	274	0.228	A	16	290	0.242	A	5.5	No	0	290	0.242	A	5.5	No	
	colllector	DAILY	10,000	2870	0.287	A	120	2990	0.299	A	4.0	No	82	3072	0.307	A	6.6	No	
5	California Avenue	AM	1,000	90	0.090	A	0	90	0.090	A	0.0	No	0	90	0.090	A	0.0	No	
	S/O Mar Vista St.	PM	1,000	71	0.071	A	0	71	0.071	A	0.3	No	0	71	0.071	A	0.3	No	
	local	DAILY	5,000	644	0.129	A	0	644	0.129	A	0.0	No	0	644	0.129	A	0.0	No	
6	Ocean View	AM	1,000	308	0.308	A	0	308	0.308	A	0.0	No	0	308	0.308	A	0.0	No	
	S/O Mar Vista	PM	1,000	273	0.273	A	0	273	0.273	A	0.1	No	0	273	0.273	A	0.1	No	
	local	DAILY	5,000	2584	0.517	A	0	2584	0.517	A	0.0	No	0	2584	0.517	A	0.0	No	
7	Catalina Avenue	AM	1,000	11	0.011	A	0	11	0.011	A	0.0	No	0	11	0.011	A	0.0	No	
	N/O Mar Vista St.	PM	1,000	12	0.012	A	0	12	0.012	A	0.0	No	0	12	0.012	A	0.0	No	
	local	DAILY	5,000	106	0.021	A	0	106	0.021	A	0.0	No	0	106	0.021	A	0.0	No	
8	Catalina Avenue	AM	1,000	167	0.167	A	0	167	0.167	A	0.1	No	0	167	0.167	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	85	0.085	A	0	85	0.085	A	0.6	No	0	85	0.085	A	0.6	No	
	local	DAILY	5,000	1068	0.214	A	0	1068	0.214	A	0.0	No	0	1068	0.214	A	0.0	No	
9	Mar Vista Street	AM	1,200	1277	1.064	F	2	1279	1.066	F	0.2	No	2	1281	1.068	F	0.3	No	
	W/O Colima Rd.	PM	1,200	1318	1.098	F	2	1320	1.100	F	0.2	No	4	1324	1.103	F	0.5	No	
	collector	DAILY	10,000	15619	1.562	F	10	15629	1.563	F	0.1	No	30	15659	1.566	F	0.3	No	
10	Colima Road	AM	3,600	3149	0.875	D	4	3153	0.876	D	0.1	No	10	3163	0.879	D	0.4	No	
	N/O Mar Vista St.	PM	3,600	3293	0.915	E	4	3297	0.916	E	0.1	No	15	3312	0.920	E	0.6	No	
	minor arterial	DAILY	50,000	37489	0.750	C	26	37515	0.750	C	0.1	No	125	37640	0.753	C	0.4	No	
11	Colima Road	AM	3,600	2857	0.794	C	0	2857	0.794	C	0.0	No	25	2882	0.801	D	0.9	No	
	S/O Mar Vista St.	PM	3,600	2783	0.773	C	0	2783	0.773	C	0.0	No	41	2824	0.784	C	1.5	No	
	minor arterial	DAILY	50,000	33788	0.676	B	0	33788	0.676	B	0.0	No	330	34118	0.682	B	1.0	No	
12	Colima Road	AM	3,600	2309	0.641	B	1	2310	0.642	B	0.0	No	25	2335	0.649	B	1.1	No	
	S/O Whittier Bl.	PM	3,600	2218	0.616	B	1	2219	0.616	B	0.0	No	41	2260	0.628	B	1.8	No	
	minor arterial	DAILY	50,000	27822	0.556	A	4	27826	0.557	A	0.0	No	330	28156	0.563	A	1.2	No	
13	La Mirada Blvd	AM	4,800	1560	0.325	A	1	1561	0.325	A	0.1	No	28	1589	0.331	A	1.8	No	
	S/O Lambert	PM	4,800	1219	0.254	A	1	1220	0.254	A	0.1	No	39	1259	0.262	A	3.2	No	
	major arterial	DAILY	50,000	15463	0.309	A	4	15467	0.309	A	0.0	No	335	15802	0.316	A	2.1	No	

STREET SEGMENT ANALYSIS
PHASE 2
SAVAGE CANYON ALTERNATIVE

	Street Segment	Time Period	% Capacity	Existing + Ambient 2020 With Ambient	V/C	LOS	Existng + Ambient '+ Project Project Volume	Total	V/C	LOS	impact	Significant?	Existing + Ambient + Cumulative + Project Related Volume	Total	V/C	LOS	% Impact	Sig?	% Project
1	Hadley Street	AM	2,800	1376	0.491	A	23	1399	0.500	A	1.7	No	23	1422	0.508	A	3.2	No	
	E/O Pickering Ave.	PM	2,800	1432	0.511	A	22	1454	0.519	A	1.5	No	40	1494	0.534	A	4.2	No	
	minor arterial	DAILY	50,000	17353	0.347	A	194	17547	0.351	A	1.1	No	315	17862	0.357	A	2.8	No	
2	Painter Avenue	AM	2,800	2206	0.788	C	23	2229	0.796	C	1.0	No	5	2234	0.798	C	1.3	No	
	N/O Penn Street	PM	2,800	2291	0.818	D	22	2313	0.826	D	1.0	No	6	2319	0.828	D	1.2	No	
	minor arterial	DAILY	50,000	28150	0.563	A	194	28344	0.567	A	0.7	No	55	28399	0.568	A	0.9	No	
3	Penn Street	AM	1,200	347	0.289	A	7	354	0.295	A	2.0	No	0	354	0.295	A	2.0	No	
	E/O Pickering Ave.	PM	1,200	431	0.359	A	7	438	0.365	A	1.6	No	0	438	0.365	A	1.6	No	
	collector	DAILY	10,000	4760	0.476	A	59	4819	0.482	A	1.2	No	42	4861	0.486	A	2.1	No	
4	Penn Street	AM	1,200	227	0.189	A	48	275	0.229	A	17.5	No	0	275	0.229	A	17.5	No	
	E/O Painter Ave.	PM	1,200	287	0.239	A	46	333	0.278	A	13.8	No	0	333	0.278	A	13.8	No	
	colllector	DAILY	10,000	3006	0.301	A	396	3402	0.340	A	11.6	No	82	3484	0.348	A	13.7	No	
5	California Avenue	AM	1,000	95	0.095	A	0	95	0.095	A	0.1	No	0	95	0.095	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	75	0.075	A	0	75	0.075	A	0.5	No	0	75	0.075	A	0.5	No	
	local	DAILY	5,000	674	0.135	A	0	674	0.135	A	0.0	No	0	674	0.135	A	0.0	No	
6	Ocean View	AM	1,000	322	0.322	A	0	322	0.322	A	0.0	No	0	322	0.322	A	0.0	No	
	S/O Mar Vista	PM	1,000	286	0.286	A	0	286	0.286	A	0.1	No	0	286	0.286	A	0.1	No	
	local	DAILY	5,000	2707	0.541	A	0	2707	0.541	A	0.0	No	0	2707	0.541	A	0.0	No	
7	Catalina Avenue	AM	1,000	11	0.011	A	0	11	0.011	A	0.0	No	0	11	0.011	A	0.0	No	
	N/O Mar Vista St.	PM	1,000	12	0.012	A	0	12	0.012	A	0.0	No	0	12	0.012	A	0.0	No	
	local	DAILY	5,000	111	0.022	A	0	111	0.022	A	0.0	No	0	111	0.022	A	0.0	No	
8	Catalina Avenue	AM	1,000	175	0.175	A	0	175	0.175	A	0.2	No	0	175	0.175	A	0.2	No	
	S/O Mar Vista St.	PM	1,000	89	0.089	A	0	89	0.089	A	0.0	No	0	89	0.089	A	0.0	No	
	local	DAILY	5,000	1119	0.224	A	0	1119	0.224	A	0.0	No	0	1119	0.224	A	0.0	No	
9	Mar Vista Street	AM	1,200	1338	1.115	F	4	1342	1.118	F	0.3	No	2	1344	1.120	F	0.4	No	
	W/O Colima Rd.	PM	1,200	1381	1.151	F	4	1385	1.154	F	0.3	No	4	1389	1.158	F	0.6	No	
	collector	DAILY	10,000	16363	1.636	F	20	16383	1.638	F	0.1	No	30	16413	1.641	F	0.3	No	
10	Colima Road	AM	3,600	3299	0.916	E	10	3309	0.919	E	0.3	No	10	3319	0.922	E	0.6	No	
	N/O Mar Vista St.	PM	3,600	3450	0.958	E	10	3460	0.961	E	0.3	No	15	3475	0.965	E	0.7	No	
	minor arterial	DAILY	50,000	39274	0.785	C	83	39357	0.787	C	0.2	No	125	39482	0.790	C	0.5	No	
11	Colima Road	AM	3,600	2993	0.831	D	0	2993	0.831	D	0.0	No	25	3018	0.838	D	0.8	No	
	S/O Mar Vista St.	PM	3,600	2915	0.810	D	0	2915	0.810	D	0.0	No	41	2956	0.821	D	1.4	No	
	minor arterial	DAILY	50,000	35397	0.708	C	0	35397	0.708	C	0.0	No	330	35727	0.715	C	0.9	No	
12	Colima Road	AM	3,600	2419	0.672	B	2	2421	0.672	B	0.1	No	25	2446	0.679	B	1.1	No	
	S/O Whittier Bl.	PM	3,600	2323	0.645	B	2	2325	0.646	B	0.1	No	41	2366	0.657	B	1.8	No	
	minor arterial	DAILY	50,000	29147	0.583	A	8	29155	0.583	A	0.0	No	330	29485	0.590	A	1.1	No	
13	La Mirada Blvd	AM	4,800	1635	0.341	A	2	1637	0.341	A	0.1	No	28	1665	0.347	A	1.8	No	
	S/O Lambert	PM	4,800	1277	0.266	A	2	1279	0.266	A	0.1	No	39	1318	0.275	A	3.1	No	
	major arterial	DAILY	50,000	16200	0.324	A	8	16208	0.324	A	0.0	No	335	16543	0.331	A	2.1	No	

STREET SEGMENT ANALYSIS
PHASE 3
SAVAGE CANYON ALTERNATIVE

	Street Segment	Time Period	Capacity	Existing + Ambient 2025 With Ambient	V/C	LOS	Existng + Ambient '+ Project Project Volume	Total	V/C	LOS	impact	Significant?	Existing + Ambient + Cumulative + Project Related Volume	Total	V/C	LOS	% impact	Sig?	% Project
1	Hadley Street	AM	2,800	1439	0.514	A	5	1444	0.516	A	0.3	No	23	1467	0.524	A	1.9	No	
	E/O Pickering Ave.	PM	2,800	1497	0.535	A	5	1502	0.536	A	0.3	No	40	1542	0.551	A	2.9	No	
	minor arterial	DAILY	50,000	18141	0.363	A	54	18195	0.364	A	0.3	No	315	18510	0.370	A	2.0	No	
2	Painter Avenue	AM	2,800	2306	0.824	D	5	2311	0.825	D	0.2	No	5	2316	0.827	D	0.4	No	
	N/O Penn Street	PM	2,800	2395	0.855	D	5	2400	0.857	D	0.2	No	6	2406	0.859	D	0.5	No	
	minor arterial	DAILY	50,000	29430	0.589	A	54	29484	0.590	A	0.2	No	55	29539	0.591	A	0.4	No	
3	Penn Street	AM	1,200	362	0.302	A	2	364	0.303	A	0.5	No	0	364	0.303	A	0.5	No	
	E/O Pickering Ave.	PM	1,200	451	0.376	A	1	452	0.377	A	0.3	No	0	452	0.377	A	0.3	No	
	collector	DAILY	10,000	4976	0.498	A	17	4993	0.499	A	0.3	No	42	5035	0.503	A	1.2	No	
4	Penn Street	AM	1,200	237	0.198	A	11	248	0.207	A	4.4	No	0	248	0.207	A	4.4	No	
	E/O Painter Ave.	PM	1,200	300	0.250	A	11	311	0.259	A	3.5	No	0	311	0.259	A	3.5	No	
	colllector	DAILY	10,000	3143	0.314	A	112	3255	0.326	A	3.4	No	82	3337	0.334	A	5.8	No	
5	California Avenue	AM	1,000	99	0.099	A	0	99	0.099	A	0.1	No	0	99	0.099	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	78	0.078	A	0	78	0.078	A	0.5	No	0	78	0.078	A	0.5	No	
	local	DAILY	5,000	705	0.141	A	0	705	0.141	A	0.0	No	0	705	0.141	A	0.0	No	
6	Ocean View	AM	1,000	337	0.337	A	0	337	0.337	A	0.0	No	0	337	0.337	A	0.0	No	
	S/O Mar Vista	PM	1,000	299	0.299	A	0	299	0.299	A	0.1	No	0	299	0.299	A	0.1	No	
	local	DAILY	5,000	2830	0.566	A	0	2830	0.566	A	0.0	No	0	2830	0.566	A	0.0	No	
7	Catalina Avenue	AM	1,000	12	0.012	A	0	12	0.012	A	0.0	No	0	12	0.012	A	0.0	No	
	N/O Mar Vista St.	PM	1,000	13	0.013	A	0	13	0.013	A	0.0	No	0	13	0.013	A	0.0	No	
	local	DAILY	5,000	116	0.023	A	0	116	0.023	A	0.0	No	0	116	0.023	A	0.0	No	
8	Catalina Avenue	AM	1,000	183	0.183	A	0	183	0.183	A	0.1	No	0	183	0.183	A	0.1	No	
	S/O Mar Vista St.	PM	1,000	93	0.093	A	0	93	0.093	A	0.0	No	0	93	0.093	A	0.0	No	
	local	DAILY	5,000	1170	0.234	A	0	1170	0.234	A	0.0	No	0	1170	0.234	A	0.0	No	
9	Mar Vista Street	AM	1,200	1398	1.165	F	2	1400	1.167	F	0.2	No	2	1402	1.169	F	0.3	No	
	W/O Colima Rd.	PM	1,200	1443	1.203	F	2	1445	1.204	F	0.2	No	4	1449	1.208	F	0.4	No	
	collector	DAILY	10,000	17106	1.711	F	11	17117	1.712	F	0.1	No	30	17147	1.715	F	0.2	No	
10	Colima Road	AM	3,600	3449	0.958	E	3	3452	0.959	E	0.1	No	10	3462	0.962	E	0.4	No	
	N/O Mar Vista St.	PM	3,600	3606	1.002	F	3	3609	1.002	F	0.1	No	15	3624	1.007	F	0.5	No	
	minor arterial	DAILY	50,000	41060	0.821	D	25	41085	0.822	D	0.1	No	125	41210	0.824	D	0.4	No	
11	Colima Road	AM	3,600	3129	0.869	D	0	3129	0.869	D	0.0	No	25	3154	0.876	D	0.8	No	
	S/O Mar Vista St.	PM	3,600	3048	0.847	D	0	3048	0.847	D	0.0	No	41	3089	0.858	D	1.3	No	
	minor arterial	DAILY	50,000	37006	0.740	C	0	37006	0.740	C	0.0	No	330	37336	0.747	C	0.9	No	
12	Colima Road	AM	3,600	2529	0.703	C	1	2530	0.703	C	0.0	No	25	2555	0.710	C	1.0	No	
	S/O Whittier Bl.	PM	3,600	2429	0.675	B	1	2430	0.675	B	0.0	No	41	2471	0.686	B	1.7	No	
	minor arterial	DAILY	50,000	30472	0.609	B	4	30476	0.610	B	0.0	No	330	30806	0.616	B	1.1	No	
13	La Mirada Blvd	AM	4,800	1709	0.356	A	1	1710	0.356	A	0.1	No	28	1738	0.362	A	1.7	No	
	S/O Lambert	PM	4,800	1335	0.278	A	1	1336	0.278	A	0.1	No	39	1375	0.286	A	2.9	No	
	major arterial	DAILY	50,000	16936	0.339	A	4	16940	0.339	A	0.0	No	335	17275	0.346	A	2.0	No	

