LINSCOTT LAW & GREENSPAN engineers

TRAFFIC IMPACT STUDY

THE AVALON MIXED-USE PROJECT

City of Carson, California
February 12, 2015

Prepared for:

City of Carson
701 E. Carson Street
Carson, California 90745

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TRAFFIC IMPACT STUDY

THE AVALON MIXED-USE PROJECT

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1.0 INTRODUCTION

This traffic analysis has been conducted to identify and evaluate the potential traffic impacts of the proposed Avalon Mixed-Use project in the City of Carson, California. The proposed Avalon Mixed-Use project is situated at 21601 Avalon Boulevard at the northwest corner of the Avalon Boulevard/Carson Street intersection. The project site location and general vicinity are shown in ***Figure 1-1***.

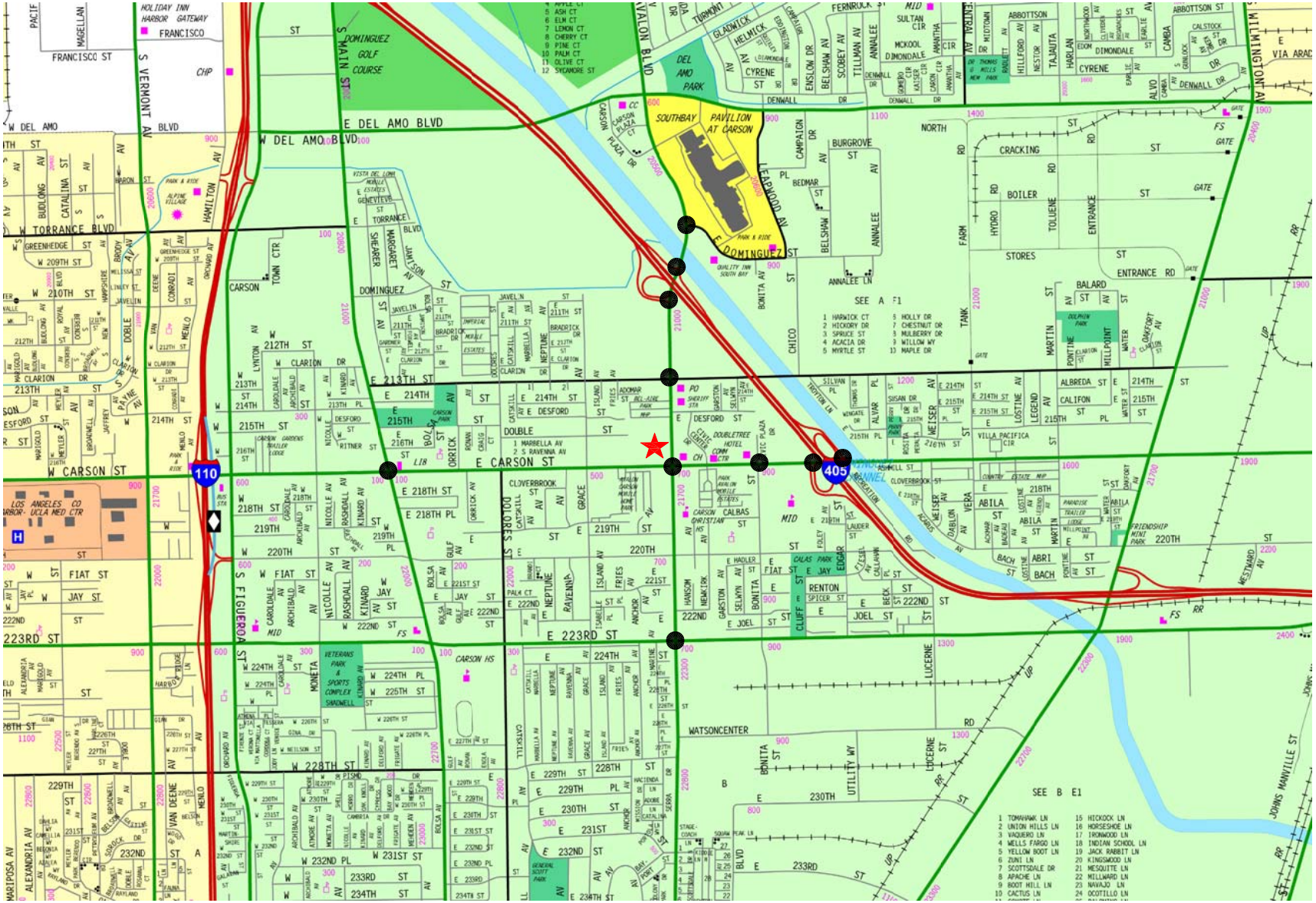
The traffic analysis follows the City of Carson traffic study guidelines and is consistent with traffic impact assessment guidelines set forth in the Los Angeles County Congestion Management Program[1]. This traffic analysis evaluates potential project-related impacts at ten study intersections in the vicinity of the project site. The study intersections were determined in consultation with the City of Carson staff. The Intersection Capacity Utilization method was used to determine Volume-to-Capacity ratios and corresponding Levels of Service at the study intersections. A review was conducted of Los Angeles County Metropolitan Transportation Authority (Metro) freeway and intersection monitoring stations to determine if a Congestion Management Program transportation impact assessment analysis is required for the proposed project.

This study (i) presents existing traffic volumes, (ii) evaluates existing-plus-project traffic volumes, (iii) forecasts future traffic volumes without the project, (iv) forecasts future traffic volumes with the proposed project, (v) determines proposed project-related impacts, and (vi) recommends mitigation measures, where necessary.

1.1 Study Area

Based on consultation with City of Carson Department of Public Works Engineering Services Division staff, a total of ten study intersections have been identified for evaluation during the weekday morning and afternoon peak hours. The ten study intersections provide local access to the study area and define the extent of the boundaries for this traffic impact analysis. Further discussion of the existing street system and study area is provided in Section 4.0 herein.

[1] *2010 Congestion Management Program*, Los Angeles County Metropolitan Transportation Authority, October 2010.



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MAP SOURCE: RAND MCNALLY & COMPANY

★ PROJECT SITE

● STUDY INTERSECTION

FIGURE 1-1
VICINITY MAP

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THE AVALON MIXED-USE PROJECT

The general location of the project in relation to the study intersections and surrounding street system is presented in *Figure 1-1*. The traffic analysis study area is generally comprised of those locations which have the greatest potential to experience significant traffic impacts due to the proposed project as defined by the Lead Agency. In traffic engineering practice, the study area generally includes those intersections that are:

a. Immediately adjacent or in close proximity to the project site;

b. In the vicinity of the project site that are documented to have current or projected future adverse operational issues; and

c. In the vicinity of the project site that are forecast to experience a relatively greater percentage of project-related vehicular turning movements (e.g., at freeway ramp intersections).

The locations selected for analysis were based on the above criteria, the forecast Avalon Mixed-Use project net new peak hour vehicle trip generation, anticipated distribution of project vehicular trips, and the existing nearby intersection and corridor operations. The ten intersections below provide local access to the study area and define the extent of the boundaries for this traffic impact analysis.

1. Main Street/Carson Street
2. Avalon Boulevard/Dominguez Street
3. Avalon Boulevard/I-405 Freeway Northbound Ramps
4. Avalon Boulevard/I-405 Freeway Southbound Ramps
5. Avalon Boulevard/213th Street
6. Avalon Boulevard/Carson Street
7. Avalon Boulevard/223rd Street
8. Civic Plaza Drive-Bonita Street/Carson Street
9. I-405 Freeway Southbound Ramps/Carson Street
10. I-405 Freeway Northbound Ramps-Recreation Road/Carson Street

The intersection Volume-to-Capacity ratio and Level of Service calculations for the study intersections were used to evaluate the potential traffic-related impacts associated with area growth, cumulative development projects and the proposed project. It should be noted that additional intersections in the project vicinity were not selected for analysis because they do not satisfy the aforementioned criteria and, as such, they are not anticipated to experience significant impacts due to project-generated traffic volumes.

2.0 PROJECT DESCRIPTION

2.1 Site Location

The proposed Avalon Mixed-Use project is located in the City of Carson, California. The project is situated at 21601 Avalon Boulevard at the northwest corner of the Avalon Boulevard/Carson Street intersection. The project site location and general vicinity are shown in *Figure 1-1*.

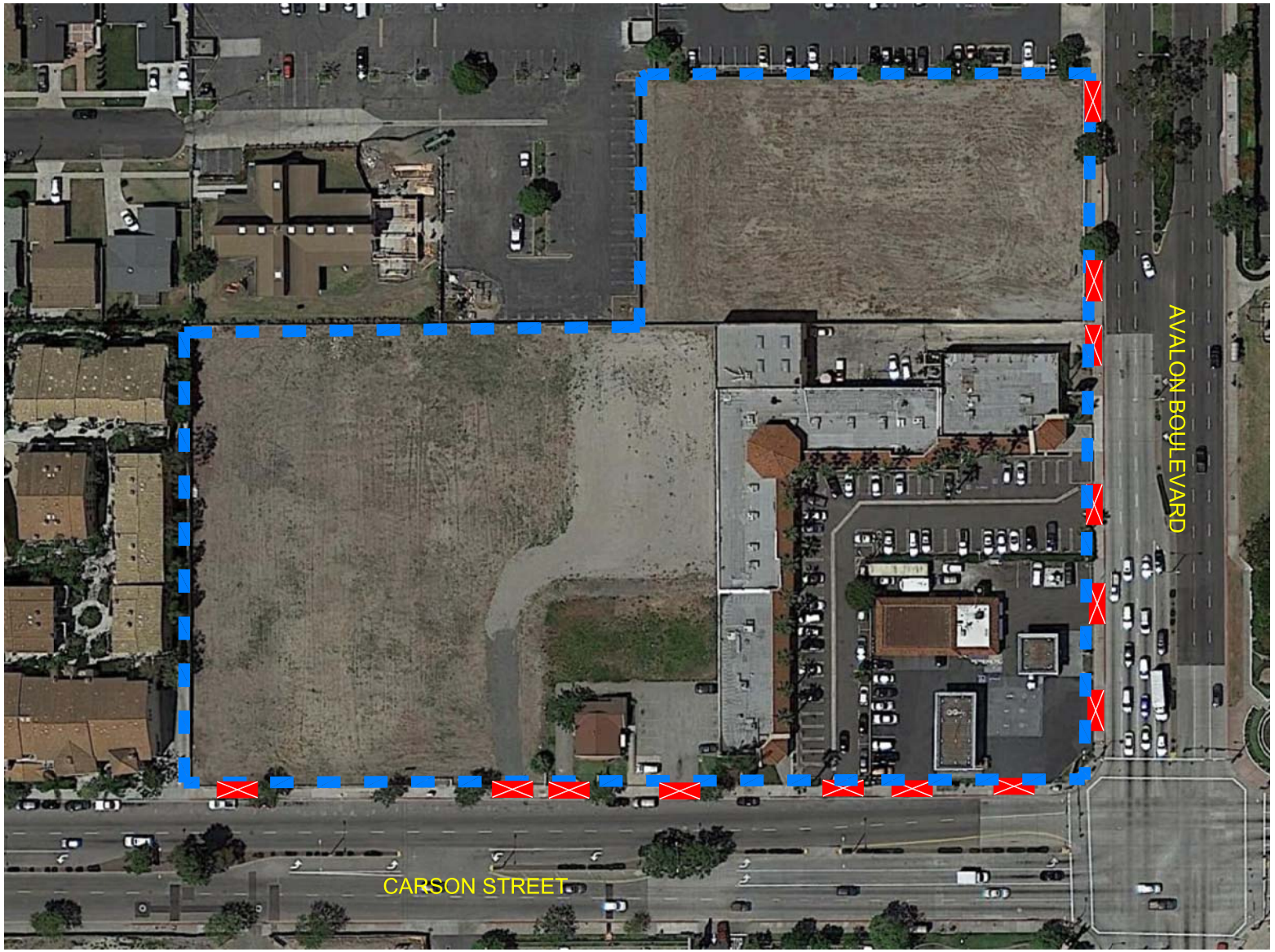
2.2 Existing Project Site

The existing project site comprises approximately 5.5 acres and is currently occupied by a gas station with an automobile repair shop and a snack shop, a commercial strip center, a small stand-alone dental/office building, as well as other vacant parcels. The gas station has a total of eight vehicle fueling positions. The commercial strip center includes a total of approximately 22,595 square feet of building floor area and the dental/office building comprises 1,072 square feet. Vehicular access to the site is currently provided via multiple driveways and curb cuts on Avalon Boulevard (i.e., a total of six curb cuts) and Carson Street (i.e., a total of seven curb cuts). While some of the existing driveways are limited to right-turn ingress and right-turn egress movements, those driveways/curb cuts providing access to the vacant parcels are currently gated. An aerial photograph of the existing project site is presented in ***Figure 2-1***.

2.3 Proposed Project Description

The proposed project consists of the demolition of all existing uses on-site and the construction of a new mixed-use project including residential and commercial uses in two separate structures. At buildout, a total of 357 residential apartment dwelling units (consisting of 117 studio apartments, 158 one-bedroom apartments, and 82 two or more-bedroom apartments) and 32,000 square feet of commercial building floor area will be provided. Based on information provided by the project Applicant, the exact nature of the proposed commercial tenancy cannot be determined at this time. As such, and in order to provide a conservative analysis of potential project-related traffic impacts while at the same time allowing for future development flexibility, the following retail and restaurant development program/land use mix has been assumed: a supermarket with 15,000 square feet of gross floor area, a pharmacy/drug store with 8,000 square feet of gross floor area, general retail use of 4,000 square feet of gross floor area, and a high-turnover (sit-down) restaurant with 5,000 square feet of gross floor area.

A five-story podium building is planned to be located in the eastern portion of the site near the Avalon Boulevard/Carson Street intersection while a four-story wrap building fronting Carson Street is planned to be located in the western portion of the site. The podium building will include one level of subterranean parking, two above ground parking levels, ground floor retail and restaurant uses, and 221 apartment dwelling units. The wrap building will include 136 apartment dwelling units within four stories wrapped around a residential parking garage. Completion and occupancy of the proposed project is anticipated in year 2017. The proposed project site plan for the Avalon Mixed-Use project is illustrated in ***Figure 2-2***.



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MAP SOURCE: GOOGLE EARTH

PROJECT SITE

EXISTING DRIVEWAY/
CURB CUT

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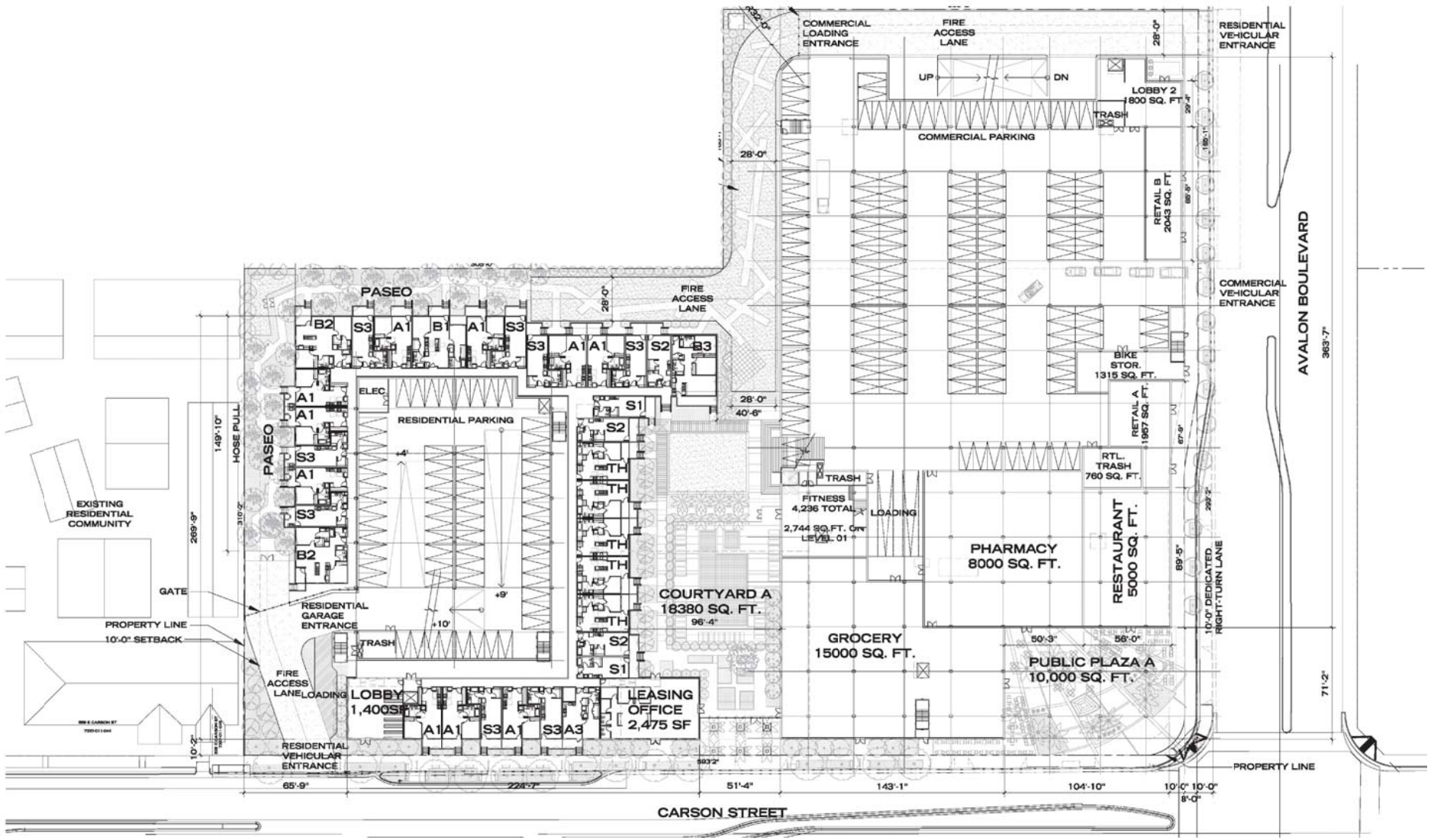
FIGURE 2-1
AERIAL PHOTOGRAPH OF EXISTING PROJECT SITE

THE AVALON MIXED-USE PROJECT



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SOURCE: FARING CAPITAL

FIGURE 2-2
PROJECT SITE PLAN

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THE AVALON MIXED-USE PROJECT

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Vehicular access to and from the site is planned to be provided via one driveway along Carson Street and two driveways along Avalon Boulevard. Truck/delivery vehicle access to and from the commercial loading/unloading areas will be provided via the northerly Avalon Boulevard driveway. Further discussion of the proposed project site access and circulation scheme is provided in Section 3.0.

2.4 Proposed Project Parking

The following sections summarize the parking demand analysis associated with the proposed Avalon Mixed-Use project. The analysis is used as a basis so that a determination can be made as to the adequacy of the future planned parking supply to meet the anticipated peak site-wide parking demand following development and full occupancy of the proposed Avalon Mixed-Use project.

2.4.1 *Proposed Parking Supply*

Based on information provided by the project applicant team, a total of 749 parking spaces is planned to be provided to accommodate the proposed Avalon Mixed-Use project. This will include a total of 609 parking spaces for the residential component, 90 parking spaces for the retail component, and 50 parking spaces for the restaurant component. As outlined in the following section, City Code typically requires that two (2.0) parking spaces be provided for each multi-family residential unit with one or more bedrooms. The residential parking ratio being requested for approval by the City consists of the provision of one and a half (1.5) parking spaces for each multi-family residential unit with one bedroom. The remaining project land use components, including the proposed residential studio units, two or more bedroom units, residential guest parking, as well as the retail and restaurant uses, are expected to provide adequate parking to meet the Municipal Code parking requirements.

2.4.2 *City of Carson Code Parking Requirements*

The City of Carson Municipal Code off-street parking requirements are set forth in Section 9162.21 (Parking Spaces Required) of the Municipal Code. In accordance with the Municipal Code parking regulations, the following parking requirements have been identified for the project site:

- Multi-Family Residential within a Mixed-Use (MU) District:
  – One covered space for every studio unit,
  – Two covered spaces for each unit with one or more bedrooms;
  – One guest space for every four units
- Retail: One space for each 300 square feet of gross floor area
- Restaurant: One space for each 100 square feet of gross floor area

Based on direct application of the Municipal Code parking requirements, a total of 827 parking spaces will be required for the project site as summarized below:

- Residential: Studios Units - 117 units x 1.0 space/unit = 117 spaces
  One Bedroom Units – 158 units x 2.0 spaces/unit = 316 spaces
  Two or More Bedroom Units – 82 units x 2.0 spaces/unit = 164 spaces
  Guests – 357 units x 1.0 space/4 units = 90 spaces
- Retail: 27,000 GSF x 1.0 space/300 GSF = 90 spaces
- Restaurant: 5,000 GSF x 1.0 space/100 GSF = 50 spaces

Total City Code Required Project Parking = 827 spaces

Thus, strict application of Municipal Code parking requirements to the project when compared to the proposed project parking supply of 749 spaces would result in a shortfall of 78 spaces. As discussed in the previous section, the proposed project's retail and restaurant components will provide sufficient parking to meet the Municipal Code parking requirements. Therefore, the following sections appropriately focus on parking demand associated with the project's residential component only.

Based on the nature of the unit type mix, reviews of other parking standards established by other agencies in surrounding communities and parking demand characteristics at other apartment complexes similar to the proposed Avalon Mixed-Use project, it can be expected that the residential parking demand would be lower for the project than what is currently required by strict application of the City Code. The following sections provide a summary of these reviews.

2.4.3 *Comparison of Industry Standard Parking Ratios*

In addition to reviewing Code parking requirements, the average peak parking demand for multi-family residential uses are often estimated using parking ratios contained in the ITE *Parking Generation*[2] publication. When utilizing the ITE publication, the parking demand for the residential (apartment) component of the proposed Avalon Mixed-Use project can be calculated based upon ratios per dwelling unit. More specifically, the ITE Land Use Code 221 (Low/Mid-Rise Apartment) average peak parking demand ratio was used to forecast the peak parking demand expected for the proposed residential component. It is noted that the ITE low/mid-rise apartment database consisted of a mix of urban and suburban sites throughout the United States. The parking demand ratios for urban and suburban sites, which reflect both resident parking demand and guest parking demand, are summarized below:

- Average peak period parking demand ratio (Urban): 1.20 spaces per dwelling unit (40 study sites, inclusive of resident and guest parking demand)
- Average peak period parking demand ratio (Suburban): 1.23 spaces per dwelling unit (21 study sites, inclusive of resident and guest parking demand)

[2] *Parking Generation*, Institute of Transportation Engineers, 4th Edition, Washington D.C., 2010.

The ITE Land Use Code 221 average peak period parking demand ratio for low/mid-rise apartments is therefore either 1.20 or 1.23 spaces per dwelling unit depending on the location of the site. Application of the ITE published parking demand ratio for an urban location to the proposed 357-unit apartment project would yield an average peak residential parking demand of only 428 spaces (i.e., 1.20 spaces/du x 357 du = 428 parking spaces) for the residential component of the project.

The Urban Land Institute (ULI) also has published parking ratios for various land uses as summarized in their *Shared Parking*[3] manual. For residential (rental) units similar to the Avalon Mixed-Use project, the ULI publication cites the following recommended base parking ratio:

- Base parking demand ratio: 1.65 spaces per dwelling unit (including resident and visitor parking demand)

Application of the ULI published parking ratio to the proposed 357-unit apartment project would yield an average peak residential parking demand of 589 spaces (i.e., 1.65 spaces/du x 357 du = 589 parking spaces). While the ULI residential (rental) parking ratio is higher than the ITE publication (i.e., higher than 1.20 spaces per dwelling unit), it is still significantly lower than the City's Code parking requirement.

2.4.4 *Empirical Parking Demand Studies of Existing Multi-Family Residential Sites*

This section summarizes other site-specific apartment parking surveys that have been conducted by LLG Engineers. Empirical parking demand studies of existing multi-family residential sites that are similar in nature to the proposed project have been conducted. The purpose for these studies was to determine existing parking demand ratios for other multi-family residential sites that are similar in nature to the proposed project and to compare the parking demand using the derived empirical parking ratios to that calculated simply through strict application of the City Code.

The existing sites chosen for the empirical parking demand study were based on the following factors:

- Site Location: The existing facilities are located near a major arterial, have both dedicated and guest parking, and are located in transit rich areas.
- Demographics: Local community population and economic conditions similar to the City of Carson.
- Facility Amenities: The existing facilities provide similar types of amenities (e.g., swimming pool, club house, fitness center, etc.) as those planned for the proposed project.

A list of three comparable sites was identified. These sites were previously independently reviewed by LLG Engineers and were determined to be comparable to the proposed Avalon Mixed-Use project in terms of its relative unit size, unit mix, facility amenities, vicinity, and target population.

Each site was reviewed to document general on-site and on-street parking conditions, existing site development, current occupancy and other pertinent information. The following three multi-family residential sites were identified for inclusion in the parking demand analysis:

- Paragon at Old Town located at 700 S. Myrtle Avenue, Monrovia (163 units)
- Trio Apartments located at 44 N. Madison Avenue, Pasadena (304 units)
- Main Street Village located at 2555 Main Street, Irvine (481 units)

The site representatives also provided characteristics associated with each individual property, including the number and type of residential units, current occupancy data, property management information, parking control details, etc. Secured parking is provided on-site for the residents at each property.

Parking accumulation surveys were conducted at the three sites to document on-site parking demand. These surveys were conducted by a traffic count subconsultant (The Traffic Solution) in hourly time increments from 10:00 PM to 12:00 AM midnight for two consecutive mid-week days in September 2012 for the Main Street Village and Trio Apartments sites. For the Paragon at Old Town site, the parking accumulation surveys and license plate surveys were conducted in hourly time increments from 6:00 PM to 12:00 AM midnight in order to capture and include on-street and on-site parking demand by the residents and guests. It should be noted that for the Paragon site, vehicles that were parked on-street for more than three consecutive hours in the project vicinity and were not observed to patronize other nearby establishments in the area were assumed to be Paragon-related residents/guests. The on-street parking counts included observations along the north and south sides of Olive Avenue and Walnut Avenue, as well as the east and west sides of Myrtle Avenue along the property frontage. In addition, the parking counts also included vehicles parked in the visitor/guest spaces on the first level of the Paragon parking structure, which was signed for public parking. This ensured a conservative analysis of parking demand.

The survey days and time periods were selected based on a review of parking characteristics so as to capture the peak on-site parking usage periods. During the late evening time periods, most, if not all residents would be expected to occupy their units. Based on information provided by the site property managers, the three sites were near full occupancy with occupancy rates ranging between 94 to 96 percent at the time of the parking observations. The observed parking demand ratios at each site were then adjusted upward so as to reflect full (100%) occupancy. When accounting for full occupancy of all units, the peak parking demand ratios for these facilities ranged between 1.22 spaces per unit (i.e., Trio Apartments) to 1.48 spaces per unit (i.e., Paragon at Old Town). In addition, the average of the derived peak parking ratios for the three surveyed sites (accounting for 100% occupancy) was 1.36 spaces per unit.

[3] *Shared Parking*, Urban Land Institute, 2nd Edition, 2005.

2.4.5 *Forecast Residential Peak Parking Demand*

As described above, based on the empirical surveys conducted at the three comparable sites, the highest peak parking demand ratio was determined to be 1.48 spaces per unit at the Paragon at Old Town development (adjusted upwards to account for full occupancy). As discussed previously, this empirical parking demand ratio accounts for the parking demand of the residents as well as other visitors or guests who utilize the public parking on the first level of the parking structure. Application of this peak parking demand ratio is appropriate as it results in the most conservative analysis based on the empirical site-specific survey data. Application of this peak parking demand ratio to the proposed 357-unit residential apartment project component yields a forecast peak parking demand of 528 spaces (i.e., [357 × 1.48 = 528 parking spaces]).

Based on a comparison of the proposed residential parking supply of 609 spaces and the forecast peak weekday residential parking demand of 528 spaces, it is determined that the parking supply is expected to be more than sufficient to meet the projected peak parking demand. This would likely result in a parking surplus of 81 spaces during the peak weekday evening conditions. It should be noted that during other time periods of the day and other days of the week, a greater parking surplus (i.e., more than 81 spaces) is expected for the proposed residential project component.

3.0 SITE ACCESS AND CIRCULATION

The site access scheme for the proposed Avalon Mixed-Use project is displayed in *Figure 2-2*. Vehicular access to the existing site is currently provided via multiple driveways on Avalon Boulevard and Carson Street (i.e., a total of six curb cuts on Avalon Boulevard and a total of seven curb cuts on Carson Street). As part of the proposed project, the existing driveways will be consolidated to provide a total of two project driveways on Avalon Boulevard and one project driveway on Carson Street. All project site driveways would be constructed to City of Carson design standards. A brief description of the proposed project site access scheme to serve the project site access are provided in the following paragraphs.

- *Avalon Boulevard Northerly Site Driveway:*

  The Avalon Boulevard northerly site driveway is located along the west side of Avalon Boulevard at the northeast corner of the project site. The Avalon Boulevard northerly site driveway will provide one inbound lane and one outbound lane with the exiting driveway traffic controlled by a stop sign at the driveway. Due to the existing raised median island on Avalon Boulevard in proximity of the northerly site driveway, this driveway will be restricted to right-turn ingress and egress turning movements only. The Avalon Boulevard northerly site driveway will provide direct access to/from the parking areas for the podium building's residents and visitors. In addition, this driveway is proposed to facilitate truck/delivery vehicle access to the commercial loading area. It should be noted that this project driveway will also be designed to include a fire access lane (with gate) in order to accommodate fire trucks and emergency vehicles.

- *Avalon Boulevard Southerly Site Driveway:*

  The Avalon Boulevard southerly site driveway is situated along the west side of Avalon Boulevard in proximity of the existing raised median break. The Avalon Boulevard southerly site driveway will provide one inbound lane and one outbound lane with the exiting driveway traffic controlled by a stop sign at the driveway. This site driveway is planned to accommodate full access (i.e., right-turn and left-turn ingress and egress turning movements) with the northbound left-turn inbound movement made via the existing northbound left-turn lane/pocket provided on Avalon Boulevard. The Avalon Boulevard southerly site driveway will provide direct access to/from the parking areas for the commercial component of the project.

- *Carson Street Site Driveway:*

  The Carson Street site driveway is located along the north side of Carson Street, directly opposite Via Verde, at the southwest corner of the project site. It is noted that the Carson Street site driveway essentially forms the north leg of the Carson Street/Via Verde intersection. As such, the Carson Street site driveway will be integrated into the Carson Street/Via Verde traffic signal operations and is planned to accommodate full access (i.e., right-turn and left-turn ingress and egress turning movements). The Carson Street site

driveway will provide one inbound lane and one outbound lane and the exiting traffic flow will be controlled by the traffic signal. The Carson Street site driveway will provide direct access to/from the parking areas for the wrap building's residents and visitors. It should be noted that this project driveway will also be designed to include a fire access lane (with gate) in order to accommodate fire trucks and emergency vehicles.

In addition to the above site access scheme, the project Applicant will be required to dedicate the Avalon Boulevard project frontage (south of the proposed southerly driveway) by ten feet in order to accommodate an exclusive southbound right-turn only lane at the Avalon Boulevard/Carson Street intersection (to be widened and constructed by others/the City in the future). Based on information provided by the City, the existing cross-section for Avalon Boulevard north of Carson Street is an 84-foot roadway (curb to curb) on a 100-foot right-of-way (or a 42-foot half roadway on a 50-foot half right-of-way as measured from the roadway centerline). With the project dedication and future widening to be completed by others, the overall roadway width for Avalon Boulevard north of Carson Street will be improved to 94 feet. This improvement will increase vehicular capacities at this key intersection and is anticipated to result in overall better operating conditions.

4.0 EXISTING STREET SYSTEM

4.1 Regional Highway System

Regional access to the project area is provided by the San Diego Freeway (I-405) and the Harbor Freeway (I-110) as shown in *Figure 1-1*. A brief description of the I-405 and I-110 are provided in the following paragraphs.

I-405 (San Diego) Freeway is a major north-south oriented freeway that extends from the San Fernando area to the north and the San Diego area to the south. To the north, the I-405 Freeway provides access to the Westside communities and the San Fernando Valley. To the south, the I-405 Freeway provides access to Orange County. In the project area, I-405 Freeway generally contains five mainline freeway lanes (four mixed flow lanes and one carpool lane) in each direction. In the project vicinity, on/off-ramps are provided at Avalon Boulevard and Carson Street.

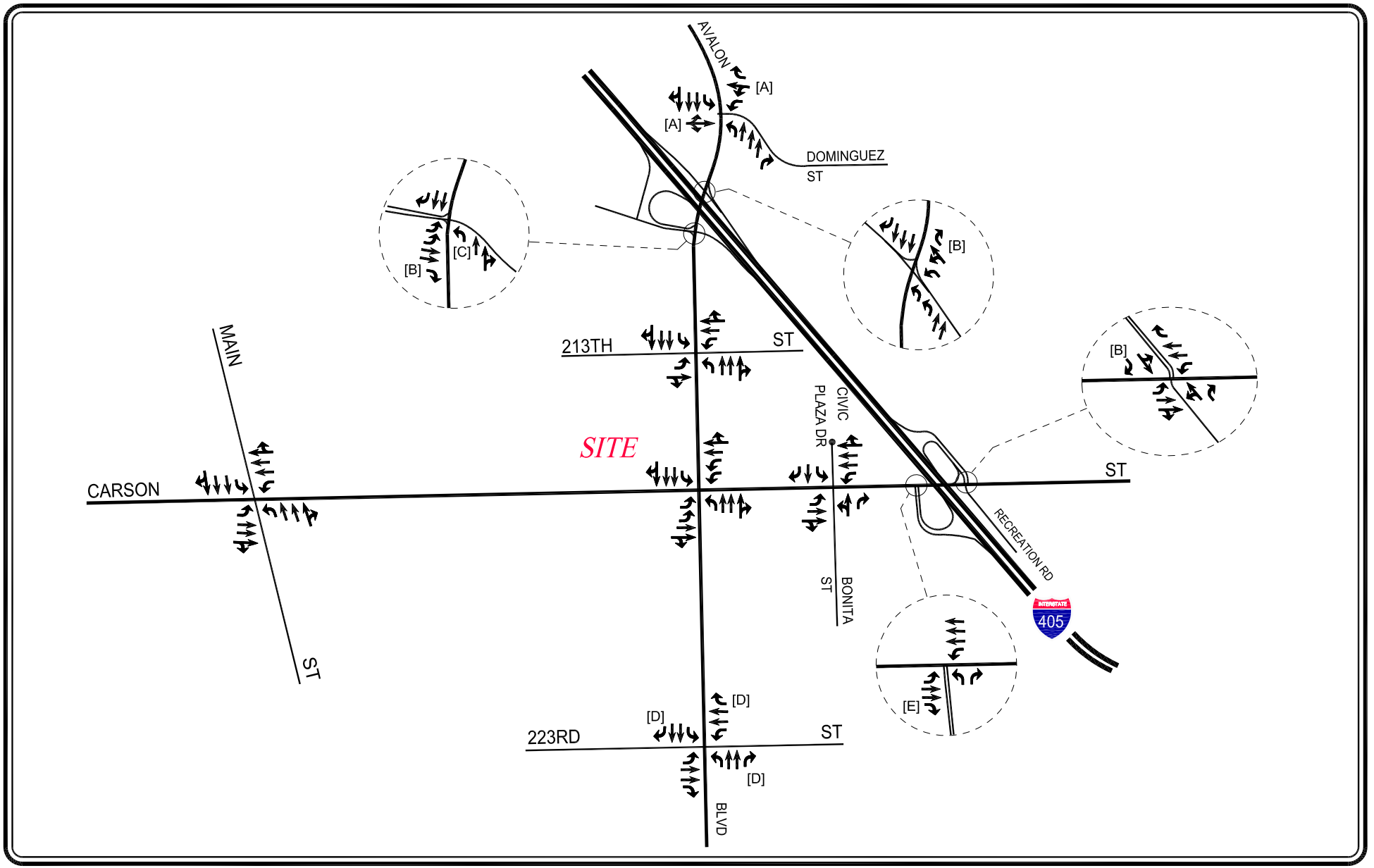
I-110 (Harbor) Freeway is a major north-south oriented freeway that provides connections between the harbor area to the south and Downtown Los Angeles to the north. In the project area, I-110 Freeway contains four mainline freeway lanes in each direction. In the project vicinity, on/off-ramps are provided at Carson Street, Figueroa Street, and 223rd Street.

4.2 Local Street System

Immediate access to the project site is provided via Avalon Boulevard and Carson Street. The following study intersections were selected for analysis in consultation with the City of Carson staff in order to determine potential impacts related to the proposed project:

1. Main Street/Carson Street
2. Avalon Boulevard/Dominguez Street
3. Avalon Boulevard/I-405 Freeway Northbound Ramps
4. Avalon Boulevard/I-405 Freeway Southbound Ramps
5. Avalon Boulevard/213th Street
6. Avalon Boulevard/Carson Street
7. Avalon Boulevard/223rd Street
8. Civic Plaza Drive-Bonita Street/Carson Street
9. I-405 Freeway Southbound Ramps/Carson Street
10. I-405 Freeway Northbound Ramps-Recreation Road/Carson Street

All of the study intersections selected for analysis are currently controlled by traffic signals. The existing lane configurations at the ten study intersections are displayed in ***Figure 4-1***.



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NOTES:
[A] SPLIT PHASE
[B] FREE-FLOW MOVEMENT
[C] LANE CLOSED FOR CONSTRUCTION
[D] FUNCTIONAL RIGHT-TURN ONLY LANE
[E] OVERLAP PHASE

FIGURE 4-1
EXISTING LANE CONFIGURATIONS

LINSCOTT, LAW & GREENSPAN, engineers

THE AVALON MIXED-USE PROJECT

4.3 Roadway Classifications and Descriptions

The City of Carson utilizes similar roadway categories recognized by regional, state and federal transportation agencies. There are four general categories in the roadway hierarchy, ranging from freeways with the highest capacity to two-lane undivided roadways with the lowest capacity. The roadway categories are summarized as follows:

- *Freeways* are limited-access and high speed travel ways included in the state and federal highway systems. Their purpose is to carry regional through-traffic. Access is provided by interchanges with typical spacing of one mile or greater. No local access is provided to adjacent land uses.

- *Arterial* roadways are major streets that primarily serve through-traffic and provide access to abutting properties as a secondary function. Arterials are generally designed with two to six travel lanes and their major intersections are signalized. This roadway type is divided into two categories: principal and minor arterials. Principal arterials are typically four-or-more lane roadways and serve both local and regional through-traffic. Minor arterials are typically two-to-four lane streets that service local and commuter traffic.

- *Collector* roadways are streets that provide access and traffic circulation within residential and non-residential (e.g., commercial and industrial) areas. Collector roadways connect local streets to arterials and are typically designed with two through travel lanes (i.e., one through travel lane in each direction) that may accommodate on-street parking. They may also provide access to abutting properties.

- *Local* roadways distribute traffic within a neighborhood, or similar adjacent neighborhoods, and are not intended for use as a through-street or a link between higher capacity facilities such as collector or arterial roadways. Local streets are fronted by residential uses and do not typically serve commercial uses.

The project study area is served by an extensive network of roadways as shown in *Figure 1-1*. The primary north-south oriented roadways serving the project area include Avalon Boulevard and Main Street. The primary east-west roadways serving the project area include 213th Street, Carson Street, and 223rd Street. The roadway characteristics, including the General Plan street classification, number of travel lanes, roadway widths and right-of-way dimensions of the key roadways serving the project study area are summarized in ***Table 4-1***.