Whittier Main Oil Field

Phase 2

ICU SUMARY

Phase 2 Loop Road Alternative

No.	Intersection	Peak Hour		Existing ICU/Delay	Existing LOS	Future (2020) Exist+Ambient ICU/Delay	Future (2020) Exist+Ambient LOS		Growth	Future (2020) Exist+Ambient+Phase 2 ICU/Delay	Future (2020) Exist+Ambient+Phase 2 LOS		IMPACT	%	Significant Impact	Future (2020) Exist+Amb+Related+Phase 2 ICU/Delay	Future (2020) Exist+Amb+Related+Phase 2 LOS		IMPACT	%	Significant Impact	% PROJ	Future (2025) Cuml+Ph 2+Mit ICU/Delay	Future (2025) Cuml+Ph 2+Mit LOS		# IMPACT	%	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.799	C	0.870	D	+	0.071	0.872	D	+	0.002		NO	0.878	D	+	0.008		NO							
	& Whittier Boulevard	PM		0.783	C	0.852	D	+	0.069	0.854	D	+	0.002		NO	0.871	D	+	0.019		NO							
2	605 Fwy NB Offramp &	AM		0.739	C	0.804	D	+	0.065	0.806	D	+	0.002		NO	0.814	D	+	0.010		NO							
	Whittier Boulevard	PM		0.653	B	0.710	C	+	0.057	0.712	C	+	0.002		NO	0.746	C	+	0.036		NO							
3	Hadley Street &	AM		0.893	D	0.973	E	+	0.080	0.977	E	+	0.004		NO	0.986	E	+	0.013		**YES**	30.8%	0.918	E	#	-0.055		NO
	Whittier Boulevard	PM		0.764	C	0.831	D	+	0.067	0.837	D	+	0.006		NO	0.890	D	+	0.059		**YES**	10.2%	0.812	D	#	-0.019		NO
4	Hadley Street &	AM		0.769	C	0.836	D	+	0.067	0.837	D	+	0.001		NO	0.839	D	+	0.003		NO							
	Painter Avenue	PM		0.704	C	0.766	C	+	0.062	0.766	C	+	0.000		NO	0.769	C	+	0.003		NO							
5	Painter Avenue &	AM		0.510	A	0.552	A	+	0.042	0.552	A	+	0.000		NO	0.554	A	+	0.002		NO							
	Penn Street	PM		0.588	A	0.638	B	+	0.050	0.639	B	+	0.001		NO	0.647	B	+	0.009		NO							
6	Catalina Avenue &	AM	NB	-	A	22.7	C	+	-	22.9	C	+	0.2	0.9%	NO	25.3	D	+	2.6	10.3%	**YES**	7.7%	21.2	C	#	-1.5	-7.1%	NO
	Mar Vista Street		SB	-	A	27.5	D	+	-	27.6	D	+	0.1	0.4%	NO	30.4	D	+	2.9	9.5%	**YES**	3.4%	25.9	C	#	-1.6	-6.2%	NO
		PM	NB	18.7	C	21.6	C	+	2.9	21.6	C	+	0.0	0.0%	NO	22.8	C	+	1.2	5.3%	**YES**	0.0%	18.9	C	#	-2.7	-14.3%	NO
			SB	10.9	B	11.2	B	+	0.3	11.3	B	+	0.1	0.9%	NO	11.5	B	+	0.3	2.6%	NO							
7	Catalina Avenue &	AM	SB	18.4	C	21.5	C	+	3.1	21.7	C	+	0.2	0.9%	NO	22.2	C	+	0.7	3.2%	NO							
	Whittier Boulevard	PM	SB	15.0	B	16.6	C	+	1.6	16.7	C	+	0.1	0.6%	NO	17.6	C	+	1.0	5.7%	**YES**	10.0%	16.4	C	#	-0.2	-1.2%	NO
8	60 Fwy WB Off Ramp &	AM		0.772	C	0.840	D	+	0.068	0.840	D	+	0.000		NO	0.841	D	+	0.001		NO							
	Hacienda Boulevard	PM		0.824	D	0.896	D	+	0.072	0.898	D	+	0.002		NO	0.904	E	+	0.008		NO							
9	Three Palms Drive &	AM		0.874	D	0.953	E	+	0.079	0.953	E	+	0.000		NO	0.956	E	+	0.003		NO							
	Hacienda Boulevard	PM		0.755	C	0.821	D	+	0.066	0.825	D	+	0.004		NO	0.831	D	+	0.010		No							
10	Colima Road &	AM		0.700	C	0.761	C	+	0.061	0.761	C	+	0.000		NO	0.767	C	+	0.006		NO							
	Hacienda Boulevard	PM		0.743	C	0.808	D	+	0.065	0.809	D	+	0.001		NO	0.823	D	+	0.015		NO							
11	Colima Road &	AM		0.784	C	0.853	D	+	0.069	0.857	D	+	0.004		NO	0.864	D	+	0.011		No							
	Mar Vista Street	PM		0.834	D	0.906	E	+	0.072	0.907	E	+	0.001		NO	0.920	E	+	0.014		**YES**	7.1%	0.882	D		-0.024		NO
12	Colima Road &	AM		0.909	E	0.991	F	+	0.082	0.995	E	+	0.004		NO	1.008	F	+	0.017		**YES**	23.5%	0.943	E		-0.048		NO
	Whittier Boulevard	PM		0.886	D	0.965	E	+	0.079	0.969	E	+	0.004		NO	0.990	E	+	0.025		**YES**	16.0%	0.956	E		-0.009		NO
13	Mar Vista Street &	AM		0.760	C	0.827	D	+	0.067	0.830	D	+	0.003		NO	0.838	D	+	0.011		NO							
	Whittier Boulevard	PM		0.665	B	0.723	C	+	0.058	0.728	C	+	0.005		NO	0.750	C	+	0.027		NO							

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Whittier Main Oil Field

Phase 3

ICU SUMARY

Phase 3 Loop Road Alternative

No.	Intersection	Peak Hour		Existing ICU/Delay	Existing LOS	Future (2025) Exist+Ambient ICU/Delay	Future (2025) Exist+Ambient LOS		Growth	Future (2025) Exist+Ambient+Phase 3 ICU/Delay	Future (2025) Exist+Ambient+Phase 3 LOS		IMPACT	%	Significant Impact	Future (2025) Exist+Amb+Related+Phase 3 ICU/Delay	Future (2025) Exist+Amb+Related+Phase 3 LOS		IMPACT	%	Significant Impact	% PROJ	Future (2025) Cuml+Ph 3+Mit ICU/Delay	Future (2025) Cuml+Ph 3+Mit LOS	Future (2025) Cuml+Ph 3+Mit IMPACT	%	Significant Impact
1	605 Fwy SB Off/Esperano	AM		0.799	C	0.905	E	+	0.106	0.905	E	+	0.000		NO	0.912	E	+	0.007		NO						
	& Whittier Boulevard	PM		0.783	C	0.887	D	+	0.104	0.887	D	+	0.000		NO	0.904	E	+	0.017		**YES**	0.0%	0.862	D	-0.025		NO
2	605 Fwy NB Offramp &	AM		0.739	C	0.836	D	+	0.097	0.837	D	+	0.001		NO	0.844	D	+	0.008		NO						
	Whittier Boulevard	PM		0.653	B	0.737	C	+	0.084	0.737	C	+	0.000		NO	0.772	C	+	0.035		NO						
3	Hadley Street &	AM		0.893	D	1.013	F	+	0.120	1.015	F	+	0.002		NO	1.024	F	+	0.011		**YES**	18.2%	0.953	E	-0.060		NO
	Whittier Boulevard	PM		0.764	C	0.865	D	+	0.101	0.867	D	+	0.002		NO	0.920	E	+	0.055		**YES**	3.6%	0.841	D	-0.024		NO
4	Hadley Street &	AM		0.769	C	0.870	D	+	0.101	0.871	D	+	0.001		NO	0.873	D	+	0.003		NO						
	Painter Avenue	PM		0.704	C	0.795	C	+	0.091	0.796	C	+	0.001		NO	0.799	C	+	0.004		NO						
5	Painter Avenue &	AM		0.510	A	0.573	A	+	0.063	0.573	A	+	0.000		NO	0.575	A	+	0.002		NO						
	Penn Street	PM		0.588	A	0.662	B	+	0.074	0.662	B	+	0.000		NO	0.670	B	+	0.008		NO						
6	Catalina Avenue &	AM	NB	-	A	24.3	D	+	-	24.4	D	+	0.1	0.4%	NO	27.7	D	+	3.4	12.3%	**YES**	2.9%	22.4	C	-1.9	-8.5%	NO
	Mar Vista Street		SB	-	A	29.2	D	+	-	29.2	D	+	0.0	0.0%	NO	32.7	D	+	3.5	10.7%	**YES**	0.0%	27.4	D	-1.8	-6.6%	NO
		PM	NB	18.7	C	23.1	C	+	4.4	23.1	C	+	0.0	0.0%	NO	24.1	C	+	1.0	4.1%	**YES**	0.0%	19.6	C	-3.5	-17.9%	NO
			SB	10.9	B	11.4	B	+	0.5	11.5	B	+	0.1	0.9%	NO	11.6	B	+	0.2	1.7%	NO						
7	Catalina Avenue &	AM	SB	18.4	C	24.6	C	+	6.2	24.6	C	+	0.0	0.0%	NO	25.4	D	+	0.8	3.1%	**YES**	0.0%	20.2	C	-4.4	-21.8%	NO
	Whittier Boulevard	PM	SB	15.0	B	17.3	C	+	2.3	17.3	C	+	0.0	0.0%	NO	18.3	C	+	1.0	5.5%	**YES**	0.0%	16.6	C	-0.7	-4.2%	NO
8	60 Fwy WB Off Ramp &	AM		0.772	C	0.874	D	+	0.102	0.874	D	+	0.000		NO	0.875	D	+	0.001		NO						
	Hacienda Boulevard	PM		0.824	D	0.934	E	+	0.110	0.934	E	+	0.000		NO	0.939	E	+	0.005		NO						
9	Three Palms Drive &	AM		0.874	D	0.992	E	+	0.118	0.992	E	+	0.000		NO	0.995	E	+	0.003		NO						
	Hacienda Boulevard	PM		0.755	C	0.856	D	+	0.101	0.856	D	+	0.000		NO	0.863	D	+	0.007		NO						
10	Colima Road &	AM		0.700	C	0.791	C	+	0.091	0.791	C	+	0.000		NO	0.797	C	+	0.006		NO						
	Hacienda Boulevard	PM		0.743	C	0.840	D	+	0.097	0.841	D	+	0.001		NO	0.855	D	+	0.015		NO						
11	Colima Road &	AM		0.784	C	0.888	D	+	0.104	0.889	D	+	0.001		NO	0.895	D	+	0.007		NO						
	Mar Vista Street	PM		0.834	D	0.944	E	+	0.110	0.944	E	+	0.000		NO	0.956	E	+	0.012		**YES**	0.0%	0.915	E	-0.029		NO
12	Colima Road &	AM		0.909	E	1.031	F	+	0.122	1.032	F	+	0.001		NO	1.045	F	+	0.014		**YES**	7.1%	0.977	E	-0.054		NO
	Whittier Boulevard	PM		0.886	D	1.005	F	+	0.119	1.006	F	+	0.001		NO	1.026	F	+	0.021		**YES**	4.8%	0.991	E	-0.014		NO
13	Mar Vista Street &	AM		0.760	C	0.860	D	+	0.100	0.862	D	+	0.002		NO	0.870	D	+	0.010		NO						
	Whittier Boulevard	PM		0.665	B	0.750	C	+	0.085	0.752	C	+	0.002		NO	0.775	C	+	0.025		NO						

ICU calculations result in a Volume/Capacity (V/C) and Delay result in a delay (seconds)
Intersections 6 & 7 only are unsignalized and evaluted with delay analysis all others ICU

Project Driveway off of Colima and Church Driveway

The alternative loop access road to be constructed during phase 2 project off of Colima Road will intersect with the roadway approximately 1200 feet north of Mar Vista Street. This new driveway will align with the new church driveway and make use of the new traffic signal associated with the church's 34,000 square foot expansion. The new driveway was evaluated for potential traffic impacts the same was as the intersections in the analysis. The bulk of the church traffic will be generated during the weekend. The project will have little to no traffic during this time. The new signal was evaluated using peak traffic volumes on a weekday during the AM and PM peak hour as shown below for phase 1, 2 and 3.