4.4 Existing Public Bus Transit Service

Public bus transit service within the project study area is currently provided by the Los Angeles County Metropolitan Transportation Authority (Metro), the Carson Circuit Transit System, and Torrance Transit. Existing bus stops are conveniently located at the following locations immediately adjacent to the project site:

- A northbound far-side bus stop along the east side of Avalon Boulevard, north of Carson Street

Table 4-1
EXISTING STREET CLASSIFICATIONS AND CHARACTERISTICS [1]

Street	Segment		Classification	Number of Lanes Per Dir.	Right of Way Width (feet)	Roadway Width (feet)
	From	To				
213th Street	Main St.	Avalon Blvd.	Collector	1	50-60	24-40
213th Street	Avalon Blvd.	I-405 Freeway	Secondary Highway	1	50-70	24-30
213th Street	I-405 Freeway	Wilmington Ave.	Collector	1	50-60	40
223rd Street	West City Limit	East City Limit	Major Highway	2	42-116	28-84
Avalon Boulevard	South City Limits	Alondra Blvd.	Major Highway	2	47-150	28-130
Bonita Street	Watson Center Rd.	Carson St.	Collector	1	57-80	35-60
Carson Street	West City Limit	Santa Fe Ave.	Major Highway	2	83-100	44-86
Dominguez Street	Wilmington Ave.	Santa Fe Ave.	Collector	1, 2	66-84	30-68
Main Street	Lomita Blvd.	Alondra Blvd.	Major Highway	2	80-100	40-84

[1] Source: Carson General Plan Transportation and Infrastructure Element, adopted October 11, 2004.

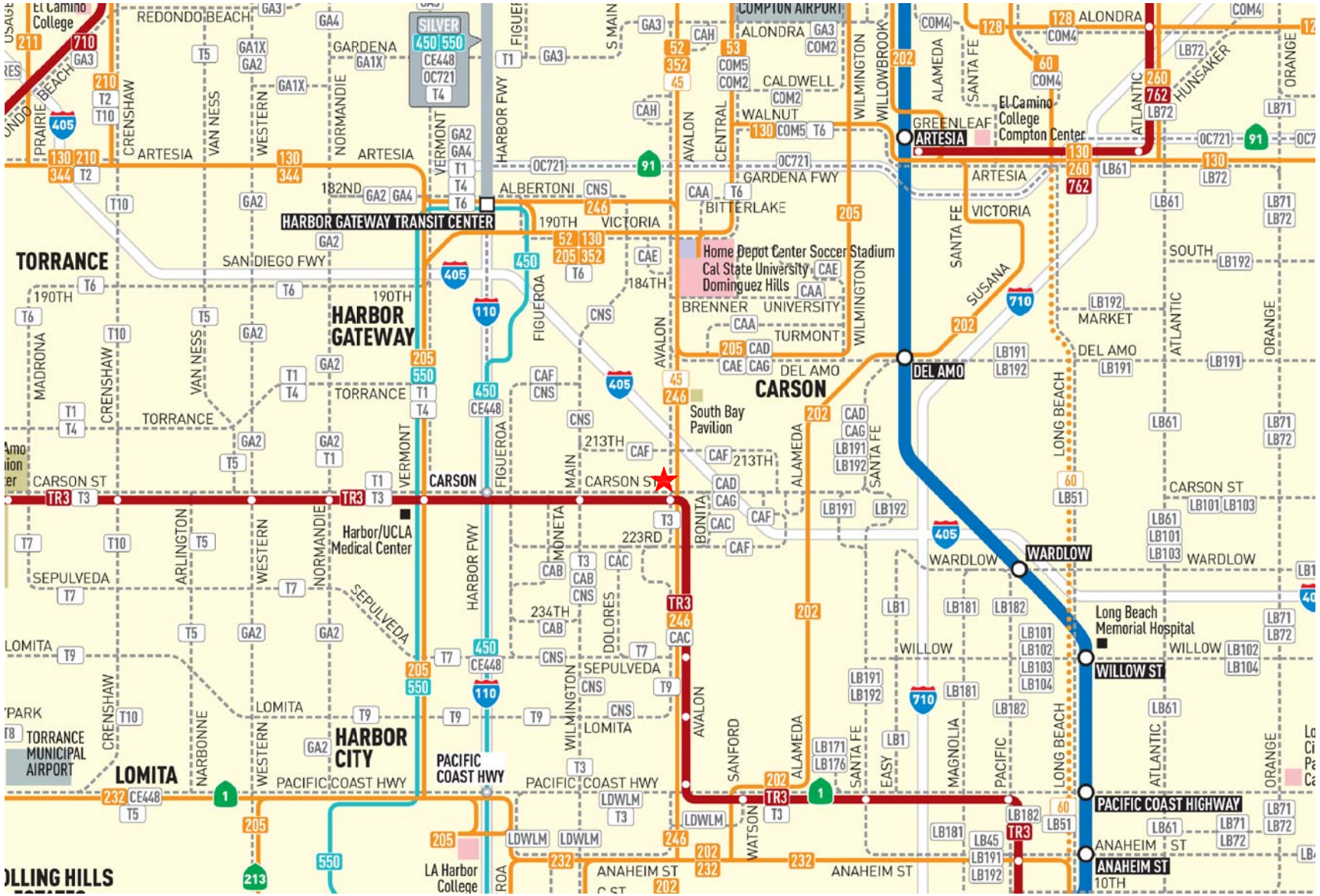
- A southbound far-side bus stop along the west side of Avalon Boulevard, south of Carson Street
- An eastbound near-side bus stop along the south side of Carson Street, west of Avalon Boulevard
- A westbound far-side bus stop along the north side of Carson Street, west of Avalon Boulevard

A summary of the existing transit services, including the transit routes, destinations and number of buses during the weekday AM and PM peak hours is presented in ***Table 4-2***. The existing public transit routes in the proposed project site vicinity are illustrated in ***Figure 4-2***.

Table 4-2
EXISTING TRANSIT ROUTES [1]

ROUTE	DESTINATIONS	ROADWAY(S) NEAR SITE	NO. OF BUSES/TRAINS DURING PEAK HOUR		
			DIR	AM	PM
Metro 246	San Pedro to Los Angeles via Wilmington, Carson	Avalon Boulevard, 213th Street, Carson Street, 223rd Street	NB SB	3 2	3 2
C.C. Route B (Keystone)	South Bay Pavilion to Carson High School via Carson Civic Center, Carson & Main	Avalon Boulevard, 213th Street, Carson Street, Main Street	NB SB	2 2	2 2
C.C. Route C (Scottsdale)	South Bay Pavilion to Carson High School via Carson Center	Avalon Boulevard, 213th Street, Carson Street, 223rd Street, Bonita Street, Civic Plaza Road	NB SB	2 0	2 0
C.C. Route D & G (Metro Blue Line)	South Bay Pavilion to Carson Civic Center via Rancho Dominguez Preparatory School	Avalon Boulevard, 213th Street, Carson Street, Bonita Street, Civic Plaza Road	EB WB	2 2	2 2
C.C. Route F (Business Center South)	South Bay Pavilion to Carson Civic Center via Harbor Hospital, Alpine Village, Carson Town Center	Avalon Boulevard, 213th Street, 223rd Street, Main Street	NB SB	0 2	0 2
T.T. Route 3	Redondo Beach - Del Amo Mall - Downtown Torrance - Downtown Long Beach via Carson, Main, PCH	Main Street, Carson Street, Avalon Boulevard, 223rd Street.	EB WB	3 3	3 3
T.T. Rapid 3	Redondo Beach - Del Amo Mall - Downtown Torrance - Downtown Long Beach via Carson, Main, PCH	Main Street, Carson Street, Avalon Boulevard, 223rd Street.	EB WB	2 5	2 3
			Total	30	28

[1] Sources: Los Angeles County Metropolitan Transportation Authority (Metro), City of Carson Circuit Transit System (C.C.), and City of Torrance Transit (T.T.) websites, 2014.



MAP SOURCE: METROPOLITAN TRANSPORTATION AUTHORITY (METRO) WEBSITE

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★ PROJECT SITE

FIGURE 4-2
EXISTING PUBLIC TRANSIT ROUTES

LINSCOTT, LAW & GREENSPAN, engineers

THE AVALON MIXED-USE PROJECT

5.0 TRAFFIC COUNTS

Existing manual counts of vehicular turning movements were conducted in November 2014 at each of the ten study intersections during the weekday morning (AM) and afternoon (PM) commute periods to determine the peak hour traffic volumes. The manual counts were conducted by a traffic count subconsultant, City Traffic Counters, from 7:00 AM to 9:00 AM to determine the weekday AM peak commute hour and from 4:00 PM to 6:00 PM to determine the weekday PM peak commute hour. In conjunction with the manual turning movement vehicle counts, a count of bicycle and pedestrian volumes were collected during the peak periods. It is noted that all of the traffic counts were conducted when local schools were in session. Traffic volumes at the study intersections show the morning and afternoon peak periods typically associated with peak commute hours in the metropolitan area.

It should be noted that an ongoing (nighttime only) roadway construction project along Avalon Boulevard between the hours of 8:00 PM and 5:00 AM occurred during the weekday traffic count data collection efforts. As a result, an extensive review of other available intersection count data provided by City staff was conducted. Based on consultation with the City, a detailed comparison between all available weekday peak hour traffic counts was performed for each study intersection. The recent traffic counts were then appropriately adjusted upward so as to establish a "reasonably worst-case" existing baseline traffic condition.

The existing weekday AM and PM commute peak hour manual counts of turning vehicles at the study intersections are summarized in ***Table 5-1***. The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are also shown in ***Figures 5-1*** and ***5-2***, respectively. For each study intersection, the highest one-hour total traffic volumes (i.e., four consecutive 15-minute time intervals) traversing through the intersection during the 7:00 to 9:00 AM and 4:00 to 6:00 PM time periods were selected so as to determine the respective weekday AM and PM peak hour traffic volumes for each study intersection. For purposes of the traffic impact analysis, this common traffic engineering practice ensures that a more conservative (i.e., worst case) assessment of existing operating conditions be attained for each study intersection. Therefore, the traffic volumes shown in *Figures 5-1* and *5-2* for the study intersections do not necessarily reflect the same exact one hour time period during the morning and/or afternoon peak commuter conditions (i.e., one intersection's peak hour may have occurred between 7:15 and 8:15 AM, while another intersection's peak hour may have occurred between 7:30 and 8:30 AM). Summary data worksheets of the manual traffic, pedestrian and bicycle counts of the study intersections are contained in ***Appendix A***.

Table 5-1
EXISTING TRAFFIC VOLUMES [1]

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME	BEGAN	VOLUME
1	Main Street/ Carson Street	11/06/2014	NB SB EB WB	7:15	1,096 784 892 1,193	4:30	759 1,188 1,295 977
2	Avalon Boulevard/ Dominguez Street	11/05/2014	NB SB EB WB	7:30	1,682 823 26 337	4:45	1,453 1,495 21 702
3	Avalon Boulevard/ I-405 Freeway NB Ramps	11/05/2014	NB SB EB WB	7:30	1,619 1,020 0 490	4:45	1,443 1,942 0 428
4	Avalon Boulevard/ I-405 Freeway SB Ramps	11/05/2014	NB SB EB WB	7:30	1,163 809 909 0	4:45	1,263 1,483 787 0
5	Avalon Boulevard/ 213th Street	11/05/2014	NB SB EB WB	7:30	1,132 953 361 248	4:45	1,065 1,526 507 338
6	Avalon Boulevard/ Carson Street	11/06/2014	NB SB EB WB	7:15	1,164 840 852 1,360	4:15	1,157 1,253 1,205 1,184
7	Avalon Boulevard/ 223rd Street	11/05/2014	NB SB EB WB	7:30	989 833 932 934	4:45	957 1,123 1,288 1,133
8	Civic Plaza Drive-Bonita Street/ Carson Street	11/06/2014	NB SB EB WB	7:15	298 184 994 1,432	4:00	337 130 1,241 1,125
9	I-405 Freeway SB Ramps/ Carson Street	11/12/2014	NB SB EB WB	7:15	283 0 1,156 1,420	4:30	144 0 1,487 1,243
10	I-405 Freeway NB Ramps-Recreation Road/ Carson Street	11/12/2014	NB SB EB WB	7:15	6 536 937 1,184	4:30	14 582 976 1,105

[1] Counts conducted by City Traffic Counters

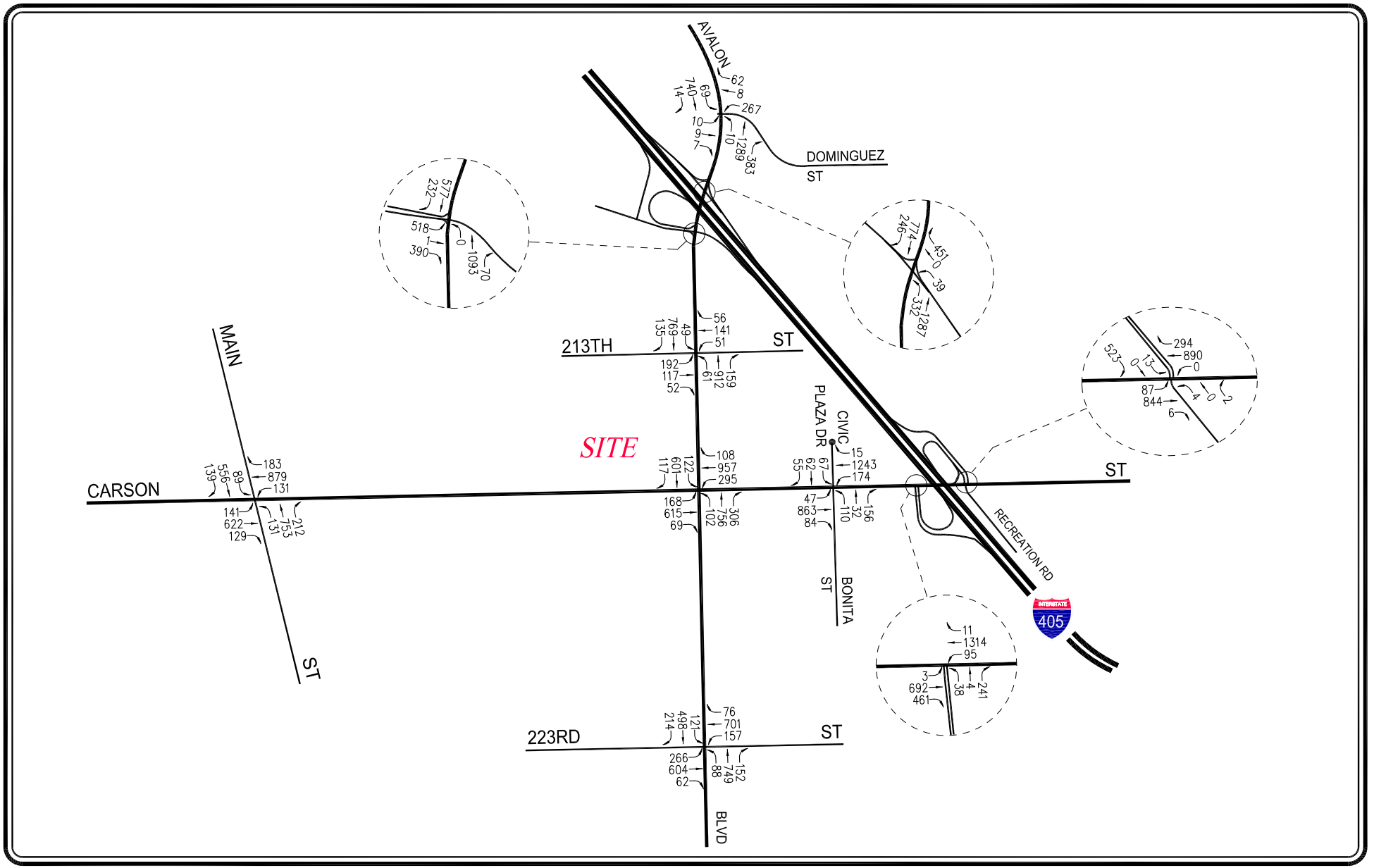

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FIGURE 5-1
EXISTING TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

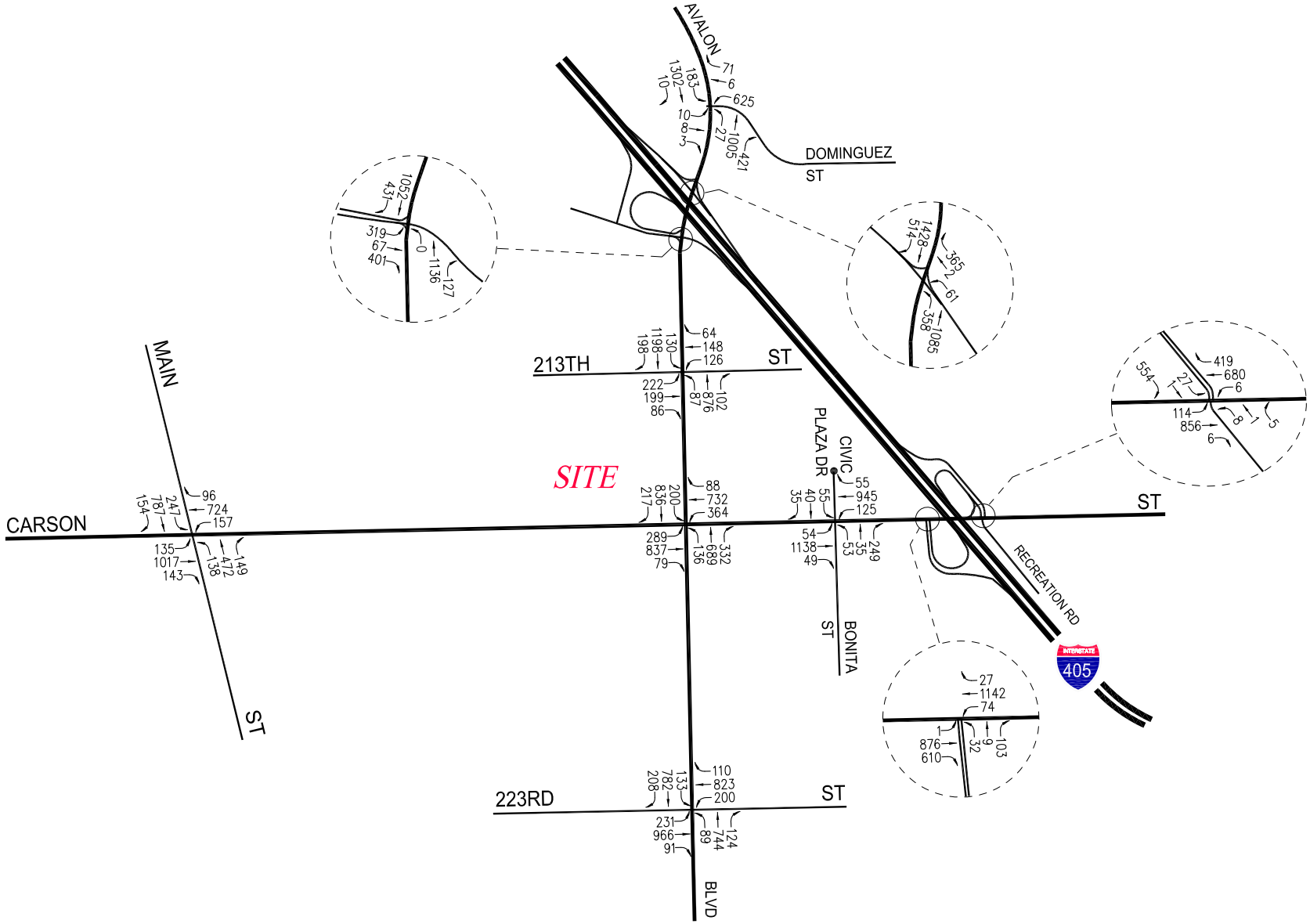

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FIGURE 5-2
EXISTING TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

6.0 CUMULATIVE DEVELOPMENT PROJECTS

The forecast of future pre-project conditions was prepared in accordance to procedures outlined in Section 15130 of the CEQA Guidelines. Specifically, the CEQA Guidelines provide two options for developing the future traffic volume forecast:

> "(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the [lead] agency, or
>
> (B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency."

Accordingly, the traffic analysis provides a highly conservative estimate of future pre-project traffic volumes as it incorporates both the "A" and "B" options outlined in the CEQA Guidelines for purposes of developing the forecast.

6.1 Related Projects

A forecast of on-street traffic conditions prior to occupancy of the proposed project was prepared by incorporating the potential trips associated with other known development projects (related projects) in the area. With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impact of all ongoing development. The related projects research was based on information on file at the City of Carson, City of Los Angeles, and County of Los Angeles Planning Departments. The list of related projects in the project site area is presented in ***Table 6-1***. The locations of the related projects are shown in ***Figure 6-1***.

The related projects list for planning purposes included the Boulevards at South Bay project (formerly the Carson Marketplace project, refer to Related Project No. C19). Based on coordination with the City of Carson, it is highly unlikely that any of the Boulevards at South Bay project would be completed by the proposed project's buildout year of 2017. Therefore, this traffic impact study appropriately evaluates the year 2017 intersection operating conditions without and with the Boulevards at South Bay project and its associated traffic. As requested by the City of Carson, an additional analysis scenario assuming full buildout of the Boulevards at South Bay project has been included for informational purposes (i.e., under the future pre-project conditions). It should be noted that all other related projects as presented in *Table 6-1* are conservatively assumed to be completed by year 2017 conditions.

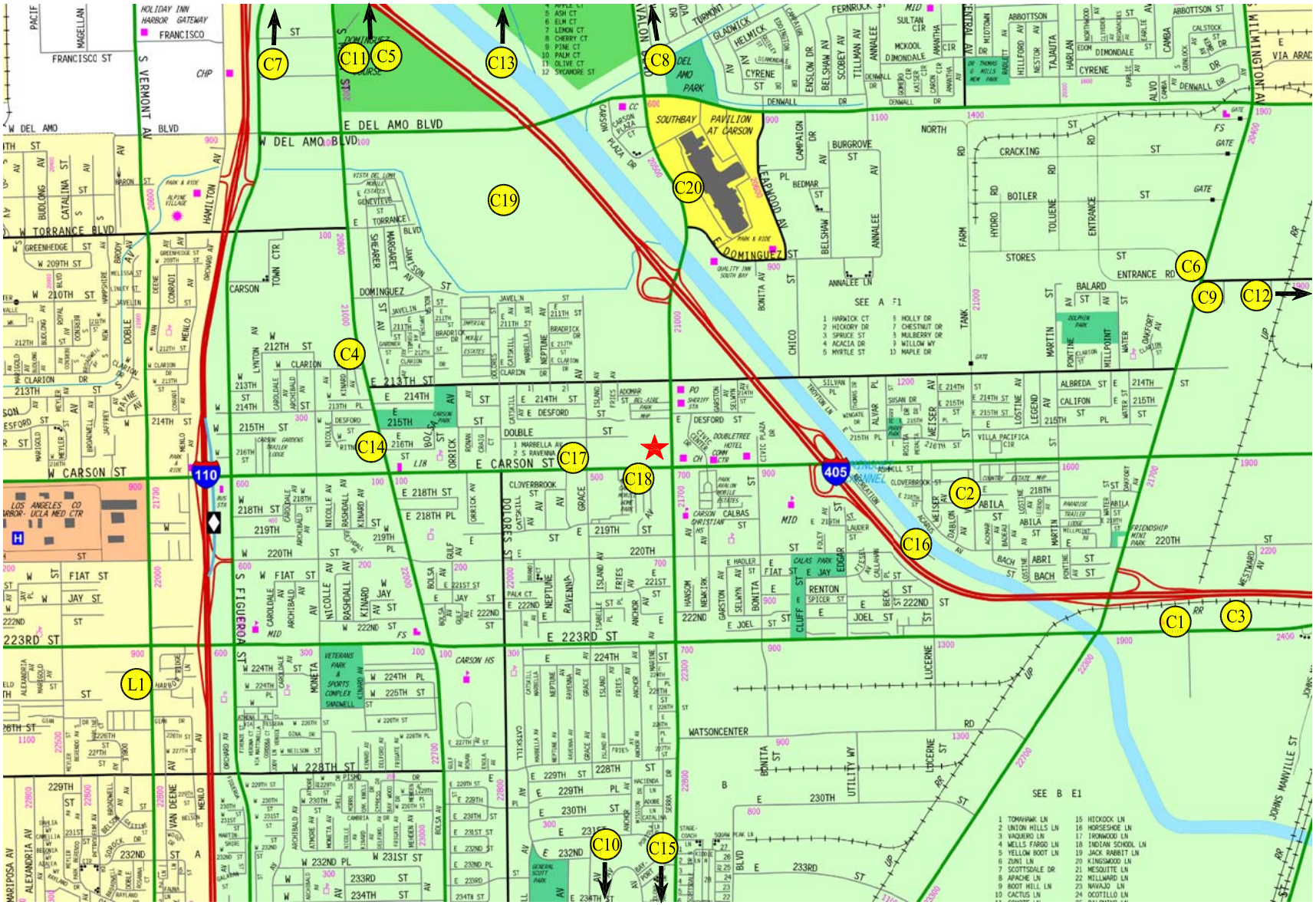
Table 6-1
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
City of Carson												
C1	Under Review	Honda Motorcycle Dealership 2055 E. 223rd Street	Showroom Office Warehouse Storage Area	41,512 GSF	[3]	525	Nom.	Nom.	Nom.	38	67	105
C2	Under Review	21801 S. Vera Street	Single-Family Residential	18 DU	[4]	171	4	10	14	11	7	18
C3	Under Review	2245 E. 223rd Street	Warehouse/Manufacturing	131,754 GSF	[5]	503	75	21	96	35	61	96
C4	Under Review	21205 S. Main Street	Condominium	20 DU	[6]	116	2	7	9	7	3	10
			Warehouse	27,000 GSF	[7]	96	6	2	8	2	7	9
			General Office	12,600 GSF	[8]	139	18	2	20	3	16	19
C5	Under Construction	Porsche Experience Driving Center 19220 S. Main Street	Driving Center Existing Golf Course	65,000 SF (18) Hole	[9]	(559)	78	(7)	71	(51)	31	(20)
C6	Under Review	Shell Carson Revitalization Specific Plan Project Level 20945 S. Wilmington Avenue	Shell Offices Light Industrial Community Retail City Municipal Services Yard	10 Emp. 90,000 GSF 83,000 GLSF 170,000 GSF	[10]	5,039	287	65	352	162	356	518
C7	Approved	18010 S. Figueroa Street	Condominium	8 DU	[6]	46	1	3	4	3	1	4
			Office/Warehouse/Light Manuf.	62,500 GSF	[8]	689	86	12	98	16	77	93
C8	Approved	16100 S. Avalon Boulevard	General Office	7,989 GSF	[8]	88	11	1	12	2	10	12
			Bus Storage	67 Spaces	[11]	455	17	25	42	16	22	38
C9	Approved	21038 S. Wilmington Avenue	General Office	11,547 GSF	[8]	127	16	2	18	3	14	17
			Truck Yard	315 Spaces	[11]	2,139	78	117	195	77	103	180
C10	Approved	440 E. Sepulveda Boulevard	Apartment	11 DU	[12]	73	1	5	6	5	2	7
C11	Approved	19101 S. Broadway	General Office	5,166 GSF	[8]	57	7	1	8	1	7	8
			Truck Yard	81 Spaces	[11]	550	20	30	50	20	26	46
C12	Approved	2666 E. Dominguez Street	Single-Family Residential	13 DU	[4]	124	3	7	10	8	5	13
C13	Approved	Giuliano's Bakery and Delicatessen 320 and 354 Alondra Boulevard	New Food Production Cold Storage Facility	38,468 GSF 31,316 GSF	[7] [7]	137 111	9 7	3 2	12 9	3 3	9 7	12 10
C14	Approved	Seafood City Shopping Center 21607 S. Main Street	Retail/Restaurant	3,675 GLSF	[13]	157	2	2	4	7	7	14
C15	Approved	Plaza Avalon Shopping Center 23401 S. Avalon Boulevard	Retail Restaurant	2,800 GLSF 3,500 GSF	[13] [14]	120 2,506	2 92	1 62	3 154	5 47	5 45	10 92

Table 6-1 (Continued)
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
C16	Built and Occupied	Car Pros Kia of Carson 22020 S. Recreation Road	Dealership	64,784 GSF	[15]	2,093	93	31	124	68	102	170
C17	Under Construction	Via 425 Apartments 401-425 E. Carson Street	Phase 2 - Affordable Apartment	40 DU	[12]	266	4	16	20	16	9	25
C18	Under Construction	Veo Mixed-Use Project 616 E. Carson Street	Condominium Retail	152 DU 13,313 GLSF	[6] [13]	883 568	11 8	56 5	67 13	53 24	26 25	79 49
C19	Approved	Boulevards at South Bay (formerly Carson Marketplace) 20400 S. Main Street	Regional Retail Center Neighborhood Retail Center Apartment Condominium Hotel Restaurant Commercial Recreation/Ent.	1,370,000 GLSF 130,000 GLSF 400 DU 1,150 DU 300 Rooms 81,125 GSF 214,000 GSF	[16]	36,129 5,285 2,554 5,117 3,058 11,127 5,681	466 100 40 62 98 418 82	280 64 160 302 62 328 48	746 164 200 364 160 746 130	1,576 228 155 298 94 383 221	1,710 240 83 147 83 273 270	3,286 468 238 445 177 656 491
C20	Under Construction	South Bay Pavilion Theatre Expansion 20700 S. Avalon Boulevard	Theater SouthBay Pavilion	14 Screens 971,590 GLSF	[17]	3,698	3	7	10	41	94	135
County of Los Angeles												
L1		22433 S. Vermont Avenue	Condominium	246 DU	[6]	1,429	18	90	108	86	42	128
TOTAL						**22,346**	**959**	**578**	**1,537**	**711**	**1,186**	**1,897**

[1] Source: City of Carson Department of Community Development Planning Division and the County of Los Angeles Department of Regional Planning. The City of Los Angeles Department of Transportation was contacted and no related project was identified within the project study area. Trip generation for the related projects are based on ITE "Trip Generation Manual", 9th Edition, 2012 (as referenced in the Project Data Source column).
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 842 (Recreational Vehicle Sales) trip generation average rates. Daily trip ends estimated based on that assumption that the PM peak hour trips represent 20 percent of the daily trips.
[4] ITE Land Use Code 210 (Single Family Detached Housing) trip generation average rates.
[5] ITE Land Use Code 140 (Manufacturing) trip generation average rates.
[6] ITE Land Use Code 230 (Residential Condominium/Townhouse) trip generation average rates.
[7] ITE Land Use Code 150 (Warehouse) trip generation average rates.
[8] ITE Land Use Code 710 (General Office) trip generation average rates.
[9] Source: Porsche Experience Driving Center Draft EIR, prepared by ESA, August 2012.
[10] Source: Traffic Study for the Shell Carson Revitalization Project, prepared by Fehr and Peers, September 2012.
[11] ITE Land Use Code 030 (Truck Terminal) trip generation average rates.
[12] ITE Land Use Code 220 (Apartment) trip generation average rates.
[13] ITE Land Use Code 820 (Shopping Center) trip generation average rates.
[14] ITE Land Use Code 933 (Fast-Food Restaurant without Drive-Through) trip generation average rates.
[15] ITE Land Use Code 841 (New Car Sales) trip generation average rates.
[16] Source: Draft Traffic Impact Study for the Carson Marketplace, prepared by Kaku Associates, October 2005. Based on coordination with City of Carson staff, this project would not be completed by year 2017 (i.e., the anticipated year of the proposed Avalon Mixed-Use project build-out). As a result, traffic associated with the Boulevards at South Bay project is not included in the related projects' total traffic generation. However, as requested by the City of Carson, a separate scenario assuming traffic associated with full buildout of the Boulevards at South Bay project is included in the traffic study for informational purposes.
[17] Source: Traffic Impact Analysis for Southbay Pavilion Theatre Expansion, prepared by LLG Engineers, April 2013.



NOT TO SCALE

MAP SOURCE: RAND MCNALLY & COMPANY

★ PROJECT SITE

C CITY OF CARSON RELATED PROJECT

L LOS ANGELES COUNTY RELATED PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

FIGURE 6-1
LOCATION OF RELATED PROJECTS

THE AVALON MIXED-USE PROJECT

Traffic volumes expected to be generated by the related projects were determined based on: 1) calculations using rates provided in the ITE *Trip Generation Manual*[4] publication, or 2) as provided within other available environmental review documents for specific development projects (e.g., within traffic studies incorporated as part of EIRs, MNDs, etc.). The related project's respective traffic generation for the weekday AM and PM peak hours, as well as on a daily basis for a typical weekday, is summarized in *Table 6-1*. The distribution of the related projects traffic volumes (without the Boulevards at South Bay project) to the study intersections during the weekday AM and PM peak hours is displayed in ***Figures 6-2*** and ***6-3***, respectively.

6.2 Ambient Traffic Growth Factor

Horizon year background traffic growth estimates have been calculated using an ambient traffic growth factor. The ambient traffic growth factor is intended to include unknown related projects in the study area as well as account for typical growth in traffic volumes due to the development of projects outside the study area. The existing traffic volumes were increased at an annual rate of one percent (1.0%) per year to the year 2017 (i.e., the anticipated year of project build-out). The ambient growth factors were based on review of the background traffic growth estimates for Carson (included as part of Regional Statistical Area No. 19) published in the *2010 Congestion Management Program*, which indicate that existing traffic volumes would be expected to increase at an annual rate of approximately 0.51% per year between years 2010 and 2020. Thus, application of a one percent (1.0%) annual growth factor allows for a conservative forecast of future traffic volumes in the area. Further, it is noted that the CMP manual's traffic growth rates are intended to anticipate future traffic generated by development projects in the project vicinity. Thus, the inclusion in this traffic analysis of both a forecast of traffic generated by the known related projects plus the use of an ambient growth traffic factor based on CMP traffic model data results in a conservative estimate of future traffic volumes at the study intersections.

[4] Institute of Transportation Engineers *Trip Generation Manual*, 9th Edition, Washington, D.C., 2012.

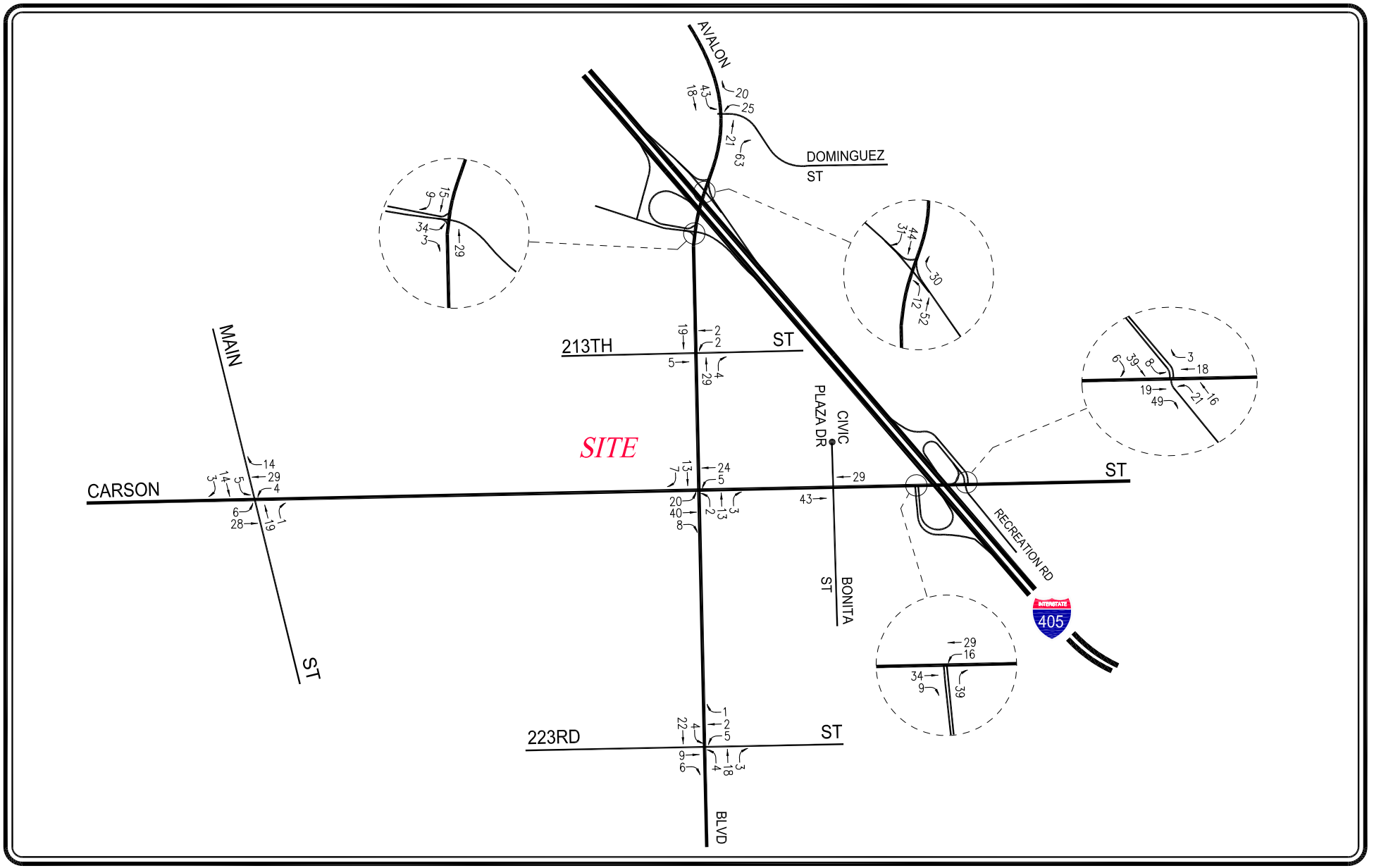


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FIGURE 6-2
RELATED PROJECTS TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

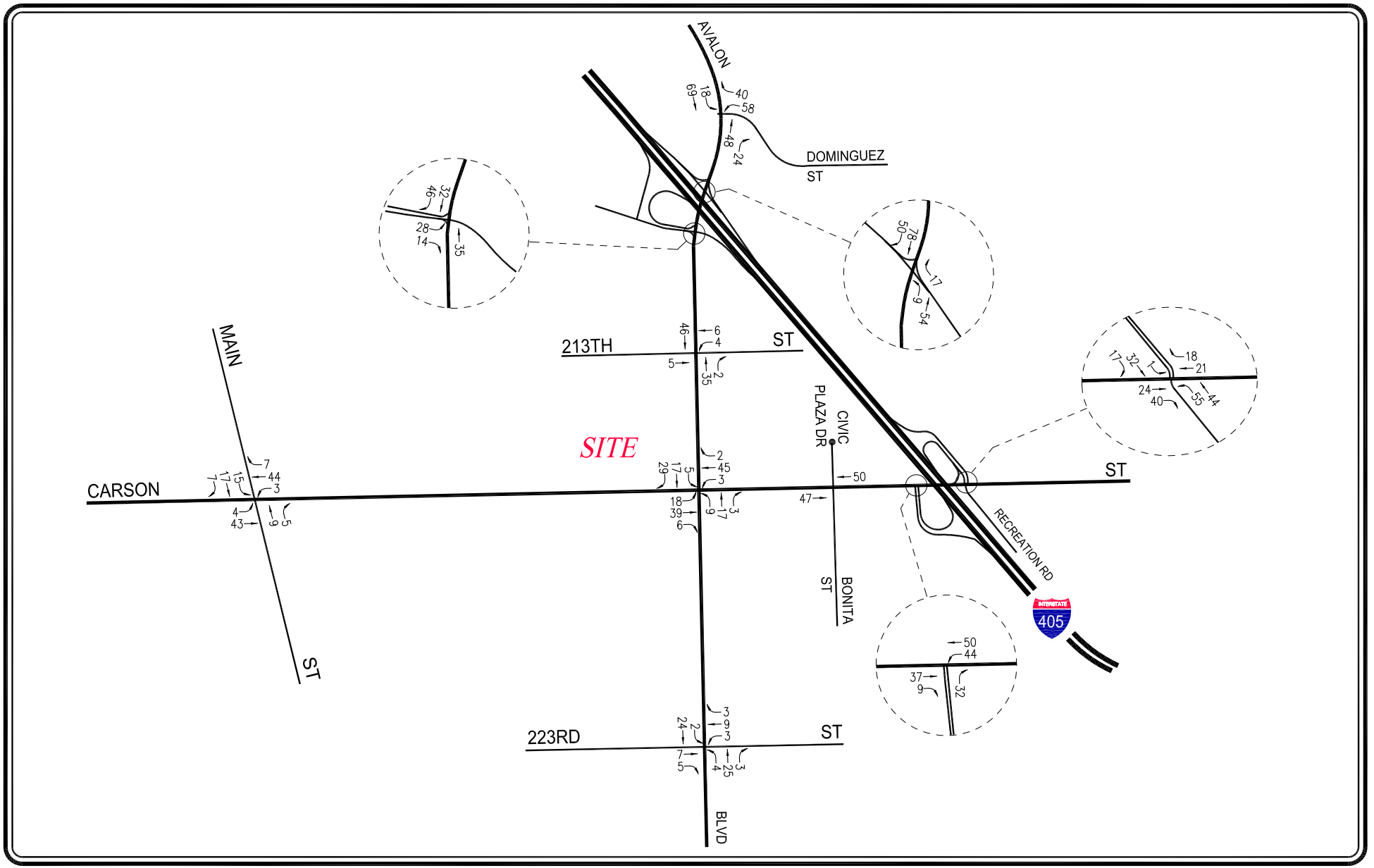

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FIGURE 6-3
RELATED PROJECTS TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

7.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the proposed Avalon Mixed-Use project, a multi-step process has been utilized. The first step of the forecasting process is trip generation, which estimates the total arriving and departing traffic volumes on a peak hour and daily basis. The traffic generation potential is typically forecast by applying the appropriate vehicle trip generation equations or rates to the project development tabulation.

The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound project traffic volumes. These origins and destinations are typically based on demographics and existing/anticipated travel patterns in the study area.

The third step of the forecasting process is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the proposed project is isolated by comparing operational (i.e., Levels of Service) conditions at selected key intersections using existing and expected future traffic volumes with and without forecast project traffic. The need for site-specific traffic improvements can then be evaluated and the significance of the project's impacts identified.

7.1 Project Trip Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Trip generation rates provided in the ITE *Trip Generation Manual* publication were utilized to forecast traffic generation for the proposed project. The ITE document contains trip rates for a variety of land uses which have been derived based on traffic counts conducted at existing sites throughout California and the United States. Trip generation forecasts for the individual land use components and existing uses to be removed are summarized in the following paragraphs.

7.1.1 *Proposed Project Trip Generation*

Traffic volumes expected to be generated by the proposed project land use components were based upon rates per dwelling units for the residential component and rates per 1,000 square feet for the retail/restaurant components. ITE Land Use Code 220 (Apartment) trip generation average rates were used to forecast the traffic volumes expected to be generated by the residential component. ITE Land Use Code 850 (Supermarket) trip generation average rates were used to forecast the traffic volumes expected to be generated by the proposed grocery component. ITE Land Use Code 880 (Pharmacy/Drugstore without Drive-Through Window) trip generation average rates were used to forecast the traffic volumes expected to be generated by the proposed pharmacy component. ITE Land Use Code 820 (Shopping Center) trip

generation average rates were used to forecast the traffic volumes expected to be generated by the proposed retail component. ITE Land Use Code 932 (High-Turnover [Sit-Down] Restaurant) trip generation average rates were used to forecast the traffic volumes expected to be generated by the proposed restaurant component.

In addition to the trip generation forecast for the proposed project (which is essentially an estimate of the number of vehicles that could be expected to enter and exit the site access points), a forecast was made of likely internal capture, pass-by, and transit/walk/bicycle trips that could be anticipated at the site. The retail and restaurant components of the proposed project will benefit from its proximity to the Carson City Hall, the Community/Civic Center, the surrounding commercial areas, as well as from the residential component of the project. The adjustments to the project trip generation forecasts due to internal capture, pass-by and transit/walk/bicycle trips are summarized below:

- Internal capture adjustments refer to a reduction of external trips for mixed-use developments such as the proposed project. Because of the nature of multi-use, or mixed-use, project development land use components (e.g., interaction between the proposed residential, supermarket, pharmacy, general retail, and restaurant uses), trip making characteristics are interrelated and some trips are made among the various land uses on-site. These internal trips are not generated on the external street system and can be made either by walking or by vehicles between the various parking areas without using streets external to the site. Thus, internal capture trip reduction adjustments were applied to each of the project land use components to account for the trip interactions between the various project land uses. The internal capture rates for the proposed project were estimated based on the methodology outlined in the recently published ITE *Trip Generation Handbook, An ITE Proposed Recommended Practice*[5], which is consistent with the extensive research and recommended procedure presented in the *National Cooperative Highway Research Program (NCHRP) Report 684*[6]. The corresponding NCHRP internal trip capture worksheets based on the proposed project land uses are contained in ***Appendix B***.

- Pass-by trips are made as intermediate stops on the way from an origin to a primary destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the site. In this instance, the adjacent roadways to the project site include Avalon Boulevard and Carson Street. The pass-by traffic forecasts were developed based on a review of existing traffic volumes at the study intersections, the data provided in the recently published *Trip Generation Handbook*, and other nearby agency's published pass-by trip rates (i.e., City of Los Angeles Department of Transportation [LADOT]). In order to maintain a

[5] *Trip Generation Handbook, An ITE Proposed Recommended Practice,* Institute of Transportation Engineers, 3rd Edition, August, 2014.

[6] *NCHRP Report 684 – Enhancing Internal Trip Capture Estimation for Mixed-Use Developments,* Transportation Research Board, 2011.

conservative assessment, the lower of the two published pass-by rates (ITE *Trip Generation Handbook* and LADOT's Pass-by Trip Rates) for each applicable project land use component was utilized.

- The project site is well served by public transit services with bus stops located within the project vicinity along both directions of Avalon Boulevard and Carson Street. Furthermore, neighborhood walk-in patronage from other adjacent land uses within the Downtown Retail District is anticipated, consistent with the principles set forth in the Carson Street Mixed-Use District Master Plan. In addition, pursuant to the Carson Master Plan of Bikeways, the proposed City of Carson network of bikeways will also include additional bicycle facilities in the project vicinity. As a result, a combined transit/walk/bicycle adjustment factor of 10% has been conservatively applied to each proposed project land use component.

The traffic generation forecast for the proposed project is summarized in ***Table 7-1***. As presented in *Table 7-1*, the proposed project is expected to generate 219 vehicle trips (72 inbound trips and 147 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 263 vehicle trips (154 inbound trips and 109 outbound trips). Over a 24-hour weekday period, the proposed project is forecast to generate 3,628 daily trip ends during a typical weekday (1,814 inbound trips and 1,814 outbound trips).

7.1.2 *Existing Site Trip Generation*

The project trip generation forecasts also include trip generation associated with the existing land uses on-site which will be removed to accommodate the proposed project. Traffic volumes expected to be generated by the existing uses to be removed from the site during the AM and PM peak hours, as well as on a daily basis, were also estimated using rates published in the ITE *Trip Generation Manual*. ITE Land Use Code 945 (Gasoline/Service Station with Convenience Market) trip generation average rates were used to forecast the traffic volumes expected to be generated by the existing gas station/automobile repair shop/snack shop. ITE Land Use Code 820 (Shopping Center) trip generation average rates were used to forecast the traffic volumes expected to be generated by the existing commercial strip center. ITE Land Use Code 720 (Medical-Dental Office Building) trip generation average rates were used to forecast the traffic volumes expected to be generated by the existing dental office building.

The trip generation forecast for the existing uses currently located on the project site is also summarized in *Table 7-1*. As presented in *Table 7-1*, the existing uses are expected to generate 55 vehicle trips (30 inbound trips and 25 outbound trips) during the AM peak hour. During the PM peak hour, the existing uses are expected to generate 100 vehicle trips (48 inbound trips and 52 outbound trips). Over a 24-hour period, the existing uses are forecast to generate 1,230 daily trip ends during a typical weekday (615 inbound trips and 615 outbound trips).

Table 7-1
PROJECT TRIP GENERATION [1]

LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2] IN	AM PEAK HOUR VOLUMES [2] OUT	AM PEAK HOUR VOLUMES [2] TOTAL	PM PEAK HOUR VOLUMES [2] IN	PM PEAK HOUR VOLUMES [2] OUT	PM PEAK HOUR VOLUMES [2] TOTAL
Proposed Project								
Apartment [3]	357 DU	2,374	36	146	182	144	77	221
- Less Internal Capture [4]		(238)	(4)	(15)	(19)	(43)	(23)	(66)
- Less Transit/Walk/Bike (10%) [5]		(238)	(4)	(15)	(19)	(14)	(8)	(22)
Subtotal		1,898	28	116	144	87	46	133
Supermarket [6]	15,000 GSF	1,534	32	19	51	72	70	142
- Less Internal Capture [4]		(76)	(3)	(2)	(5)	(11)	(11)	(22)
- Less Transit/Walk/Bike (10%) [5]		(154)	(3)	(2)	(5)	(7)	(7)	(14)
		1,304	26	15	41	54	52	106
- Less Pass-By (36%) [7]		(470)	(9)	(5)	(14)	(19)	(19)	(38)
Subtotal		834	17	10	27	35	33	68
Pharmacy/Drugstore w/o Drive-Through [8]	8,000 GSF	720	16	8	24	33	34	67
- Less Internal Capture [4]		(36)	(2)	(1)	(3)	(5)	(5)	(10)
- Less Transit/Walk/Bike (10%) [5]		(72)	(2)	(1)	(3)	(3)	(3)	(6)
		612	12	6	18	25	26	51
- Less Pass-By (40%) [7]		(244)	(5)	(2)	(7)	(10)	(10)	(20)
Subtotal		368	7	4	11	15	16	31
Retail [9]	4,000 GLSF	170	2	2	4	7	8	15
- Less Internal Capture [4]		(8)	0	0	0	(1)	(1)	(2)
- Less Transit/Walk/Bike (10%) [5]		(18)	0	0	0	(1)	(1)	(2)
		144	2	2	4	5	6	11
- Less Pass-By (34%) [7]		(48)	(1)	(1)	(2)	(2)	(2)	(4)
Subtotal		96	1	1	2	3	4	7
High-Turnover (Sit-Down) Restaurant [10]	5,000 GSF	636	30	24	54	29	20	49
- Less Internal Capture [4]		(32)	(3)	(2)	(5)	(9)	(6)	(15)
- Less Transit/Walk/Bike (10%) [5]		(64)	(3)	(2)	(5)	(3)	(2)	(5)
		540	24	20	44	17	12	29
- Less Pass-By (20%) [7]		(108)	(5)	(4)	(9)	(3)	(2)	(5)
Subtotal		432	19	16	35	14	10	24
Net Proposed Project Subtotal		**3,628**	**72**	**147**	**219**	**154**	**109**	**263**
Less Existing To Be Removed								
Gasoline/Service Station with Convenience Market [11]	(8) VFP	(1,302)	(41)	(40)	(81)	(54)	(54)	(108)
- Less Pass-by (50%) [7]		652	21	20	41	27	27	54
Subtotal		(650)	(20)	(20)	(40)	(27)	(27)	(54)
Retail [9]	(22,595) GLSF	(964)	(14)	(8)	(22)	(40)	(44)	(84)
- Less Internal Capture [4]		48	1	1	2	6	7	13
- Less Transit/Walk/Bike (10%) [5]		96	1	1	2	4	4	8
		(820)	(12)	(6)	(18)	(30)	(33)	(63)
- Less Pass-By (34%) [7]		278	4	2	6	10	11	21
Subtotal		(542)	(8)	(4)	(12)	(20)	(22)	(42)
Medical-Dental Office Building [12]	(1,072) GSF	(38)	(2)	(1)	(3)	(1)	(3)	(4)
Net Existing Subtotal		**(1,230)**	**(30)**	**(25)**	**(55)**	**(48)**	**(52)**	**(100)**
NET INCREASE		**2,398**	**42**	**122**	**164**	**106**	**57**	**163**

Table 7-1 (Continued)
PROJECT TRIP GENERATION [1]

[1] Source: ITE "Trip Generation Manual", 9th Edition, 2012.

[2] Trips are one-way traffic movements, entering or leaving.

[3] ITE Land Use Code 220 (Apartment) trip generation average rates.
- Daily Trip Rate: 6.65 trips/dwelling unit; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 0.51 trips/dwelling units; 20% inbound/80% outbound
- PM Peak Hour Trip Rate: 0.62 trips/dwelling units; 65% inbound/35% outbound

[4] Source: ITE "Trip Generation Handbook", 3rd Edition, 2014 and the National Cooperative Highway Research Program (NCHRP) Report 684 - "Enhanced Internal Trip Capture Estimation for Mixed-Use Developments", 2011. Internal capture trips are trips made to and from other components of the project (e.g., between the residential, retail, and restaurant components). The following daily and peak hour internal capture adjustment factors have been applied to account for the internal capture based on the synergistic effects of the proposed land use mix at the site (refer to Appendix B for the NCHRP worksheets).

Land Use	Daily	AM	PM
Residential	10%	10%	30%
Retail	5%	10%	15%
Restaurant	5%	10%	30%

[5] A ten percent (10%) combined transit/walk/bike trip reduction is assumed which also reflects neighborhood walk-ins to and from other adjacent uses within the Downtown Retail District and is consistent with the principles set forth in the Carson Street Mixed-Use District Master Plan.

[6] ITE Land Use Code 850 (Supermarket) trip generation average rates.
- Daily Trip Rate: 102.24 trips/1,000 SF of floor area; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 3.40 trips/1,000 SF of floor area; 62% inbound/38% outbound
- PM Peak Hour Trip Rate: 9.48 trips/1,000 SF of floor area; 51% inbound/49% outbound

[7] Sources: ITE "Trip Generation Handbook", 3rd Edition, 2014 and City of Los Angeles Department of Transportation (LADOT) Pass-by Trip Rates. Pass-by trips are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the site. To maintain a conservative assessment, the lower of the two published pass-by rates (ITE and LADOT) for each corresponding land use component were applied.

[8] ITE Land Use Code 880 (Pharmacy/Drugstore without Drive-Through Window) trip generation average rates.
- Daily Trip Rate: 90.06 trips/1,000 SF of floor area; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 2.94 trips/1,000 SF of floor area; 65% inbound/35% outbound
- PM Peak Hour Trip Rate: 8.40 trips/1,000 SF of floor area; 49% inbound/51% outbound

[9] ITE Land Use Code 820 (Shopping Center) trip generation average rates.
- Daily Trip Rate: 42.7 trips/1,000 SF of floor area; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 0.96 trips/1,000 SF of floor area; 62% inbound/38% outbound
- PM Peak Hour Trip Rate: 3.71 trips/1,000 SF of floor area; 48% inbound/52% outbound

[10] ITE Land Use Code 932 (High-Turnover [Sit-Down] Restaurant) trip generation average rates.
- Daily Trip Rate: 127.15 trips/1,000 SF of floor area; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 10.81 trips/1,000 SF of floor area; 55% inbound/45% outbound
- PM Peak Hour Trip Rate: 9.85 trips/1,000 SF of floor area; 60% inbound/40% outbound

[11] ITE Land Use Code 945 (Gasoline/Service Station with Convenience Market) trip generation average rates.
- Daily Trip Rate: 162.78 trips/vehicle fueling position (VPF); 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 10.16 trips/VPF; 50% inbound/50% outbound
- PM Peak Hour Trip Rate: 13.51 trips/VPF; 50% inbound/50% outbound

[12] ITE Land Use Code 720 (Medical-Dental Office Building) trip generation average rates.
- Daily Trip Rate: 36.13 trips/1,000 SF of floor area; 50% inbound/50% outbound
- AM Peak Hour Trip Rate: 2.39 trips/1,000 SF of floor area; 79% inbound/21% outbound
- PM Peak Hour Trip Rate: 3.57 trips/1,000 SF of floor area; 28% inbound/72% outbound

7.1.3 *Project Trip Generation Summary*

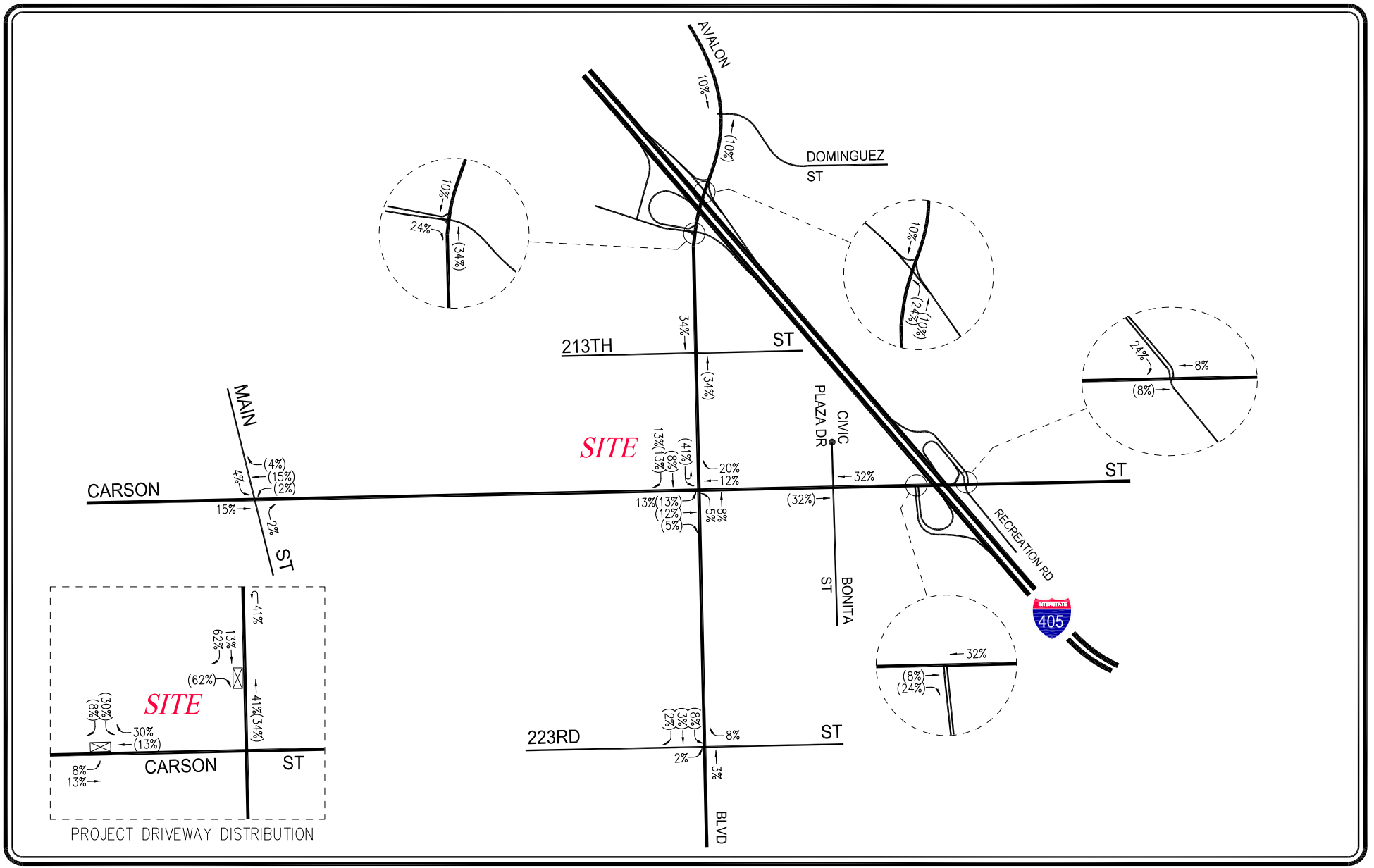
The traffic generation forecast for the proposed project is summarized in *Table 6-1*. The trip generation forecast for the Avalon Mixed-Use project was submitted for review and approval by City of Carson staff. As presented in *Table 7-1*, the proposed project is expected to generate a net increase of 164 vehicle trips (42 inbound trips and 122 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate a net increase of 163 vehicle trips (106 inbound trips and 57 outbound trips). Over a 24-hour period, the proposed project is forecast to generate a net increase of 2,398 daily trip ends during a typical weekday (1,199 inbound trips and 1,199 outbound trips).

7.2 Project Traffic Distribution and Assignment

Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- The site's proximity to major traffic corridors (i.e., Avalon Boulevard, Carson Street, etc.);
- Expected localized traffic flow patterns based on adjacent roadway channelization and presence of traffic signals;
- Existing intersection traffic volumes;
- Ingress/egress availability at the project site;
- The location of the proposed parking areas;
- Nearby population and employment centers; and
- Input from City of Carson staff.

The project traffic distribution percentages for the proposed residential and commercial land use components are illustrated in ***Figures 7-1*** and ***7-2***, respectively. The project traffic distribution percentages for the existing land uses are illustrated in ***Figure 7-3***. The forecast net new weekday AM and PM peak hour project traffic volumes are displayed in ***Figures 7–4*** and ***7–5***, respectively. The net new project traffic volume assignments presented in *Figures 7-4* and *7-5* reflect the traffic distribution characteristics shown in *Figures 7-1* to *7-3*, the project traffic generation forecast presented in *Table 7-1*, the reduction of the existing site traffic generation from the street system, as well as the proposed project site access and circulation scheme.



N

NOT TO SCALE

XX = INBOUND PERCENTAGES

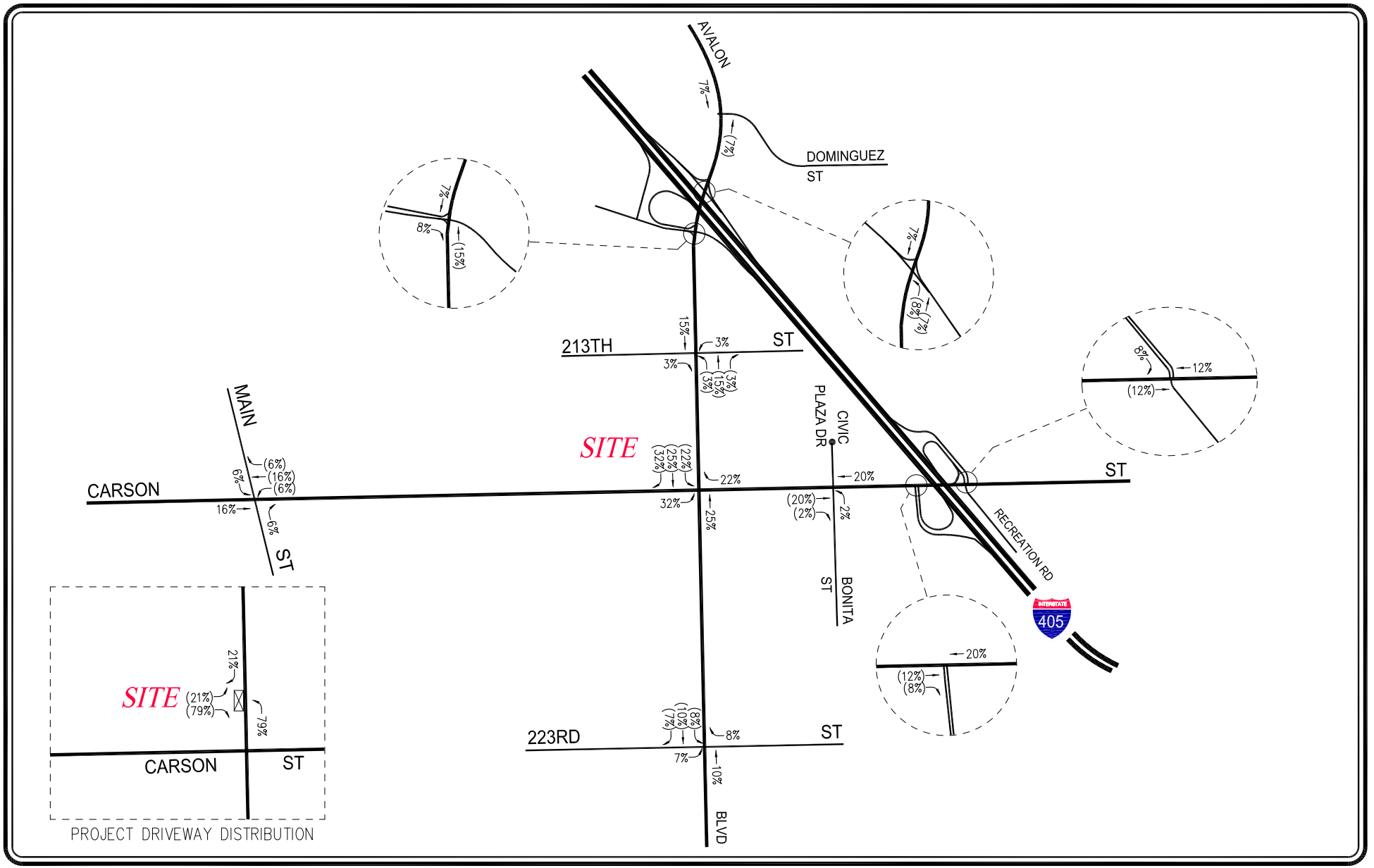
(XX) = OUTBOUND PERCENTAGES

FIGURE 7-1
PROJECT TRIP DISTRIBUTION

PROPOSED RESIDENTIAL COMPONENT

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers



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NOT TO SCALE

XX = INBOUND PERCENTAGES

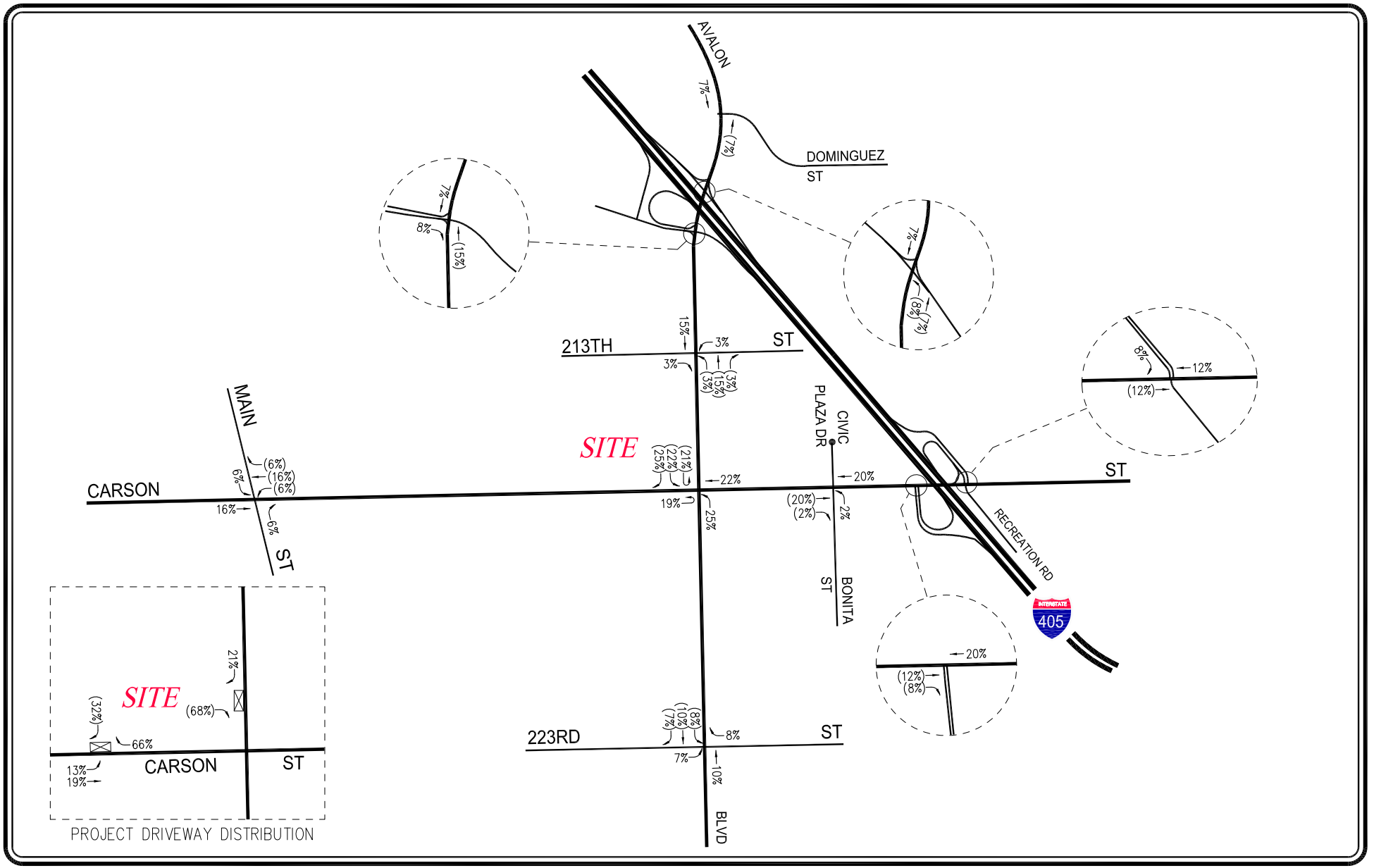
(XX) = OUTBOUND PERCENTAGES

FIGURE 7-2
PROJECT TRIP DISTRIBUTION

PROPOSED COMMERCIAL COMPONENT

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers



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NOT TO SCALE

XX = INBOUND PERCENTAGES

(XX) = OUTBOUND PERCENTAGES

FIGURE 7-3
PROJECT TRIP DISTRIBUTION

EXISTING USES TO BE REMOVED

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

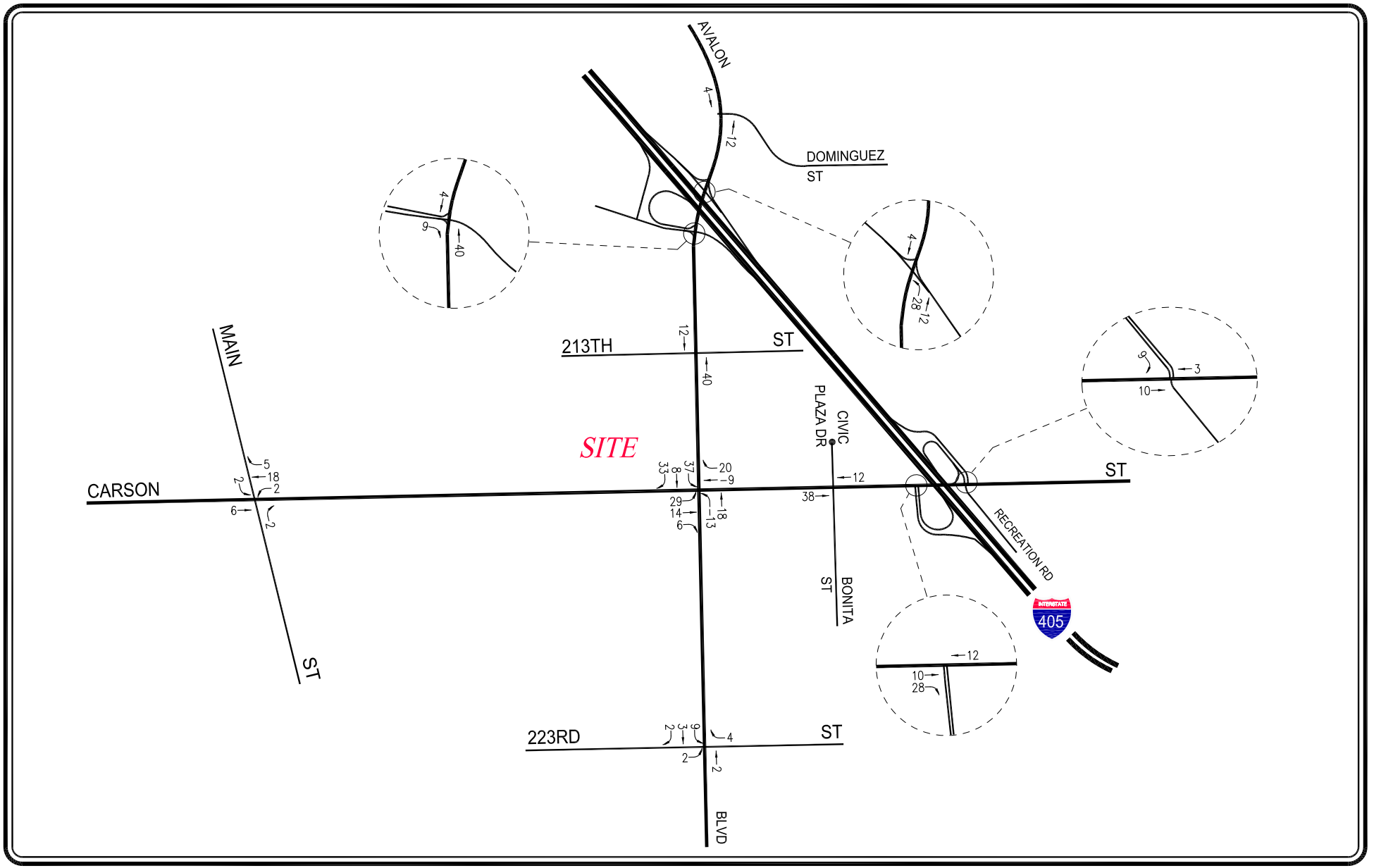

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FIGURE 7-4
NET NEW PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

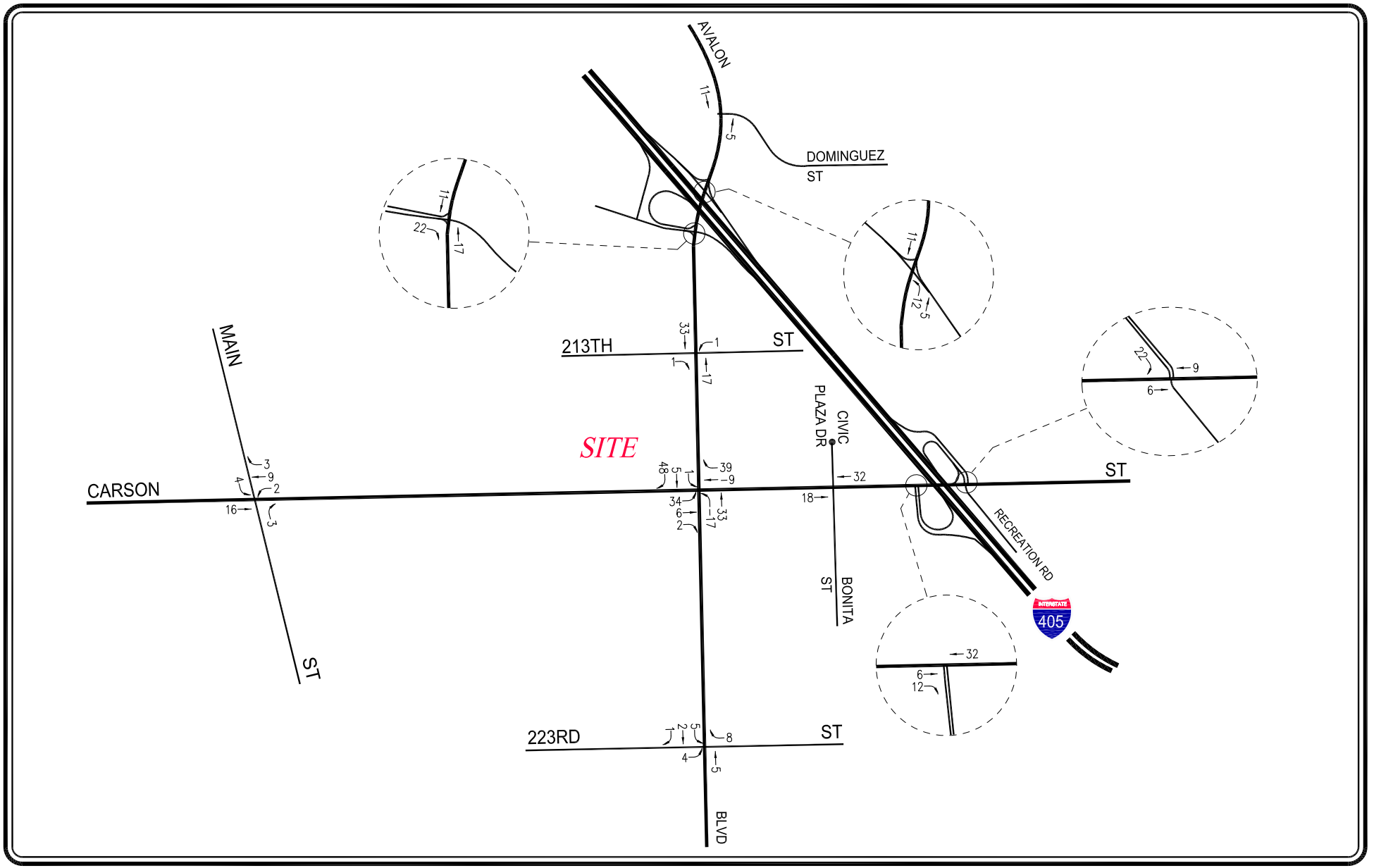

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FIGURE 7-5
NET NEW PROJECT TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

8.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

The study intersections were evaluated using the Intersection Capacity Utilization (ICU) method of analysis which determines Volume-to-Capacity (*v/c*) ratios on a critical lane basis. The ICU method is intended for signalized intersection analysis and determines the *v/c* ratios on a critical lane basis (i.e., based on the individual *v/c* ratios for key conflicting traffic movements). The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing. The overall intersection *v/c* ratio is subsequently assigned a Level of Service (LOS) value to describe intersection operations. Level of Service varies from LOS A (free flow) to LOS F (jammed condition). A description of the ICU method and corresponding Level of Service is provided in ***Appendix C***.

The ICU calculations use a lane capacity of 1,600 vehicles per hour (vph) for left-turn, through, and right-turn lanes, and a dual left-turn lane capacity of 2,880 vph. A clearance interval of 0.10 is also included in the ICU calculations.

8.1 Impact Criteria and Thresholds

The relative impact of the added project traffic volumes to be generated by the proposed Avalon Mixed-Use project during the weekay AM and PM peak hours was evaluated based on analysis of existing and future operating conditions at the study intersections, without and with the proposed project. The previously discussed capacity analysis procedures were utilized to evaluate the future *v/c* relationships and service level characteristics at each study intersection.

The City of Carson considers LOS D as the threshold Level of Service. For purposes of evaluating the level of impact due to traffic generated by development projects in the City of Carson, a significant transportation impact is determined based on the criteria presented in ***Table 8-1***.

Table 8-1
CITY OF CARSON
INTERSECTION IMPACT THRESHOLD CRITERIA

Final *v/c*	**Level of Service**	**Project Related Increase in *v/c***
0.901 or more	E or F	equal to or greater than 0.02

The City's traffic study guidelines require mitigation of project traffic impacts whenever traffic generated by the proposed development exceeds the criteria above. Using these criteria, for example, the project would not have a significant impact on a study intersection if it is operating at LOS D or better after the addition of project traffic. However, if the study intersection is operating at LOS E or worse after the addition of project traffic and the project-related increase in *v/c* ratio is 0.02 or more, then a significant project impact would result at the study intersection. These criteria were applied to all ten study intersections.