Existing + Ambient + Project

Intersection	Peak Hour	Existing ICU	Existing LOS	Future Exist+Ambient ICU	Future Exist+Ambient LOS	Future Exist+Ambient+Project ICU	Future Exist+Ambient+Project LOS		IMPACT	Significant Impact
PHASE 1										
Project/Church Driveway	AM	0.752	C	0.785	C	0.785	C	+	0.000	NO
& Colima Road	PM	0.653	B	0.680	B	0.680	B	+	0.000	NO
PHASE 2										
Project/Church Driveway	AM	0.752	C	0.818	D	0.826	D	+	0.008	NO
& Colima Road	PM	0.653	B	0.708	C	0.712	C	+	0.004	NO
PHASE 3										
Project/Church Driveway	AM	0.752	C	0.851	D	0.851	D	+	0.000	NO
& Colima Road	PM	0.653	B	0.736	C	0.736	C	+	0.000	NO

No significant traffic impacts are anticipated.

Existing + Ambient + Project + Cumulative

Intersection	Peak Hour	Future Exist+Ambient ICU	Future Exist+Ambient LOS	Future Exist+Amb+Related+Project ICU	Future Exist+Amb+Related+Project LOS		Future Exist+Amb+Related+Project IMPACT	Significant Impact
PHASE 1								
Project/Church Driveway	AM	0.785	C	0.790	C	+	0.005	NO
& Comima Road	PM	0.680	B	0.686	B	+	0.006	NO
PHASE 2								
Project/Church Driveway	AM	0.818	D	0.830	D	+	0.012	NO
& Comima Road	PM	0.708	C	0.718	C	+	0.010	NO
PHASE 3								
Project/Church Driveway	AM	0.851	D	0.856	D	+	0.005	NO
& Comima Road	PM	0.736	C	0.742	C	+	0.006	NO

No significant traffic impacts are anticipated.

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: Colima Road & New Loop Road/Church Driveway
EXISTING CONDITION

			AM PEAK HOUR				PM PEAK HOUR			
MOVEMENT	NO. OF LANES	CAPACITY	2010 VOLUMES	V/C		CRITICAL PAIR	2010 VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	0	0.000	*		0	0		
NB THRU	2	3,200	1235	0.386			1709	0.536	*	
NB RIGHT	0	20	0	0.000			7	0.000		
						0.643				0.544
SB LEFT	1	1,600	13	0.008			12	0.008	*	
SB THRU	2	3,200	2057	0.643	*		1475	0.461		
SB RIGHT	1	1,600	0	0.000			0	0		
EB LEFT	1	1,600	0	0.000	*		0	0.000	*	
EB THRU	0	0	0	0.000	*		0	0.000		
EB RIGHT	1	1,600	0	0.000	*		0	0		
						0.009				0.009
WB LEFT	1	1,600	14	0.009	*		12	0.008		
WB THRU	0	0	0	0.000			0	0.000		
WB RIGHT	1	1,600	15	0.009	*		14	0.009	*	

NORTH/SOUTH CRITICAL SUM	0.643	NORTH/SOUTH CRITICAL SUM	0.544
EAST/WEST CRITICAL SUM	0.009	EAST/WEST CRITICAL SUM	0.009
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.752	INTERSECTION ICU VALUE	0.653
AM INTERSECTION LOS	C	PM INTERSECTION LOS	B

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: Colima Road & New Loop Road/Church Driveway
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	0	0	0	0.000	*		0	0	0	0		
NB THRU	2	3,200	1235	62	1297	0.405			1709	86	1795	0.563	*	
NB RIGHT	0	0	0	0	0	0.000			7	0	7	0.000		
								0.675						0.571
SB LEFT	1	1,600	13	1	14	0.009			12	1	13	0.008	*	
SB THRU	2	3,200	2057	104	2161	0.675	*		1475	74	1549	0.484		
SB RIGHT	1	1,600	0	0	0	0.000			0	0	0	0		
EB LEFT	1	1,600	0	0	0	0.000	*		0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
EB RIGHT	1	1,600	0	0	0	0.000			0	0	0	0		
								0.010						0.009
WB LEFT	1	1,600	14	1	15	0.009			12	1	13	0.008		
WB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
WB RIGHT	1	1,600	15	1	16	0.010	*		14	1	15	0.009	*	

NORTH/SOUTH CRITICAL SUM	0.675	NORTH/SOUTH CRITICAL SUM	0.571
EAST/WEST CRITICAL SUM	0.010	EAST/WEST CRITICAL SUM	0.009
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.785	INTERSECTION ICU VALUE	0.680

AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.033	PM IMPACT	0.027

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: Colima Road & New Loop Road/Church Driveway
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	0	0	0	0	0.000	*		0	0	0	0	0		
NB THRU	2	3,200	1235	62	0	1297	0.405			1709	86	0	1795	0.563	*	
NB RIGHT	0	0	0	0	0	0	0.000			7	0	0	7	0.000		
									0.675							0.571
SB LEFT	1	1,600	13	1	0	14	0.009			12	1	0	13	0.008	*	
SB THRU	2	3,200	2057	104	0	2161	0.675	*		1475	74	0	1549	0.484		
SB RIGHT	1	1,600	0	0	0	0	0.000			0	0	0	0	0		
EB LEFT	1	1,600	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
EB RIGHT	1	1,600	0	0	0	0	0.000			0	0	0	0	0		
									0.010							0.009
WB LEFT	1	1,600	14	1	0	15	0.009			12	1	0	13	0.008		
WB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
WB RIGHT	1	1,600	15	1	0	16	0.010	*		14	1	0	15	0.009	*	

NORTH/SOUTH CRITICAL SUM	0.675	NORTH/SOUTH CRITICAL SUM	0.571
EAST/WEST CRITICAL SUM	0.010	EAST/WEST CRITICAL SUM	0.009
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.785	INTERSECTION ICU VALUE	0.680

AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: Colima Road & New Loop Road/Church Driveway
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	0	0	0	0	0	0.000	*		0	0	0	0	0	0		
NB THRU	2	3,200	1235	62	10	0	1307	0.409			1709	86	19	0	1814	0.569	*	
NB RIGHT	0	0	0	0	0	0	0	0.000			7	0	0	0	7	0.000		
										0.680								0.577
SB LEFT	1	1,600	13	1	0	0	14	0.009			12	1	0	0	13	0.008	*	
SB THRU	2	3,200	2057	104	15	0	2176	0.680	*		1475	74	22	0	1571	0.491		
SB RIGHT	1	1,600	0	0	0	0	0	0.000			0	0	0	0	0	0		
EB LEFT	1	1,600	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB RIGHT	1	1,600	0	0	0	0	0	0.000			0	0	0	0	0	0		
										0.010								0.009
WB LEFT	1	1,600	14	1	0	0	15	0.009			12	1	0	0	13	0.008		
WB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
WB RIGHT	1	1,600	15	1	0	0	16	0.010	*		14	1	0	0	15	0.009	*	

NORTH/SOUTH CRITICAL SUM	0.680	NORTH/SOUTH CRITICAL SUM	0.577
EAST/WEST CRITICAL SUM	0.010	EAST/WEST CRITICAL SUM	0.009
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.790	INTERSECTION ICU VALUE	0.686

AM INTERSECTION LOS	C	PM INTERSECTION LOS	B
AM IMPACT	0.005	PM IMPACT	0.006

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: Colima Road & New Loop Road/Church Driveway
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	0	0	0	0.000	*		0	0	0	0		
NB THRU	2	3,200	1235	125	1360	0.425			1709	173	1882	0.590	*	
NB RIGHT	0	0	0	0	0	0.000			7	1	8	0.000		
								0.708						0.598
SB LEFT	1	1,600	13	1	14	0.009			12	1	13	0.008	*	
SB THRU	2	3,200	2057	208	2265	0.708	*		1475	149	1624	0.507		
SB RIGHT	1	1,600	0	0	0	0.000			0	0	0	0		
EB LEFT	1	1,600	0	0	0	0.000	*		0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0.000	*		0	0	0	0.000		
EB RIGHT	1	1,600	0	0	0	0.000	*		0	0	0	0		
								0.010						0.010
WB LEFT	1	1,600	14	1	15	0.010	*		12	1	13	0.008		
WB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
WB RIGHT	1	1,600	15	2	17	0.010	*		14	1	15	0.01	*	

NORTH/SOUTH CRITICAL SUM	0.708	NORTH/SOUTH CRITICAL SUM	0.598
EAST/WEST CRITICAL SUM	0.010	EAST/WEST CRITICAL SUM	0.010
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.818	INTERSECTION ICU VALUE	0.708

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.066	PM IMPACT	0.055

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: Colima Road & New Loop Road/Church Driveway
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	0	0	3	3	0.002	*		0	0	3	3	0.002		
NB THRU	2	3,200	1235	125	0	1360	0.425			1709	173	0	1882	0.590	*	
NB RIGHT	0	0	0	0	0	0	0.000			7	1	0	8	0.000		
									0.710							0.598
SB LEFT	1	1,600	13	1	0	14	0.009			12	1	0	13	0.008	*	
SB THRU	2	3,200	2057	208	0	2265	0.708	*		1475	149	0	1624	0.507		
SB RIGHT	1	1,600	0	0	6	6	0.004			0	0	6	6	0.004		
EB LEFT	1	1,600	0	0	0	0	0.000			0	0	0	0	0.000		
EB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
EB RIGHT	1	1,600	0	0	9	9	0.006	*		0	0	9	9	0.006	*	
									0.016							0.014
WB LEFT	1	1,600	14	1	0	15	0.010	*		12	1	0	13	0.008	*	
WB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
WB RIGHT	1	1,600	15	2	0	17	0.010			14	1	0	15	0.01		

NORTH/SOUTH CRITICAL SUM	0.710	NORTH/SOUTH CRITICAL SUM	0.598
EAST/WEST CRITICAL SUM	0.016	EAST/WEST CRITICAL SUM	0.014
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.826	INTERSECTION ICU VALUE	0.712

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.008	PM IMPACT	0.004

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: Colima Road & New Loop Road/Church Driveway
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	0	0	0	3	3	0.002	*		0	0	0	3	3	0.002		
NB THRU	2	3,200	1235	125	10	0	1370	0.428			1709	173	19	0	1901	0.596	*	
NB RIGHT	0	0	0	0	0	0	0	0.000			7	1	0	0	8	0.000		
										0.714								0.604
SB LEFT	1	1,600	13	1	0	0	14	0.009			12	1	0	0	13	0.008	*	
SB THRU	2	3,200	2057	208	15	0	2280	0.712	*		1475	149	22	0	1646	0.514		
SB RIGHT	1	1,600	0	0	0	6	6	0.004			0	0	0	6	6	0.004		
EB LEFT	1	1,600	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB RIGHT	1	1,600	0	0	0	9	9	0.006	*		0	0	0	9	9	0.006	*	
										0.016								0.014
WB LEFT	1	1,600	14	1	0	0	15	0.010	*		12	1	0	0	13	0.008	*	
WB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
WB RIGHT	1	1,600	15	2	0	0	17	0.010			14	1	0	0	15	0.01		

NORTH/SOUTH CRITICAL SUM	0.714	NORTH/SOUTH CRITICAL SUM	0.604
EAST/WEST CRITICAL SUM	0.016	EAST/WEST CRITICAL SUM	0.014
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.830	INTERSECTION ICU VALUE	0.718

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.012	PM IMPACT	0.010

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: Colima Road & New Loop Road/Church Driveway
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	0	0	0	0.000	*		0	0	0	0		
NB THRU	2	3,200	1235	187	1422	0.444			1709	259	1968	0.617	*	
NB RIGHT	0	0	0	0	0	0.000			7	1	8	0.000		
								0.740						0.626
SB LEFT	1	1,600	13	2	15	0.009			12	2	14	0.009	*	
SB THRU	2	3,200	2057	312	2369	0.740	*		1475	223	1698	0.531		
SB RIGHT	1	1,600	0	0	0	0.000			0	0	0	0		
EB LEFT	1	1,600	0	0	0	0.000	*		0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
EB RIGHT	1	1,600	0	0	0	0.000			0	0	0	0		
								0.011						0.010
WB LEFT	1	1,600	14	2	16	0.010			12	2	14	0.009		
WB THRU	0	0	0	0	0	0.000			0	0	0	0.000		
WB RIGHT	1	1,600	15	2	17	0.011	*		14	2	16	0.01	*	

NORTH/SOUTH CRITICAL SUM	0.740	NORTH/SOUTH CRITICAL SUM	0.626
EAST/WEST CRITICAL SUM	0.011	EAST/WEST CRITICAL SUM	0.010
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.851	INTERSECTION ICU VALUE	0.736

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.099	PM IMPACT	0.083

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: Colima Road & New Loop Road/Church Driveway
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	0	0	0	0	0.000	*		0	0	1	1	0.001		
NB THRU	2	3,200	1235	187	0	1422	0.444			1709	259	0	1968	0.617	*	
NB RIGHT	0	0	0	0	0	0	0.000			7	1	0	8	0.000		
									0.740							0.626
SB LEFT	1	1,600	13	2	0	15	0.009			12	2	0	14	0.009	*	
SB THRU	2	3,200	2057	312	0	2369	0.740	*		1475	223	0	1698	0.531		
SB RIGHT	1	1,600	0	0	0	0	0.000			0	0	1	1	0.001		
EB LEFT	1	1,600	0	0	0	0	0.000	*		0	0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
EB RIGHT	1	1,600	0	0	2	2	0.001	*		0	0	0	0	0		
									0.011							0.010
WB LEFT	1	1,600	14	2	0	16	0.010	*		12	2	0	14	0.009		
WB THRU	0	0	0	0	0	0	0.000			0	0	0	0	0.000		
WB RIGHT	1	1,600	15	2	0	17	0.011	*		14	2	0	16	0.01	*	

NORTH/SOUTH CRITICAL SUM	0.740	NORTH/SOUTH CRITICAL SUM	0.626
EAST/WEST CRITICAL SUM	0.011	EAST/WEST CRITICAL SUM	0.010
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.851	INTERSECTION ICU VALUE	0.736

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: Colima Road & New Loop Road/Church Driveway
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	0	0	0	0	0	0.000	*		0	0	0	1	1	0.001		
NB THRU	2	3,200	1235	187	10	0	1432	0.448			1709	259	19	0	1987	0.623	*	
NB RIGHT	0	0	0	0	0	0	0	0.000			7	1	0	0	8	0.000		
										0.745								0.632
SB LEFT	1	1,600	13	2	0	0	15	0.009			12	2	0	0	14	0.009	*	
SB THRU	2	3,200	2057	312	15	0	2384	0.745	*		1475	223	22	0	1720	0.538		
SB RIGHT	1	1,600	0	0	0	0	0	0.000			0	0	0	1	1	0.001		
EB LEFT	1	1,600	0	0	0	0	0	0.000	*		0	0	0	0	0	0.000	*	
EB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
EB RIGHT	1	1,600	0	0	0	2	2	0.001	*		0	0	0	0	0	0		
										0.011								0.010
WB LEFT	1	1,600	14	2	0	0	16	0.010	*		12	2	0	0	14	0.009		
WB THRU	0	0	0	0	0	0	0	0.000			0	0	0	0	0	0.000		
WB RIGHT	1	1,600	15	2	0	0	17	0.011	*		14	2	0	0	16	0.01	*	

NORTH/SOUTH CRITICAL SUM	0.745	NORTH/SOUTH CRITICAL SUM	0.632
EAST/WEST CRITICAL SUM	0.011	EAST/WEST CRITICAL SUM	0.010
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.856	INTERSECTION ICU VALUE	0.742

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.005	PM IMPACT	0.006

Overland Traffic Consultants, Inc.

WHITTIER OIL FIELDS

SUPPORTING TRAFFIC ANALYSIS
COUNT INCREASE NEAR WHITTIER COLLEGE

Summary

In review of the Draft Environmental Impact Report for the Whittier Hills Oil Fields, some have noted that traffic counts near Whittier College may be low due to the school schedule. It has been stated that the college had ceased typical instruction and was in a phase prior to finals when traffic counts were conducted. Concern has been raised that higher traffic counts along Painter Avenue and Penn Street may create significant traffic impacts in the area not identified in the traffic analysis for the Whittier Hills Oil Fields. In order to address these concerns additional evaluation has been conducted and is detailed below. It has been found that there is some level of service increases but no new significant traffic impacts identified along Painter Avenue, Penn Street, at the intersection of Painter Avenue and Hadley Street or the intersection of Painter Avenue and Penn Street.

Analysis Process

In order to address concern that traffic counts taken near Whittier College may have been lower than typical on a normal school day the trip generation and parking size and location for the college were considered. The additional trips potentially created by the college were distributed throughout the college area based on the location of the school's parking lots. These trips were added to the existing conditions and throughout the analysis to determine if any new significant traffic impacts occur.

Trip Generation

Trip generation for the college was estimated based on Institute of Transportation Engineers (ITE) Trip Generation Manual, 8th Edition for the 1,664 students enrolled during the 2010/2011 school year. Trip generation rates and trips on a typical day for a college are displayed below in Table 1.

Table 1
Whittier College Trip Generation Rates and Trips

Trip Generation Rates								
	ITE	**Daily**	**AM Peak Hour**			**PM Peak Hour**		
Description	**Code**	**Traffic**	**Total**	**In**	**Out**	**Total**	**In**	**Out**
University	550	2.38	0.21	80%	20%	0.21	30%	70%
Rates are per student for school								
Project Trips								
Whittier College	1664 students	3,960	349	279	70	349	105	244

It was conservatively estimated that only one quarter of the typical college traffic is reflected in the counts near Whittier College. Therefore, 75% of the above trips were added to the counts along Painter Avenue, Penn Street and the study intersections of Hadley Street & Painter Avenue and Penn Street & Painter Avenue.

College Traffic Distribution

Whittier College provides a total of 905 parking spaces in multiple parking lots with several access locations as shown on Attachment 1. Based on the location of the parking lots it was estimated that approximately 25% of the school traffic would gain access from Penn Street and the balance from driveways and roadways off of Painter Avenue. Distribution was estimated as follows and is displayed on a map Attachment 2.

Painter north of Hadley Street – 25%,
Hadley Street west of Painter Avenue – 15%,
Philadelphia Street west of Painter Avenue - 25%,
Penn Street west of Painter Avenue – 10%,
Painter Avenue south of Penn Street – 25%

Traffic Analysis

The Whittier College traffic was then added to the existing traffic and throughout the analysis to determine the potential for a significant traffic impact. The analysis process, impact criteria, project trip distribution were the same as in the full traffic report. The results of the analysis are displayed in Table 2 for new Existing Conditions, Table 3 for results of the Existing + Project Conditions, Table 4 for the

Existing + Ambient Growth + Project Conditions and Table 5 for the Existing + Ambient Growth + Related Projects + Project Conditions. The results of the project analysis are separated into phase 1, 2, and 3. All increases in the level of service from the original analysis are indicated in bold lettering. Note that no new significant impacts are identified in this analysis. The results of the previous analysis are not changed with the conservative addition of more traffic due to potential low counts due to the college schedule. The corresponding worksheets for the intersection analysis are provided in Attachment 3.

Table 2 – Existing Conditions with College Traffic Added

Intersection

No.	Intersection	Peak Hour	Existing ICU	Existing LOS
4	Hadley Street &	AM	0.825	**D**
	Painter Avenue	PM	0.734	C
5	Painter Avenue &	AM	0.535	A
	Penn Street	PM	0.591	A

Segment

	Street Segment	Time Period	Capacity	Added College Volume	Existing 2010 Volume	Adjusted 2010 Volume	V/C	LOS
2	Painter Avenue	AM	2,800	196	2005	2,201	0.786	C
	N/O Penn Street	PM	2,800	196	2083	2,279	0.814	**D**
	minor arterial	DAILY	50,000	2,228	25591	27,819	0.556	A
3	Penn Street	AM	1,200	26	315	341	0.284	A
	E/O Pickering Ave.	PM	1,200	26	392	418	0.348	A
	collector	DAILY	10,000	297	4327	4,624	0.462	A
4	Penn Street	AM	1,200	66	206	272	0.227	A
	E/O Painter Ave.	PM	1,200	66	261	327	0.273	A
	colllector	DAILY	10,000	743	2733	3,476	0.348	A

Table 3a – Existing + Project Conditions Analysis with College Traffic Added

Intersection – Phase 1

			Existing		Existing + Phase 1 Project				
No.	**Intersection**	**Peak Hour**	**ICU**	**LOS**	**ICU**	**LOS**		**IMPACT**	**Significant Impact**
4	Hadley Street &	AM	0.825	**D**	0.826	**D**	+	0.001	NO
	Painter Avenue	PM	0.734	C	0.734	C	+	0.000	NO
5	Painter Avenue &	AM	0.535	A	0.535	A	+	0.000	NO
	Penn Street	PM	0.591	A	0.591	A	+	0.000	NO

Segment – Phase 1

	Street Segment	Time Period	Capacity	Added College Volume	Existing 2010 Volume	Adjusted 2010 Volume	V/C	LOS	Existng + Phase 1 Project: Project Volume	Total	V/C	LOS	% impact	Significant?
2	Painter Avenue	AM	2,800	196	2005	2,201	0.786	C	1	2202	0.786	C	0.0	No
	N/O Penn Street	PM	2,800	196	2083	2,279	0.814	**D**	1	2280	0.814	**D**	0.0	No
	minor arterial	DAILY	50,000	2,228	25591	27,819	0.556	A	4	27823	0.556	A	0.0	No
3	Penn Street	AM	1,200	26	315	341	0.284	A	0	341	0.285	A	0.1	No
	E/O Pickering Ave.	PM	1,200	26	392	418	0.348	A	0	418	0.349	A	0.0	No
	collector	DAILY	10,000	297	4327	4,624	0.462	A	1	4625	0.463	A	0.0	No
4	Penn Street	AM	1,200	66	206	272	0.227	A	0	272	0.227	A	0.0	No
	E/O Painter Ave.	PM	1,200	66	261	327	0.273	A	0	327	0.273	A	0.0	No
	colllector	DAILY	10,000	743	2733	3,476	0.348	A	0	3476	0.348	A	0.0	No

Table 3b – Existing + Project Conditions Analysis with College Traffic Added

Intersection – Phase 2

No.	Intersection	Peak Hour	Existing ICU	Existing LOS	Existing + Phase 2 Project ICU	Existing + Phase 2 Project LOS		IMPACT	Significant Impact
4	Hadley Street &	AM	0.825	**D**	0.834	**D**	+	0.009	NO
	Painter Avenue	PM	0.734	C	0.742	C	+	0.008	NO
5	Painter Avenue &	AM	0.535	A	0.553	A	+	0.018	NO
	Penn Street	PM	0.591	A	0.591	A	+	0.000	NO

Segment – Phase 2

	Street Segment	Time Period	Capacity	Adjusted 2010 Volume	V/C	LOS	Existng + Phase 2 Project: Project Volume	Total	V/C	LOS	% impact	Significant?
2	Painter Avenue	AM	2,800	2,201	0.786	C	18	2219	0.792	C	0.8	No
	N/O Penn Street	PM	2,800	2,279	0.814	**D**	17	2296	0.820	**D**	0.7	No
	minor arterial	DAILY	50,000	27,819	0.556	A	166	27985	0.560	A	0.6	No
3	Penn Street	AM	1,200	341	0.284	A	6	347	0.289	A	1.6	No
	E/O Pickering Ave.	PM	1,200	418	0.348	A	5	423	0.352	A	1.2	No
	collector	DAILY	10,000	4,624	0.462	A	49	4673	0.467	A	1.1	No
4	Penn Street	AM	1,200	272	0.227	A	16	288	0.240	A	5.6	No
	E/O Painter Ave.	PM	1,200	327	0.273	A	15	342	0.285	A	4.4	No
	colllector	DAILY	10,000	3,476	0.348	A	316	3792	0.379	A	8.3	No

Table 3c – Existing + Project Conditions Analysis with College Traffic Added

Intersection – Phase 3

No.	Intersection	Peak Hour	Existing ICU	Existing LOS	Existing + Phase 3 Project ICU	Existing + Phase 3 Project LOS		IMPACT	Significant Impact
4	Hadley Street &	AM	0.825	**D**	0.826	**D**	+	0.001	NO
	Painter Avenue	PM	0.734	C	0.735	C	+	0.001	NO
5	Painter Avenue &	AM	0.535	A	0.536	A	+	0.001	NO
	Penn Street	PM	0.591	A	0.591	A	+	0.000	NO

Segment – Phase 3

	Street Segment	Time Period	Capacity	Adjusted 2010 Volume	V/C	LOS	Existng + Phase 3 Project: Project Volume	Total	V/C	LOS	% impact	Significant?
2	Painter Avenue	AM	2,800	2,201	0.786	C	2	2203	0.787	C	0.1	No
	N/O Penn Street	PM	2,800	2,279	0.814	**D**	2	2281	0.815	**D**	0.1	No
	minor arterial	DAILY	50,000	27,819	0.556	A	38	27857	0.557	A	0.1	No
3	Penn Street	AM	1,200	341	0.284	A	1	342	0.285	A	0.3	No
	E/O Pickering Ave.	PM	1,200	418	0.348	A	0	418	0.348	A	0.0	No
	collector	DAILY	10,000	4,624	0.462	A	11	4635	0.464	A	0.2	No
4	Penn Street	AM	1,200	272	0.227	A	2	274	0.228	A	0.7	No
	E/O Painter Ave.	PM	1,200	327	0.273	A	2	329	0.274	A	0.6	No
	colllector	DAILY	10,000	3,476	0.348	A	68	3544	0.354	A	1.9	No

Table 4a – Existing + Ambient Growth + Project Conditions Analysis with College Traffic Added

Intersection – Phase 1

			Future (2015) Exist+Ambient				Future (2015) Exist+Ambient+Phase 1				
No.	**Intersection**	**Peak Hour**	**ICU**	**LOS**		**Growth**	**ICU**	**LOS**		**IMPACT**	**Significant Impact**
4	Hadley Street &	AM	0.862	D	+	0.037	0.863	D	+	0.001	NO
	Painter Avenue	PM	0.765	C	+	0.031	0.765	C	+	0.000	NO
5	Painter Avenue &	AM	0.557	A	+	0.022	0.557	A	+	0.000	NO
	Penn Street	PM	0.617	B	+	0.026	0.617	B	+	0.000	NO

Segment – Phase 1

				Existing + Ambient 2015			Existng + Ambient '+ Project					
	Street Segment	Time Period	Capacity	With Ambient	V/C	LOS	Project Volume	Total	V/C	LOS	% impact	Significant?
2	Painter Avenue	AM	2,800	2311	0.825	**D**	1	2312	0.826	**D**	0.0	No
	N/O Penn Street	PM	2,800	2393	0.855	**D**	1	2394	0.855	**D**	0.0	No
	minor arterial	DAILY	50,000	29210	0.584	A	4	29214	0.584	A	0.0	No
3	Penn Street	AM	1,200	358	0.298	A	0	358	0.299	A	0.1	No
	E/O Pickering Ave.	PM	1,200	439	0.366	A	0	439	0.366	A	0.0	No
	collector	DAILY	10,000	4855	0.486	A	1	4856	0.486	A	0.0	No
4	Penn Street	AM	1,200	286	0.238	A	0	286	0.238	A	0.0	No
	E/O Painter Ave.	PM	1,200	343	0.286	A	0	343	0.286	A	0.0	No
	colllector	DAILY	10,000	3650	0.365	A	0	3650	0.365	A	0.0	No