8.2 Traffic Impact Analysis Scenarios

Level of Service calculations have been prepared for the following scenarios for the study intersections:

(a) Existing (2014) conditions.

(b) Condition (a) with completion and occupancy of the project.

(c) Condition (b) with implementation of project mitigation measures, where necessary.

(d) Condition (a) plus one percent (1.0%) annual ambient traffic growth through year 2017 and with completion and occupancy of the related projects (i.e., year 2017 future without project)

(e) Condition (d) with completion and occupancy of the project.

(f) Condition (e) with implementation of project mitigation measures, where necessary.

(g) Condition (a) plus one percent (1.0%) annual ambient traffic growth through year 2017 and with completion and occupancy of the related projects including the Boulevards at South Bay project (i.e., year 2017 future without project [with the Boulevards at South Bay project]).

(h) Condition (g) with completion and occupancy of the project.

The traffic volumes for each new condition were added to the volumes in the prior condition to determine the change in capacity utilization at the study intersections.

9.0 TRAFFIC ANALYSIS

The traffic impact analysis prepared for the study intersections using the ICU methodology and application of the City of Carson significant traffic impact criteria is summarized in ***Table 9-1***. The first column [1] in *Table 9-1* presents a summary of the existing weekday AM and PM peak hour traffic conditions. The second column [2] presents the existing traffic conditions with the addition of project traffic. The second column [2] also shows the increase in *v/c* value due to the added peak hour project trips and indicates whether the traffic associated with the project is expected to result in a significant impact based on the City of Carson LOS standards and significance impact criteria defined in this report. The third column [3] presents projected year 2017 background traffic conditions based on existing intersection geometry and the addition of ambient traffic growth and the traffic due to the related projects (but without the Boulevards at South Bay project). The fourth column [4] presents forecast year 2017 traffic conditions with the addition of project traffic. The fourth column [4] also shows the increase in *v/c* value due to the added peak hour project trips and indicates whether the traffic associated with the project is expected to result in a significant impact. The ICU data worksheets for the study intersections during the weekday AM and PM peak hours are contained in *Appendix C*.

9.1 Existing Conditions

9.1.1 *Existing Conditions*

As indicated in column [1] of *Table 9-1*, the ten study intersections are presently operating at LOS D or better during the weekday AM and PM peak hours under existing conditions. As previously mentioned, the existing traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in *Figures 5-1* and *5-2*, respectively.

9.1.2 *Existing With Project Conditions*

In order to determine the operating conditions of the street system under existing with project conditions, net new traffic to be generated by the proposed project was added to the year 2014 existing traffic conditions. As shown in column [2] of *Table 9-1*, application of the City's threshold criteria to the "Existing With Project" scenario indicates that the proposed project is not expected to create significant impacts at any of the study intersections. Incremental, but not significant, impacts are noted at the study intersections. Because there are no significant impacts, no traffic mitigation measures are required or recommended for the study intersections under the "Existing With Project" conditions. The existing with project (existing plus project) traffic volumes at the study intersections during the weekday AM and PM peak hours are provided in ***Figures 9-1*** and ***9-2***, respectively.

Table 9-1
SUMMARY OF VOLUME TO CAPACITY RATIOS
AND LEVELS OF SERVICE
WEEKDAY AM AND PM PEAK HOURS WITHOUT THE BOULEVARDS AT SOUTH BAY PROJECT

			[1]		[2]				[3]		[4]			
NO.	INTERSECTION	PEAK HOUR	YEAR 2014 EXISTING V/C	LOS	YEAR 2014 EXISTING WITH PROJECT V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT	YEAR 2017 FUTURE PRE-PROJECT W/ AG & REL. PROJECTS V/C	LOS	YEAR 2017 FUTURE WITH PROPOSED PROJECT V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT
1	Main Street/	AM	0.666	B	0.673	B	0.007	NO	0.703	C	0.709	C	0.006	NO
	Carson Street	PM	0.724	C	0.731	C	0.007	NO	0.765	C	0.773	C	0.008	NO
2	Avalon Boulevard/	AM	0.514	A	0.516	A	0.002	NO	0.570	A	0.570	A	0.000	NO
	Dominguez Street	PM	0.688	B	0.688	B	0.000	NO	0.750	C	0.750	C	0.000	NO
3	Avalon Boulevard/	AM	0.514	A	0.518	A	0.004	NO	0.543	A	0.547	A	0.004	NO
	I-405 Freeway NB Ramps	PM	0.565	A	0.569	A	0.004	NO	0.614	B	0.618	B	0.004	NO
4	Avalon Boulevard/	AM	0.643	B	0.656	B	0.013	NO	0.680	B	0.693	B	0.013	NO
	I-405 Freeway SB Ramps	PM	0.605	B	0.611	B	0.006	NO	0.641	B	0.647	B	0.006	NO
5	Avalon Boulevard/	AM	0.535	A	0.544	A	0.009	NO	0.556	A	0.564	A	0.008	NO
	213th Street	PM	0.702	C	0.710	C	0.008	NO	0.735	C	0.743	C	0.008	NO
6	Avalon Boulevard/	AM	0.789	C	0.829	D	0.040	NO	0.827	D	0.867	D	0.040	NO
	Carson Street	PM	0.850	D	0.860	D	0.010	NO	0.895	D	0.905	E	0.010	NO
7	Avalon Boulevard/	AM	0.795	C	0.803	D	0.008	NO	0.825	D	0.832	D	0.007	NO
	223rd Street	PM	0.843	D	0.847	D	0.004	NO	0.878	D	0.883	D	0.005	NO
8	Civic Plaza Drive-Bonita Street/	AM	0.635	B	0.647	B	0.012	NO	0.665	B	0.677	B	0.012	NO
	Carson Street	PM	0.739	C	0.745	C	0.006	NO	0.773	C	0.779	C	0.006	NO
9	I-405 Freeway SB Ramps/	AM	0.574	A	0.592	A	0.018	NO	0.629	B	0.646	B	0.017	NO
	Carson Street	PM	0.572	A	0.579	A	0.007	NO	0.639	B	0.647	B	0.008	NO
10	I-405 Freeway NB Ramps-Recreation Road/	AM	0.443	A	0.444	A	0.001	NO	0.502	A	0.502	A	0.000	NO
	Carson Street	PM	0.456	A	0.456	A	0.000	NO	0.540	A	0.540	A	0.000	NO

City of Carson intersection impact threshold criteria is as follows:

Final v/c	LOS	Project Related Increase in v/c
> 0.900	E, F	equal to or greater than 0.02

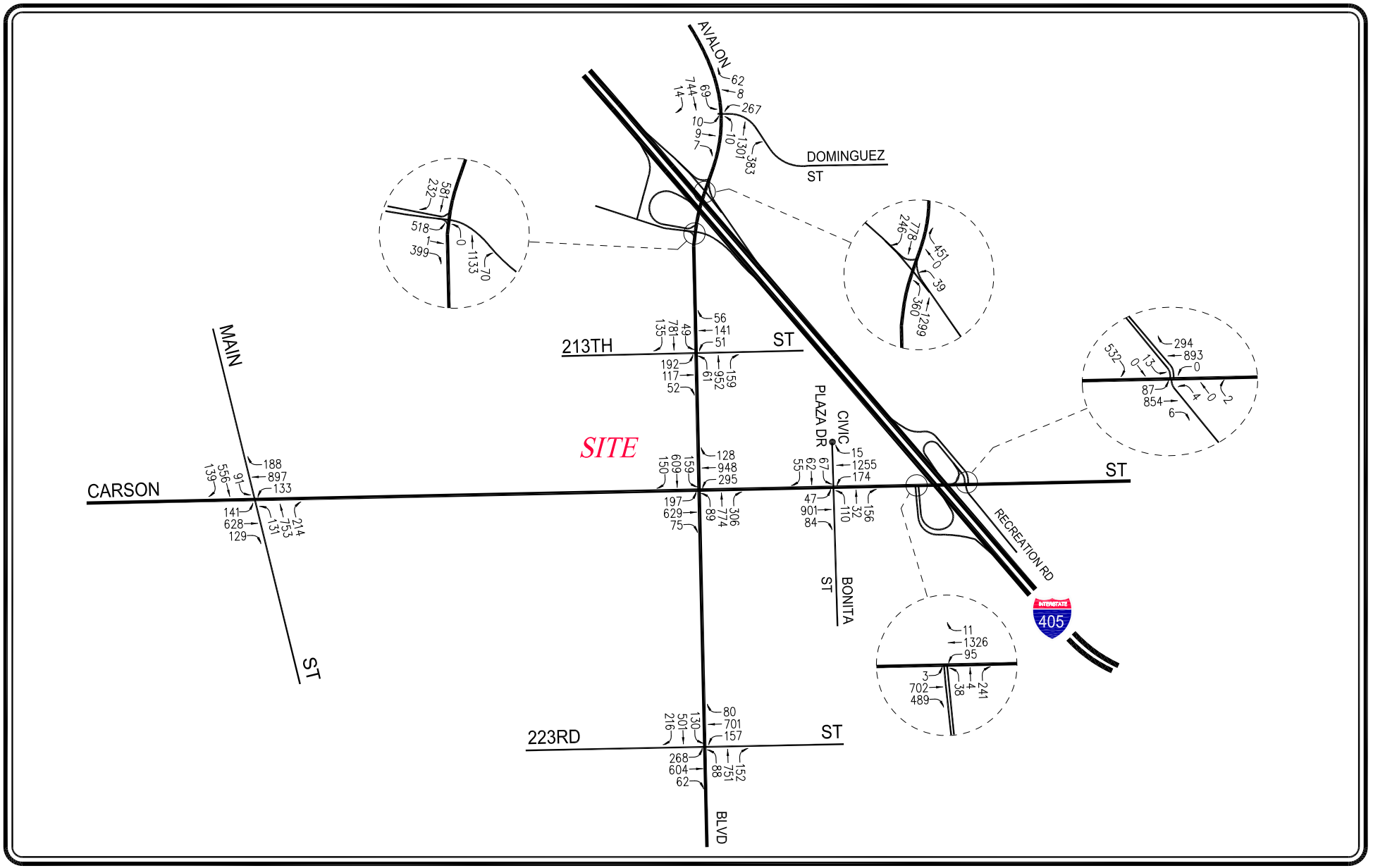

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FIGURE 9-1
EXISTING WITH PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

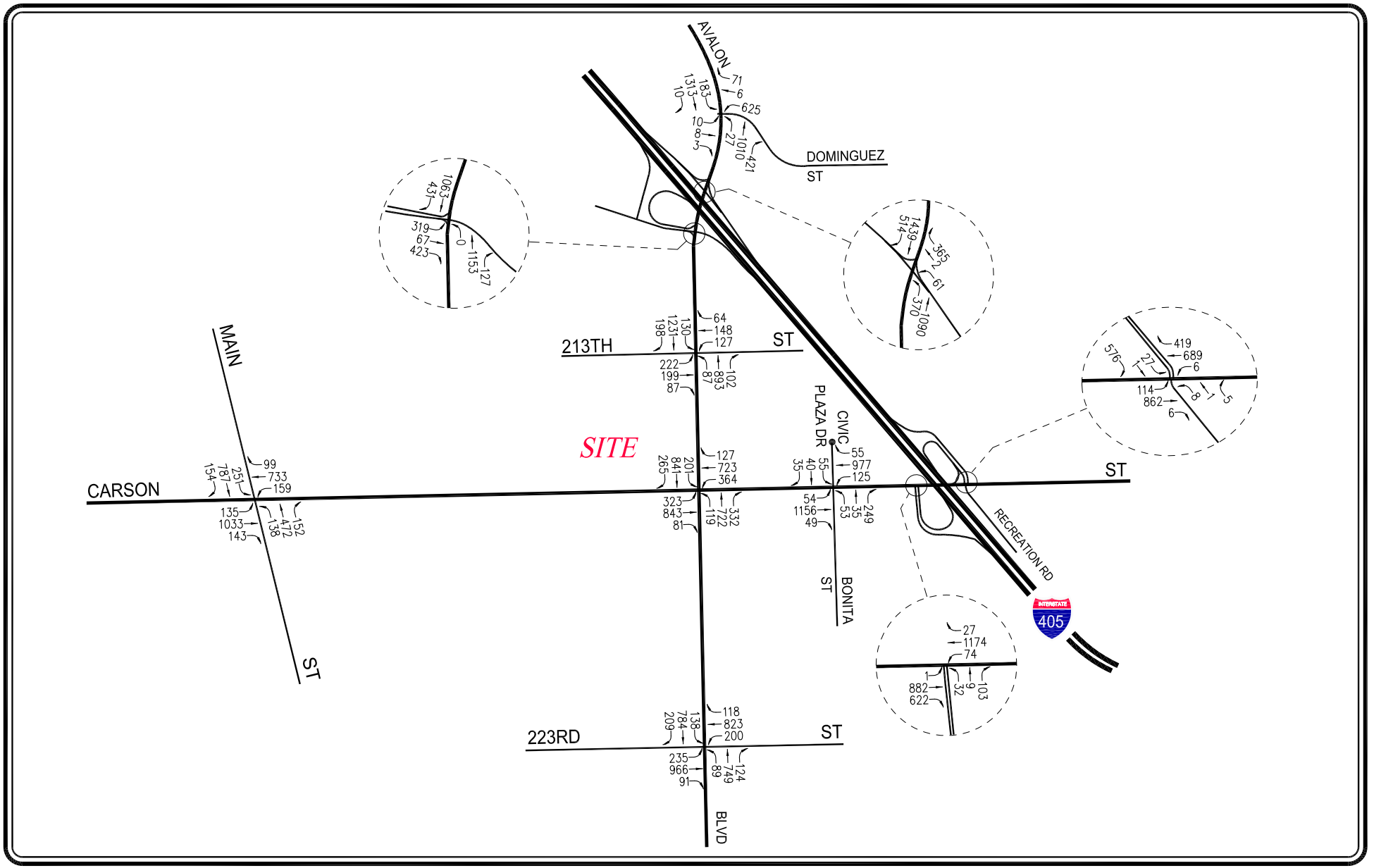

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FIGURE 9-2
EXISTING WITH PROJECT TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

9.2 Future Conditions

9.2.1 *Future Year 2017 Without Project Conditions (Without the Boulevards at South Bay Project)*

The future year 2017 without project conditions were forecast based on the addition of traffic generated by the completion and occupancy of the related projects, as well as the growth in traffic due to the combined effects of continuing development, intensification of existing developments and other factors (i.e., ambient growth). The *v/c* ratios at the study intersections are incrementally increased with the addition of ambient traffic and traffic generated by the related projects. As presented in column [3] of *Table 9-1*, the ten study intersections are expected to continue operating at LOS D or better during the weekday AM and PM peak hours with the addition of growth in ambient traffic and related projects traffic under the future year 2017 without project conditions. The future without project (existing, ambient growth, related projects) traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated in ***Figures 9-3*** and ***9-4***, respectively.

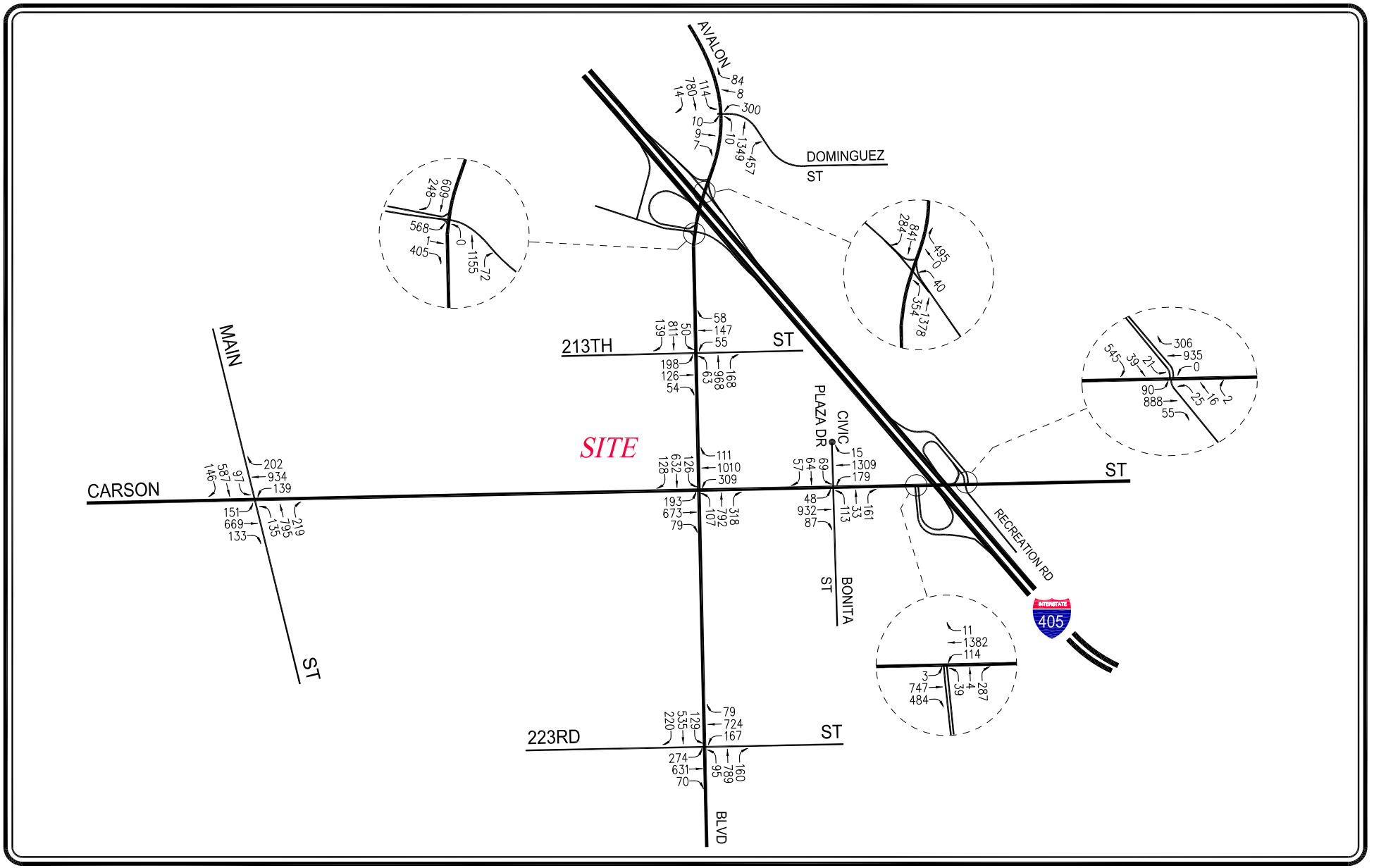
9.2.2 *Future Year 2017 With Project Conditions (Without the Boulevards at South Bay Project)*

As shown in column [4] of *Table 9-1,* application of the City's threshold criteria to the "Future With Proposed Project" scenario indicates that the proposed project is not expected to create significant impacts at any of the study intersections. Incremental, but not significant, impacts are noted at the study intersections. Because there are no significant impacts due to the proposed project, no traffic mitigation measures are required for the study intersections under the "Future With Proposed Project" conditions. However, it should be noted that the intersection of Avalon Boulevard and Carson Street is forecast to operate at LOS E during the PM peak hour under the future year 2017 with project conditions. The future with project (existing, ambient growth, related projects and project) traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated in ***Figures 9-5*** and ***9-6***, respectively.

9.2.3 *Future Year 2017 Without Project Conditions (With the Boulevards at South Bay Project)*

As discussed previously, the approved Boulevards at South Bay related project is not expected to be completed prior to the proposed project's buildout year of 2017. Therefore, the above reported year 2017 intersection operating conditions without the Boulevards at South Bay project were used as the basis for determining the potential traffic impacts associated with the proposed Avalon Mixed-Use project. As requested by the City of Carson, an additional scenario assuming traffic associated with full buildout of the approved Boulevards at South Bay project (and with the corresponding required mitigation measures) has been included for informational purposes (i.e., as part of ***Table 9-2***).

As presented in column [3] of *Table 9-2*, nine of the ten study intersections are expected to continue operating at LOS D or better during the weekday AM and PM peak hours with the addition of the approved Boulevards at South Bay project traffic and the corresponding approved mitigation. The Avalon Boulevard/Carson Street study intersection is expected to operate at LOS E during the PM peak hour with the addition of ambient traffic growth and traffic due to the related projects including the approved Boulevards at South Bay project traffic and the corresponding approved mitigation.



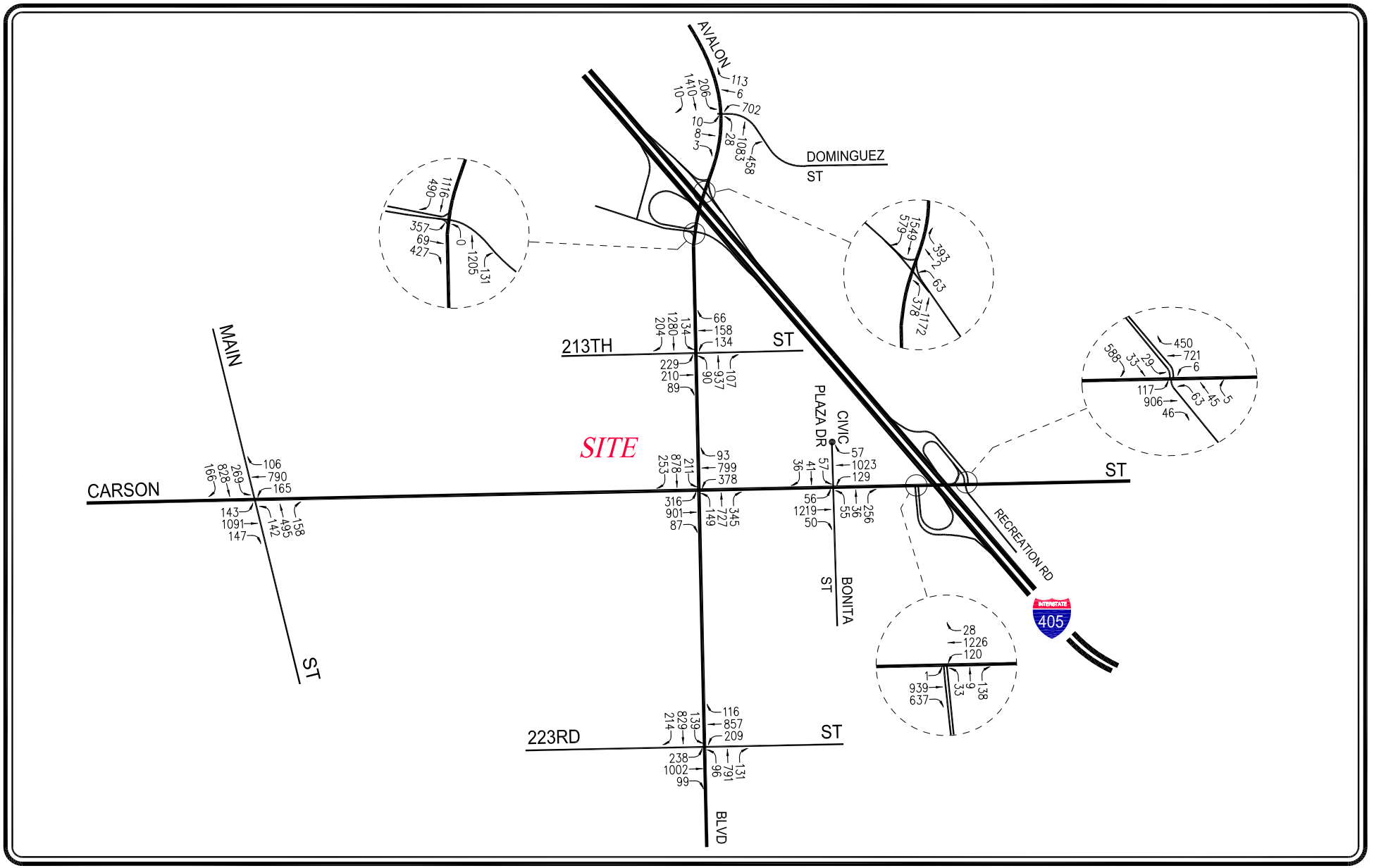
NOT TO SCALE

FIGURE 9-3
FUTURE WITHOUT PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers



N

NOT TO SCALE

FIGURE 9-4
FUTURE WITHOUT PROJECT TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

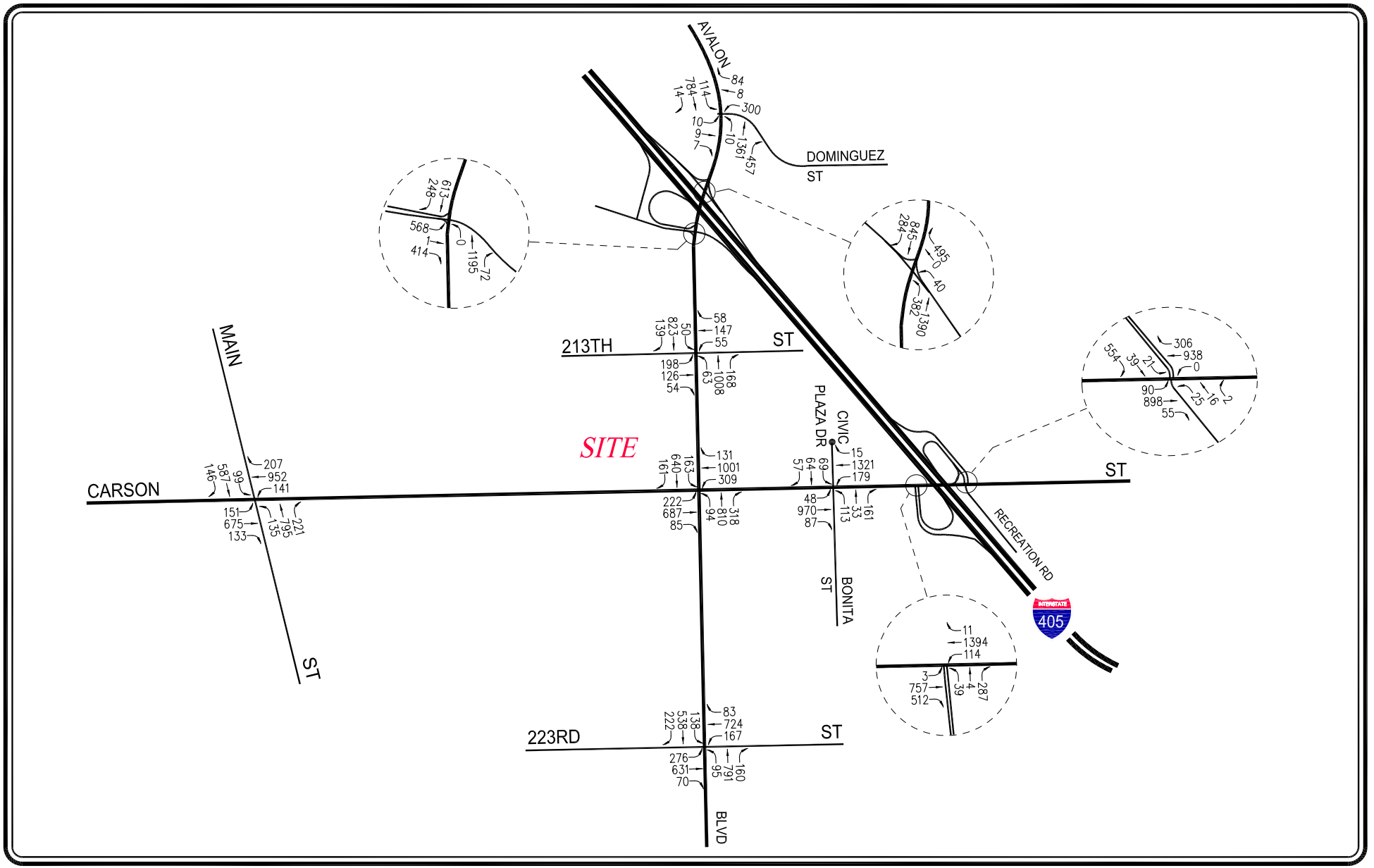
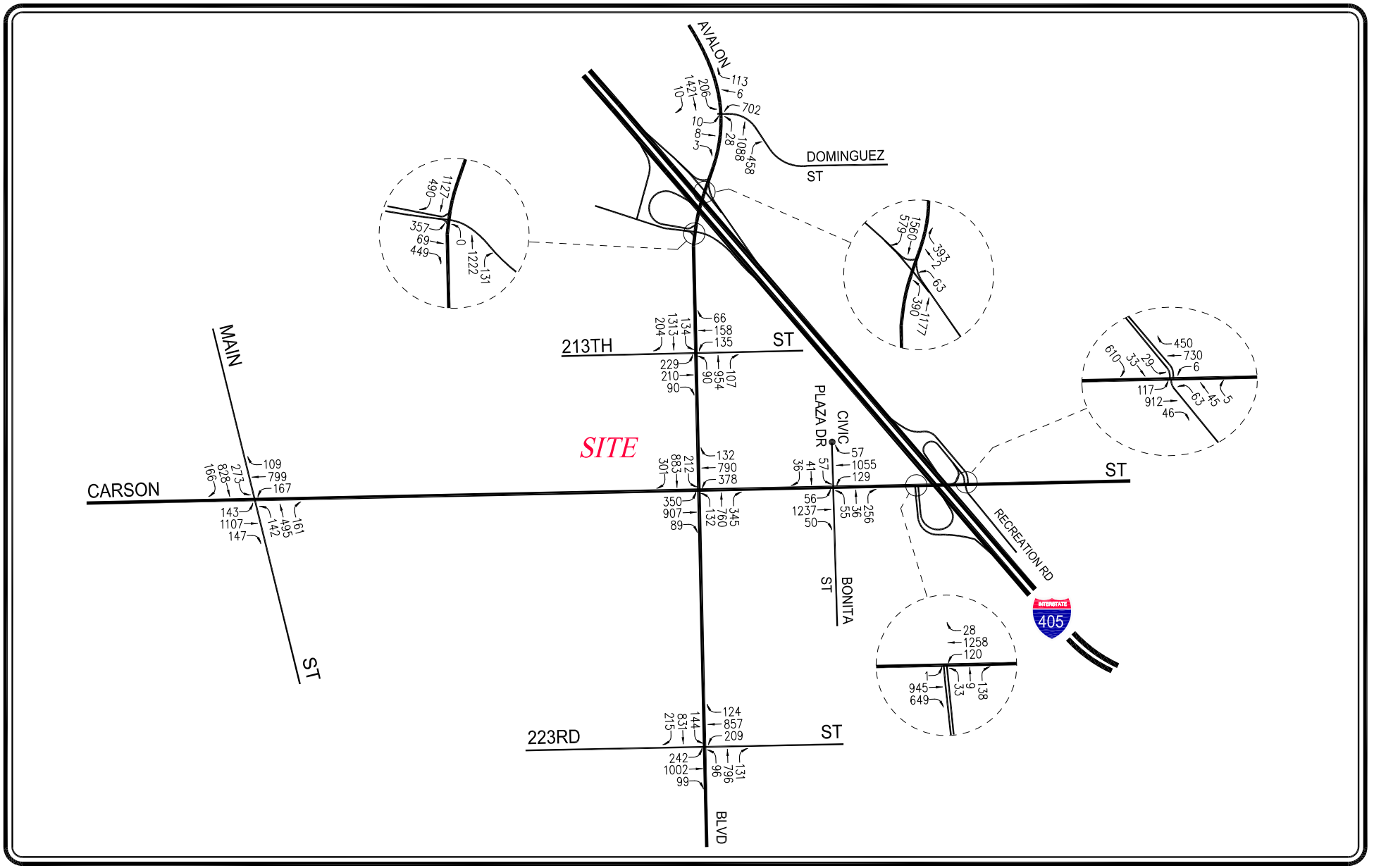


FIGURE 9-5
FUTURE WITH PROJECT TRAFFIC VOLUMES

WEEKDAY AM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers



N

NOT TO SCALE

FIGURE 9-6
FUTURE WITH PROJECT TRAFFIC VOLUMES

WEEKDAY PM PEAK HOUR

THE AVALON MIXED-USE PROJECT

LINSCOTT, LAW & GREENSPAN, engineers

Table 9-2
SUMMARY OF VOLUME TO CAPACITY RATIOS
AND LEVELS OF SERVICE
WEEKDAY AM AND PM PEAK HOURS WITH THE BOULEVARDS AT SOUTH BAY PROJECT

			[1]		[2]				[3]		[4]			
NO.	INTERSECTION	PEAK HOUR	YEAR 2014 EXISTING V/C	LOS	YEAR 2014 EXISTING WITH PROJECT V/C	LOS	CHANGE V/C [(2)-(1)]	SIGNIF. IMPACT	YEAR 2017 FUTURE PRE-PROJECT W/ AG & REL. PROJECTS V/C	LOS	YEAR 2017 FUTURE WITH PROPOSED PROJECT V/C	LOS	CHANGE V/C [(4)-(3)]	SIGNIF. IMPACT
1	Main Street/	AM	0.666	B	0.673	B	0.007	NO	0.780	C	0.787	C	0.007	NO
	Carson Street	PM	0.724	C	0.731	C	0.007	NO	0.874	D	0.881	D	0.007	NO
2	Avalon Boulevard/	AM	0.514	A	0.516	A	0.002	NO	0.574	A	0.576	A	0.002	NO
	Dominguez Street	PM	0.688	B	0.688	B	0.000	NO	0.750	C	0.750	C	0.000	NO
3	Avalon Boulevard/	AM	0.514	A	0.518	A	0.004	NO	0.596	A	0.600	A	0.004	NO
	I-405 Freeway NB Ramps	PM	0.565	A	0.569	A	0.004	NO	0.746	C	0.750	C	0.004	NO
4	Avalon Boulevard/	AM	0.643	B	0.656	B	0.013	NO	0.692	B	0.705	C	0.013	NO
	I-405 Freeway SB Ramps	PM	0.605	B	0.611	B	0.006	NO	0.897	D	0.897	D	0.000	NO
5	Avalon Boulevard/	AM	0.535	A	0.544	A	0.009	NO	0.595	A	0.603	B	0.008	NO
	213th Street	PM	0.702	C	0.710	C	0.008	NO	0.812	D	0.821	D	0.009	NO
6	Avalon Boulevard/	AM	0.789	C	0.829	D	0.040	NO	0.772	C	0.806	D	0.034	NO
	Carson Street	PM	0.850	D	0.860	D	0.010	NO	0.903	E	0.913	E	0.010	NO
7	Avalon Boulevard/	AM	0.795	C	0.803	D	0.008	NO	0.832	D	0.840	D	0.008	NO
	223rd Street	PM	0.843	D	0.847	D	0.004	NO	0.894	D	0.898	D	0.004	NO
8	Civic Plaza Drive-Bonita Street/	AM	0.635	B	0.647	B	0.012	NO	0.685	B	0.697	B	0.012	NO
	Carson Street	PM	0.739	C	0.745	C	0.006	NO	0.807	D	0.813	D	0.006	NO
9	I-405 Freeway SB Ramps/	AM	0.574	A	0.592	A	0.018	NO	0.629	B	0.646	B	0.017	NO
	Carson Street	PM	0.572	A	0.579	A	0.007	NO	0.639	B	0.647	B	0.008	NO
10	I-405 Freeway NB Ramps-Recreation Road/	AM	0.443	A	0.444	A	0.001	NO	0.522	A	0.523	A	0.001	NO
	Carson Street	PM	0.456	A	0.456	A	0.000	NO	0.540	A	0.540	A	0.000	NO

City of Carson intersection impact threshold criteria is as follows:

Final v/c	LOS	Project Related Increase in v/c
> 0.900	E, F	equal to or greater than 0.02

9.2.4 *Future Year 2017 With Project Conditions (With the Boulevards at South Bay Project)*

As shown in column [4] of *Table 9-2*, application of the City's threshold criteria to the "Future With Proposed Project" scenario indicates that the proposed project is not expected to create significant impacts at any of the study intersections. Incremental, but not significant, impacts are noted at the study intersections. Because there are no significant impacts due to the proposed project, no traffic mitigation measures are required for the study intersections under the "Future With Proposed Project" conditions. However, it should be noted that the intersection of Avalon Boulevard and Carson Street is forecast to operate at LOS E during the PM peak hour under the future year 2017 with or without project conditions.

It should be noted that as part of the approved Boulevards at South Bay project entitlement, a southbound right-turn only lane was required as a mitigation measure and its installation requires both roadway dedication and widening along the west side of Avalon Boulevard north of Carson Street along the proposed Avalon Mixed-Use project frontage. The proposed Avalon Mixed-Use project Applicant will be required to dedicate the Avalon Boulevard project frontage (south of the proposed southerly driveway) by ten feet but will not be responsible for the construction of the southbound right-turn only lane.

10.0 CONGESTION MANAGEMENT PROGRAM TRAFFIC IMPACT ASSESSMENT

The Congestion Management Program (CMP) is a state-mandated program that was enacted by the State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system.

As outlined in the *2010 Congestion Management Program*, a review has been prepared in order to determine if a formal Traffic Impact Assessment (TIA) would be required to determine potential impacts on designated monitoring locations on the CMP highway system. The review has been prepared in accordance with procedures outlined in the *2010 Congestion Management Program*.

According to Section D.9.1 (Appendix D, page D-6) of the 2010 CMP manual, the criteria for determining a significant impact are as follows:

> "For purposes of the CMP, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C ≥ 0.02), causing LOS F (V/C > 1.00); if the facility is already LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C ≥ 0.02)."

The CMP impact criteria apply for analysis of both freeway and intersection monitoring locations.

10.1 Freeways

The following CMP freeway monitoring location in the project vicinity has been identified:

- CMP Station — Segment

  No. 1067 — I-405 Freeway s/o Route 110 at Carson Scales

The CMP TIA guidelines require that freeway monitoring locations must be examined if the proposed project will add 150 or more trips (in either direction) during either the weekday AM or PM peak hours. The proposed project will not add 150 or more trips (in either direction) during either the weekday AM or PM peak hours to the CMP freeway monitoring location which is the threshold for preparing a traffic impact assessment, as stated in the CMP manual. Therefore, no further review of potential impacts to freeway monitoring locations that are part of the CMP highway system is required.

10.2 Intersections

The following CMP intersection monitoring location has been identified in the project study area:

- CMP Station — Location

  No. 7 — Alameda Street and Del Amo Boulevard

The CMP TIA guidelines require that intersection monitoring locations must be examined if the proposed project will add 50 or more trips during either the weekday AM or PM peak hours. The proposed project will not add 50 or more trips during either the weekday AM or PM peak hours (i.e., of adjacent street traffic) at the CMP monitoring intersections, as stated in the CMP manual as the threshold criteria for a traffic impact assessment. Therefore, no further review of potential impacts to intersection monitoring locations that are part of the CMP highway system is required.

10.3 Transit Impact Review

As required by the *2010 Congestion Management Program*, a review has been made of the CMP transit service. As previously discussed, existing transit service is provided in the vicinity of the proposed project.