Table 4b – Existing + Ambient Growth + Project Conditions Analysis with College Traffic Added

Intersection – Phase 2

			Future (2020) Exist+Ambient				Future (2020) Exist+Ambient+Phase 2				
No.	Intersection	Peak Hour	ICU	LOS		Growth	ICU	LOS		IMPACT	Significant Impact
4	Hadley Street &	AM	0.898	D	+	0.073	0.906	**E**	+	0.008	NO
	Painter Avenue	PM	0.797	C	+	0.063	0.805	**D**	+	0.008	NO
5	Painter Avenue &	AM	0.579	A	+	0.044	0.597	A	+	0.018	NO
	Penn Street	PM	0.640	B	+	0.049	0.640	B	+	0.000	NO

Segment – Phase 2

				Existing + Ambient 2020			Existng + Ambient '+ Project					
	Street Segment	Time Period	Capacity	With Ambient	V/C	LOS	Project Volume	Total	V/C	LOS	% impact	Significant?
2	Painter Avenue	AM	2,800	2421	0.865	**D**	18	2439	0.871	**D**	0.7	No
	N/O Penn Street	PM	2,800	2507	0.895	D	17	2524	0.901	D	0.7	No
	minor arterial	DAILY	50,000	30601	0.612	**B**	166	30767	0.615	**B**	0.5	No
3	Penn Street	AM	1,200	375	0.313	A	6	381	0.317	A	1.5	No
	E/O Pickering Ave.	PM	1,200	460	0.383	A	5	465	0.387	A	1.1	No
	collector	DAILY	10,000	5086	0.509	A	49	5135	0.514	A	1.0	No
4	Penn Street	AM	1,200	299	0.249	A	0	299	0.249	A	0.0	No
	E/O Painter Ave.	PM	1,200	360	0.300	A	0	360	0.300	A	0.0	No
	colllector	DAILY	10,000	3824	0.382	A	0	3824	0.382	A	0.0	No

Table 4c – Existing + Ambient Growth + Project Conditions Analysis with College Traffic Added

Intersection – Phase 3

No.	Intersection	Peak Hour	Future (2025) Exist+Ambient ICU	LOS		Growth	Future (2025) Exist+Ambient+Phase 3 ICU	LOS		IMPACT	Significant Impact
4	Hadley Street &	AM	0.935	**E**	+	0.110	0.936	**E**	+	0.001	NO
	Painter Avenue	PM	0.828	D	+	0.094	0.829	C	+	0.001	NO
5	Painter Avenue &	AM	0.601	**B**	+	0.066	0.602	**B**	+	0.001	NO
	Penn Street	PM	0.665	B	+	0.074	0.665	B	+	0.000	NO

Segment – Phase 3

	Street Segment	Time Period	Capacity	Existing + Ambient 2025 With Ambient	V/C	LOS	Existng + Ambient '+ Project Project Volume	Total	V/C	LOS	% impact	Significant?
2	Painter Avenue	AM	2,800	2531	0.904	**E**	2	2533	0.905	**E**	0.1	No
	N/O Penn Street	PM	2,800	2621	0.936	**E**	2	2623	0.937	**E**	0.1	No
	minor arterial	DAILY	50,000	31992	0.640	**B**	38	32030	0.641	**B**	0.1	No
3	Penn Street	AM	1,200	392	0.327	A	1	393	0.328	A	0.3	No
	E/O Pickering Ave.	PM	1,200	481	0.401	A	0	481	0.401	A	0.0	No
	collector	DAILY	10,000	5318	0.532	A	11	5329	0.533	A	0.2	No
4	Penn Street	AM	1,200	313	0.261	A	2	315	0.263	A	0.6	No
	E/O Painter Ave.	PM	1,200	376	0.313	A	2	378	0.315	A	0.5	No
	colllector	DAILY	10,000	3997	0.400	A	68	4065	0.407	A	1.7	No

Table 5a – Existing + Ambient Growth + Related Projects + Project Conditions Analysis with College Traffic Added

Intersection – Phase 1

			Future (2015) Exist+Ambient		Future (2015) Exist+Amb+Related+Phase 1				
No.	Intersection	Peak Hour	ICU DELAY	LOS	ICU DELAY	LOS		IMPACT	Significant Impact
4	Hadley Street &	AM	0.862	D	0.865	D	+	0.003	NO
	Painter Avenue	PM	0.765	C	0.768	C	+	0.003	NO
5	Painter Avenue &	AM	0.557	A	0.558	A	+	0.001	NO
	Penn Street	PM	0.617	B	0.618	B	+	0.001	NO

Segment – Phase 1

				Existing + Ambient 2015			Existing + Ambient + Cumulative + Project				%	
	Street Segment	Time Period	Capacity	With Ambient	V/C	LOS	Related Volume	Total	V/C	LOS	Impact	Significant?
2	Painter Avenue	AM	2,800	2311	0.825	**D**	5	2317	0.827	**D**	0.3	No
	N/O Penn Street	PM	2,800	2393	0.855	**D**	6	2400	0.857	**D**	0.3	No
	minor arterial	DAILY	50,000	29210	0.584	A	55	29269	0.585	A	0.2	No
3	Penn Street	AM	1,200	358	0.298	A	0	358	0.299	A	0.1	No
	E/O Pickering Ave.	PM	1,200	439	0.366	A	0	439	0.366	A	0.0	No
	collector	DAILY	10,000	4855	0.486	A	42	4898	0.490	A	0.9	No
4	Penn Street	AM	1,200	286	0.238	A	0	286	0.238	A	0.0	No
	E/O Painter Ave.	PM	1,200	343	0.286	A	0	343	0.286	A	0.0	No
	colllector	DAILY	10,000	3650	0.365	A	82	3732	0.373	A	2.2	No

Table 5b – Existing + Ambient Growth + Related Projects + Project Conditions Analysis with College Traffic Added

Intersection – Phase 2

No.	Intersection	Peak Hour	Future (2020) Exist+Ambient ICU DELAY	LOS	Future (2020) Exist+Amb+Related+Phase 2 ICU DELAY	LOS		IMPACT	Significant Impact
4	Hadley Street &	AM	0.898	D	0.907	**E**	+	0.009	NO
	Painter Avenue	PM	0.797	C	0.808	**D**	+	0.011	NO
5	Painter Avenue &	AM	0.579	A	0.598	A	+	0.019	NO
	Penn Street	PM	0.640	B	0.642	B	+	0.002	NO

Segment – Phase 2

	Street Segment	Time Period	Capacity	Existing + Ambient 2020 With Ambient	V/C	LOS	Existing + Ambient + Cumulative + Project Relatec Volume	Total	V/C	LOS	% Impact	Significant?
2	Painter Avenue	AM	2,800	2421	0.865	**D**	5	2444	0.873	**D**	0.9	No
	N/O Penn Street	PM	2,800	2507	0.895	D	6	2530	0.903	**E**	0.9	No
	minor arterial	DAILY	50,000	30601	0.612	**B**	55	30822	0.616	**B**	0.7	No
3	Penn Street	AM	1,200	375	0.313	A	0	381	0.317	A	1.5	No
	E/O Pickering Ave.	PM	1,200	460	0.383	A	0	465	0.387	A	1.1	No
	collector	DAILY	10,000	5086	0.509	A	42	5177	0.518	A	1.8	No
4	Penn Street	AM	1,200	299	0.249	A	0	299	0.249	A	0.0	No
	E/O Painter Ave.	PM	1,200	360	0.300	A	0	360	0.300	A	0.0	No
	colllector	DAILY	10,000	3824	0.382	A	82	3906	0.391	A	2.1	No

Table 5c – Existing + Ambient Growth + Related Projects + Project Conditions Analysis with College Traffic Added

Intersection – Phase 3

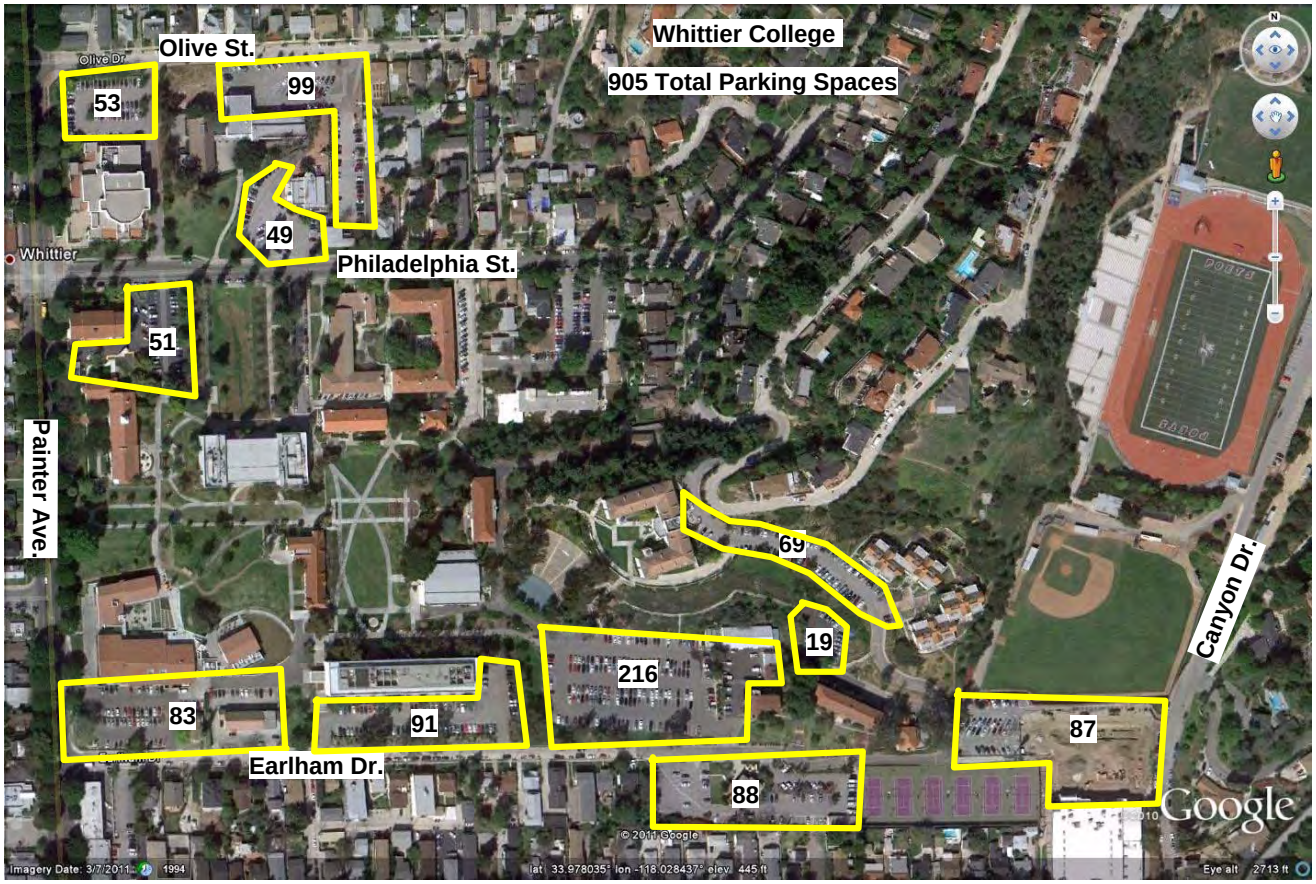
			Future (2025) Exist+Ambient		Future (2025) Exist+Amb+Related+Phase 3				
No.	Intersection	Peak Hour	ICU DELAY	LOS	ICU DELAY	LOS		IMPACT	Significant Impact
4	Hadley Street &	AM	0.935	**E**	0.937	**E**	+	0.002	NO
	Painter Avenue	PM	0.828	D	0.832	**D**	+	0.004	NO
5	Painter Avenue &	AM	0.601	**B**	0.603	**B**	+	0.002	NO
	Penn Street	PM	0.665	B	0.667	B	+	0.002	NO

Segment – Phase 3

				Existing + Ambient 2025			Existing + Ambient + Cumulative + Project				%	
	Street Segment	Time Period	Capacity	With Ambient	V/C	LOS	Related Volume	Total	V/C	LOS	impact	Significant?
2	Painter Avenue	AM	2,800	2531	0.904	**E**	5	2538	0.906	**E**	0.3	No
	N/O Penn Street	PM	2,800	2621	0.936	**E**	6	2629	0.939	**E**	0.3	No
	minor arterial	DAILY	50,000	31992	0.640	**B**	55	32085	0.642	**B**	0.3	No
3	Penn Street	AM	1,200	392	0.327	A	0	393	0.328	A	0.3	No
	E/O Pickering Ave.	PM	1,200	481	0.401	A	0	481	0.401	A	0.0	No
	collector	DAILY	10,000	5318	0.532	A	42	5371	0.537	A	1.0	No
4	Penn Street	AM	1,200	313	0.261	A	0	315	0.263	A	0.6	No
	E/O Painter Ave.	PM	1,200	376	0.313	A	0	378	0.315	A	0.5	No
	colllector	DAILY	10,000	3997	0.400	A	82	4147	0.415	A	3.6	No

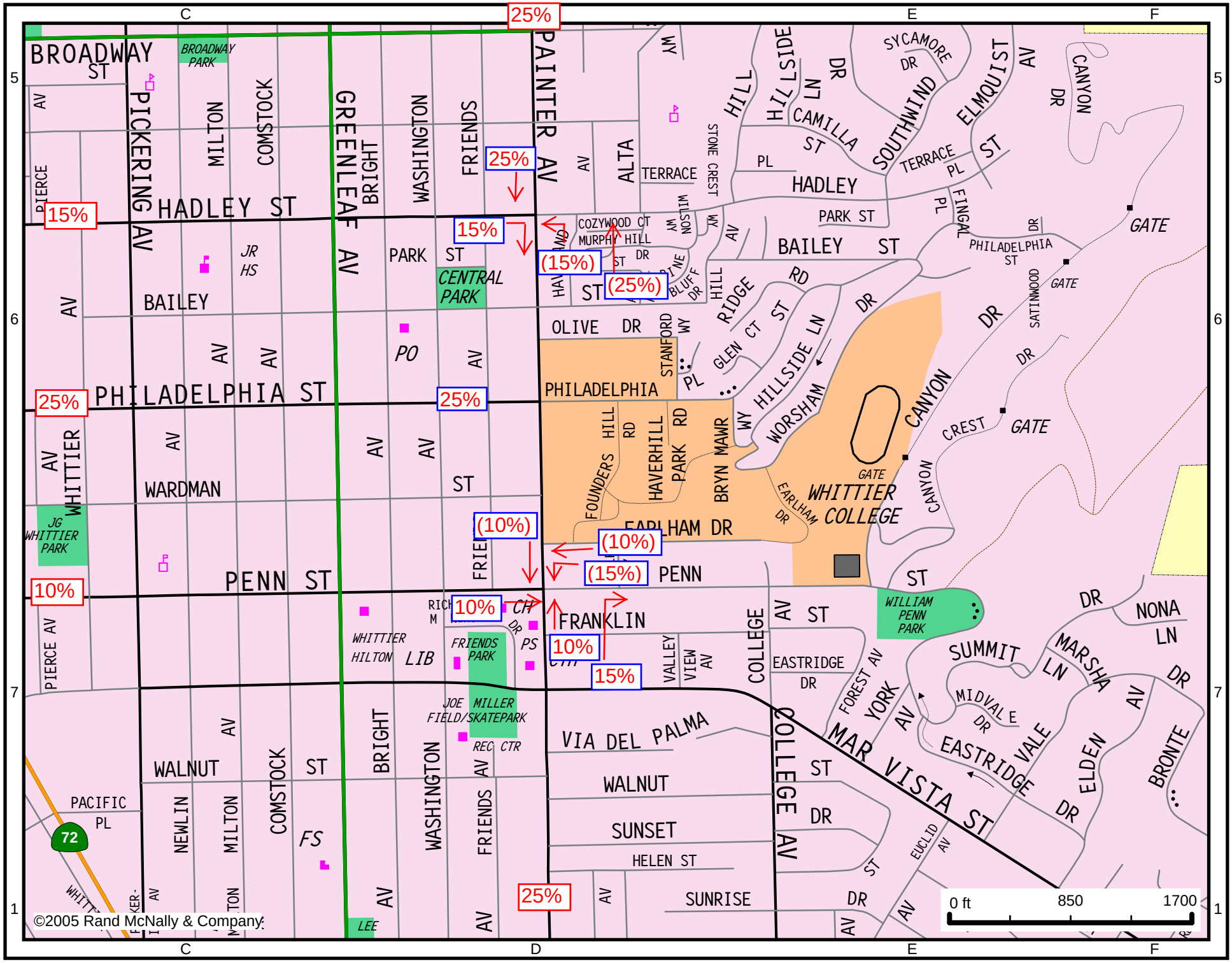
ATTACHMENTS

ATTACHMENT 1 - COLLEGE PARKING



as provided by MRS

ATTACHMENT 2 - DISTRIBUTION



IN/(OUT)

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING CONDITION **(2010)**

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	College volumes	2010 VOLUMES	Combined VOLUMES	V/C		CRITICAL PAIR	College volumes	2010 VOLUMES	Combined VOLUMES	V/C		CRITICAL PAIR
NB LEFT	2	2,880	8	427	435	0.151	*		27	371	398	0.138	*	
NB THRU	1	1600	13	239	252	0.238			46	339	385	0.303		
NB RIGHT	0	0	0	129	129	0.000			0	99	99	0.000		
								0.422						0.360
SB LEFT	1	1,600	0	21	21	0.013			0	19	19	0.012		
SB THRU	1	1,600	53	380	433	0.271	*		20	335	355	0.222	*	
SB RIGHT	1	1,600	0	31	31	0.019			0	17	17	0.011		
EB LEFT	1	1,600	0	18	18	0.011			0	24	24	0.015		
EB THRU	1	1,600	0	132	132	0.083			0	183	183	0.114		
EB RIGHT	1	1,600	32	341	373	0.233	*		12	344	356	0.223	*	
								0.303						0.274
WB LEFT	1	1,600	0	112	112	0.070	*		0	81	81	0.051	*	
WB THRU	2	3,200	0	156	156	0.053			0	90	90	0.030		
WB RIGHT	0	0	0	12	12	0.000			0	6	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.422	NORTH/SOUTH CRITICAL SUM	0.360
EAST/WEST CRITICAL SUM	0.303	EAST/WEST CRITICAL SUM	0.274
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.825	INTERSECTION ICU VALUE	0.734
AM INTERSECTION LOS	D	PM INTERSECTION LOS	C

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + PHASE 1 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	0	435	0.151	*		398	0	398	0.138	*	
NB THRU	1	1600	252	0	252	0.238			385	0	385	0.303		
NB RIGHT	0	0	129	0	129	0.000			99	0	99	0.000		
								0.422						0.360
SB LEFT	1	1,600	21	0	21	0.013			19	0	19	0.012		
SB THRU	1	1,600	433	0	433	0.271	*		355	0	355	0.222	*	
SB RIGHT	1	1,600	31	0	31	0.019			17	0	17	0.011		
EB LEFT	1	1,600	18	0	18	0.011			24	0	24	0.015		
EB THRU	1	1,600	132	0	132	0.083			183	0	183	0.114		
EB RIGHT	1	1,600	373	1	374	0.234	*		356	0	356	0.223	*	
								0.304						0.274
WB LEFT	1	1,600	112	0	112	0.070	*		81	0	81	0.051	*	
WB THRU	2	3,200	156	0	156	0.053			90	0	90	0.030		
WB RIGHT	0	0	12	0	12	0.000			6	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.422	NORTH/SOUTH CRITICAL SUM	0.360
EAST/WEST CRITICAL SUM	0.304	EAST/WEST CRITICAL SUM	0.274
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.826	INTERSECTION ICU VALUE	0.734

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE

EXISTING + PHASE 2 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	8	443	0.154	*		398	9	407	0.141	*	
NB THRU	1	1600	252	0	252	0.238			385	0	385	0.303		
NB RIGHT	0	0	129	0	129	0.000			99	0	99	0.000		
								0.425						0.363
SB LEFT	1	1,600	21	0	21	0.013			19	0	19	0.012		
SB THRU	1	1,600	433	0	433	0.271	*		355	0	355	0.222	*	
SB RIGHT	1	1,600	31	0	31	0.019			17	0	17	0.011		
EB LEFT	1	1,600	18	0	18	0.011			24	0	24	0.015		
EB THRU	1	1,600	132	0	132	0.083			183	0	183	0.114		
EB RIGHT	1	1,600	373	9	382	0.239	*		356	8	364	0.228	*	
								0.309						0.279
WB LEFT	1	1,600	112	0	112	0.070	*		81	0	81	0.051	*	
WB THRU	2	3,200	156	0	156	0.053			90	0	90	0.030		
WB RIGHT	0	0	12	0	12	0.000			6	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.425	NORTH/SOUTH CRITICAL SUM	0.363
EAST/WEST CRITICAL SUM	0.309	EAST/WEST CRITICAL SUM	0.279
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.834	INTERSECTION ICU VALUE	0.742
AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.009	PM IMPACT	0.008

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE

EXISTING + PHASE 3 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	1	436	0.151	*		398	1	399	0.139	*	
NB THRU	1	1600	252	0	252	0.238			385	0	385	0.303		
NB RIGHT	0	0	129	0	129	0.000			99	0	99	0.000		
								0.422						0.361
SB LEFT	1	1,600	21	0	21	0.013			19	0	19	0.012		
SB THRU	1	1,600	433	0	433	0.271	*		355	0	355	0.222	*	
SB RIGHT	1	1,600	31	0	31	0.019			17	0	17	0.011		
EB LEFT	1	1,600	18	0	18	0.011			24	0	24	0.015		
EB THRU	1	1,600	132	0	132	0.083			183	0	183	0.114		
EB RIGHT	1	1,600	373	1	374	0.234	*		356	1	357	0.223	*	
								0.304						0.274
WB LEFT	1	1,600	112	0	112	0.070	*		81	0	81	0.051	*	
WB THRU	2	3,200	156	0	156	0.053			90	0	90	0.030		
WB RIGHT	0	0	12	0	12	0.000			6	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.422	NORTH/SOUTH CRITICAL SUM	0.361
EAST/WEST CRITICAL SUM	0.304	EAST/WEST CRITICAL SUM	0.274
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.826	INTERSECTION ICU VALUE	0.735

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	22	457	0.159	*		398	20	418	0.145	*	
NB THRU	1	1600	252	13	265	0.250			385	19	404	0.318		
NB RIGHT	0	0	129	7	136	0.000			99	5	104	0.000		
								0.443						0.378
SB LEFT	1	1,600	21	1	22	0.014			19	1	20	0.012		
SB THRU	1	1,600	433	22	455	0.284	*		355	18	373	0.233	*	
SB RIGHT	1	1,600	31	2	33	0.020			17	1	18	0.011		
EB LEFT	1	1,600	18	1	19	0.012			24	1	25	0.016		
EB THRU	1	1,600	132	7	139	0.087			183	9	192	0.120		
EB RIGHT	1	1,600	373	19	392	0.245	*		356	18	374	0.234	*	
								0.319						0.287
WB LEFT	1	1,600	112	6	118	0.074	*		81	4	85	0.053	*	
WB THRU	2	3,200	156	8	164	0.055			90	5	95	0.032		
WB RIGHT	0	0	12	1	13	0.000			6	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.443	NORTH/SOUTH CRITICAL SUM	0.378
EAST/WEST CRITICAL SUM	0.319	EAST/WEST CRITICAL SUM	0.287
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.862	INTERSECTION ICU VALUE	0.765

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.037	PM IMPACT	0.031

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	22	0	457	0.159	*		398	20	0	418	0.145	*	
NB THRU	1	1600	252	13	0	265	0.250			385	19	0	404	0.318		
NB RIGHT	0	0	129	7	0	136	0.000			99	5	0	104	0.000		
									0.443							0.378
SB LEFT	1	1,600	21	1	0	22	0.014			19	1	0	20	0.012		
SB THRU	1	1,600	433	22	0	455	0.284	*		355	18	0	373	0.233	*	
SB RIGHT	1	1,600	31	2	0	33	0.020			17	1	0	18	0.011		
EB LEFT	1	1,600	18	1	0	19	0.012			24	1	0	25	0.016		
EB THRU	1	1,600	132	7	0	139	0.087			183	9	0	192	0.120		
EB RIGHT	1	1,600	373	19	1	393	0.246	*		356	18	0	374	0.234	*	
									0.320							0.287
WB LEFT	1	1,600	112	6	0	118	0.074	*		81	4	0	85	0.053	*	
WB THRU	2	3,200	156	8	0	164	0.055			90	5	0	95	0.032		
WB RIGHT	0	0	12	1	0	13	0.000			6	0	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.443	NORTH/SOUTH CRITICAL SUM	0.378
EAST/WEST CRITICAL SUM	0.320	EAST/WEST CRITICAL SUM	0.287
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.863	INTERSECTION ICU VALUE	0.765

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	22	0	0	457	0.159	*		398	20	0	0	418	0.145	*	
NB THRU	1	1600	252	13	3	0	268	0.252			385	19	2	0	406	0.319		
NB RIGHT	0	0	129	7	0	0	136	0.000			99	5	0	0	104	0.000		
										0.445								0.381
SB LEFT	1	1,600	21	1	0	0	22	0.014			19	1	0	2	22	0.014		
SB THRU	1	1,600	433	22	2	0	457	0.286	*		355	18	4	0	377	0.236	*	
SB RIGHT	1	1,600	31	2	0	0	33	0.020			17	1	0	0	18	0.011		
EB LEFT	1	1,600	18	1	1	0	20	0.012			24	1	0	0	25	0.016		
EB THRU	1	1,600	132	7	0	0	139	0.087			183	9	0	0	192	0.120		
EB RIGHT	1	1,600	373	19	0	1	393	0.246	*		356	18	0	0	374	0.234	*	
										0.320								0.287
WB LEFT	1	1,600	112	6	0	0	118	0.074	*		81	4	0	0	85	0.053	*	
WB THRU	2	3,200	156	8	0	0	164	0.055			90	5	0	0	95	0.032		
WB RIGHT	0	0	12	1	0	0	13	0.000			6	0	0	0	6	0.000		

NORTH/SOUTH CRITICAL SUM	0.445	NORTH/SOUTH CRITICAL SUM	0.381
EAST/WEST CRITICAL SUM	0.320	EAST/WEST CRITICAL SUM	0.287
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.865	INTERSECTION ICU VALUE	0.768

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.003	PM IMPACT	0.003

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	44	479	0.166	*		398	40	438	0.152	*	
NB THRU	1	1600	252	25	277	0.262			385	39	424	0.333		
NB RIGHT	0	0	129	13	142	0.000			99	10	109	0.000		
								0.464						0.396
SB LEFT	1	1,600	21	2	23	0.014			19	2	21	0.013		
SB THRU	1	1,600	433	44	477	0.298	*		355	36	391	0.244	*	
SB RIGHT	1	1,600	31	3	34	0.021			17	2	19	0.012		
EB LEFT	1	1,600	18	2	20	0.012			24	2	26	0.017		
EB THRU	1	1,600	132	13	145	0.091			183	18	201	0.126		
EB RIGHT	1	1,600	373	38	411	0.257	*		356	36	392	0.245	*	
								0.334						0.301
WB LEFT	1	1,600	112	11	123	0.077	*		81	8	89	0.056	*	
WB THRU	2	3,200	156	16	172	0.058			90	9	99	0.033		
WB RIGHT	0	0	12	1	13	0.000			6	1	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.464	NORTH/SOUTH CRITICAL SUM	0.396
EAST/WEST CRITICAL SUM	0.334	EAST/WEST CRITICAL SUM	0.301
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.898	INTERSECTION ICU VALUE	0.797