The project trip generation, as shown in *Table 7–1*, was adjusted by values set forth in the CMP to estimate transit trip generation (i.e., person trips equal 1.4 times vehicle trips, and transit trips equal 3.5 percent of the total person trips). Pursuant to the CMP guidelines, the proposed project is forecast to generate demand for 11 transit trips during the weekday AM peak hour, 14 transit trips during the weekday PM peak hour, and 189 daily transit trips during the weekday. The calculations are as follows:

- Weekday AM Peak Hour = 232 × 1.4 × 0.035 = 11 Transit Trips
- Weekday PM Peak Hour = 282 × 1.4 × 0.035 = 14 Transit Trips
- Weekday Daily = 3,856 × 1.4 × 0.035 = 189 Transit Trips

As shown in *Table 4-2*, Metro, Carson Circuit Transit System, and Torrance Transit Bus Lines are provided adjacent to or in close proximity to the project site. As outlined in *Table 4-2* under the "Number of Buses/Trains" column, these transit lines provide a total of 30 buses serving the project area during the AM peak hour and 28 buses serving the project area during the PM peak hour. Therefore, based on the above calculated weekday AM and PM peak hour transit trips, this would correspond to an average of less than one new transit rider per bus due to the proposed project. It is anticipated that the existing transit service in the project area will adequately accommodate the project generated transit trips. Thus, given the low number of generated transit trips per bus, no impacts on existing or future transit services in the project area would occur as a result of the proposed project.

11.0 CALIFORNIA DEPARTMENT OF TRANSPORTATION IMPACT ANALYSIS

In addition to the intersection analyses, which utilize the City of Carson's methodologies, a supplemental analysis was prepared based on the latest edition of the *Highway Capacity Manual*[7] (HCM 2010) operational analysis methodologies pursuant to the California Department of Transportation's (Caltrans) *Guide for the Preparation of Traffic Impact Studies*[8]. Based on recent coordination with Caltrans, analyses of Caltrans facilities should be conducted when and if a proposed project is expected to add 50 or more peak hour trips in either direction on a freeway mainline segment or 10 or more peak hour trips to a freeway ramp location. The proposed project at build-out is not expected to generate 50 or more vehicle trips, during either the AM or PM peak commuter hours, at any freeway mainline location. Thus, any freeway mainline location would not exceed the threshold for preparation of a Caltrans freeway mainline analysis. However, the proposed project is expected to add 10 or more vehicle trips during the AM and/or PM commuter peak hours to the adjacent freeway ramp locations, which is the threshold for preparation of a Caltrans ramp analysis. Therefore, the following Caltrans ramp study intersections have been identified for analysis based on their proximity to the project site and are forecast to experience a relatively greater percentage of project-related traffic than other freeway facilities:

3. Avalon Boulevard/I-405 Freeway Northbound Ramps
4. Avalon Boulevard/I-405 Freeway Southbound Ramps
9. I-405 Freeway Southbound Ramps/Carson Street
10. I-405 Freeway Northbound Ramps-Recreation Road/Carson Street

According to the Caltrans document, the LOS for operating State highway facilities is based upon measures of effectiveness (MOEs). For state-controlled signalized study intersections, the MOE is determined based on control delay in seconds per vehicle (sec/veh). Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities"; it does not require that LOS "D" (shall) be maintained. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained. For this analysis, LOS D is the target level of service standard and will be utilized to assess the project impacts at the Caltrans ramp study intersections.

11.1 Highway Capacity Manual Method of Analysis

Based on the HCM operations method of analysis, level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number

[7] *HCM2010 Highway Capacity Manual*, Transportation Research Board of the National Academies, 2010.

[8] *Guide for the Preparation of Traffic Impact Studies*, State of California Department of Transportation, December 2002.

of factors that relate to control, geometries, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents, and when there are no other vehicles on the road.

The HCM signalized methodology calculates the control delay for each of the subject traffic movements and determine the level of service for each constrained movement. The control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. The overall control delay is measured in seconds per vehicle and the level of service is then determined. The term Level of Service (LOS) is used to describe intersection operations. Intersection Levels of Service vary from LOS A (free flow) to LOS F (jammed condition). The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay value range for signalized intersections are shown in ***Appendix D***.

11.2 Ramp Intersection Impact Analysis and Queuing Review

Intersection analyses were prepared utilizing the *Synchro 9* software package which implements the Highway Capacity Manual operational methods. A *Synchro* network was created based on field review of existing conditions at the four Caltrans ramp study intersections. In addition, specifics such as lane configurations, storage lengths, crosswalk locations, posted speed limits, traffic signal phasing, traffic volumes, etc., were coded to complete the existing network.

Table 11-1 summarizes the ramp intersection analyses for the existing, existing with project, and Year 2017 future conditions both without and with the proposed project. The first column [1] of *Table 11-1* presents a summary of existing traffic conditions. The second column [2] presents existing with project traffic conditions based on existing intersection geometry. The third column [3] presents Year 2017 traffic conditions based on existing intersection geometry, but without any project-generated traffic. The fourth column [4] presents future forecast traffic conditions with the addition of project traffic. As shown in *Table 11-1,* application of the Caltrans LOS standards and guidelines to the existing with project and future with project scenarios indicates that the proposed project is not expected to adversely impact any of the four Caltrans ramp study intersections. The four Caltrans ramp study intersections are currently operating at acceptable levels of service (LOS) during the AM and PM peak hours and are forecast to continue to operate at acceptable LOS with the addition of project traffic. The corresponding weekday AM and PM peak hour HCM worksheets are contained in *Appendix D*.

In addition to the ramp intersection analyses, a review of potential vehicle queuing was also conducted focusing on evaluation of the key I-405 Freeway Northbound and Southbound Off-Ramps both at Avalon Boulevard and Carson Street. Vehicle queuing was calculated using the *Synchro 9* software package which implements the Highway Capacity Manual operational methods. In forecasting vehicle queuing, the Synchro software considers traffic volume data, lane configurations, traffic signal phasing, and available vehicle storage lengths for the respective traffic movements.

Table 11-1
CALTRANS INTERSECTION IMPACT ANALYSIS [a]
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	PEAK HOUR	[1] YEAR 2014 EXISTING DELAY [b]	[1] YEAR 2014 EXISTING LOS [c]	[2] YEAR 2014 EXISTING W/ PROJECT DELAY [b]	[2] YEAR 2014 EXISTING W/ PROJECT LOS [c]	CHANGE IN DELAY [(2)-(1)]	IMPACT	[3] YEAR 2017 FUTURE W/O PROJECT DELAY [b]	[3] YEAR 2017 FUTURE W/O PROJECT LOS [c]	[4] YEAR 2017 FUTURE W/ PROJECT DELAY [b]	[4] YEAR 2017 FUTURE W/ PROJECT LOS [c]	CHANGE IN DELAY [(4)-(3)]	IMPACT
3	Avalon Boulevard/	AM	6.2	A	6.5	A	0.3	No	6.3	A	6.6	A	0.3	No
	I-405 Freeway NB Ramps	PM	7.7	A	7.9	A	0.2	No	8.0	A	8.2	A	0.2	No
4	Avalon Boulevard/	AM	9.1	A	9.3	A	0.2	No	9.9	A	10.1	B	0.2	No
	I-405 Freeway SB Ramps	PM	5.7	A	5.7	A	0.0	No	6.1	A	6.1	A	0.0	No
9	I-405 Freeway SB Ramps/	AM	8.5	A	8.5	A	0.0	No	10.3	B	10.3	B	0.0	No
	Carson Street	PM	5.8	A	5.8	A	0.0	No	7.5	A	7.5	A	0.0	No
10	I-405 Freeway NB Ramps - Recreation Road/	AM	4.5	A	4.5	A	0.0	No	10.4	B	10.4	B	0.0	No
	Carson Street	PM	6.4	A	6.4	A	0.0	No	10.6	B	10.6	B	0.0	No

[a] Intersection analysis based on the Highway Capacity Manual operational analysis methodologies, per the Caltrans' *Guide for the Preparation of Traffic Impact Studies* , December 2002.

[b] Reported control delay values in seconds per vehicle.

[c] Signalized Intersection Levels of Service are based on the following criteria:

Control Delay (s/veh)	LOS
<= 10	A
> 10-20	B
> 20-35	C
> 35-55	D
> 55-80	E
> 80	F

The vehicle queuing review has been prepared using the respective weekday AM and PM peak hour traffic volume forecasts for existing, existing with project, and Year 2017 conditions both without and with the proposed project. The Synchro analysis provides a forecast of the 95th percentile queues for the analysis time periods. The 95th percentile queue is the maximum back of vehicle queue with 95th percentile traffic volumes and is typically utilized for design purposes. The corresponding AM and PM peak hour HCM worksheets for purposes of determining the 95th percentile vehicle queues are contained in *Appendix D*.

Based on a review of aerial maps, the subject I-405 northbound and southbound off-ramps at Avalon Boulevard and Carson Street currently provide more than 1,500 feet of total storage area (as measured from the freeway gore area to the respective off-ramp approach limit lines). Thus, based on a review of the queuing worksheets and the available storage lengths, vehicle queuing back onto the I-405 Freeway mainline travel lanes at the respective study locations is not anticipated.

12.0 CONCLUSIONS

This traffic impact study has been prepared to identify and evaluate the potential impacts of traffic generated by the proposed Avalon Mixed-Use project. The proposed project consists of the demolition of all existing uses on-site and the construction of a new mixed-use project including residential and commercial uses in two separate structures. At buildout, a total of 357 residential apartment dwelling units (consisting of 117 studio apartments, 158 one-bedroom apartments, and 82 two or more-bedroom apartments) and 32,000 gross square feet of commercial building floor area will be provided. Based on information provided by the project Applicant, the exact nature of the proposed commercial tenancy cannot be determined at this time. As such, and in order to provide a conservative analysis of potential project-related traffic impacts while at the same time allowing for future development flexibility, the following retail and restaurant development program/land use mix has been assumed: a supermarket with 15,000 square feet of gross floor area, a pharmacy/drug store with 8,000 square feet of gross floor area, general retail use of 4,000 square feet of gross floor area, and a high-turnover (sit-down) restaurant with 5,000 square feet of gross floor area. Completion and occupancy of the proposed project is anticipated in year 2017. The proposed project is expected to generate a net increase of 164 vehicle trips (42 inbound trips and 122 outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate a net increase of 163 vehicle trips (106 inbound trips and 57 outbound trips). Over a 24-hour period, the proposed project is forecast to generate a net increase of 2,398 daily trip ends during a typical weekday (1,199 inbound trips and 1,199 outbound trips).

In order to evaluate the potential impacts to the local street system, ten (10) key study intersections were identified for evaluation to determine changes in operations following occupancy and utilization of the proposed project. The study intersections were evaluated using the City of Carson analysis methodologies and significant traffic impact thresholds. The weekday AM peak hour and PM peak hour conditions were identified for analysis.

Application of the impact threshold criteria for the City of Carson indicates that none of the ten study intersections would be significantly impacted by the forecast project traffic. Incremental but not significant impacts are noted at the study intersections evaluated in this analysis. As no significant impacts are expected due to the proposed project, no project specific traffic mitigation measures are required.

It should be noted that as part of the approved Boulevards at South Bay project entitlement, a southbound right-turn only lane was required as a mitigation measure for the Avalon Boulevard/Carson Street intersection and its installation requires both roadway dedication and widening along the west side of Avalon Boulevard north of Carson Street along the proposed Avalon Mixed-Use project frontage. The proposed Avalon Mixed-Use project Applicant will be required to dedicate the Avalon Boulevard project frontage (south of the proposed southerly driveway) by ten feet but the widening will be done by others.

Direct application of the Municipal Code parking requirements indicates that a total of 827 parking spaces will be required for the proposed Avalon Mixed-Use project. This includes a total of 687 parking spaces for the residential component, 90 parking spaces for the retail component, and 50 parking spaces for the restaurant component. Based on information provided by the project Applicant, a total of 749 parking spaces is planned to be provided to accommodate the proposed project. This will include a total of 609 parking spaces for the residential component, 90 parking spaces for the retail component, and 50 parking spaces for the restaurant component. Thus, strict application of Municipal Code parking requirements to the residential project component when compared to the proposed residential parking supply would result in a shortfall of 78 spaces. Based on reviews of industry standard residential parking ratios as well as empirical parking demand studies of existing multi-family residential sites, it is determined that the proposed residential project component would be expected to result in a forecast peak parking demand of 528 spaces. Therefore, it is concluded that the proposed project will provide sufficient parking to accommodate the projected peak parking demand.

The results of the Los Angeles County Congestion Management Program (CMP) traffic assessment indicated that the proposed Avalon Mixed-Use project will not adversely affect any CMP freeway monitoring locations or arterial monitoring intersections. Therefore, no improvements/mitigation measures are required of this project on the CMP facilities.

The proposed project at build-out is not expected to generate 50 or more vehicle trips, during either the AM or PM peak commuter hours, at any freeway mainline locations. Thus, any freeway mainline location would not exceed the threshold for preparation of a Caltrans freeway mainline analysis. However, the proposed project is expected to add 10 or more vehicle trips during the AM and/or PM commuter peak hours to the adjacent freeway ramp locations, which is the threshold for preparation of a Caltrans ramp analysis. Therefore, intersection analyses were prepared for the four Caltrans ramp study intersections in the project vicinity pursuant to Caltrans analysis methodologies. It was concluded based on application of the Caltrans LOS standards and guidelines that the proposed project would not adversely impact any of the four Caltrans ramp study intersections. The four Caltrans ramp study intersections are currently operating at acceptable levels of service (LOS) during the AM and PM peak hours and are forecast to continue to operate at acceptable LOS with the addition of project traffic.

Based on a review of aerial maps, the subject I-405 northbound and southbound off-ramps at Avalon Boulevard and Carson Street currently provide more than 1,500 feet of total storage area (as measured from the freeway gore area to the respective off-ramp approach limit lines). It was concluded based on a review of the queuing worksheets and the available storage lengths that vehicle queuing back onto the I-405 Freeway mainline travel lanes at the respective study locations is not anticipated.

APPENDIX A

TRAFFIC COUNT DATA

CITY TRAFFIC COUNTERS

626.991.7522
www.ctcounters.com

File Name : Main_Carson
Site Code : 00000000
Start Date : 11/6/2014
Page No : 1

Groups Printed- Unshifted

	Main St Southbound			Carson St Westbound			Main St Northbound			Carson St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	8	66	20	25	185	21	31	105	46	13	106	21	647
07:15 AM	17	112	42	21	196	32	25	130	37	19	125	22	778
07:30 AM	25	192	24	47	227	26	28	172	47	29	176	34	1027
07:45 AM	15	175	40	32	201	71	42	257	84	56	162	41	1176
Total	65	545	126	125	809	150	126	664	214	117	569	118	3628
08:00 AM	32	77	33	31	255	54	36	194	44	37	159	32	984
08:15 AM	26	78	18	20	143	22	38	126	26	23	126	23	669
08:30 AM	19	63	21	17	183	23	28	112	42	17	99	22	646
08:45 AM	25	83	31	18	144	18	28	77	29	19	96	16	584
Total	102	301	103	86	725	117	130	509	141	96	480	93	2883
04:00 PM	46	167	26	48	197	25	35	87	33	28	270	27	989
04:15 PM	59	188	29	39	143	18	33	101	43	32	263	23	971
04:30 PM	61	181	38	40	192	28	33	125	29	33	280	36	1076
04:45 PM	68	204	30	40	179	21	29	128	33	28	230	29	1019
Total	234	740	123	167	711	92	130	441	138	121	1043	115	4055
05:00 PM	61	200	45	39	185	22	36	103	53	42	273	47	1106
05:15 PM	57	202	41	38	168	25	40	116	34	32	234	31	1018
05:30 PM	56	191	29	48	158	15	39	114	41	38	270	37	1036
05:45 PM	43	175	37	44	130	23	24	114	38	37	244	31	940
Total	217	768	152	169	641	85	139	447	166	149	1021	146	4100
Grand Total	618	2354	504	547	2886	444	525	2061	659	483	3113	472	14666
Apprch %	17.8	67.7	14.5	14.1	74.4	11.5	16.2	63.5	20.3	11.9	76.5	11.6	
Total %	4.2	16.1	3.4	3.7	19.7	3	3.6	14.1	4.5	3.3	21.2	3.2	

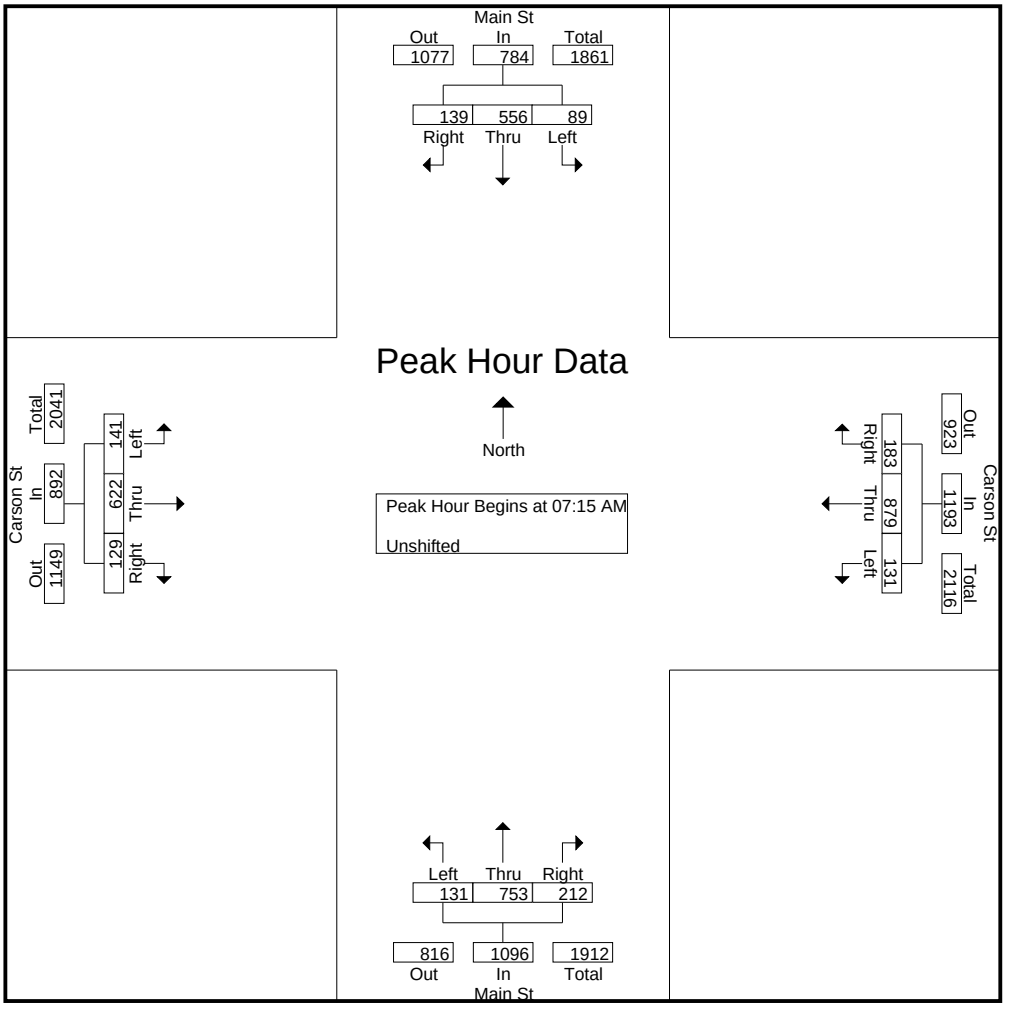
CITY TRAFFIC COUNTERS

626.991.7522

www.ctcounters.com

File Name : Main_Carson
Site Code : 00000000
Start Date : 11/6/2014
Page No : 2

	Main St Southbound				Carson St Westbound				Main St Northbound				Carson St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	17	112	**42**	171	21	196	32	249	25	130	37	192	19	125	22	166	778
07:30 AM	25	**192**	24	**241**	**47**	227	26	300	28	172	47	247	29	**176**	34	239	1027
07:45 AM	15	175	40	230	32	201	**71**	304	**42**	**257**	**84**	**383**	**56**	162	**41**	**259**	**1176**
08:00 AM	**32**	77	33	142	31	**255**	54	**340**	36	194	44	274	37	159	32	228	984
Total Volume	89	556	139	784	131	879	183	1193	131	753	212	1096	141	622	129	892	3965
% App. Total	11.4	70.9	17.7		11	73.7	15.3		12	68.7	19.3		15.8	69.7	14.5		
PHF	.695	.724	.827	.813	.697	.862	.644	.877	.780	.732	.631	.715	.629	.884	.787	.861	.843



CITY TRAFFIC COUNTERS

626.991.7522

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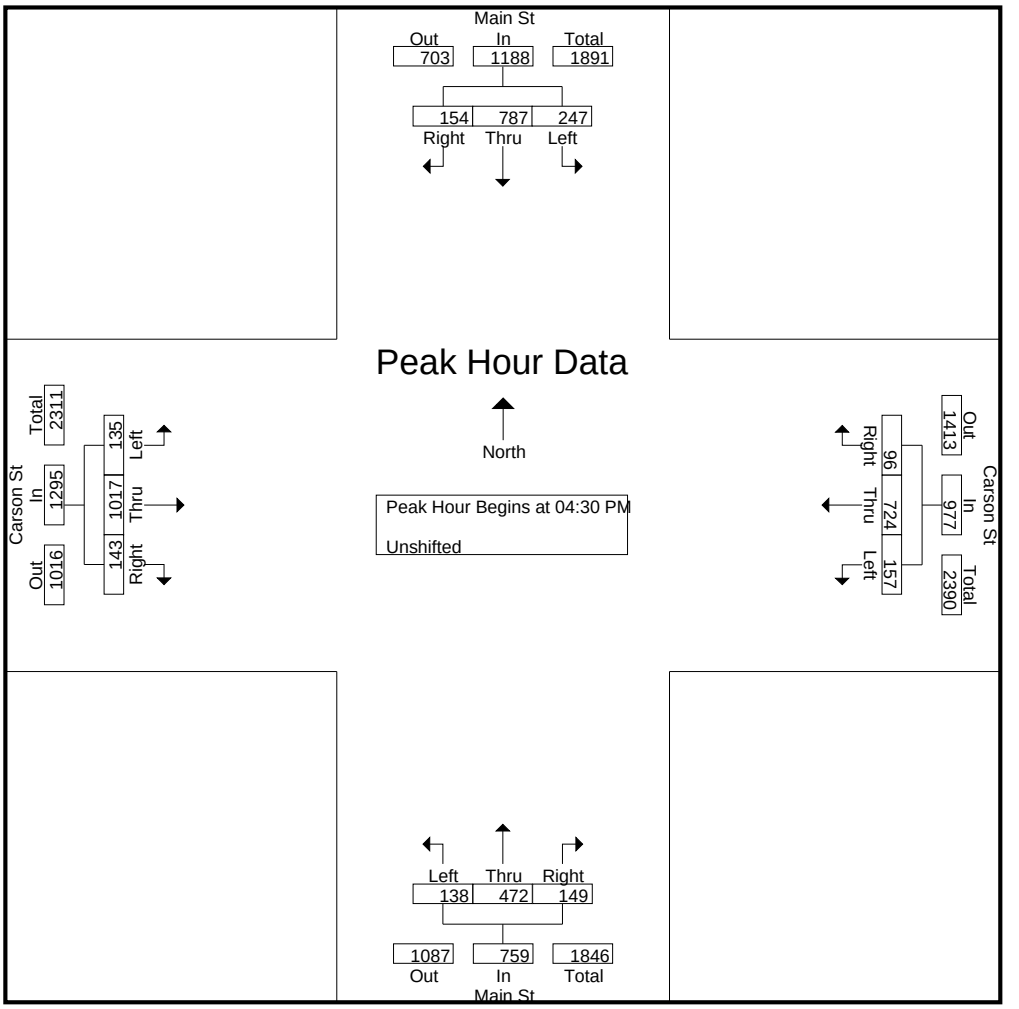
File Name : Main_Carson
Site Code : 00000000
Start Date : 11/6/2014
Page No : 3

	Main St Southbound				Carson St Westbound				Main St Northbound				Carson St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	61	181	38	280	**40**	**192**	**28**	**260**	33	125	29	187	33	**280**	36	349	1076
04:45 PM	**68**	**204**	30	302	40	179	21	240	29	**128**	33	190	28	230	29	287	1019
05:00 PM	61	200	**45**	**306**	39	185	22	246	36	103	**53**	**192**	**42**	273	**47**	**362**	**1106**
05:15 PM	57	202	41	300	38	168	25	231	**40**	116	34	190	32	234	31	297	1018
Total Volume	247	787	154	1188	157	724	96	977	138	472	149	759	135	1017	143	1295	4219
% App. Total	20.8	66.2	13		16.1	74.1	9.8		18.2	62.2	19.6		10.4	78.5	11		
PHF	.908	.964	.856	.971	.981	.943	.857	.939	.863	.922	.703	.988	.804	.908	.761	.894	.954



CITY TRAFFIC COUNTERS

626.991.7522
www.ctcounters.com

File Name : Avalon_Dom
Site Code : 00000000
Start Date : 11/5/2014
Page No : 1

Groups Printed- Unshifted

	Avalon Blvd Southbound			Dominguez St Westbound			Avalon Blvd Northbound			Dominguez St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	12	133	4	49	1	18	5	179	57	0	0	3	461
07:15 AM	15	148	4	63	2	10	0	191	63	2	2	4	504
07:30 AM	15	181	4	55	1	15	1	231	70	2	1	1	577
07:45 AM	11	154	2	65	1	16	3	336	104	3	2	5	702
Total	53	616	14	232	5	59	9	937	294	7	5	13	2244
08:00 AM	23	193	4	54	5	16	2	324	132	4	3	0	760
08:15 AM	20	162	4	43	1	15	4	248	77	1	3	1	579
08:30 AM	15	153	4	82	4	16	4	203	76	2	0	3	562
08:45 AM	16	152	1	50	3	7	7	175	56	4	3	4	478
Total	74	660	13	229	13	54	17	950	341	11	9	8	2379
04:00 PM	37	302	3	138	5	20	5	209	66	1	0	6	792
04:15 PM	43	270	3	134	1	25	6	228	77	2	4	2	795
04:30 PM	36	306	0	124	1	36	2	231	73	2	0	3	814
04:45 PM	44	310	3	149	3	16	5	238	69	3	2	0	842
Total	160	1188	9	545	10	97	18	906	285	8	6	11	3243
05:00 PM	42	333	1	158	0	18	6	259	52	1	2	0	872
05:15 PM	42	349	3	151	3	21	7	257	59	3	2	2	899
05:30 PM	55	310	3	167	0	16	9	251	41	3	2	1	858
05:45 PM	122	290	9	17	1	19	7	239	55	0	0	1	760
Total	261	1282	16	493	4	74	29	1006	207	7	6	4	3389
Grand Total	548	3746	52	1499	32	284	73	3799	1127	33	26	36	11255
Apprch %	12.6	86.2	1.2	82.6	1.8	15.6	1.5	76	22.5	34.7	27.4	37.9	
Total %	4.9	33.3	0.5	13.3	0.3	2.5	0.6	33.8	10	0.3	0.2	0.3	

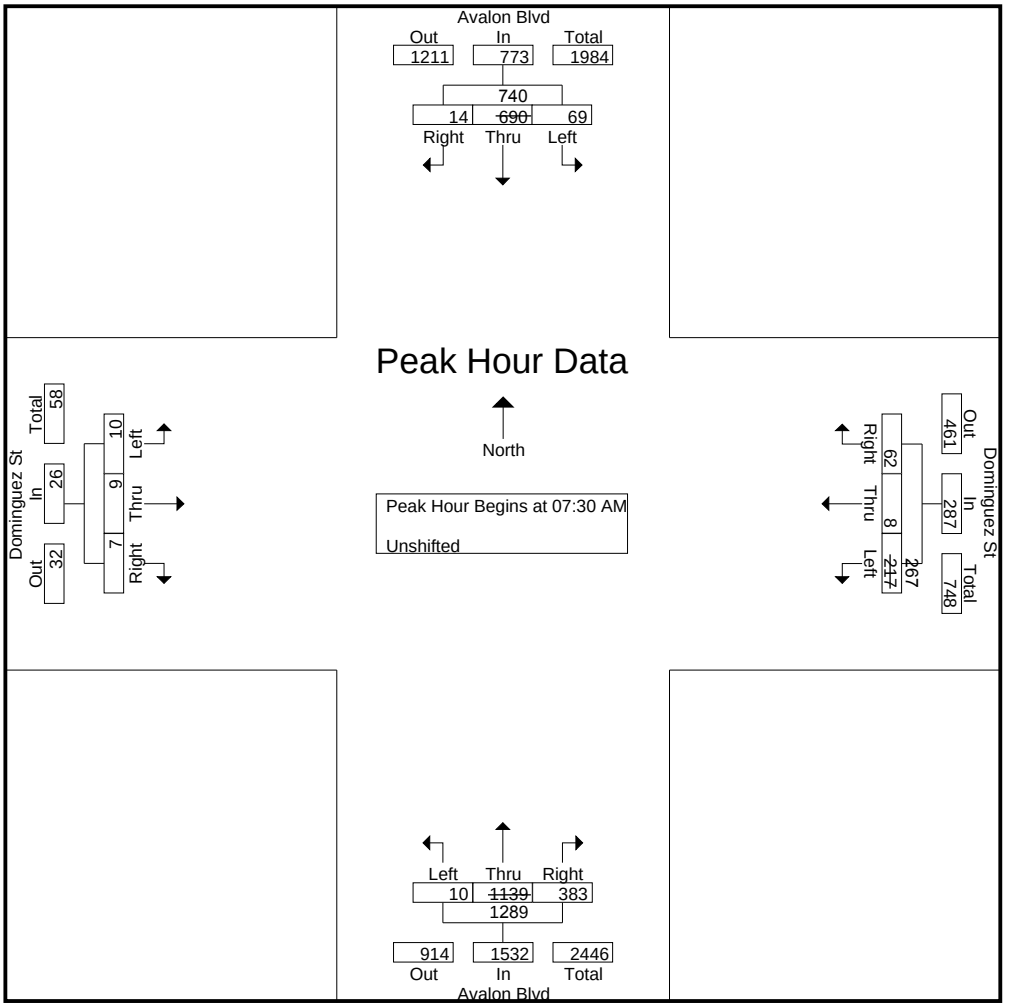
CITY TRAFFIC COUNTERS

626.991.7522

www.ctcounters.com

File Name : Avalon_Dom
Site Code : 00000000
Start Date : 11/5/2014
Page No : 2

	Avalon Blvd Southbound				Dominguez St Westbound				Avalon Blvd Northbound				Dominguez St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	15	181	**4**	200	55	1	15	71	1	231	70	302	2	1	1	4	577
07:45 AM	11	154	2	167	**65**	1	**16**	**82**	3	**336**	104	443	3	2	**5**	**10**	702
08:00 AM	**23**	**193**	4	**220**	54	**5**	16	75	2	324	**132**	**458**	**4**	**3**	0	7	**760**
08:15 AM	20	162	4	186	43	1	15	59	**4**	248	77	329	1	3	1	5	579
Total Volume	69	690	14	773	217	8	62	287	10	1139	383	1532	10	9	7	26	2618
% App. Total	8.9	89.3	1.8		75.6	2.8	21.6		0.7	74.3	25		38.5	34.6	26.9		
PHF	.750	.894	.875	.878	.835	.400	.969	.875	.625	.847	.725	.836	.625	.750	.350	.650	.861



CITY TRAFFIC COUNTERS

626.991.7522

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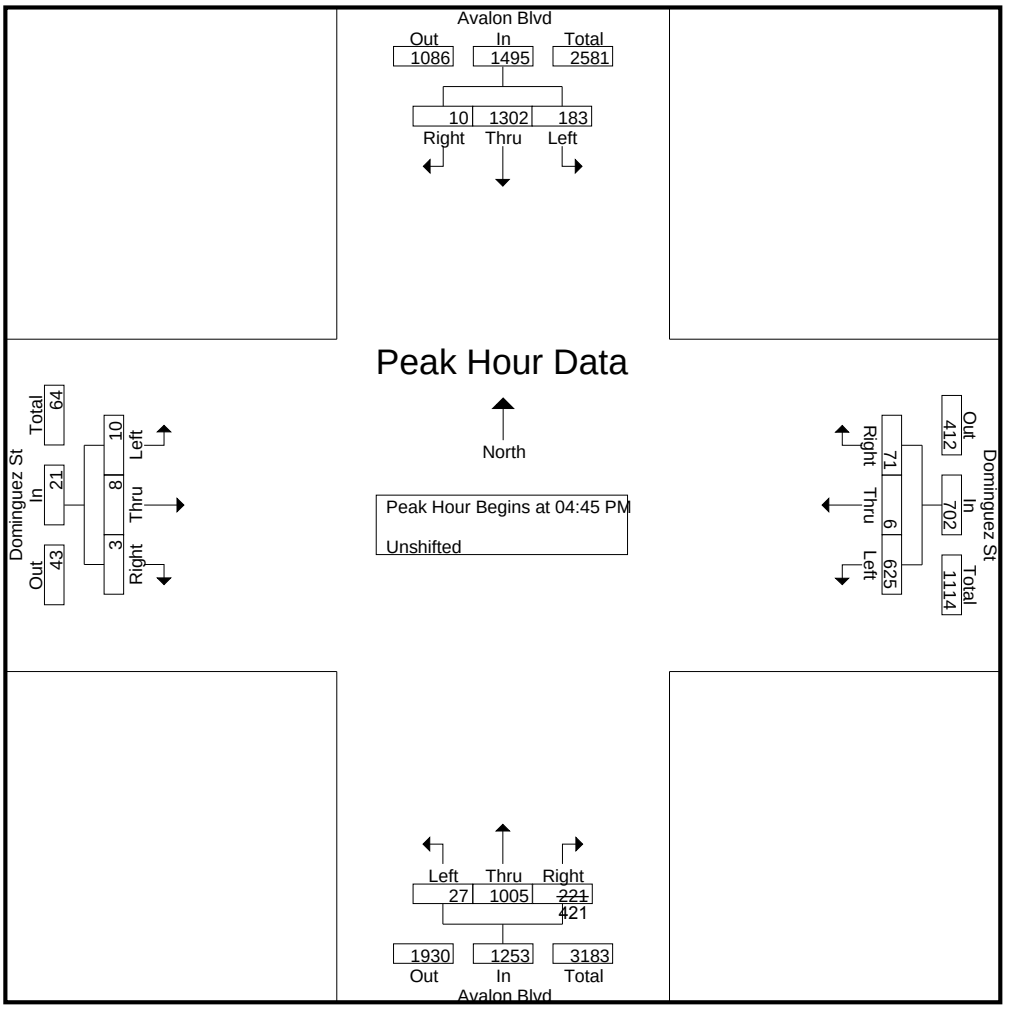
File Name : Avalon_Dom
Site Code : 00000000
Start Date : 11/5/2014
Page No : 3

	Avalon Blvd Southbound				Dominguez St Westbound				Avalon Blvd Northbound				Dominguez St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	44	310	**3**	357	149	**3**	16	168	5	238	**69**	312	**3**	**2**	0	5	842
05:00 PM	42	333	1	376	158	0	18	176	6	**259**	52	317	1	2	0	3	872
05:15 PM	42	**349**	3	**394**	151	3	**21**	175	7	257	59	**323**	3	2	**2**	**7**	**899**
05:30 PM	**55**	310	3	368	**167**	0	16	**183**	**9**	251	41	301	3	2	1	6	858
Total Volume	183	1302	10	1495	625	6	71	702	27	1005	221	1253	10	8	3	21	3471
% App. Total	12.2	87.1	0.7		89	0.9	10.1		2.2	80.2	17.6		47.6	38.1	14.3		
PHF	.832	.933	.833	.949	.936	.500	.845	.959	.750	.970	.801	.970	.833	1.00	.375	.750	.965



CITY TRAFFIC COUNTERS

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File Name : Avalon_405NB
Site Code : 00000000
Start Date : 11/5/2014
Page No : 1

Groups Printed- Unshifted

	Avalon Blvd Southbound			I-405 NB Ramps Westbound			Avalon Blvd Northbound			I-405 NB Ramps Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	139	50	5	2	92	77	158	0	0	0	0	523
07:15 AM	0	171	47	8	1	85	75	177	0	0	0	0	564
07:30 AM	0	192	44	7	0	99	66	213	0	0	0	0	621
07:45 AM	0	172	48	8	0	103	78	356	0	0	0	0	765
Total	0	674	189	28	3	379	296	904	0	0	0	0	2473
08:00 AM	0	205	46	15	0	156	69	321	0	0	0	0	812
08:15 AM	0	155	58	9	0	93	69	247	0	0	0	0	631
08:30 AM	0	184	56	6	0	81	54	219	0	0	0	0	600
08:45 AM	0	153	57	10	1	94	60	221	0	0	0	0	596
Total	0	697	217	40	1	424	252	1008	0	0	0	0	2639
04:00 PM	0	323	125	16	1	64	68	224	0	0	0	0	821
04:15 PM	0	300	113	15	0	67	79	227	0	0	0	0	801
04:30 PM	0	300	127	16	0	70	72	245	0	0	0	0	830
04:45 PM	0	319	141	15	1	82	84	268	0	0	0	0	910
Total	0	1242	506	62	2	283	303	964	0	0	0	0	3362
05:00 PM	0	359	134	18	1	87	83	260	0	0	0	0	942
05:15 PM	0	385	123	14	0	106	101	233	0	0	0	0	962
05:30 PM	0	365	116	14	0	90	90	224	0	0	0	0	899
05:45 PM	0	324	107	16	0	82	80	226	0	0	0	0	835
Total	0	1433	480	62	1	365	354	943	0	0	0	0	3638
Grand Total	0	4046	1392	192	7	1451	1205	3819	0	0	0	0	12112
Apprch %	0	74.4	25.6	11.6	0.4	87.9	24	76	0	0	0	0	
Total %	0	33.4	11.5	1.6	0.1	12	9.9	31.5	0	0	0	0	

CITY TRAFFIC COUNTERS
626.991.7522
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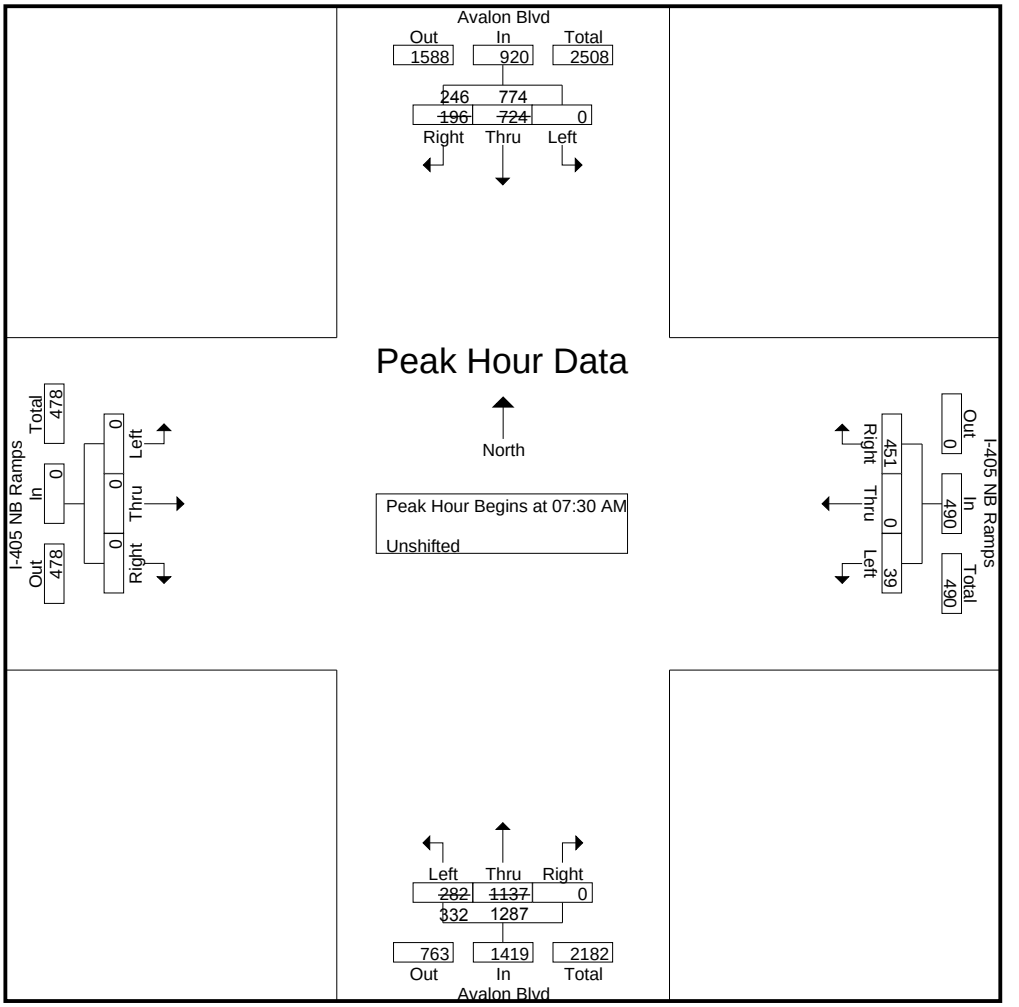
File Name : Avalon_405NB
Site Code : 00000000
Start Date : 11/5/2014
Page No : 2

	Avalon Blvd Southbound				I-405 NB Ramps Westbound				Avalon Blvd Northbound				I-405 NB Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	192	44	236	7	0	99	106	66	213	0	279	0	0	0	0	621
07:45 AM	0	172	48	220	8	0	103	111	**78**	**356**	0	**434**	0	0	0	0	765
08:00 AM	0	**205**	46	**251**	**15**	0	**156**	**171**	69	321	0	390	0	0	0	0	**812**
08:15 AM	0	155	**58**	213	9	0	93	102	69	247	0	316	0	0	0	0	631
Total Volume	0	724	196	920	39	0	451	490	282	1137	0	1419	0	0	0	0	2829
% App. Total	0	78.7	21.3		8	0	92		19.9	80.1	0		0	0	0		
PHF	.000	.883	.845	.916	.650	.000	.723	.716	.904	.798	.000	.817	.000	.000	.000	.000	.871



CITY TRAFFIC COUNTERS

626.991.7522

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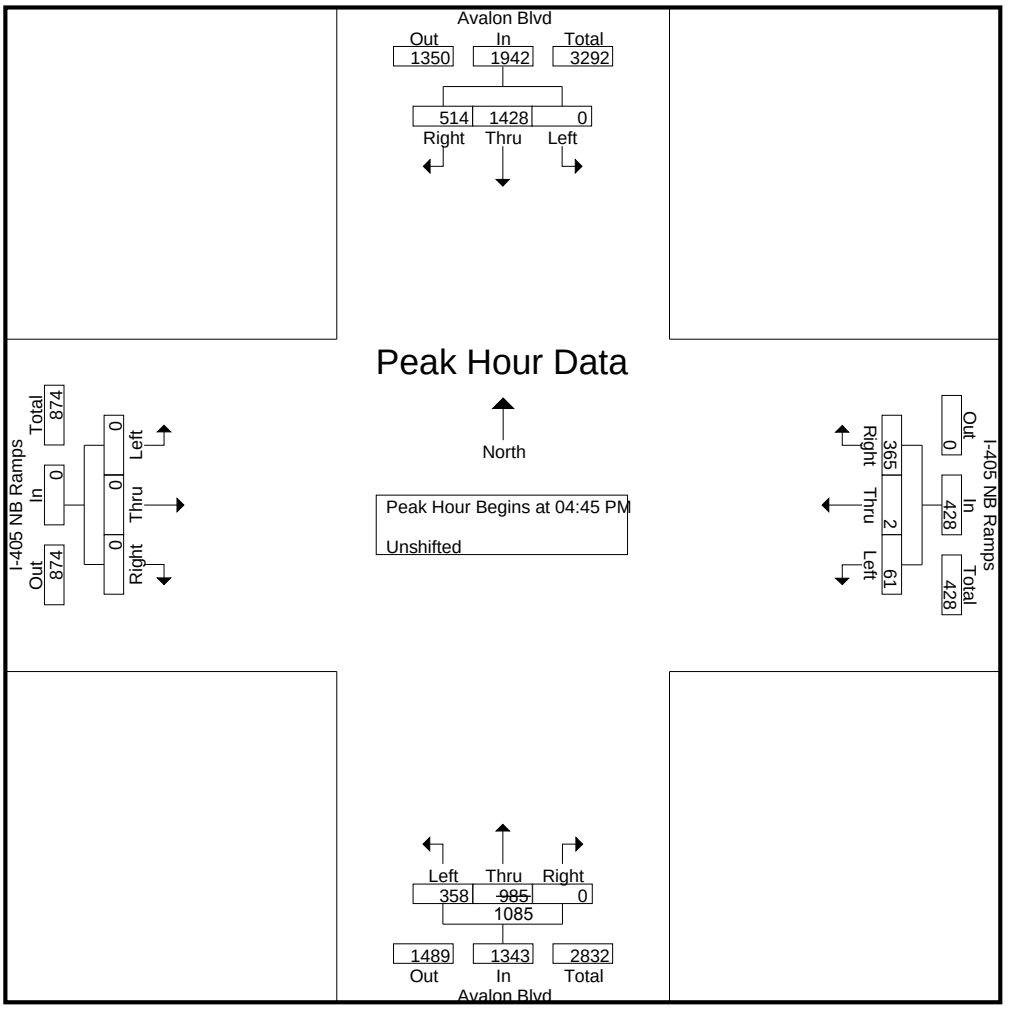
File Name : Avalon_405NB
Site Code : 00000000
Start Date : 11/5/2014
Page No : 3

	Avalon Blvd Southbound				I-405 NB Ramps Westbound				Avalon Blvd Northbound				I-405 NB Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	319	**141**	460	15	**1**	82	98	84	**268**	0	**352**	0	0	0	0	910
05:00 PM	0	359	134	493	**18**	1	87	106	83	260	0	343	0	0	0	0	942
05:15 PM	0	**385**	123	**508**	14	0	**106**	**120**	**101**	233	0	334	0	0	0	0	**962**
05:30 PM	0	365	116	481	14	0	90	104	90	224	0	314	0	0	0	0	899
Total Volume	0	1428	514	1942	61	2	365	428	358	985	0	1343	0	0	0	0	3713
% App. Total	0	73.5	26.5		14.3	0.5	85.3		26.7	73.3	0		0	0	0		
PHF	.000	.927	.911	.956	.847	.500	.861	.892	.886	.919	.000	.954	.000	.000	.000	.000	.965



CITY TRAFFIC COUNTERS

626.991.7522
www.ctcounters.com

File Name : Avalon_405SB
Site Code : 00000000
Start Date : 11/5/2014
Page No : 1

Groups Printed- Unshifted

	Avalon Blvd Southbound			I-405 SB Ramps Westbound			Avalon Blvd Northbound			I-405 SB Ramps Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	96	48	0	0	0	0	169	21	65	1	80	480
07:15 AM	0	99	79	0	0	0	0	175	26	78	0	89	546
07:30 AM	0	139	58	0	0	0	0	192	17	88	0	102	596
07:45 AM	0	133	53	0	0	0	0	298	16	130	0	105	735
Total	0	467	238	0	0	0	0	834	80	361	1	376	2357
08:00 AM	0	146	70	0	0	0	0	253	25	138	0	104	736
08:15 AM	0	109	51	0	0	0	0	200	12	112	1	79	564
08:30 AM	0	125	65	0	0	0	0	182	14	95	1	67	549
08:45 AM	0	116	49	0	0	0	0	190	19	98	1	82	555
Total	0	496	235	0	0	0	0	825	70	443	3	332	2404
04:00 PM	0	235	104	0	0	0	0	222	24	71	4	87	747
04:15 PM	0	239	79	0	0	0	0	244	15	61	16	99	753
04:30 PM	0	229	85	0	0	0	0	263	16	57	17	104	771
04:45 PM	0	227	100	0	0	0	0	294	13	55	25	105	819
Total	0	930	368	0	0	0	0	1023	68	244	62	395	3090
05:00 PM	0	273	105	0	0	0	0	293	41	52	15	78	857
05:15 PM	0	283	115	0	0	0	0	279	34	58	12	75	856
05:30 PM	0	269	111	0	0	0	0	270	39	54	15	93	851
05:45 PM	0	243	98	0	0	0	0	251	20	53	5	91	761
Total	0	1068	429	0	0	0	0	1093	134	217	47	337	3325
Grand Total	0	2961	1270	0	0	0	0	3775	352	1265	113	1440	11176
Apprch %	0	70	30	0	0	0	0	91.5	8.5	44.9	4	51.1	
Total %	0	26.5	11.4	0	0	0	0	33.8	3.1	11.3	1	12.9	

CITY TRAFFIC COUNTERS

626.991.7522

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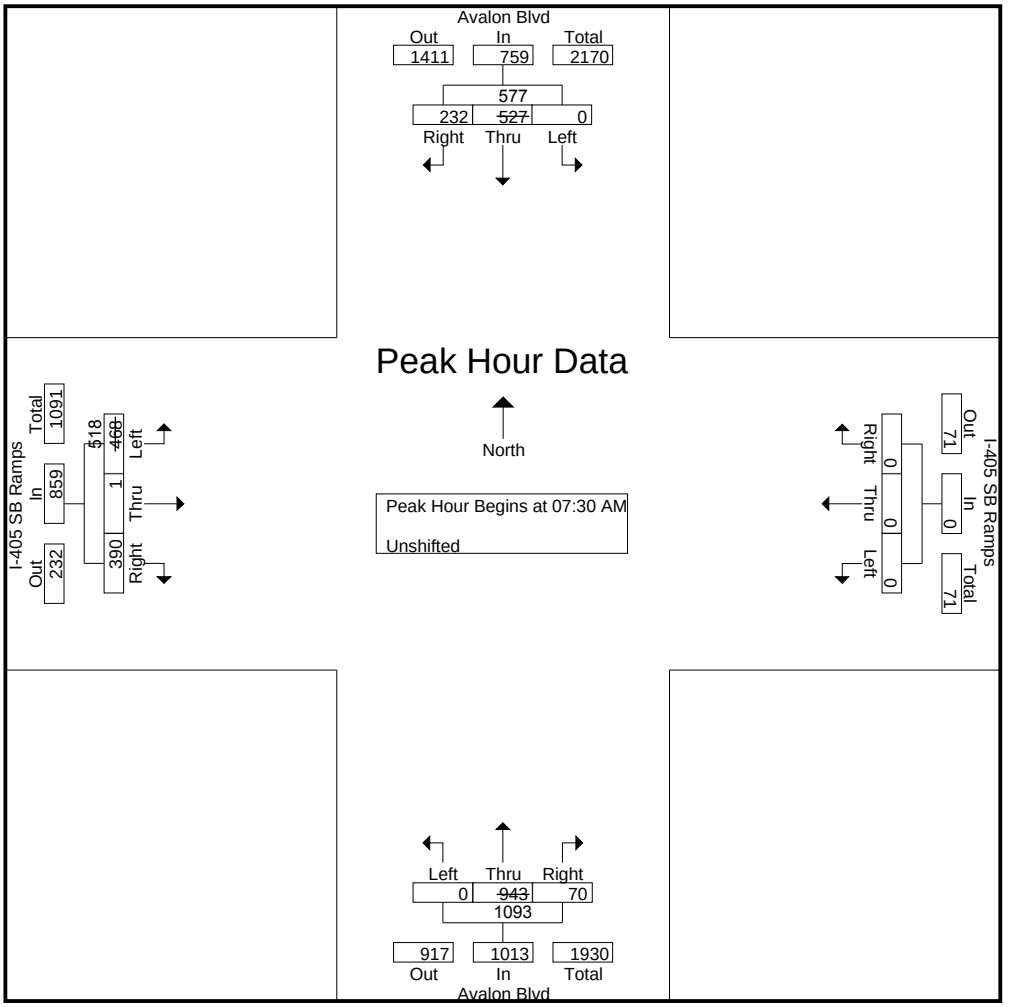
File Name : Avalon_405SB
Site Code : 00000000
Start Date : 11/5/2014
Page No : 2

	Avalon Blvd Southbound				I-405 SB Ramps Westbound				Avalon Blvd Northbound				I-405 SB Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	139	58	197	0	0	0	0	0	192	17	209	88	0	102	190	596
07:45 AM	0	133	53	186	0	0	0	0	0	**298**	16	**314**	130	0	**105**	235	735
08:00 AM	0	**146**	**70**	**216**	0	0	0	0	0	253	**25**	278	**138**	0	104	**242**	**736**
08:15 AM	0	109	51	160	0	0	0	0	0	200	12	212	112	**1**	79	192	564
Total Volume	0	527	232	759	0	0	0	0	0	943	70	1013	468	1	390	859	2631
% App. Total	0	69.4	30.6		0	0	0		0	93.1	6.9		54.5	0.1	45.4		
PHF	.000	.902	.829	.878	.000	.000	.000	.000	.000	.791	.700	.807	.848	.250	.929	.887	.894



CITY TRAFFIC COUNTERS

626.991.7522

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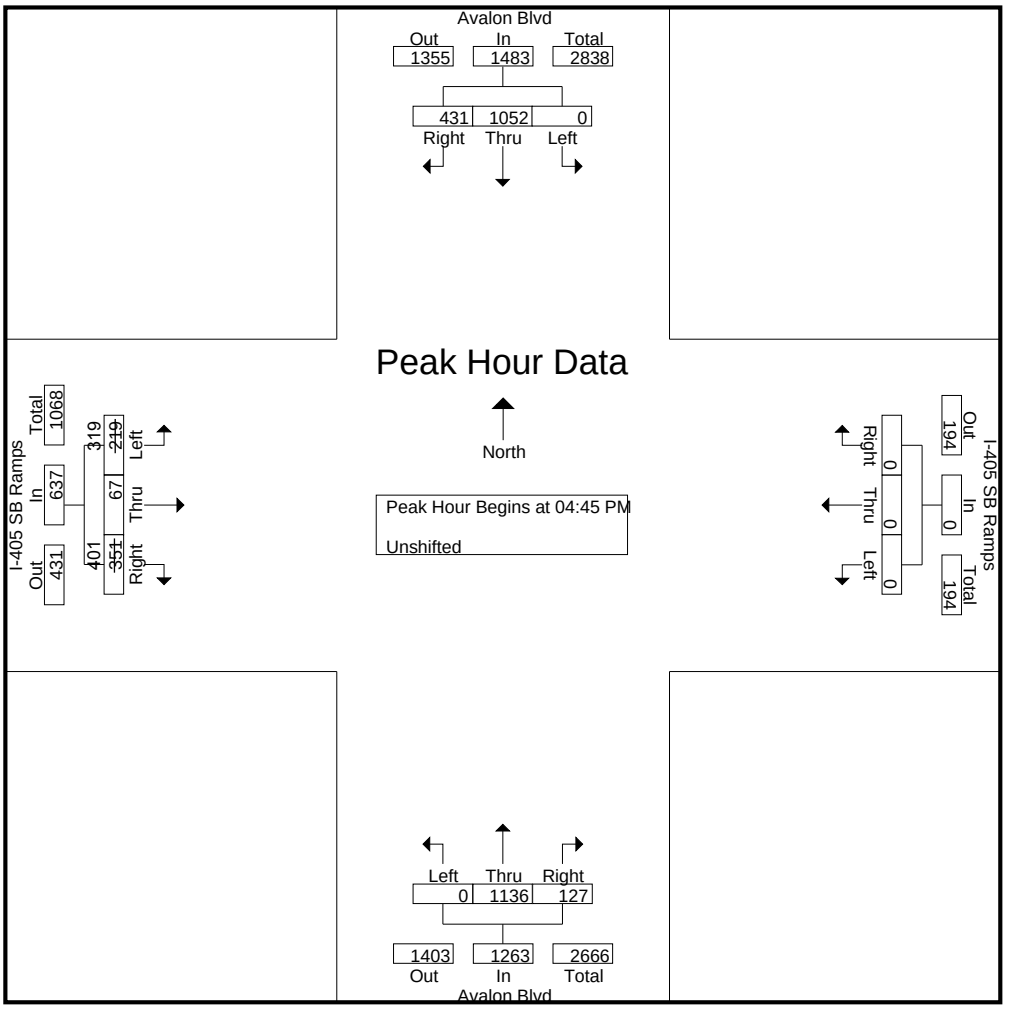
File Name : Avalon_405SB
Site Code : 00000000
Start Date : 11/5/2014
Page No : 3

	Avalon Blvd Southbound				I-405 SB Ramps Westbound				Avalon Blvd Northbound				I-405 SB Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	227	100	327	0	0	0	0	0	**294**	13	307	55	**25**	**105**	**185**	819
05:00 PM	0	273	105	378	0	0	0	0	0	293	**41**	**334**	52	15	78	145	**857**
05:15 PM	0	**283**	**115**	**398**	0	0	0	0	0	279	34	313	**58**	12	75	145	856
05:30 PM	0	269	111	380	0	0	0	0	0	270	39	309	54	15	93	162	851
Total Volume	0	1052	431	1483	0	0	0	0	0	1136	127	1263	219	67	351	637	3383
% App. Total	0	70.9	29.1		0	0	0		0	89.9	10.1		34.4	10.5	55.1		
PHF	.000	.929	.937	.932	.000	.000	.000	.000	.000	.966	.774	.945	.944	.670	.836	.861	.987



CITY TRAFFIC COUNTERS

626.991.7522
www.ctcounters.com

File Name : Avalon_213th
Site Code : 00000000
Start Date : 11/5/2014
Page No : 1

Groups Printed- Unshifted

	Avalon Blvd Southbound			213th St Westbound			Avalon Blvd Northbound			213th St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	6	135	21	19	16	16	7	127	16	36	17	9	425
07:15 AM	8	154	34	19	29	16	5	144	14	35	26	11	495
07:30 AM	8	201	29	12	43	10	11	172	28	33	22	15	584
07:45 AM	11	200	29	14	39	11	11	245	42	52	47	19	720
Total	33	690	113	64	127	53	34	688	100	156	112	54	2224
08:00 AM	14	187	47	12	31	17	22	198	22	56	22	7	635
08:15 AM	16	131	30	13	28	18	17	147	17	51	26	11	505
08:30 AM	17	149	39	11	21	6	18	148	22	37	22	11	501
08:45 AM	14	145	31	12	17	4	21	143	15	52	24	12	490
Total	61	612	147	48	97	45	78	636	76	196	94	41	2131
04:00 PM	26	228	51	17	23	11	26	196	27	39	35	14	693
04:15 PM	26	271	49	24	30	14	21	223	23	44	56	12	793
04:30 PM	32	239	39	21	27	13	15	215	34	49	41	19	744
04:45 PM	26	243	39	29	46	14	25	194	38	48	55	24	781
Total	110	981	178	91	126	52	87	828	122	180	187	69	3011
05:00 PM	34	239	57	30	34	22	27	250	20	57	44	13	827
05:15 PM	33	260	54	35	35	13	19	221	19	62	45	28	824
05:30 PM	37	256	48	32	33	15	16	211	25	55	55	21	804
05:45 PM	25	246	67	24	27	10	18	215	19	49	44	16	760
Total	129	1001	226	121	129	60	80	897	83	223	188	78	3215
Grand Total	333	3284	664	324	479	210	279	3049	381	755	581	242	10581
Apprch %	7.8	76.7	15.5	32	47.3	20.7	7.5	82.2	10.3	47.8	36.8	15.3	
Total %	3.1	31	6.3	3.1	4.5	2	2.6	28.8	3.6	7.1	5.5	2.3	

CITY TRAFFIC COUNTERS

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File Name : Avalon_213th
Site Code : 00000000
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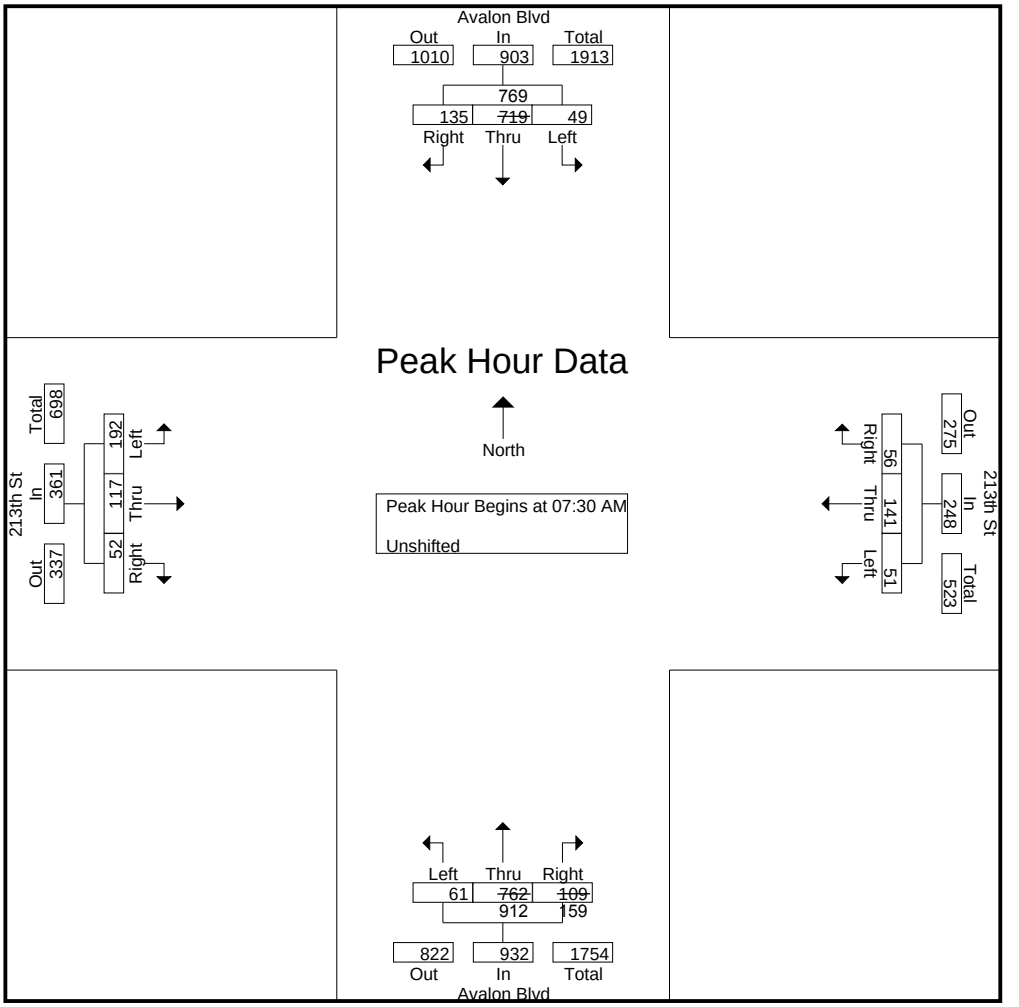
	Avalon Blvd Southbound				213th St Westbound				Avalon Blvd Northbound				213th St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	8	**201**	29	238	12	**43**	10	**65**	11	172	28	211	33	22	15	70	584
07:45 AM	11	200	29	240	**14**	39	11	64	11	**245**	**42**	**298**	52	**47**	**19**	**118**	**720**
08:00 AM	14	187	**47**	**248**	12	31	17	60	**22**	198	22	242	**56**	22	7	85	635
08:15 AM	**16**	131	30	177	13	28	**18**	59	17	147	17	181	51	26	11	88	505
Total Volume	49	719	135	903	51	141	56	248	61	762	109	932	192	117	52	361	2444
% App. Total	5.4	79.6	15		20.6	56.9	22.6		6.5	81.8	11.7		53.2	32.4	14.4		
PHF	.766	.894	.718	.910	.911	.820	.778	.954	.693	.778	.649	.782	.857	.622	.684	.765	.849



CITY TRAFFIC COUNTERS

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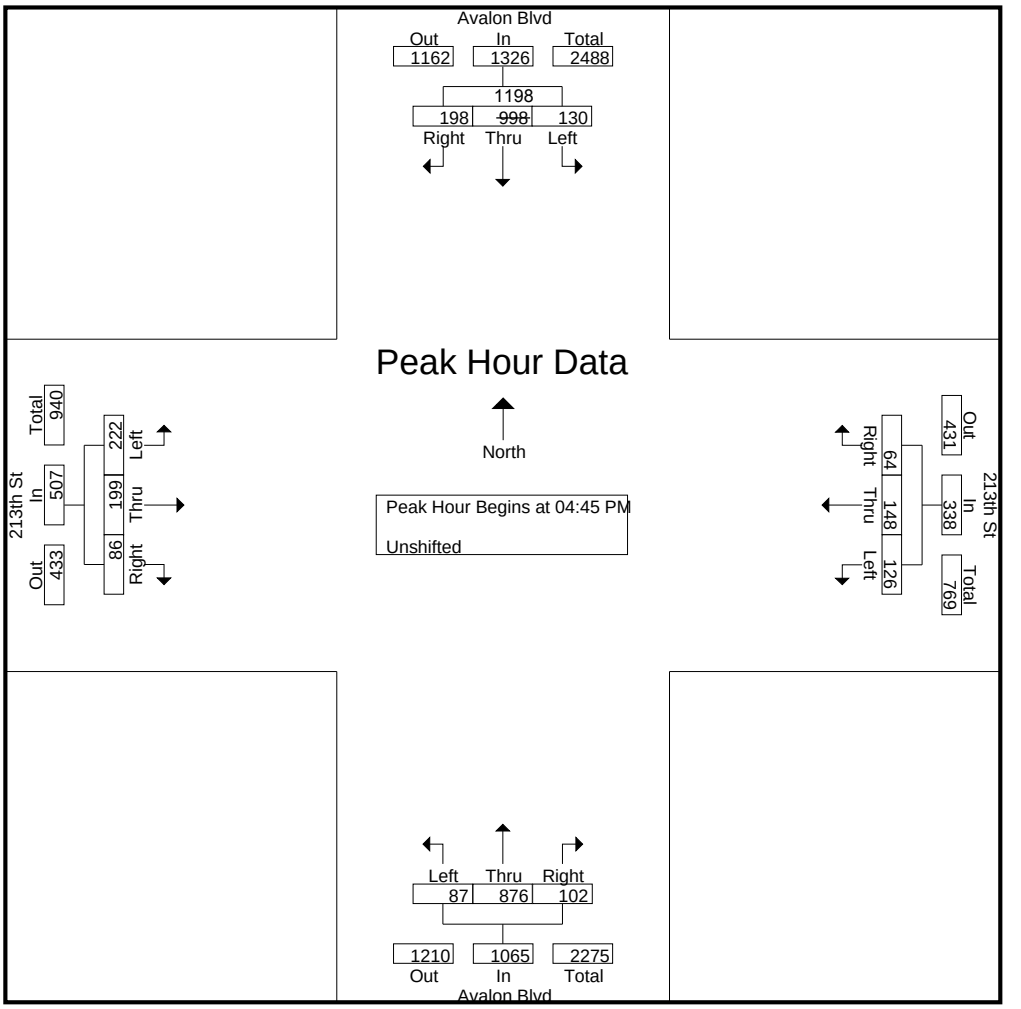
File Name : Avalon_213th
Site Code : 00000000
Start Date : 11/5/2014
Page No : 3

	Avalon Blvd Southbound				213th St Westbound				Avalon Blvd Northbound				213th St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	26	243	39	308	29	**46**	14	**89**	25	194	**38**	257	48	**55**	24	127	781
05:00 PM	34	239	**57**	330	30	34	**22**	86	**27**	**250**	20	**297**	57	44	13	114	**827**
05:15 PM	33	**260**	54	**347**	**35**	35	13	83	19	221	19	259	**62**	45	**28**	**135**	824
05:30 PM	**37**	256	48	341	32	33	15	80	16	211	25	252	55	55	21	131	804
Total Volume	130	998	198	1326	126	148	64	338	87	876	102	1065	222	199	86	507	3236
% App. Total	9.8	75.3	14.9		37.3	43.8	18.9		8.2	82.3	9.6		43.8	39.3	17		
PHF	.878	.960	.868	.955	.900	.804	.727	.949	.806	.876	.671	.896	.895	.905	.768	.939	.978



CITY TRAFFIC COUNTERS

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File Name : Avalon_Carson
Site Code : 00000000
Start Date : 11/6/2014
Page No : 1

Groups Printed- Unshifted

	Avalon Blvd Southbound			Carson St Westbound			Avalon Blvd Northbound			Carson St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	15	105	19	40	166	8	17	107	65	28	114	10	694
07:15 AM	22	122	19	69	214	23	19	115	68	31	139	21	862
07:30 AM	31	141	33	73	253	22	25	148	77	33	151	7	994
07:45 AM	35	166	26	83	294	39	23	182	80	52	166	27	1173
Total	103	534	97	265	927	92	84	552	290	144	570	65	3723
08:00 AM	34	122	39	70	196	24	35	161	81	52	159	14	987
08:15 AM	24	93	24	53	184	22	18	139	60	32	121	16	786
08:30 AM	23	107	29	48	155	29	21	110	48	34	94	15	713
08:45 AM	18	99	31	51	160	18	16	102	50	34	106	15	700
Total	99	421	123	222	695	93	90	512	239	152	480	60	3186
04:00 PM	46	170	51	59	169	31	32	171	69	64	202	17	1081
04:15 PM	50	180	57	78	148	19	25	167	89	74	210	22	1119
04:30 PM	38	150	40	100	178	21	35	173	82	79	216	19	1131
04:45 PM	59	179	36	88	196	25	44	173	81	85	205	18	1189
Total	193	679	184	325	691	96	136	684	321	302	833	76	4520
05:00 PM	53	177	34	98	210	23	32	176	80	51	206	20	1160
05:15 PM	52	170	35	73	133	21	35	201	90	59	182	30	1081
05:30 PM	52	181	35	54	159	19	24	144	73	55	191	19	1006
05:45 PM	54	180	36	44	143	26	36	202	77	36	177	22	1033
Total	211	708	140	269	645	89	127	723	320	201	756	91	4280
Grand Total	606	2342	544	1081	2958	370	437	2471	1170	799	2639	292	15709
Apprch %	17.4	67.1	15.6	24.5	67.1	8.4	10.7	60.6	28.7	21.4	70.8	7.8	
Total %	3.9	14.9	3.5	6.9	18.8	2.4	2.8	15.7	7.4	5.1	16.8	1.9	

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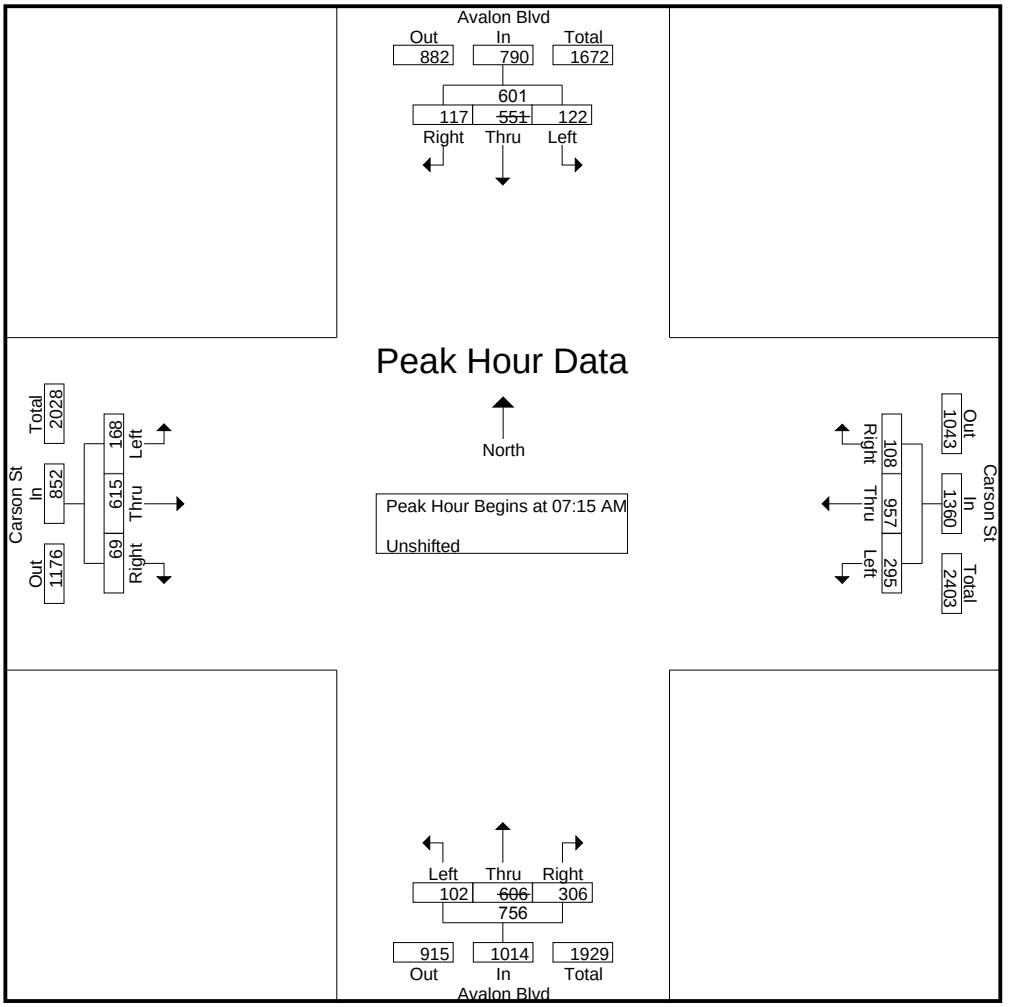
	Avalon Blvd Southbound				Carson St Westbound				Avalon Blvd Northbound				Carson St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	22	122	19	163	69	214	23	306	19	115	68	202	31	139	21	191	862
07:30 AM	31	141	33	205	73	253	22	348	25	148	77	250	33	151	7	191	994
07:45 AM	**35**	**166**	26	**227**	**83**	**294**	**39**	**416**	23	**182**	80	**285**	**52**	**166**	**27**	**245**	**1173**
08:00 AM	34	122	**39**	195	70	196	24	290	**35**	161	**81**	277	52	159	14	225	987
Total Volume	122	551	117	790	295	957	108	1360	102	606	306	1014	168	615	69	852	4016
% App. Total	15.4	69.7	14.8		21.7	70.4	7.9		10.1	59.8	30.2		19.7	72.2	8.1		
PHF	.871	.830	.750	.870	.889	.814	.692	.817	.729	.832	.944	.889	.808	.926	.639	.869	.856



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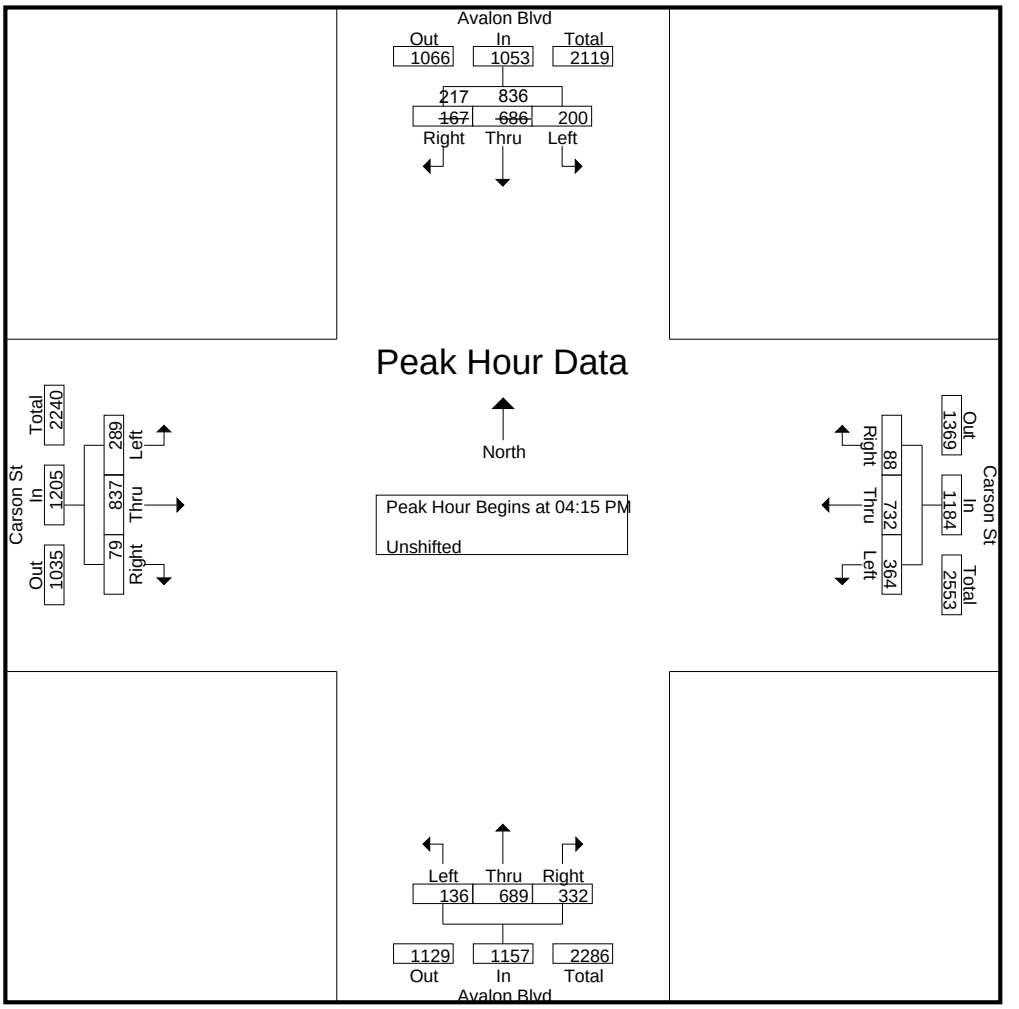
	Avalon Blvd Southbound				Carson St Westbound				Avalon Blvd Northbound				Carson St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	50	**180**	**57**	**287**	78	148	19	245	25	167	**89**	281	74	210	**22**	306	1119
04:30 PM	38	150	40	228	**100**	178	21	299	35	173	82	290	79	**216**	19	**314**	1131
04:45 PM	**59**	179	36	274	88	196	**25**	309	**44**	173	81	**298**	**85**	205	18	308	**1189**
05:00 PM	53	177	34	264	98	**210**	23	**331**	32	**176**	80	288	51	206	20	277	1160
Total Volume	200	686	167	1053	364	732	88	1184	136	689	332	1157	289	837	79	1205	4599
% App. Total	19	65.1	15.9		30.7	61.8	7.4		11.8	59.6	28.7		24	69.5	6.6		
PHF	.847	.953	.732	.917	.910	.871	.880	.894	.773	.979	.933	.971	.850	.969	.898	.959	.967



CITY TRAFFIC COUNTERS

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File Name : Avalon_223rd
Site Code : 00000000
Start Date : 11/5/2014
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Groups Printed- Unshifted