AM INTERSECTION LOS	D	PM INTERSECTION LOS	C
AM IMPACT	0.073	PM IMPACT	0.063

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	44	8	487	0.169	*		398	40	9	447	0.155	*	
NB THRU	1	1600	252	25	0	277	0.262			385	39	0	424	0.333		
NB RIGHT	0	0	129	13	0	142	0.000			99	10	0	109	0.000		
									0.467							0.399
SB LEFT	1	1,600	21	2	0	23	0.014			19	2	0	21	0.013		
SB THRU	1	1,600	433	44	0	477	0.298	*		355	36	0	391	0.244	*	
SB RIGHT	1	1,600	31	3	0	34	0.021			17	2	0	19	0.012		
EB LEFT	1	1,600	18	2	0	20	0.012			24	2	0	26	0.017		
EB THRU	1	1,600	132	13	0	145	0.091			183	18	0	201	0.126		
EB RIGHT	1	1,600	373	38	9	420	0.262	*		356	36	8	400	0.25	*	
									0.339							0.306
WB LEFT	1	1,600	112	11	0	123	0.077	*		81	8	0	89	0.056	*	
WB THRU	2	3,200	156	16	0	172	0.058			90	9	0	99	0.033		
WB RIGHT	0	0	12	1	0	13	0.000			6	1	0	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.467	NORTH/SOUTH CRITICAL SUM	0.399
EAST/WEST CRITICAL SUM	0.339	EAST/WEST CRITICAL SUM	0.306
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.906	INTERSECTION ICU VALUE	0.805

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.008	PM IMPACT	0.008

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	44	0	8	487	0.169	*		398	40	0	9	447	0.155	*	
NB THRU	1	1600	252	25	3	0	280	0.264			385	39	2	0	426	0.334		
NB RIGHT	0	0	129	13	0	0	142	0.000			99	10	0	0	109	0.000		
										0.468								0.402
SB LEFT	1	1,600	21	2	0	0	23	0.014			19	2	0	0	21	0.013		
SB THRU	1	1,600	433	44	2	0	479	0.299	*		355	36	4	0	395	0.247	*	
SB RIGHT	1	1,600	31	3	0	0	34	0.021			17	2	0	0	19	0.012		
EB LEFT	1	1,600	18	2	1	0	21	0.013			24	2	0	0	26	0.017		
EB THRU	1	1,600	132	13	0	0	145	0.091			183	18	0	0	201	0.126		
EB RIGHT	1	1,600	373	38	0	9	420	0.262	*		356	36	0	8	400	0.25	*	
										0.339								0.306
WB LEFT	1	1,600	112	11	0	0	123	0.077	*		81	8	0	0	89	0.056	*	
WB THRU	2	3,200	156	16	0	0	172	0.058			90	9	0	0	99	0.033		
WB RIGHT	0	0	12	1	0	0	13	0.000			6	1	0	0	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.468	NORTH/SOUTH CRITICAL SUM	0.402
EAST/WEST CRITICAL SUM	0.339	EAST/WEST CRITICAL SUM	0.306
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.907	INTERSECTION ICU VALUE	0.808

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.009	PM IMPACT	0.011

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	66	501	0.174	*		398	60	458	0.159	*	
NB THRU	1	1600	252	38	290	0.274			385	58	443	0.348		
NB RIGHT	0	0	129	20	149	0.000			99	15	114	0.000		
								0.486						0.414
SB LEFT	1	1,600	21	3	24	0.015			19	3	22	0.014		
SB THRU	1	1,600	433	66	499	0.312	*		355	54	409	0.255	*	
SB RIGHT	1	1,600	31	5	36	0.022			17	3	20	0.012		
EB LEFT	1	1,600	18	3	21	0.013			24	4	28	0.017		
EB THRU	1	1,600	132	20	152	0.095			183	28	211	0.132		
EB RIGHT	1	1,600	373	57	430	0.268	*		356	54	410	0.256	*	
								0.349						0.314
WB LEFT	1	1,600	112	17	129	0.081	*		81	12	93	0.058	*	
WB THRU	2	3,200	156	24	180	0.060			90	14	104	0.035		
WB RIGHT	0	0	12	2	14	0.000			6	1	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.486	NORTH/SOUTH CRITICAL SUM	0.414
EAST/WEST CRITICAL SUM	0.349	EAST/WEST CRITICAL SUM	0.314
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.935	INTERSECTION ICU VALUE	0.828

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.110	PM IMPACT	0.094

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	66	1	502	0.174	*		398	60	1	459	0.159	*	
NB THRU	1	1600	252	38	0	290	0.274			385	58	0	443	0.348		
NB RIGHT	0	0	129	20	0	149	0.000			99	15	0	114	0.000		
									0.486							0.414
SB LEFT	1	1,600	21	3	0	24	0.015			19	3	0	22	0.014		
SB THRU	1	1,600	433	66	0	499	0.312	*		355	54	0	409	0.255	*	
SB RIGHT	1	1,600	31	5	0	36	0.022			17	3	0	20	0.012		
EB LEFT	1	1,600	18	3	0	21	0.013			24	4	0	28	0.017		
EB THRU	1	1,600	132	20	0	152	0.095			183	28	0	211	0.132		
EB RIGHT	1	1,600	373	57	1	431	0.269	*		356	54	1	411	0.257	*	
									0.350							0.315
WB LEFT	1	1,600	112	17	0	129	0.081	*		81	12	0	93	0.058	*	
WB THRU	2	3,200	156	24	0	180	0.060			90	14	0	104	0.035		
WB RIGHT	0	0	12	2	0	14	0.000			6	1	0	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.486	NORTH/SOUTH CRITICAL SUM	0.414
EAST/WEST CRITICAL SUM	0.350	EAST/WEST CRITICAL SUM	0.315
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.936	INTERSECTION ICU VALUE	0.829

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.001	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 4. HADLEY STREET & PAINTER AVENUE
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	2	2,880	435	66	0	1	502	0.174	*		398	60	0	1	459	0.159	*	
NB THRU	1	1600	252	38	3	0	293	0.276			385	58	2	0	445	0.350		
NB RIGHT	0	0	129	20	0	0	149	0.000			99	15	0	0	114	0.000		
										0.487								0.417
SB LEFT	1	1,600	21	3	0	0	24	0.015			19	3	0	0	22	0.014		
SB THRU	1	1,600	433	66	2	0	501	0.313	*		355	54	4	0	413	0.258	*	
SB RIGHT	1	1,600	31	5	0	0	36	0.022			17	3	0	0	20	0.012		
EB LEFT	1	1,600	18	3	1	0	22	0.014			24	4	0	0	28	0.017		
EB THRU	1	1,600	132	20	0	0	152	0.095			183	28	0	0	211	0.132		
EB RIGHT	1	1,600	373	57	0	1	431	0.269	*		356	54	0	1	411	0.257	*	
										0.350								0.315
WB LEFT	1	1,600	112	17	0	0	129	0.081	*		81	12	0	0	93	0.058	*	
WB THRU	2	3,200	156	24	0	0	180	0.060			90	14	0	0	104	0.035		
WB RIGHT	0	0	12	2	0	0	14	0.000			6	1	0	0	7	0.000		

NORTH/SOUTH CRITICAL SUM	0.487	NORTH/SOUTH CRITICAL SUM	0.417
EAST/WEST CRITICAL SUM	0.350	EAST/WEST CRITICAL SUM	0.315
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.937	INTERSECTION ICU VALUE	0.832

AM INTERSECTION LOS	E	PM INTERSECTION LOS	D
AM IMPACT	0.002	PM IMPACT	0.004

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING CONDITION **(2010)**

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	College volumes	2010 VOLUMES	Combined VOLUMES	V/C		CRITICAL PAIR	College volumes	2010 VOLUMES	Combined VOLUMES	V/C		CRITICAL PAIR
NB LEFT	1	1,600	0	61	61	0.038			0	45	45	0.028	*	
NB THRU	2	3,200	21	1005	1026	0.336	*		8	930	938	0.305		
NB RIGHT	0	0	32	17	49	0.000			12	26	38	0.000		
								0.355						0.381
SB LEFT	1	1,600	0	31	31	0.019	*		0	66	66	0.041		
SB THRU	2	3,200	5	888	893	0.284			8	1107	1115	0.353	*	
SB RIGHT	0	0	0	17	17	0.000			0	14	14	0.000		
EB LEFT	0	0	0	13	13	0.000	*		0	18	18	0.000		
EB THRU	1	1,600	21	21	42	0.034			8	55	63	0.051		
EB RIGHT	1	1,600	0	80	80	0.050			0	176	176	0.11	*	
								0.080						0.110
WB LEFT	0	0	8	25	33	0.000			0	23	23	0.000	*	
WB THRU	1	1,600	5	30	35	0.080	*		8	31	39	0.074		
WB RIGHT	0	0	0	60	60	0.000			12	45	57	0.000		

NORTH/SOUTH CRITICAL SUM	0.355	NORTH/SOUTH CRITICAL SUM	0.381
EAST/WEST CRITICAL SUM	0.080	EAST/WEST CRITICAL SUM	0.110
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.535	INTERSECTION ICU VALUE	0.591
AM INTERSECTION LOS	A	PM INTERSECTION LOS	A

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET

EXISTING + PHASE 1 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	0	61	0.038			45	0	45	0.028	*	
NB THRU	2	3,200	1026	1	1027	0.336	*		938	1	939	0.305		
NB RIGHT	0	0	49	0	49	0.000			38	0	38	0.000		
								0.355						0.381
SB LEFT	1	1,600	31	0	31	0.019	*		66	0	66	0.041		
SB THRU	2	3,200	893	0	893	0.284			1115	0	1115	0.353	*	
SB RIGHT	0	0	17	0	17	0.000			14	0	14	0.000		
EB LEFT	0	0	13	0	13	0.000	*		18	0	18	0.000		
EB THRU	1	1,600	42	0	42	0.034			63	0	63	0.051		
EB RIGHT	1	1,600	80	0	80	0.050			176	0	176	0.11	*	
								0.080						0.110
WB LEFT	0	0	33	0	33	0.000			23	0	23	0.000	*	
WB THRU	1	1600	35	0	35	0.080	*		39	0	39	0.074		
WB RIGHT	0	0	60	0	60	0.000			57	0	57	0.000		

NORTH/SOUTH CRITICAL SUM	0.355	NORTH/SOUTH CRITICAL SUM	0.381
EAST/WEST CRITICAL SUM	0.080	EAST/WEST CRITICAL SUM	0.110
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.535	INTERSECTION ICU VALUE	0.591

AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET

EXISTING + PHASE 2 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	0	61	0.038			45	0	45	0.028	*	
NB THRU	2	3,200	1026	1	1027	0.339	*		938	1	939	0.308		
NB RIGHT	0	0	49	8	57	0.000			38	8	46	0.000		
								0.363						0.381
SB LEFT	1	1,600	31	8	39	0.024	*		66	8	74	0.046		
SB THRU	2	3,200	893	0	893	0.284			1115	0	1115	0.353	*	
SB RIGHT	0	0	17	0	17	0.000			14	0	14	0.000		
EB LEFT	0	0	13	0	13	0.000	*		18	0	18	0.000		
EB THRU	1	1,600	42	0	42	0.034			63	0	63	0.051		
EB RIGHT	1	1,600	80	0	80	0.050			176	0	176	0.11	*	
								0.090						0.110
WB LEFT	0	0	33	3	36	0.000			23	3	26	0.000	*	
WB THRU	1	1600	35	5	40	0.090	*		39	5	44	0.084		
WB RIGHT	0	0	60	8	68	0.000			57	8	65	0.000		

NORTH/SOUTH CRITICAL SUM	0.363	NORTH/SOUTH CRITICAL SUM	0.381
EAST/WEST CRITICAL SUM	0.090	EAST/WEST CRITICAL SUM	0.110
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.553	INTERSECTION ICU VALUE	0.591

AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.018	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET

EXISTING + PHASE 3 PROJECT

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	0	61	0.038			45	0	45	0.028	*	
NB THRU	2	3,200	1026	1	1027	0.336	*		938	1	939	0.306		
NB RIGHT	0	0	49	0	49	0.000			38	1	39	0.000		
								0.355						0.381
SB LEFT	1	1,600	31	0	31	0.019	*		66	1	67	0.042		
SB THRU	2	3,200	893	0	893	0.284			1115	0	1115	0.353	*	
SB RIGHT	0	0	17	0	17	0.000			14	0	14	0.000		
EB LEFT	0	0	13	0	13	0.000	*		18	0	18	0.000		
EB THRU	1	1,600	42	0	42	0.034			63	0	63	0.051		
EB RIGHT	1	1,600	80	0	80	0.050			176	0	176	0.11	*	
								0.081						0.110
WB LEFT	0	0	33	0	33	0.000			23	0	23	0.000	*	
WB THRU	1	1600	35	1	36	0.081	*		39	0	39	0.074		
WB RIGHT	0	0	60	1	61	0.000			57	0	57	0.000		

NORTH/SOUTH CRITICAL SUM	0.355	NORTH/SOUTH CRITICAL SUM	0.381
EAST/WEST CRITICAL SUM	0.081	EAST/WEST CRITICAL SUM	0.110
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.536	INTERSECTION ICU VALUE	0.591

AM INTERSECTION LOS	A	PM INTERSECTION LOS	A
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH
YEAR 2015

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	3	64	0.040			45	2	47	0.03	*	
NB THRU	2	3,200	1026	52	1078	0.353	*		938	47	985	0.320		
NB RIGHT	0	0	49	2	51	0.000			38	2	40	0.000		
								0.373						0.401
SB LEFT	1	1,600	31	2	33	0.020	*		66	3	69	0.043		
SB THRU	2	3,200	893	45	938	0.299			1115	56	1171	0.371	*	
SB RIGHT	0	0	17	1	18	0.000			14	1	15	0.000		
EB LEFT	0	0	13	1	14	0.000	*		18	1	19	0.000		
EB THRU	1	1,600	42	2	44	0.036			63	3	66	0.053		
EB RIGHT	1	1,600	80	4	84	0.053			176	9	185	0.116	*	
								0.084						0.116
WB LEFT	0	0	33	2	35	0.000			23	1	24	0.000	*	
WB THRU	1	1600	35	2	37	0.084	*		39	2	41	0.078		
WB RIGHT	0	0	60	3	63	0.000			57	3	60	0.000		