	Avalon Blvd Southbound			223rd St Westbound			Avalon Blvd Northbound			223rd St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	16	77	23	22	149	18	11	103	34	41	131	6	631
07:15 AM	16	85	47	17	195	24	18	107	48	43	99	10	709
07:30 AM	26	107	58	28	173	16	24	158	41	73	142	12	858
07:45 AM	44	132	48	33	209	25	24	173	36	77	189	16	1006
Total	102	401	176	100	726	83	77	541	159	234	561	44	3204
08:00 AM	22	120	32	27	158	20	19	140	34	65	105	18	760
08:15 AM	29	89	26	19	161	15	21	128	41	51	118	16	714
08:30 AM	26	94	21	14	113	16	24	126	25	61	78	8	606
08:45 AM	27	88	27	14	120	18	17	118	28	39	80	15	591
Total	104	391	106	74	552	69	81	512	128	216	381	57	2671
04:00 PM	23	120	29	32	112	37	25	142	32	73	207	15	847
04:15 PM	25	148	36	36	114	20	25	149	27	48	190	19	837
04:30 PM	39	120	38	39	146	36	15	180	33	78	227	23	974
04:45 PM	50	180	35	31	173	34	15	203	27	53	263	20	1084
Total	137	568	138	138	545	127	80	674	119	252	887	77	3742
05:00 PM	30	114	50	43	153	26	17	186	32	60	219	15	945
05:15 PM	25	174	72	35	139	28	27	176	29	55	224	27	1011
05:30 PM	28	164	51	41	158	22	30	179	36	63	260	29	1061
05:45 PM	31	121	43	31	116	22	26	161	39	53	203	25	871
Total	114	573	216	150	566	98	100	702	136	231	906	96	3888
Grand Total	457	1933	636	462	2389	377	338	2429	542	933	2735	274	13505
Apprch %	15.1	63.9	21	14.3	74	11.7	10.2	73.4	16.4	23.7	69.4	7	
Total %	3.4	14.3	4.7	3.4	17.7	2.8	2.5	18	4	6.9	20.3	2	

CITY TRAFFIC COUNTERS

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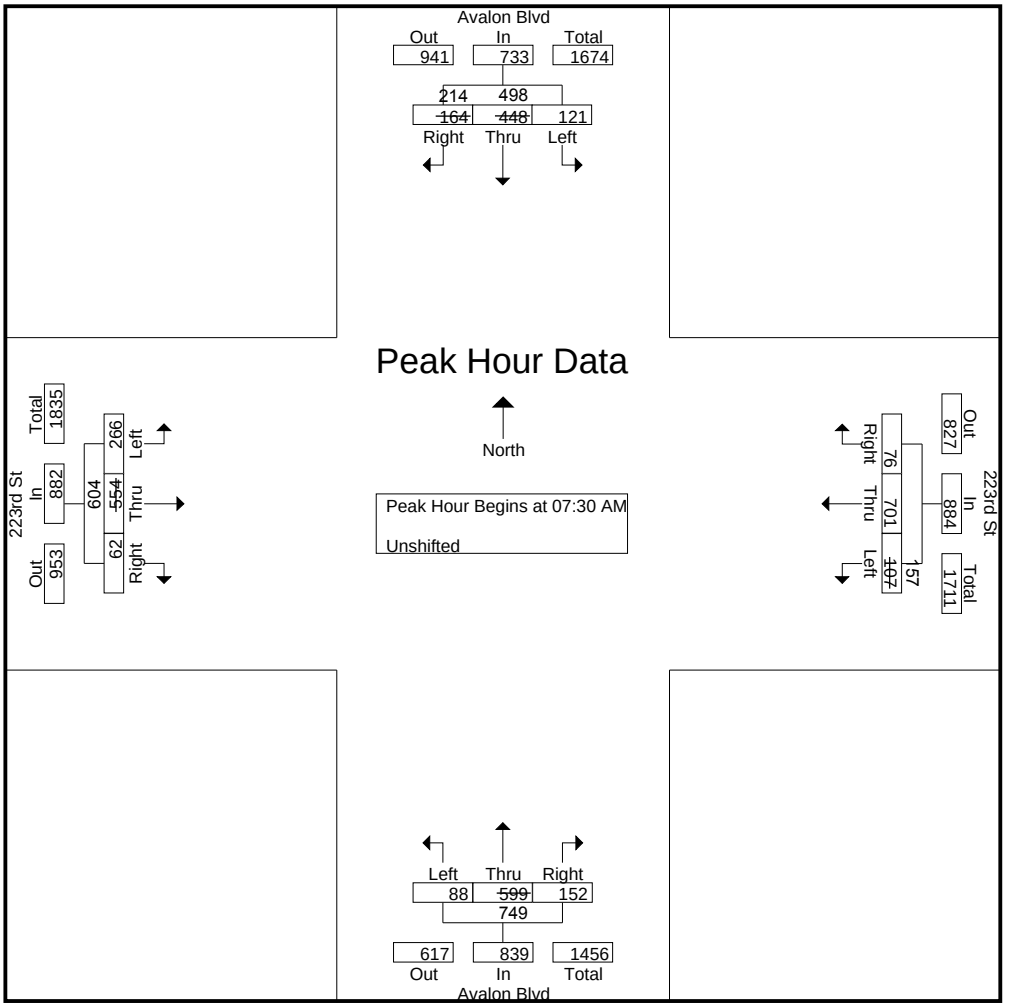
	Avalon Blvd Southbound				223rd St Westbound				Avalon Blvd Northbound				223rd St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	26	107	**58**	191	28	173	16	217	**24**	158	**41**	223	73	142	12	227	858
07:45 AM	**44**	**132**	48	**224**	**33**	**209**	**25**	**267**	24	**173**	36	**233**	**77**	**189**	16	**282**	**1006**
08:00 AM	22	120	32	174	27	158	20	205	19	140	34	193	65	105	**18**	188	760
08:15 AM	29	89	26	144	19	161	15	195	21	128	41	190	51	118	16	185	714
Total Volume	121	448	164	733	107	701	76	884	88	599	152	839	266	554	62	882	3338
% App. Total	16.5	61.1	22.4		12.1	79.3	8.6		10.5	71.4	18.1		30.2	62.8	7		
PHF	.688	.848	.707	.818	.811	.839	.760	.828	.917	.866	.927	.900	.864	.733	.861	.782	.830



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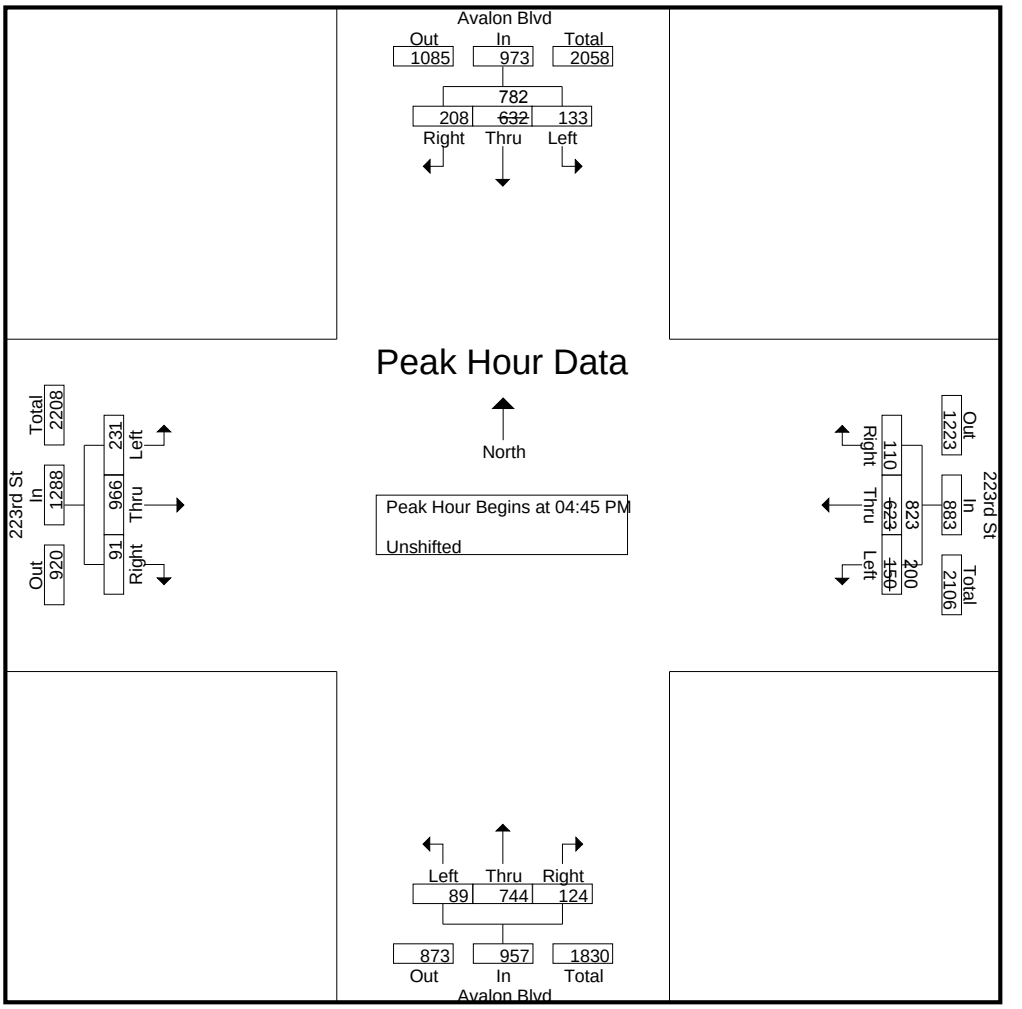
	Avalon Blvd Southbound				223rd St Westbound				Avalon Blvd Northbound				223rd St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**50**	**180**	35	265	31	**173**	**34**	**238**	15	**203**	27	**245**	53	**263**	20	336	**1084**
05:00 PM	30	114	50	194	**43**	153	26	222	17	186	32	235	60	219	15	294	945
05:15 PM	25	174	**72**	**271**	35	139	28	202	27	176	29	232	55	224	27	306	1011
05:30 PM	28	164	51	243	41	158	22	221	**30**	179	**36**	245	**63**	260	**29**	**352**	1061
Total Volume	133	632	208	973	150	623	110	883	89	744	124	957	231	966	91	1288	4101
% App. Total	13.7	65	21.4		17	70.6	12.5		9.3	77.7	13		17.9	75	7.1		
PHF	.665	.878	.722	.898	.872	.900	.809	.928	.742	.916	.861	.977	.917	.918	.784	.915	.946



CITY TRAFFIC COUNTERS

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File Name : Civic_Bon_Carson
Site Code : 00000000
Start Date : 11/6/2014
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Groups Printed- Unshifted

	Civic Plaza Dr Southbound			Carson St Westbound			Bonita St Northbound			Carson St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	11	7	9	19	211	4	15	6	33	9	173	11	508
07:15 AM	14	11	8	34	286	2	19	3	36	7	177	22	619
07:30 AM	22	19	17	49	293	5	33	6	36	15	189	25	709
07:45 AM	16	28	19	59	357	1	34	10	52	11	187	24	798
Total	63	65	53	161	1147	12	101	25	157	42	726	82	2634
08:00 AM	15	4	11	32	307	7	24	13	32	14	160	13	632
08:15 AM	10	5	7	21	251	7	12	10	28	11	158	8	528
08:30 AM	6	5	7	12	227	5	3	5	19	4	169	4	466
08:45 AM	4	3	3	11	210	5	7	4	20	9	147	6	429
Total	35	17	28	76	995	24	46	32	99	38	634	31	2055
04:00 PM	16	15	12	30	208	13	25	5	79	18	268	20	709
04:15 PM	13	9	9	26	227	17	12	12	53	11	284	10	683
04:30 PM	17	10	4	34	271	13	9	11	58	15	288	6	736
04:45 PM	9	6	10	35	239	12	7	7	59	10	298	13	705
Total	55	40	35	125	945	55	53	35	249	54	1138	49	2833
05:00 PM	21	12	7	16	227	5	16	10	45	6	311	6	682
05:15 PM	11	5	2	22	217	7	16	2	40	14	295	11	642
05:30 PM	16	12	9	22	188	33	22	6	56	15	282	8	669
05:45 PM	15	14	4	22	187	19	30	17	52	17	276	10	663
Total	63	43	22	82	819	64	84	35	193	52	1164	35	2656
Grand Total	216	165	138	444	3906	155	284	127	698	186	3662	197	10178
Apprch %	41.6	31.8	26.6	9.9	86.7	3.4	25.6	11.5	62.9	4.6	90.5	4.9	
Total %	2.1	1.6	1.4	4.4	38.4	1.5	2.8	1.2	6.9	1.8	36	1.9	

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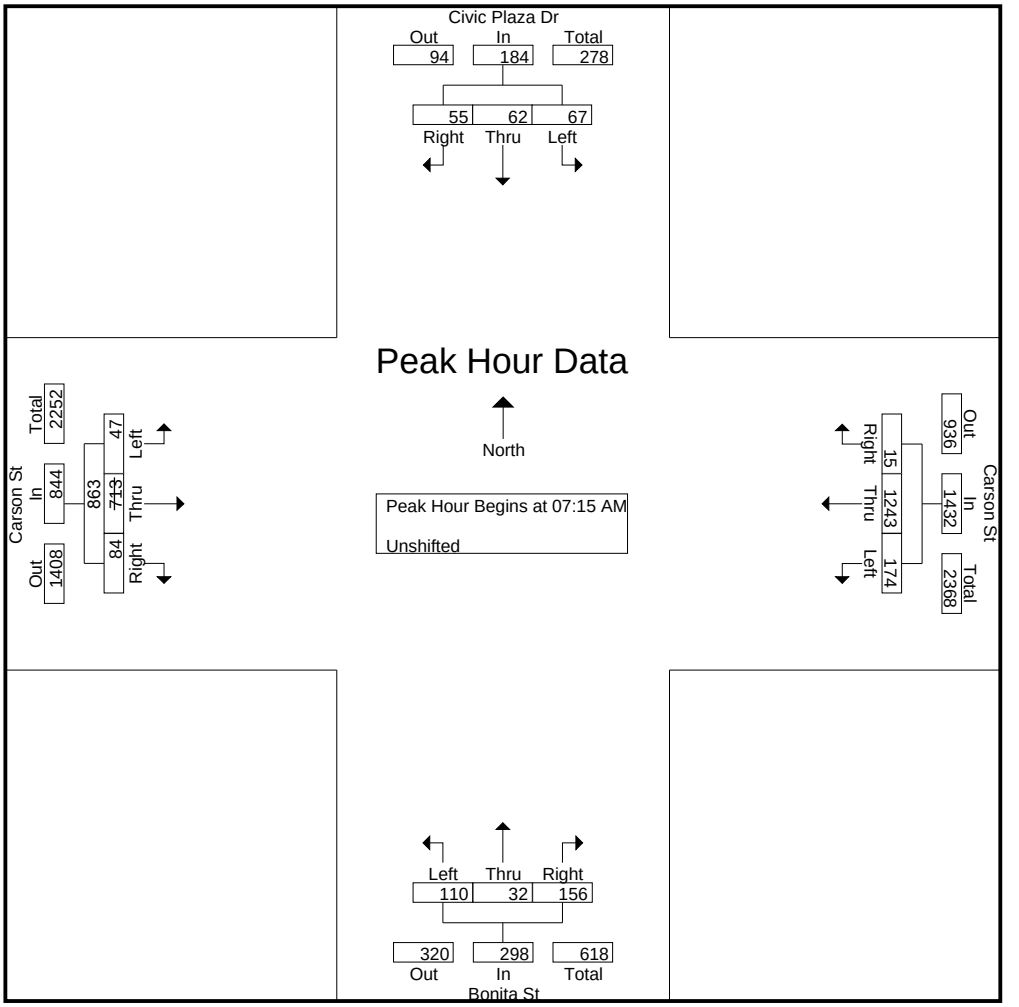
	Civic Plaza Dr Southbound				Carson St Westbound				Bonita St Northbound				Carson St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	14	11	8	33	34	286	2	322	19	3	36	58	7	177	22	206	619
07:30 AM	**22**	19	17	58	49	293	5	347	33	6	36	75	**15**	**189**	**25**	**229**	709
07:45 AM	16	**28**	**19**	**63**	**59**	**357**	1	**417**	**34**	10	**52**	**96**	11	187	24	222	**798**
08:00 AM	15	4	11	30	32	307	**7**	346	24	**13**	32	69	14	160	13	187	632
Total Volume	67	62	55	184	174	1243	15	1432	110	32	156	298	47	713	84	844	2758
% App. Total	36.4	33.7	29.9		12.2	86.8	1		36.9	10.7	52.3		5.6	84.5	10		
PHF	.761	.554	.724	.730	.737	.870	.536	.859	.809	.615	.750	.776	.783	.943	.840	.921	.864



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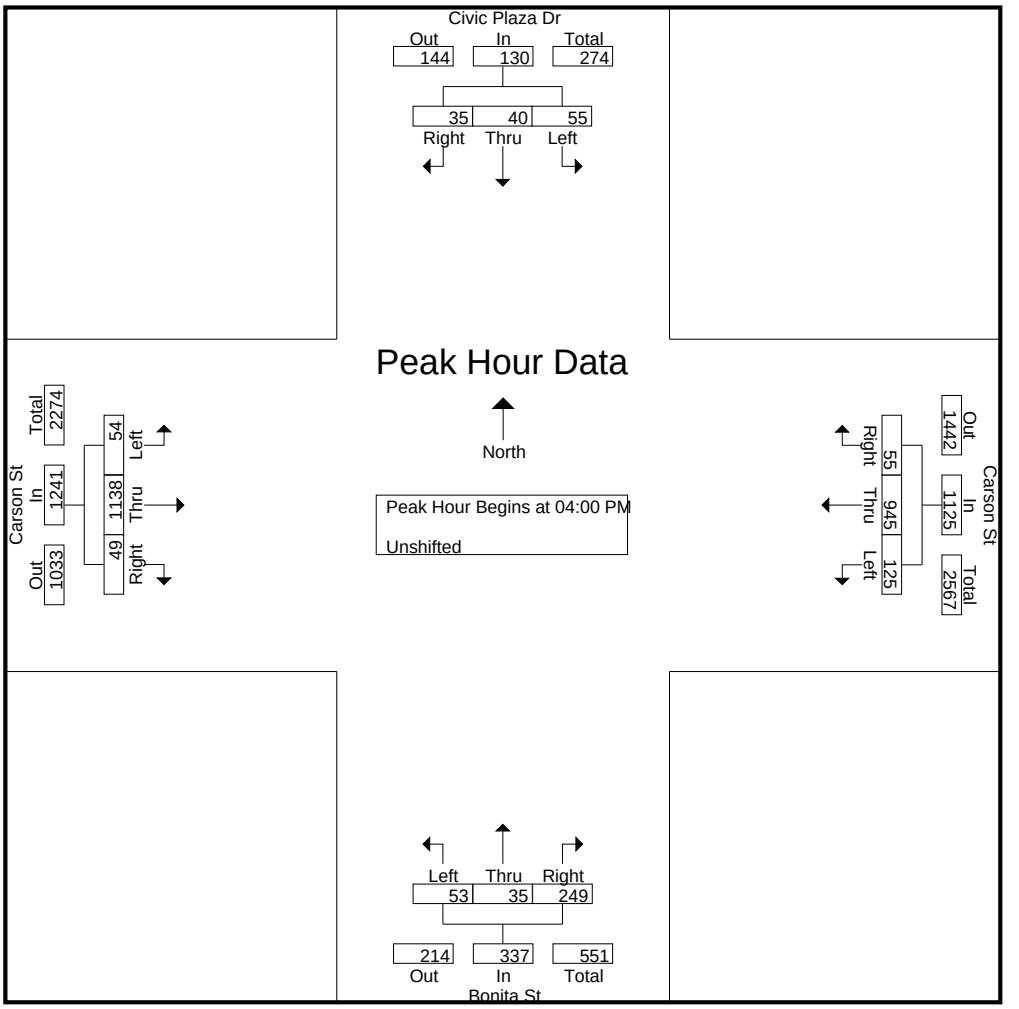
	Civic Plaza Dr Southbound				Carson St Westbound				Bonita St Northbound				Carson St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	16	**15**	**12**	**43**	30	208	13	251	**25**	5	**79**	**109**	**18**	268	**20**	306	709
04:15 PM	13	9	9	31	26	227	**17**	270	12	**12**	53	77	11	284	10	305	683
04:30 PM	**17**	10	4	31	34	**271**	13	**318**	9	11	58	78	15	288	6	309	**736**
04:45 PM	9	6	10	25	**35**	239	12	286	7	7	59	73	10	**298**	13	**321**	705
Total Volume	55	40	35	130	125	945	55	1125	53	35	249	337	54	1138	49	1241	2833
% App. Total	42.3	30.8	26.9		11.1	84	4.9		15.7	10.4	73.9		4.4	91.7	3.9		
PHF	.809	.667	.729	.756	.893	.872	.809	.884	.530	.729	.788	.773	.750	.955	.613	.967	.962



CITY TRAFFIC COUNTERS

626.991.7522
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File Name : 405SB_Carson
Site Code : 00000000
Start Date : 11/12/2014
Page No : 1

Groups Printed- Unshifted

	I-405 SB Ramps Southbound			Carson St Westbound			I-405 SB Ramps Northbound			Carson St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	0	0	0	16	270	0	5	0	25	0	103	120	539
07:15 AM	0	0	1	22	331	4	8	0	32	1	113	139	651
07:30 AM	0	0	0	27	382	4	6	2	48	0	136	122	727
07:45 AM	0	0	0	20	300	1	16	0	108	0	233	101	779
Total	0	0	1	85	1283	9	35	2	213	1	585	482	2696
08:00 AM	0	0	0	26	301	2	8	2	53	2	210	99	703
08:15 AM	0	0	0	27	228	4	19	2	53	0	124	100	557
08:30 AM	0	0	0	22	237	2	18	3	43	3	100	104	532
08:45 AM	0	0	0	10	231	1	9	3	45	4	110	87	500
Total	0	0	0	85	997	9	54	10	194	9	544	390	2292
04:00 PM	0	0	10	18	239	4	10	3	20	0	194	151	649
04:15 PM	0	0	8	19	244	8	3	0	23	2	211	149	667
04:30 PM	0	0	3	21	295	3	7	1	29	0	193	155	707
04:45 PM	0	0	2	13	260	8	8	1	30	1	221	165	709
Total	0	0	23	71	1038	23	28	5	102	3	819	620	2732
05:00 PM	0	0	2	23	290	5	7	1	27	0	234	151	740
05:15 PM	0	0	8	17	297	11	10	6	17	0	228	139	733
05:30 PM	0	0	1	23	249	2	10	4	18	1	242	125	675
05:45 PM	0	0	3	14	235	1	7	2	25	2	230	119	638
Total	0	0	14	77	1071	19	34	13	87	3	934	534	2786
Grand Total	0	0	38	318	4389	60	151	30	596	16	2882	2026	10506
Apprch %	0	0	100	6.7	92.1	1.3	19.4	3.9	76.7	0.3	58.5	41.1	
Total %	0	0	0.4	3	41.8	0.6	1.4	0.3	5.7	0.2	27.4	19.3	

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File Name : 405SB_Carson
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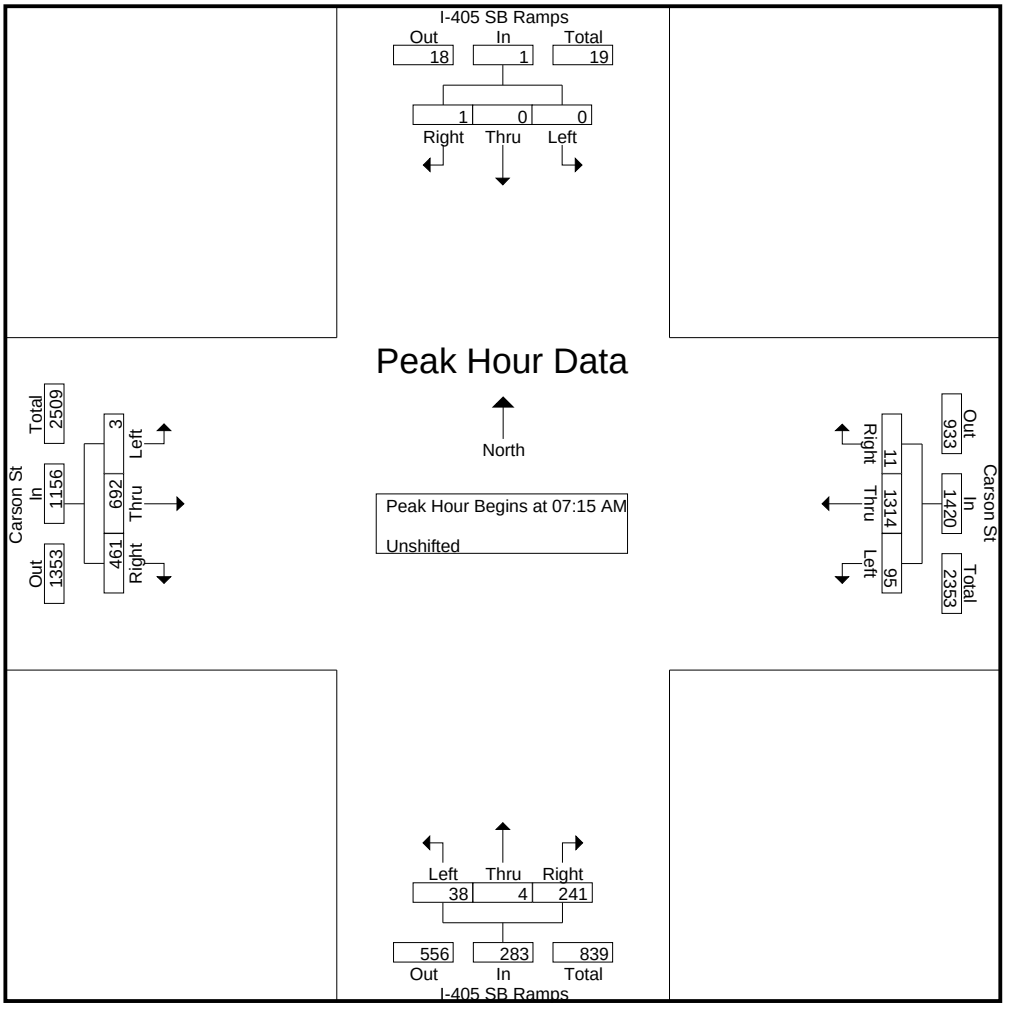
	I-405 SB Ramps Southbound				Carson St Westbound				I-405 SB Ramps Northbound				Carson St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	**1**	**1**	22	331	**4**	357	8	0	32	40	1	113	**139**	253	651
07:30 AM	0	0	0	0	**27**	**382**	4	**413**	6	**2**	48	56	0	136	122	258	727
07:45 AM	0	0	0	0	20	300	1	321	**16**	0	**108**	**124**	0	**233**	101	**334**	**779**
08:00 AM	0	0	0	0	26	301	2	329	8	2	53	63	**2**	210	99	311	703
Total Volume	0	0	1	1	95	1314	11	1420	38	4	241	283	3	692	461	1156	2860
% App. Total	0	0	100		6.7	92.5	0.8		13.4	1.4	85.2		0.3	59.9	39.9		
PHF	.000	.000	.250	.250	.880	.860	.688	.860	.594	.500	.558	.571	.375	.742	.829	.865	.918



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File Name : 405SB_Carson
Site Code : 00000000
Start Date : 11/12/2014
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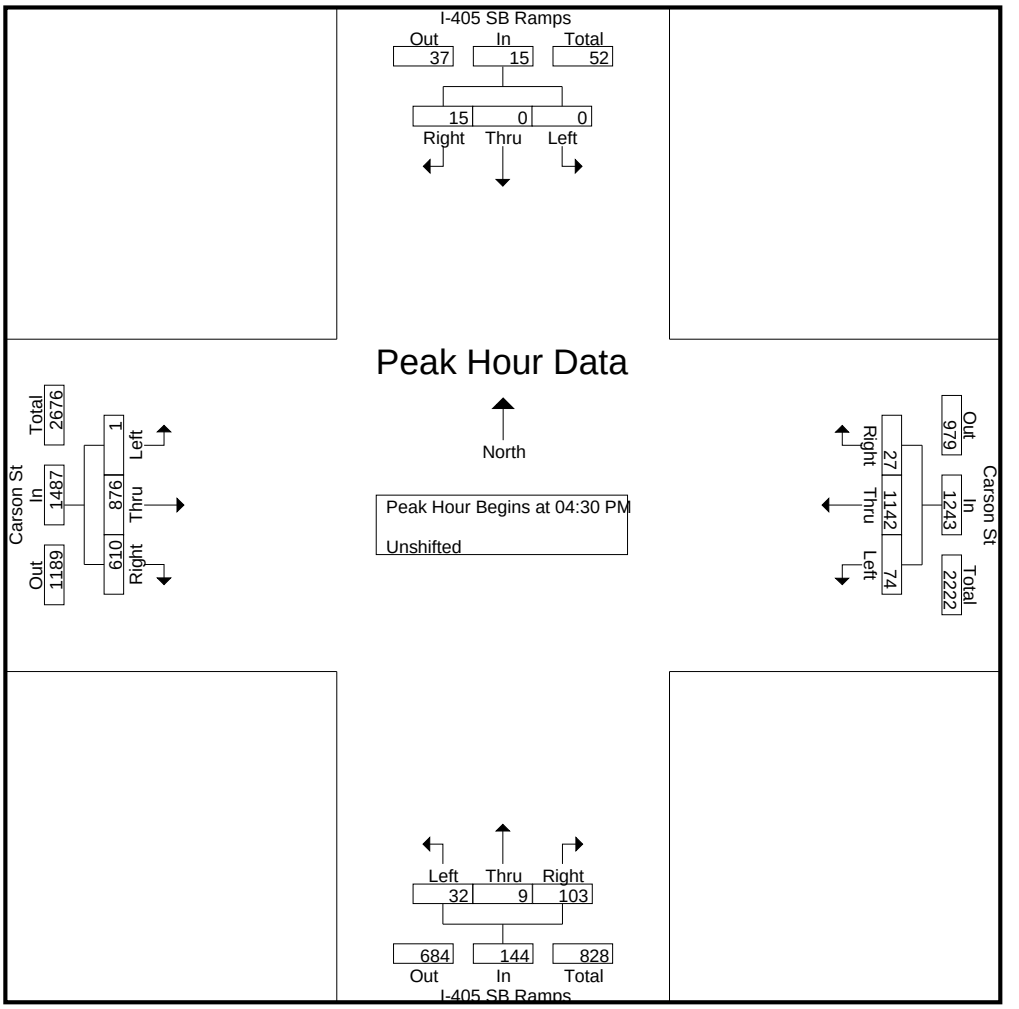
	I-405 SB Ramps Southbound				Carson St Westbound				I-405 SB Ramps Northbound				Carson St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	3	3	21	295	3	319	7	1	29	37	0	193	155	348	707
04:45 PM	0	0	2	2	13	260	8	281	8	1	**30**	**39**	**1**	221	**165**	**387**	709
05:00 PM	0	0	2	2	**23**	290	5	318	7	1	27	35	0	**234**	151	385	**740**
05:15 PM	0	0	**8**	**8**	17	**297**	**11**	**325**	**10**	**6**	17	33	0	228	139	367	733
Total Volume	0	0	15	15	74	1142	27	1243	32	9	103	144	1	876	610	1487	2889
% App. Total	0	0	100		6	91.9	2.2		22.2	6.2	71.5		0.1	58.9	41		
PHF	.000	.000	.469	.469	.804	.961	.614	.956	.800	.375	.858	.923	.250	.936	.924	.961	.976



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File Name : 405NB_Carson
Site Code : 00000000
Start Date : 11/12/2014
Page No : 1

Groups Printed- Unshifted

	I-405 NB Ramps Southbound			Carson St Westbound			Recreation Rd Northbound			Carson St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
07:00 AM	1	1	108	0	180	77	2	0	1	13	110	4	497
07:15 AM	5	0	161	0	195	79	0	0	0	24	122	1	587
07:30 AM	1	0	110	0	302	76	3	0	1	14	169	2	678
07:45 AM	1	0	109	0	210	79	1	0	0	28	313	1	742
Total	8	1	488	0	887	311	6	0	2	79	714	8	2504
08:00 AM	6	0	143	0	183	60	0	0	1	21	240	2	656
08:15 AM	1	0	101	0	158	74	0	0	0	26	152	0	512
08:30 AM	6	0	144	0	117	53	0	0	0	21	123	0	464
08:45 AM	3	0	143	0	97	59	0	0	0	22	130	0	454
Total	16	0	531	0	555	246	0	0	1	90	645	2	2086
04:00 PM	12	0	108	0	154	106	1	2	2	31	182	2	600
04:15 PM	7	0	134	0	138	96	0	0	1	30	202	1	609
04:30 PM	6	0	156	2	158	114	4	0	0	27	192	2	661
04:45 PM	9	0	125	2	154	87	1	1	0	20	226	1	626
Total	34	0	523	4	604	403	6	3	3	108	802	6	2496
05:00 PM	7	0	125	1	192	111	2	0	2	35	227	3	705
05:15 PM	5	1	148	1	176	107	1	0	3	32	211	0	685
05:30 PM	11	0	116	0	159	100	1	0	1	24	237	0	649
05:45 PM	5	0	115	1	139	101	0	1	1	27	224	3	617
Total	28	1	504	3	666	419	4	1	7	118	899	6	2656
Grand Total	86	2	2046	7	2712	1379	16	4	13	395	3060	22	9742
Apprch %	4	0.1	95.9	0.2	66.2	33.7	48.5	12.1	39.4	11.4	88	0.6	
Total %	0.9	0	21	0.1	27.8	14.2	0.2	0	0.1	4.1	31.4	0.2	

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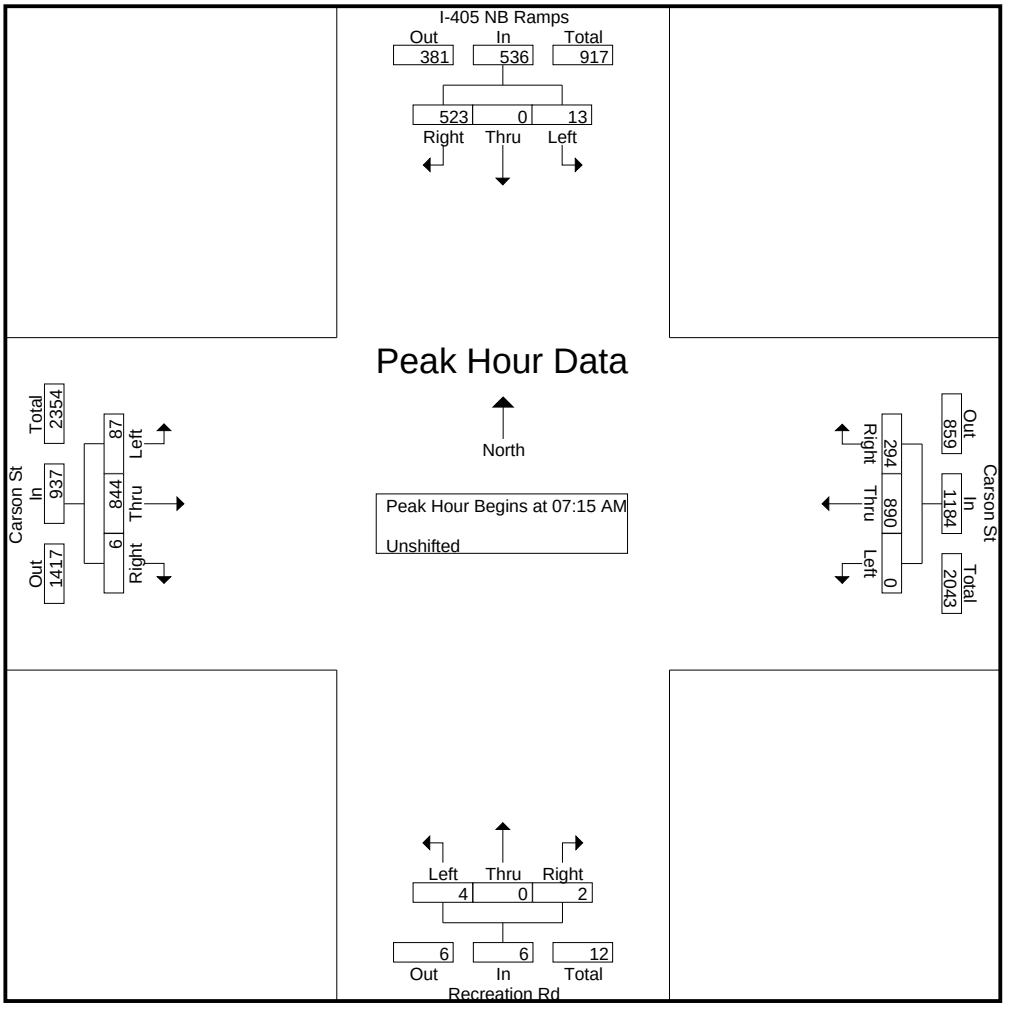
	I-405 NB Ramps Southbound				Carson St Westbound				Recreation Rd Northbound				Carson St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	5	0	**161**	**166**	0	195	**79**	274	0	0	0	0	24	122	1	147	587
07:30 AM	1	0	110	111	0	**302**	76	**378**	**3**	0	**1**	**4**	14	169	**2**	185	678
07:45 AM	1	0	109	110	0	210	79	289	1	0	0	1	**28**	**313**	1	**342**	**742**
08:00 AM	**6**	0	143	149	0	183	60	243	0	0	1	1	21	240	2	263	656
Total Volume	13	0	523	536	0	890	294	1184	4	0	2	6	87	844	6	937	2663
% App. Total	2.4	0	97.6		0	75.2	24.8		66.7	0	33.3		9.3	90.1	0.6		
PHF	.542	.000	.812	.807	.000	.737	.930	.783	.333	.000	.500	.375	.777	.674	.750	.685	.897



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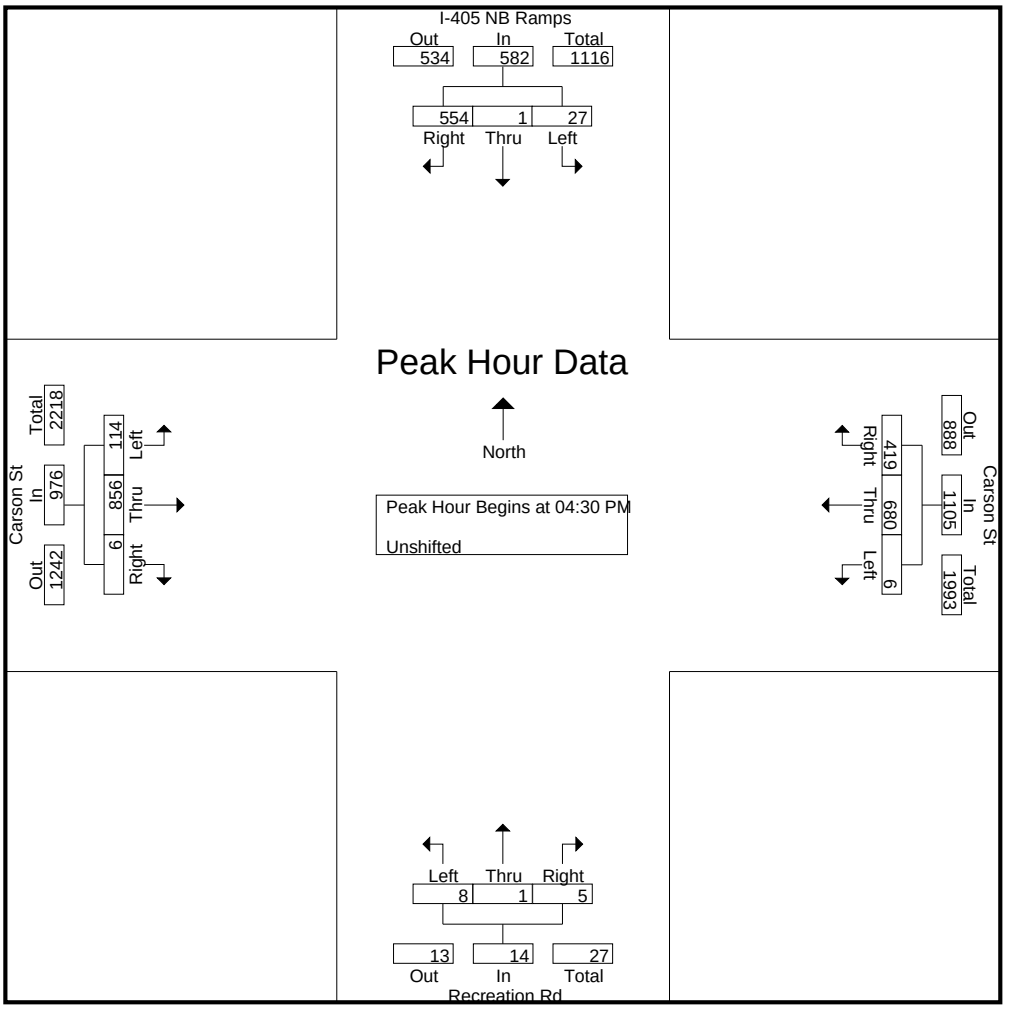
File Name : 405NB_Carson
Site Code : 00000000
Start Date : 11/12/2014
Page No : 3