NORTH/SOUTH CRITICAL SUM	0.373	NORTH/SOUTH CRITICAL SUM	0.401
EAST/WEST CRITICAL SUM	0.084	EAST/WEST CRITICAL SUM	0.116
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.557	INTERSECTION ICU VALUE	0.617

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.022	PM IMPACT	0.026

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	3	0	64	0.040			45	2	0	47	0.03	*	
NB THRU	2	3,200	1026	52	1	1079	0.353	*		938	47	1	986	0.321		
NB RIGHT	0	0	49	2	0	51	0.000			38	2	0	40	0.000		
									0.373							0.401
SB LEFT	1	1,600	31	2	0	33	0.020	*		66	3	0	69	0.043		
SB THRU	2	3,200	893	45	0	938	0.299			1115	56	0	1171	0.371	*	
SB RIGHT	0	0	17	1	0	18	0.000			14	1	0	15	0.000		
EB LEFT	0	0	13	1	0	14	0.000	*		18	1	0	19	0.000		
EB THRU	1	1,600	42	2	0	44	0.036			63	3	0	66	0.053		
EB RIGHT	1	1,600	80	4	0	84	0.053			176	9	0	185	0.116	*	
									0.084							0.116
WB LEFT	0	0	33	2	0	35	0.000			23	1	0	24	0.000	*	
WB THRU	1	1600	35	2	0	37	0.084	*		39	2	0	41	0.078		
WB RIGHT	0	0	60	3	0	63	0.000			57	3	0	60	0.000		

NORTH/SOUTH CRITICAL SUM	0.373	NORTH/SOUTH CRITICAL SUM	0.401
EAST/WEST CRITICAL SUM	0.084	EAST/WEST CRITICAL SUM	0.116
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.557	INTERSECTION ICU VALUE	0.617

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.000	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + RELATED PROJECTS + PROJECT
PHASE 1 - 2015

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	3	0	0	64	0.040			45	2	0	0	47	0.03	*	
NB THRU	2	3,200	1026	52	3	1	1082	0.354	*		938	47	2	1	988	0.321		
NB RIGHT	0	0	49	2	0	0	51	0.000			38	2	0	0	40	0.000		
										0.374								0.402
SB LEFT	1	1,600	31	2	0	0	33	0.020	*		66	3	0	0	69	0.043		
SB THRU	2	3,200	893	45	2	0	940	0.299			1115	56	4	0	1175	0.372	*	
SB RIGHT	0	0	17	1	0	0	18	0.000			14	1	0	0	15	0.000		
EB LEFT	0	0	13	1	0	0	14	0.000	*		18	1	0	0	19	0.000		
EB THRU	1	1,600	42	2	0	0	44	0.036			63	3	0	0	66	0.053		
EB RIGHT	1	1,600	80	4	0	0	84	0.053			176	9	0	0	185	0.116	*	
										0.084								0.116
WB LEFT	0	0	33	2	0	0	35	0.000			23	1	0	0	24	0.000	*	
WB THRU	1	1600	35	2	0	0	37	0.084	*		39	2	0	0	41	0.078		
WB RIGHT	0	0	60	3	0	0	63	0.000			57	3	0	0	60	0.000		

NORTH/SOUTH CRITICAL SUM	0.374	NORTH/SOUTH CRITICAL SUM	0.402
EAST/WEST CRITICAL SUM	0.084	EAST/WEST CRITICAL SUM	0.116
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.558	INTERSECTION ICU VALUE	0.618

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.001	PM IMPACT	0.001

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH
YEAR 2020

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	6	67	0.042			45	5	50	0.031	*	
NB THRU	2	3,200	1026	104	1130	0.370	*		938	95	1033	0.336		
NB RIGHT	0	0	49	5	54	0.000			38	4	42	0.000		
								0.391						0.419
SB LEFT	1	1,600	31	3	34	0.021	*		66	7	73	0.045		
SB THRU	2	3,200	893	90	983	0.313			1115	113	1228	0.388	*	
SB RIGHT	0	0	17	2	19	0.000			14	1	15	0.000		
EB LEFT	0	0	13	1	14	0.000	*		18	2	20	0.000		
EB THRU	1	1,600	42	4	46	0.038			63	6	69	0.056		
EB RIGHT	1	1,600	80	8	88	0.055			176	18	194	0.121	*	
								0.088						0.121
WB LEFT	0	0	33	3	36	0.000			23	2	25	0.000	*	
WB THRU	1	1600	35	4	39	0.088	*		39	4	43	0.082		
WB RIGHT	0	0	60	6	66	0.000			57	6	63	0.000		

NORTH/SOUTH CRITICAL SUM	0.391	NORTH/SOUTH CRITICAL SUM	0.419
EAST/WEST CRITICAL SUM	0.088	EAST/WEST CRITICAL SUM	0.121
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.579	INTERSECTION ICU VALUE	0.640

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.044	PM IMPACT	0.049

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	6	0	67	0.042			45	5	0	50	0.031	*	
NB THRU	2	3,200	1026	104	1	1131	0.373	*		938	95	1	1034	0.339		
NB RIGHT	0	0	49	5	8	62	0.000			38	4	8	50	0.000		
									0.399							0.419
SB LEFT	1	1,600	31	3	8	42	0.026	*		66	7	8	81	0.05		
SB THRU	2	3,200	893	90	0	983	0.313			1115	113	0	1228	0.388	*	
SB RIGHT	0	0	17	2	0	19	0.000			14	1	0	15	0.000		
EB LEFT	0	0	13	1	0	14	0.000	*		18	2	0	20	0.000		
EB THRU	1	1,600	42	4	0	46	0.038			63	6	0	69	0.056		
EB RIGHT	1	1,600	80	8	0	88	0.055			176	18	0	194	0.121	*	
									0.098							0.121
WB LEFT	0	0	33	3	3	39	0.000			23	2	3	28	0.000	*	
WB THRU	1	1600	35	4	5	44	0.098	*		39	4	5	48	0.092		
WB RIGHT	0	0	60	6	8	74	0.000			57	6	8	71	0.000		

NORTH/SOUTH CRITICAL SUM	0.399	NORTH/SOUTH CRITICAL SUM	0.419
EAST/WEST CRITICAL SUM	0.098	EAST/WEST CRITICAL SUM	0.121
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.597	INTERSECTION ICU VALUE	0.640

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.018	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 2 - 2020

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	6	0	0	67	0.042			45	5	0	0	50	0.031	*	
NB THRU	2	3,200	1026	104	3	1	1134	0.374	*		938	95	2	1	1036	0.339		
NB RIGHT	0	0	49	5	0	8	62	0.000			38	4	0	8	50	0.000		
										0.400								0.421
SB LEFT	1	1,600	31	3	0	8	42	0.026	*		66	7	0	8	81	0.05		
SB THRU	2	3,200	893	90	2	0	985	0.314			1115	113	4	0	1232	0.390	*	
SB RIGHT	0	0	17	2	0	0	19	0.000			14	1	0	0	15	0.000		
EB LEFT	0	0	13	1	0	0	14	0.000	*		18	2	0	0	20	0.000		
EB THRU	1	1,600	42	4	0	0	46	0.038			63	6	0	0	69	0.056		
EB RIGHT	1	1,600	80	8	0	0	88	0.055			176	18	0	0	194	0.121	*	
										0.098								0.121
WB LEFT	0	0	33	3	0	3	39	0.000			23	2	0	3	28	0.000	*	
WB THRU	1	1600	35	4	0	5	44	0.098	*		39	4	0	5	48	0.092		
WB RIGHT	0	0	60	6	0	8	74	0.000			57	6	0	8	71	0.000		

NORTH/SOUTH CRITICAL SUM	0.400	NORTH/SOUTH CRITICAL SUM	0.421
EAST/WEST CRITICAL SUM	0.098	EAST/WEST CRITICAL SUM	0.121
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.598	INTERSECTION ICU VALUE	0.642

AM INTERSECTION LOS	A	PM INTERSECTION LOS	B
AM IMPACT	0.019	PM IMPACT	0.002

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH
YEAR 2025

			AM PEAK HOUR						PM PEAK HOUR					
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	9	70	0.044			45	7	52	0.032	*	
NB THRU	2	3,200	1026	155	1181	0.387	*		938	142	1080	0.351		
NB RIGHT	0	0	49	7	56	0.000			38	6	44	0.000		
								0.409						0.438
SB LEFT	1	1,600	31	5	36	0.022	*		66	10	76	0.047		
SB THRU	2	3,200	893	135	1028	0.327			1115	169	1284	0.406	*	
SB RIGHT	0	0	17	3	20	0.000			14	2	16	0.000		
EB LEFT	0	0	13	2	15	0.000	*		18	3	21	0.000		
EB THRU	1	1,600	42	6	48	0.040			63	10	73	0.058		
EB RIGHT	1	1,600	80	12	92	0.058			176	27	203	0.127	*	
								0.092						0.127
WB LEFT	0	0	33	5	38	0.000			23	3	26	0.000	*	
WB THRU	1	1600	35	5	40	0.092	*		39	6	45	0.086		
WB RIGHT	0	0	60	9	69	0.000			57	9	66	0.000		

NORTH/SOUTH CRITICAL SUM	0.409	NORTH/SOUTH CRITICAL SUM	0.438
EAST/WEST CRITICAL SUM	0.092	EAST/WEST CRITICAL SUM	0.127
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.601	INTERSECTION ICU VALUE	0.665

AM INTERSECTION LOS	B	PM INTERSECTION LOS	B
AM IMPACT	0.066	PM IMPACT	0.074

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR							PM PEAK HOUR						
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	9	0	70	0.044			45	7	0	52	0.032	*	
NB THRU	2	3,200	1026	155	1	1182	0.387	*		938	142	1	1081	0.352		
NB RIGHT	0	0	49	7	0	56	0.000			38	6	1	45	0.000		
									0.409							0.438
SB LEFT	1	1,600	31	5	0	36	0.022	*		66	10	1	77	0.048		
SB THRU	2	3,200	893	135	0	1028	0.327			1115	169	0	1284	0.406	*	
SB RIGHT	0	0	17	3	0	20	0.000			14	2	0	16	0.000		
EB LEFT	0	0	13	2	0	15	0.000	*		18	3	0	21	0.000		
EB THRU	1	1,600	42	6	0	48	0.040			63	10	0	73	0.058		
EB RIGHT	1	1,600	80	12	0	92	0.058			176	27	0	203	0.127	*	
									0.093							0.127
WB LEFT	0	0	33	5	0	38	0.000			23	3	0	26	0.000	*	
WB THRU	1	1600	35	5	1	41	0.093	*		39	6	0	45	0.086		
WB RIGHT	0	0	60	9	1	70	0.000			57	9	0	66	0.000		

NORTH/SOUTH CRITICAL SUM	0.409	NORTH/SOUTH CRITICAL SUM	0.438
EAST/WEST CRITICAL SUM	0.093	EAST/WEST CRITICAL SUM	0.127
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.602	INTERSECTION ICU VALUE	0.665

AM INTERSECTION LOS	B	PM INTERSECTION LOS	B
AM IMPACT	0.001	PM IMPACT	0.000

Overland Traffic Consultants, Inc.

WHITTIER MAIN OIL FIELD PROJECT
ICU CALCULATIONS

INTERSECTION: 5. PAINTER AVENUE & PENN STREET
EXISTING + AMBIENT GROWTH + RELATED PROJECT + PROJECT
PHASE 3 - 2025

			AM PEAK HOUR								PM PEAK HOUR							
MOVEMENT	NO. OF LANES	CAPACITY	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR	EXISTING	AMBIENT GROWTH	RELATED PROJECTS	PROJECT	TOTAL	V/C		CRITICAL PAIR
NB LEFT	1	1,600	61	9	0	0	70	0.044			45	7	0	0	52	0.032	*	
NB THRU	2	3,200	1026	155	3	1	1185	0.388	*		938	142	2	1	1083	0.352		
NB RIGHT	0	0	49	7	0	0	56	0.000			38	6	0	1	45	0.000		
										0.410								0.440
SB LEFT	1	1,600	31	5	0	0	36	0.022	*		66	10	0	1	77	0.048		
SB THRU	2	3,200	893	135	2	0	1030	0.328			1115	169	4	0	1288	0.408	*	
SB RIGHT	0	0	17	3	0	0	20	0.000			14	2	0	0	16	0.000		
EB LEFT	0	0	13	2	0	0	15	0.000	*		18	3	0	0	21	0.000		
EB THRU	1	1,600	42	6	0	0	48	0.040			63	10	0	0	73	0.058		
EB RIGHT	1	1,600	80	12	0	0	92	0.058			176	27	0	0	203	0.127	*	
										0.093								0.127
WB LEFT	0	0	33	5	0	0	38	0.000			23	3	0	0	26	0.000	*	
WB THRU	1	1600	35	5	0	1	41	0.093	*		39	6	0	0	45	0.086		
WB RIGHT	0	0	60	9	0	1	70	0.000			57	9	0	0	66	0.000		

NORTH/SOUTH CRITICAL SUM	0.410	NORTH/SOUTH CRITICAL SUM	0.440
EAST/WEST CRITICAL SUM	0.093	EAST/WEST CRITICAL SUM	0.127
CLEARANCE INTERVAL	0.100	CLEARANCE INTERVAL	0.100
INTERSECTION ICU VALUE	0.603	INTERSECTION ICU VALUE	0.667

AM INTERSECTION LOS	B	PM INTERSECTION LOS	B
AM IMPACT	0.002	PM IMPACT	0.002