	I-405 NB Ramps Southbound				Carson St Westbound				Recreation Rd Northbound				Carson St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	6	0	**156**	**162**	**2**	158	**114**	274	**4**	0	0	**4**	27	192	2	221	661
04:45 PM	**9**	0	125	134	2	154	87	243	1	**1**	0	2	20	226	1	247	626
05:00 PM	7	0	125	132	1	**192**	111	**304**	2	0	2	4	**35**	**227**	**3**	**265**	**705**
05:15 PM	5	**1**	148	154	1	176	107	284	1	0	**3**	4	32	211	0	243	685
Total Volume	27	1	554	582	6	680	419	1105	8	1	5	14	114	856	6	976	2677
% App. Total	4.6	0.2	95.2		0.5	61.5	37.9		57.1	7.1	35.7		11.7	87.7	0.6		
PHF	.750	.250	.888	.898	.750	.885	.919	.909	.500	.250	.417	.875	.814	.943	.500	.921	.949



APPENDIX B

NCHRP INTERNAL TRIP CAPTURE WORKSHEETS

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	The Avalon Mixed-Use Project	**Organization:**	LLG Engineers
Project Location:	City of Carson	**Performed By:**	ACY
Scenario Description:	Project Buildout	**Date:**	12/17/2014
Analysis Year:	2017	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	820/850/880	27,310	SF	79	50	29
Restaurant	932	5,000	SF	54	30	24
Cinema/Entertainment				0		
Residential	220	357	DU	182	36	146
Hotel				0		
All Other Land Uses[2]				0		
Total				315	116	199

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.10			1.10		
Retail	1.80			1.80		
Restaurant	1.80			1.80		
Cinema/Entertainment	1.50			1.50		
Residential	1.10			1.10		
Hotel	1.20			1.20		
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		7	0	1	0
Restaurant	0	6		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	11	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	440	184	256
Internal Capture Percentage	13%	16%	11%
External Vehicle-Trips[3]	278	100	178
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	9%	15%
Restaurant	33%	19%
Cinema/Entertainment	N/A	N/A
Residential	8%	8%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	The Avalon Mixed-Use Project
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.10	0	0	1.10	0	0
Retail	1.80	50	90	1.80	29	52
Restaurant	1.80	30	54	1.80	24	43
Cinema/Entertainment	1.50	0	0	1.50	0	0
Residential	1.10	36	40	1.10	146	161
Hotel	1.20	0	0	1.20	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	15		7	0	7	0
Restaurant	13	6		0	2	1
Cinema/Entertainment	0	0	0		0	0
Residential	3	2	32	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		29	12	0	0	0
Retail	0		27	0	1	0
Restaurant	0	7		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	15	11	0		0
Hotel	0	4	3	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	8	82	90	46	0	0
Restaurant	18	36	54	20	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	3	37	40	34	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	8	44	52	24	0	0
Restaurant	8	35	43	19	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	13	148	161	135	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	The Avalon Mixed-Use Project	**Organization:**	LLG Engineers
Project Location:	City of Carson	**Performed By:**	ACY
Scenario Description:	Project Buildout	**Date:**	12/17/2014
Analysis Year:	2017	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	820/850/880	27,310	SF	225	113	112
Restaurant	932	5,000	SF	49	29	20
Cinema/Entertainment				0		
Residential	220	357	DU	221	144	77
Hotel				0		
All Other Land Uses[2]				0		
Total				495	286	209

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.10			1.10		
Retail	1.80			1.80		
Restaurant	1.80			1.80		
Cinema/Entertainment	1.50			1.50		
Residential	1.10			1.10		
Hotel	1.20			1.20		
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		15	0	53	0
Restaurant	0	15		0	6	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	20	7	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	736	413	323
Internal Capture Percentage	32%	28%	36%
External Vehicle-Trips[3]	335	200	135
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	17%	34%
Restaurant	42%	58%
Cinema/Entertainment	N/A	N/A
Residential	37%	32%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	The Avalon Mixed-Use Project
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.10	0	0	1.10	0	0
Retail	1.80	113	203	1.80	112	202
Restaurant	1.80	29	52	1.80	20	36
Cinema/Entertainment	1.50	0	0	1.50	0	0
Residential	1.10	144	158	1.10	77	85
Hotel	1.20	0	0	1.20	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	4		59	8	53	10
Restaurant	1	15		3	6	3
Cinema/Entertainment	0	0	0		0	0
Residential	3	36	18	0		3
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		16	1	0	6	0
Retail	0		15	0	73	0
Restaurant	0	102		0	25	0
Cinema/Entertainment	0	8	2		6	0
Residential	0	20	7	0		0
Hotel	0	4	3	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	35	168	203	93	0	0
Restaurant	22	30	52	17	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	59	99	158	90	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	68	134	202	74	0	0
Restaurant	21	15	36	8	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	27	58	85	53	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

APPENDIX C

ICU AND LEVELS OF SERVICE EXPLANATION
ICU DATA WORKSHEETS – WEEKDAY AM AND PM PEAK HOURS

INTERSECTION CAPACITY UTILIZATION (ICU) DESCRIPTION

Level of Service is a term used to describe prevailing conditions and their effect on traffic. Broadly interpreted, the Levels of Service concept denotes any one of a number of differing combinations of operating conditions which may occur as a roadway is accommodating various traffic volumes. Level of Service is a qualitative measure of the effect of such factors as travel speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience.

Six Levels of Service, A through F, have been defined in the 1965 *Highway Capacity Manual*, published by the Transportation Research Board. Level of Service A describes a condition of free flow, with low traffic volumes and relatively high speeds, while Level of Service F describes forced traffic flow at low speeds with jammed conditions and queues which cannot clear during the green phases.

The Intersection Capacity Utilization (ICU) method of intersection capacity analysis has been used in our studies. It directly relates traffic demand and available capacity for key intersection movements, regardless of present signal timing, The capacity per hour of green time for each approach is calculated based on the methods of the *Highway Capacity Manual*. The proportion of total signal time needed by each key movement is determined and compared to the total time available (100 percent of the hour). The result of summing the requirements of the conflicting key movements plus an allowance for clearance times is expressed as a decimal fraction. Conflicting key traffic movements are those opposing movements whose combined green time requirements are greatest.

The resulting ICU represents the proportion of the total hour required to accommodate intersection demand volumes if the key conflicting traffic movements are operating at capacity. Other movements may be operating near capacity, or may be operating at significantly better levels. The ICU may be translated to a Level of Service as tabulated below.

The Levels of Service (abbreviated from the *Highway Capacity Manual*) are listed here with their corresponding ICU and Load Factor equivalents. Load Factor is that proportion of the signal cycles during the peak hour which are fully loaded; i.e. when all of the vehicles waiting at the beginning of green are not able to clear on that green phase.

Intersection Capacity Utilization Characteristics

Level of Service	Load Factor	Equivalent ICU
A	0.0	0.00 - 0.60
B	0.0 - 0.1	0.61 - 0.70
C	0.1 - 0.3	0.71 - 0.80
D	0.3 - 0.7	0.81 - 0.90
E	0.7 - 1.0	0.91 - 1.00
F	Not Applicable	Not Applicable

SERVICE LEVEL A
There are no loaded cycles and few are even close to loaded at this service level. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.

SERVICE LEVEL B
This level represents stable operation where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.

SERVICE LEVEL C
At this level stable operation continues. Loading is still intermittent but more frequent than at Level B. Occasionally drivers may have to wait through more than one red signal indication and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.

SERVICE LEVEL D
This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak hour, but enough cycles with lower demand occur to permit periodic clearance of queues, thus preventing excessive backups. Drivers frequently have to wait through more than one red signal. This level is the lower limit of acceptable operation to most drivers.

SERVICE LEVEL E
This represents near capacity and capacity operation. At capacity (ICU = 1.0) it represents the most vehicles that the particular intersection can accommodate. However, full utilization of every signal cycle is seldom attained no matter how great the demand. At this level all drivers wait through more than one red signal, and frequently through several.

SERVICE LEVEL F
Jammed conditions. Traffic backed up from a downstream location on one of the street restricts or prevents movement of traffic through the intersection under consideration.

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INTERSECTION CAPACITY UTILIZATION

Main Street @ Carson Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: Main Street
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU1

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	131	1600	0.082	0	131	1600	0.082	4	135	1600	0.084	0	135	1600	0.084	0	135	1600	0.084
Nb Thru	753	4800	0.201 *	0	753	4800	0.201 *	42	795	4800	0.211 *	0	795	4800	0.212 *	0	795	4800	0.212 *
Nb Right	212	0	-	2	214	0	-	7	219	0	-	2	221	0	-	0	221	0	-
Sb Left	89	1600	0.056 *	2	91	1600	0.057 *	8	97	1600	0.060 *	2	99	1600	0.062 *	0	99	1600	0.062 *
Sb Thru	556	4800	0.145	0	556	4800	0.145	31	587	4800	0.153	0	587	4800	0.153	0	587	4800	0.153
Sb Right	139	0	-	0	139	0	-	7	146	0	-	0	146	0	-	0	146	0	-
Eb Left	141	1600	0.088 *	0	141	1600	0.088 *	10	151	1600	0.095 *	0	151	1600	0.095 *	0	151	1600	0.095 *
Eb Thru	622	4800	0.156	6	628	4800	0.158	47	669	4800	0.167	6	675	4800	0.168	0	675	4800	0.168
Eb Right	129	0	-	0	129	0	-	4	133	0	-	0	133	0	-	0	133	0	-
Wb Left	131	1600	0.082	2	133	1600	0.083	8	139	1600	0.087	2	141	1600	0.088	0	141	1600	0.088
Wb Thru	879	4800	0.221 *	18	897	4800	0.226 *	55	934	4800	0.237 *	18	952	4800	0.242 *	0	952	4800	0.242 *
Wb Right	183	0	-	5	188	0	-	19	202	0	-	5	207	0	-	0	207	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.666				0.673				0.703				0.709				0.709
LOS			B				B				C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: Main Street
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU1

Main Street @ Carson Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	138	1600	0.086	0	138	1600	0.086	4	142	1600	0.089	0	142	1600	0.089	0	142	1600	0.089
Nb Thru	472	4800	0.129 *	0	472	4800	0.130 *	23	495	4800	0.136 *	0	495	4800	0.137 *	0	495	4800	0.137 *
Nb Right	149	0	-	3	152	0	-	9	158	0	-	3	161	0	-	0	161	0	-
Sb Left	247	1600	0.154 *	4	251	1600	0.157 *	22	269	1600	0.168 *	4	273	1600	0.171 *	0	273	1600	0.171 *
Sb Thru	787	4800	0.196	0	787	4800	0.196	41	828	4800	0.207	0	828	4800	0.207	0	828	4800	0.207
Sb Right	154	0	-	0	154	0	-	12	166	0	-	0	166	0	-	0	166	0	-
Eb Left	135	1600	0.084	0	135	1600	0.084	8	143	1600	0.089	0	143	1600	0.089	0	143	1600	0.089
Eb Thru	1017	4800	0.242 *	16	1033	4800	0.245 *	74	1091	4800	0.258 *	16	1107	4800	0.261 *	0	1107	4800	0.261 *
Eb Right	143	0	-	0	143	0	-	4	147	0	-	0	147	0	-	0	147	0	-
Wb Left	157	1600	0.098 *	2	159	1600	0.099 *	8	165	1600	0.103 *	2	167	1600	0.104 *	0	167	1600	0.104 *
Wb Thru	724	4800	0.171	9	733	4800	0.173	66	790	4800	0.187	9	799	4800	0.189	0	799	4800	0.189
Wb Right	96	0	-	3	99	0	-	10	106	0	-	3	109	0	-	0	109	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.724				0.731				0.765				0.773				0.773
LOS			C				C				C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: Dominguez Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU2

Avalon Boulevard @ Dominguez Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	10	1600	0.006	0	10	1600	0.006	0	10	1600	0.006	0	10	1600	0.006	0	10	1600	0.006
Nb Thru	1289	4800	0.269 *	12	1301	4800	0.271 *	60	1349	4800	0.281	12	1361	4800	0.283	0	1361	4800	0.283
Nb Right	383	1600	0.239	0	383	1600	0.239	74	457	1600	0.286 *	0	457	1600	0.286 *	0	457	1600	0.286 *
Sb Left	69	1600	0.043 *	0	69	1600	0.043 *	45	114	1600	0.071 *	0	114	1600	0.071 *	0	114	1600	0.071 *
Sb Thru	740	4800	0.157	4	744	4800	0.158	40	780	4800	0.166	4	784	4800	0.166	0	784	4800	0.166
Sb Right	14	0	-	0	14	0	-	0	14	0	-	0	14	0	-	0	14	0	-
Eb Left [3]	10	0	0.006	0	10	0	0.006	0	10	0	0.006	0	10	0	0.006	0	10	0	0.006
Eb Thru [3]	9	1600	0.016 *	0	9	1600	0.016 *	0	9	1600	0.017 *	0	9	1600	0.017 *	0	9	1600	0.017 *
Eb Right[3]	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-
Wb Left [3]	267	0	0.083	0	267	0	0.083	33	300	0	0.094	0	300	0	0.094	0	300	0	0.094
Wb Thru[3]	8	3200	0.086 *	0	8	3200	0.086 *	0	8	3200	0.096 *	0	8	3200	0.096 *	0	8	3200	0.096 *
Wb Right[3]	62	1600	0.039	0	62	1600	0.039	22	84	1600	0.052	0	84	1600	0.052	0	84	1600	0.052
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.514				0.516				0.570				0.570				0.570
LOS			A				A				A				A				A

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Split phase operation.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: Dominguez Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU2

Avalon Boulevard @ Dominguez Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	27	1600	0.017	0	27	1600	0.017	1	28	1600	0.017	0	28	1600	0.017	0	28	1600	0.017
Nb Thru	1005	4800	0.209	5	1010	4800	0.210	78	1083	4800	0.226	5	1088	4800	0.227	0	1088	4800	0.227
Nb Right	421	1600	0.263 *	0	421	1600	0.263 *	37	458	1600	0.286 *	0	458	1600	0.286 *	0	458	1600	0.286 *
Sb Left	183	1600	0.114 *	0	183	1600	0.114 *	23	206	1600	0.129 *	0	206	1600	0.129 *	0	206	1600	0.129 *
Sb Thru	1302	4800	0.273	11	1313	4800	0.276	108	1410	4800	0.296	11	1421	4800	0.298	0	1421	4800	0.298
Sb Right	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-
Eb Left [3]	10	0	0.006	0	10	0	0.006	0	10	0	0.006	0	10	0	0.006	0	10	0	0.006
Eb Thru [3]	8	1600	0.013 *	0	8	1600	0.013 *	0	8	1600	0.014 *	0	8	1600	0.014 *	0	8	1600	0.014 *
Eb Right[3]	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Wb Left [3]	625	0	0.195	0	625	0	0.195	77	702	0	0.219	0	702	0	0.219	0	702	0	0.219
Wb Thru[3]	6	3200	0.197 *	0	6	3200	0.197 *	0	6	3200	0.221 *	0	6	3200	0.221 *	0	6	3200	0.221 *
Wb Right[3]	71	1600	0.044	0	71	1600	0.044	42	113	1600	0.071	0	113	1600	0.071	0	113	1600	0.071
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.688				0.688				0.750				0.750				0.750
LOS			B				B				C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Split phase operation.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: I-405 Fwy NB Ramps
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU3

Avalon Boulevard @ I-405 Fwy NB Ramps
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	332	2880	0.115	28	360	2880	0.125	22	354	2880	0.123	28	382	2880	0.133	0	382	2880	0.133
Nb Thru	1287	3200	0.402 *	12	1299	3200	0.406 *	91	1378	3200	0.431 *	12	1390	3200	0.434 *	0	1390	3200	0.434 *
Nb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	774	4800	0.161	4	778	4800	0.162	67	841	4800	0.175	4	845	4800	0.176	0	845	4800	0.176
Sb Right	246	1600	0.154	0	246	1600	0.154	38	284	1600	0.178	0	284	1600	0.178	0	284	1600	0.178
Eb Left	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	39	0	0.012	0	39	0	0.012	1	40	0	0.013	0	40	0	0.013	0	40	0	0.013
Wb Thru	0	3200	0.012	0	0	3200	0.012	0	0	3200	0.013	0	0	3200	0.013	0	0	3200	0.013
Wb Right[3]	451	1600	0.000	0	451	1600	0.000	44	495	1600	0.000	0	495	1600	0.000	0	495	1600	0.000
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.514				0.518				0.543				0.547				0.547
LOS			A				A				A				A				A

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Free-flow movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: I-405 Fwy NB Ramps
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU3

Avalon Boulevard @ I-405 Fwy NB Ramps
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	358	2880	0.124 *	12	370	2880	0.128 *	20	378	2880	0.131 *	12	390	2880	0.135 *	0	390	2880	0.135 *
Nb Thru	1085	3200	0.339	5	1090	3200	0.341	87	1172	3200	0.366	5	1177	3200	0.368	0	1177	3200	0.368
Nb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Thru	1428	4800	0.298	11	1439	4800	0.300	121	1549	4800	0.323	11	1560	4800	0.325	0	1560	4800	0.325
Sb Right	514	1600	0.321 *	0	514	1600	0.321 *	65	579	1600	0.362 *	0	579	1600	0.362 *	0	579	1600	0.362 *
Eb Left	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	61	0	0.019	0	61	0	0.019	2	63	0	0.020	0	63	0	0.020	0	63	0	0.020
Wb Thru	2	3200	0.020 *	0	2	3200	0.020 *	0	2	3200	0.020 *	0	2	3200	0.020 *	0	2	3200	0.020 *
Wb Right[3]	365	1600	0.000	0	365	1600	0.000	28	393	1600	0.000	0	393	1600	0.000	0	393	1600	0.000
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.565				0.569				0.614				0.618				0.618
LOS			A				A				B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Free-flow movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: I-405 Fwy SB Ramps
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU4

Avalon Boulevard @ I-405 Fwy SB Ramps
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left [3]	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000
Nb Thru	1093	3200	0.363 *	40	1133	3200	0.376 *	62	1155	3200	0.383 *	40	1195	3200	0.396 *	0	1195	3200	0.396 *
Nb Right	70	0	-	0	70	0	-	2	72	0	-	0	72	0	-	0	72	0	-
Sb Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	577	3200	0.180	4	581	3200	0.182	32	609	3200	0.190	4	613	3200	0.192	0	613	3200	0.192
Sb Right	232	1600	0.145	0	232	1600	0.145	16	248	1600	0.155	0	248	1600	0.155	0	248	1600	0.155
Eb Left	518	2880	0.180	0	518	2880	0.180	50	568	2880	0.197	0	568	2880	0.197	0	568	2880	0.197
Eb Thru	1	3200	0.000	0	1	3200	0.000	0	1	3200	0.000	0	1	3200	0.000	0	1	3200	0.000
Eb Right[4]	390	1600	0.000	9	399	1600	0.000	15	405	1600	0.000	9	414	1600	0.000	0	414	1600	0.000
Wb Left	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.643				0.656				0.680				0.693				0.693
LOS			B				B				B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 The northbound left-turn lane is closed under existing conditions.
4 Free-flow movement.

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INTERSECTION CAPACITY UTILIZATION

Avalon Boulevard @ I-405 Fwy SB Ramps
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: Avalon Boulevard
E-W St: I-405 Fwy SB Ramps
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU4

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left [3]	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000
Nb Thru	1136	3200	0.395 *	17	1153	3200	0.400 *	69	1205	3200	0.417 *	17	1222	3200	0.423 *	0	1222	3200	0.423 *
Nb Right	127	0	-	0	127	0	-	4	131	0	-	0	131	0	-	0	131	0	-
Sb Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	1052	3200	0.329	11	1063	3200	0.332	64	1116	3200	0.349	11	1127	3200	0.352	0	1127	3200	0.352
Sb Right	431	1600	0.269	0	431	1600	0.269	59	490	1600	0.306	0	490	1600	0.306	0	490	1600	0.306
Eb Left	319	2880	0.111	0	319	2880	0.111	38	357	2880	0.124	0	357	2880	0.124	0	357	2880	0.124
Eb Thru	67	3200	0.021	0	67	3200	0.021	2	69	3200	0.022	0	69	3200	0.022	0	69	3200	0.022
Eb Right[4]	401	1600	0.000	22	423	1600	0.000	26	427	1600	0.000	22	449	1600	0.000	0	449	1600	0.000
Wb Left	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.605				0.611				0.641				0.647				0.647
LOS			B				B				B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 The northbound left-turn lane is closed under existing conditions.
4 Free-flow movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: 213th Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU5

Avalon Boulevard @ 213th Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	61	1600	0.038	0	61	1600	0.038	2	63	1600	0.039	0	63	1600	0.039	0	63	1600	0.039
Nb Thru	912	4800	0.223 *	40	952	4800	0.231 *	56	968	4800	0.237 *	40	1008	4800	0.245 *	0	1008	4800	0.245 *
Nb Right	159	0	-	0	159	0	-	9	168	0	-	0	168	0	-	0	168	0	-
Sb Left	49	1600	0.031 *	0	49	1600	0.031 *	1	50	1600	0.032 *	0	50	1600	0.032 *	0	50	1600	0.032 *
Sb Thru	769	4800	0.188	12	781	4800	0.191	42	811	4800	0.198	12	823	4800	0.200	0	823	4800	0.200
Sb Right	135	0	-	0	135	0	-	4	139	0	-	0	139	0	-	0	139	0	-
Eb Left	192	1600	0.120 *	0	192	1600	0.120 *	6	198	1600	0.124 *	0	198	1600	0.124 *	0	198	1600	0.124 *
Eb Thru	117	1600	0.106	0	117	1600	0.106	9	126	1600	0.112	0	126	1600	0.112	0	126	1600	0.112
Eb Right	52	0	-	0	52	0	-	2	54	0	-	0	54	0	-	0	54	0	-
Wb Left	51	1600	0.032	0	51	1600	0.032	4	55	1600	0.034	0	55	1600	0.034	0	55	1600	0.034
Wb Thru	141	3200	0.062 *	0	141	3200	0.062 *	6	147	3200	0.064 *	0	147	3200	0.064 *	0	147	3200	0.064 *
Wb Right	56	0	-	0	56	0	-	2	58	0	-	0	58	0	-	0	58	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.535				0.544				0.556				0.564				0.564
LOS			A				A				A				A				A

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: 213th Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU5

Avalon Boulevard @ 213th Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	87	1600	0.054 *	0	87	1600	0.054 *	3	90	1600	0.056 *	0	90	1600	0.056 *	0	90	1600	0.056 *
Nb Thru	876	4800	0.204	17	893	4800	0.207	61	937	4800	0.218	17	954	4800	0.221	0	954	4800	0.221
Nb Right	102	0	-	0	102	0	-	5	107	0	-	0	107	0	-	0	107	0	-
Sb Left	130	1600	0.081	0	130	1600	0.081	4	134	1600	0.084	0	134	1600	0.084	0	134	1600	0.084
Sb Thru	1198	4800	0.291 *	33	1231	4800	0.298 *	82	1280	4800	0.309 *	33	1313	4800	0.316 *	0	1313	4800	0.316 *
Sb Right	198	0	-	0	198	0	-	6	204	0	-	0	204	0	-	0	204	0	-
Eb Left	222	1600	0.139	0	222	1600	0.139	7	229	1600	0.143	0	229	1600	0.143	0	229	1600	0.143
Eb Thru	199	1600	0.178 *	0	199	1600	0.179 *	11	210	1600	0.187 *	0	210	1600	0.187 *	0	210	1600	0.187 *
Eb Right	86	0	-	1	87	0	-	3	89	0	-	1	90	0	-	0	90	0	-
Wb Left	126	1600	0.079 *	1	127	1600	0.079 *	8	134	1600	0.084 *	1	135	1600	0.084 *	0	135	1600	0.084 *
Wb Thru	148	3200	0.066	0	148	3200	0.066	10	158	3200	0.070	0	158	3200	0.070	0	158	3200	0.070
Wb Right	64	0	-	0	64	0	-	2	66	0	-	0	66	0	-	0	66	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.702				0.710				0.735				0.743				0.743
LOS			C				C				C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU6

Avalon Boulevard @ Carson Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	102	1600	0.064	-13	89	1600	0.056	5	107	1600	0.067	-13	94	1600	0.059	0	94	1600	0.059
Nb Thru	756	4800	0.221 *	18	774	4800	0.225 *	36	792	4800	0.231 *	18	810	4800	0.235 *	0	810	4800	0.235 *
Nb Right	306	0	-	0	306	0	-	12	318	0	-	0	318	0	-	0	318	0	-
Sb Left	122	1600	0.076 *	37	159	1600	0.099 *	4	126	1600	0.079 *	37	163	1600	0.102 *	0	163	1600	0.102 *
Sb Thru	601	4800	0.150	8	609	4800	0.158	31	632	4800	0.158	8	640	4800	0.167	0	640	4800	0.167
Sb Right	117	0	-	33	150	0	-	11	128	0	-	33	161	0	-	0	161	0	-
Eb Left	168	2880	0.058 *	29	197	2880	0.068 *	25	193	2880	0.067 *	29	222	2880	0.077 *	0	222	2880	0.077 *
Eb Thru	615	3200	0.214	14	629	3200	0.220	58	673	3200	0.235	14	687	3200	0.241	0	687	3200	0.241
Eb Right	69	0	-	6	75	0	-	10	79	0	-	6	85	0	-	0	85	0	-
Wb Left	295	2880	0.102	0	295	2880	0.102	14	309	2880	0.107	0	309	2880	0.107	0	309	2880	0.107
Wb Thru	957	3200	0.333 *	-9	948	3200	0.336 *	53	1010	3200	0.350 *	-9	1001	3200	0.354 *	0	1001	3200	0.354 *
Wb Right	108	0	-	20	128	0	-	3	111	0	-	20	131	0	-	0	131	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.789				0.829				0.827				0.867				0.867
LOS			C				D				D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU6

Avalon Boulevard @ Carson Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	136	1600	0.085	-17	119	1600	0.074	13	149	1600	0.093	-17	132	1600	0.083	0	132	1600	0.083
Nb Thru	689	4800	0.213 *	33	722	4800	0.220 *	38	727	4800	0.223 *	33	760	4800	0.230 *	0	760	4800	0.230 *
Nb Right	332	0	-	0	332	0	-	13	345	0	-	0	345	0	-	0	345	0	-
Sb Left	200	1600	0.125 *	1	201	1600	0.126 *	11	211	1600	0.132 *	1	212	1600	0.133 *	0	212	1600	0.133 *
Sb Thru	836	4800	0.219	5	841	4800	0.230	42	878	4800	0.236	5	883	4800	0.247	0	883	4800	0.247
Sb Right	217	0	-	48	265	0	-	36	253	0	-	48	301	0	-	0	301	0	-
Eb Left	289	2880	0.100	34	323	2880	0.112	27	316	2880	0.110	34	350	2880	0.121	0	350	2880	0.121
Eb Thru	837	3200	0.286 *	6	843	3200	0.289 *	64	901	3200	0.309 *	6	907	3200	0.311 *	0	907	3200	0.311 *
Eb Right	79	0	-	2	81	0	-	8	87	0	-	2	89	0	-	0	89	0	-
Wb Left	364	2880	0.126 *	0	364	2880	0.126 *	14	378	2880	0.131 *	0	378	2880	0.131 *	0	378	2880	0.131 *
Wb Thru	732	3200	0.256	-9	723	3200	0.266	67	799	3200	0.279	-9	790	3200	0.288	0	790	3200	0.288
Wb Right	88	0	-	39	127	0	-	5	93	0	-	39	132	0	-	0	132	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.850				0.860				0.895				0.905				0.905
LOS			D				D				D				E				E

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: 223rd Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU7

Avalon Boulevard @ 223rd Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	88	1600	0.055	0	88	1600	0.055	7	95	1600	0.059	0	95	1600	0.059	0	95	1600	0.059
Nb Thru	749	3200	0.234 *	2	751	3200	0.235 *	40	789	3200	0.247 *	2	791	3200	0.247 *	0	791	3200	0.247 *
Nb Right[3]	152	1600	0.095	0	152	1600	0.095	8	160	1600	0.100	0	160	1600	0.100	0	160	1600	0.100
Sb Left	121	1600	0.076 *	9	130	1600	0.081 *	8	129	1600	0.080 *	9	138	1600	0.086 *	0	138	1600	0.086 *
Sb Thru	498	3200	0.156	3	501	3200	0.157	37	535	3200	0.167	3	538	3200	0.168	0	538	3200	0.168
Sb Right[3]	214	1600	0.134	2	216	1600	0.135	6	220	1600	0.138	2	222	1600	0.139	0	222	1600	0.139
Eb Left	266	1600	0.166 *	2	268	1600	0.168 *	8	274	1600	0.171 *	2	276	1600	0.172 *	0	276	1600	0.172 *
Eb Thru	604	3200	0.189	0	604	3200	0.189	27	631	3200	0.197	0	631	3200	0.197	0	631	3200	0.197
Eb Right	62	1600	0.039	0	62	1600	0.039	8	70	1600	0.044	0	70	1600	0.044	0	70	1600	0.044
Wb Left	157	1600	0.098	0	157	1600	0.098	10	167	1600	0.104	0	167	1600	0.104	0	167	1600	0.104
Wb Thru	701	3200	0.219 *	0	701	3200	0.219 *	23	724	3200	0.226 *	0	724	3200	0.226 *	0	724	3200	0.226 *
Wb Right[3]	76	1600	0.048	4	80	1600	0.050	3	79	1600	0.050	4	83	1600	0.052	0	83	1600	0.052
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.795				0.803				0.825				0.832				0.832
LOS			C				D				D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Functional right-turn lane

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: 223rd Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU7

Avalon Boulevard @ 223rd Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	89	1600	0.056	0	89	1600	0.056	7	96	1600	0.060	0	96	1600	0.060	0	96	1600	0.060
Nb Thru	744	3200	0.233 *	5	749	3200	0.234 *	47	791	3200	0.247 *	5	796	3200	0.249 *	0	796	3200	0.249 *
Nb Right[3]	124	1600	0.078	0	124	1600	0.078	7	131	1600	0.082	0	131	1600	0.082	0	131	1600	0.082
Sb Left	133	1600	0.083 *	5	138	1600	0.086 *	6	139	1600	0.087 *	5	144	1600	0.090 *	0	144	1600	0.090 *
Sb Thru	782	3200	0.244	2	784	3200	0.245	47	829	3200	0.259	2	831	3200	0.260	0	831	3200	0.260
Sb Right[3]	208	1600	0.130	1	209	1600	0.131	6	214	1600	0.134	1	215	1600	0.135	0	215	1600	0.135
Eb Left	231	1600	0.144	4	235	1600	0.147	7	238	1600	0.149	4	242	1600	0.151	0	242	1600	0.151
Eb Thru	966	3200	0.302 *	0	966	3200	0.302 *	36	1002	3200	0.313 *	0	1002	3200	0.313 *	0	1002	3200	0.313 *
Eb Right	91	1600	0.057	0	91	1600	0.057	8	99	1600	0.062	0	99	1600	0.062	0	99	1600	0.062
Wb Left	200	1600	0.125 *	0	200	1600	0.125 *	9	209	1600	0.131 *	0	209	1600	0.131 *	0	209	1600	0.131 *
Wb Thru	823	3200	0.257	0	823	3200	0.257	34	857	3200	0.268	0	857	3200	0.268	0	857	3200	0.268
Wb Right[3]	110	1600	0.069	8	118	1600	0.074	6	116	1600	0.073	8	124	1600	0.078	0	124	1600	0.078
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.843				0.847				0.878				0.883				0.883
LOS			D				D				D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Functional right-turn lane

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INTERSECTION CAPACITY UTILIZATION

N-S St: Civic Plaza Drive-Bonita Street
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU8

Civic Plaza Drive-Bonita Street @ Carson Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	110	0	0.069	0	110	0	0.069	3	113	0	0.071	0	113	0	0.071	0	113	0	0.071
Nb Thru	32	1600	0.089 *	0	32	1600	0.089 *	1	33	1600	0.091 *	0	33	1600	0.091 *	0	33	1600	0.091 *
Nb Right	156	1600	0.098	0	156	1600	0.098	5	161	1600	0.100	0	161	1600	0.100	0	161	1600	0.100
Sb Left	67	1600	0.042 *	0	67	1600	0.042 *	2	69	1600	0.043 *	0	69	1600	0.043 *	0	69	1600	0.043 *
Sb Thru	62	1600	0.039	0	62	1600	0.039	2	64	1600	0.040	0	64	1600	0.040	0	64	1600	0.040
Sb Right	55	1600	0.034	0	55	1600	0.034	2	57	1600	0.035	0	57	1600	0.035	0	57	1600	0.035
Eb Left	47	1600	0.029	0	47	1600	0.029	1	48	1600	0.030	0	48	1600	0.030	0	48	1600	0.030
Eb Thru	863	3200	0.296 *	38	901	3200	0.308 *	69	932	3200	0.318 *	38	970	3200	0.330 *	0	970	3200	0.330 *
Eb Right	84	0	-	0	84	0	-	3	87	0	-	0	87	0	-	0	87	0	-
Wb Left	174	1600	0.109 *	0	174	1600	0.109 *	5	179	1600	0.112 *	0	179	1600	0.112 *	0	179	1600	0.112 *
Wb Thru	1243	4800	0.262	12	1255	4800	0.265	66	1309	4800	0.276	12	1321	4800	0.278	0	1321	4800	0.278
Wb Right	15	0	-	0	15	0	-	0	15	0	-	0	15	0	-	0	15	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.635				0.647				0.665				0.677				0.677
LOS			B				B				B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: Civic Plaza Drive-Bonita Street
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU8

Civic Plaza Drive-Bonita Street @ Carson Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	53	0	0.033	0	53	0	0.033	2	55	0	0.034	0	55	0	0.034	0	55	0	0.034
Nb Thru	35	1600	0.055	0	35	1600	0.055	1	36	1600	0.057	0	36	1600	0.057	0	36	1600	0.057
Nb Right	249	1600	0.156 *	0	249	1600	0.156 *	7	256	1600	0.160 *	0	256	1600	0.160 *	0	256	1600	0.160 *
Sb Left	55	1600	0.034 *	0	55	1600	0.034 *	2	57	1600	0.035 *	0	57	1600	0.035 *	0	57	1600	0.035 *
Sb Thru	40	1600	0.025	0	40	1600	0.025	1	41	1600	0.026	0	41	1600	0.026	0	41	1600	0.026
Sb Right	35	1600	0.022	0	35	1600	0.022	1	36	1600	0.023	0	36	1600	0.023	0	36	1600	0.023
Eb Left	54	1600	0.034	0	54	1600	0.034	2	56	1600	0.035	0	56	1600	0.035	0	56	1600	0.035
Eb Thru	1138	3200	0.371 *	18	1156	3200	0.377 *	81	1219	3200	0.397 *	18	1237	3200	0.402 *	0	1237	3200	0.402 *
Eb Right	49	0	-	0	49	0	-	1	50	0	-	0	50	0	-	0	50	0	-
Wb Left	125	1600	0.078 *	0	125	1600	0.078 *	4	129	1600	0.080 *	0	129	1600	0.080 *	0	129	1600	0.080 *
Wb Thru	945	4800	0.208	32	977	4800	0.215	78	1023	4800	0.225	32	1055	4800	0.232	0	1055	4800	0.232
Wb Right	55	0	-	0	55	0	-	2	57	0	-	0	57	0	-	0	57	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.739				0.745				0.773				0.779				0.779
LOS			C				C				C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

I-405 Fwy SB Ramps @ Carson Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: I-405 Fwy SB Ramps
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU9

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	38	1600	0.024	0	38	1600	0.024	1	39	1600	0.024	0	39	1600	0.024	0	39	1600	0.024
Nb Thru	4	0	0.000	0	4	0	0.000	0	4	0	0.000	0	4	0	0.000	0	4	0	0.000
Nb Right	241	1600	0.151 *	0	241	1600	0.151 *	46	287	1600	0.180 *	0	287	1600	0.180 *	0	287	1600	0.180 *
Sb Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Eb Left	3	1600	0.002	0	3	1600	0.002	0	3	1600	0.002	0	3	1600	0.002	0	3	1600	0.002
Eb Thru	692	3200	0.216	10	702	3200	0.219	55	747	3200	0.233	10	757	3200	0.236	0	757	3200	0.236
Eb Right[3]	461	1600	0.264 *	28	489	1600	0.282 *	23	484	1600	0.278 *	28	512	1600	0.295 *	0	512	1600	0.295 *
Wb Left	95	1600	0.059 *	0	95	1600	0.059 *	19	114	1600	0.071 *	0	114	1600	0.071 *	0	114	1600	0.071 *
Wb Thru	1314	4800	0.276	12	1326	4800	0.279	68	1382	4800	0.290	12	1394	4800	0.293	0	1394	4800	0.293
Wb Right	11	0	-	0	11	0	-	0	11	0	-	0	11	0	-	0	11	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.574				0.592				0.629				0.646				0.646
LOS			A				A				B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 The eastbound right-turn lane has an overlapping phase with the northbound phase.

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INTERSECTION CAPACITY UTILIZATION

N-S St: I-405 Fwy SB Ramps
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU9

I-405 Fwy SB Ramps @ Carson Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	32	1600	0.020	0	32	1600	0.020	1	33	1600	0.021	0	33	1600	0.021	0	33	1600	0.021
Nb Thru	9	0	0.000	0	9	0	0.000	0	9	0	0.000	0	9	0	0.000	0	9	0	0.000
Nb Right	103	1600	0.064 *	0	103	1600	0.064 *	35	138	1600	0.086 *	0	138	1600	0.086 *	0	138	1600	0.086 *
Sb Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Eb Left	1	1600	0.001	0	1	1600	0.001	0	1	1600	0.001	0	1	1600	0.001	0	1	1600	0.001
Eb Thru	876	3200	0.274	6	882	3200	0.276	63	939	3200	0.294	6	945	3200	0.295	0	945	3200	0.295
Eb Right[3]	610	1600	0.361 *	12	622	1600	0.369 *	27	637	1600	0.378 *	12	649	1600	0.385 *	0	649	1600	0.385 *
Wb Left	74	1600	0.046 *	0	74	1600	0.046 *	46	120	1600	0.075 *	0	120	1600	0.075 *	0	120	1600	0.075 *
Wb Thru	1142	4800	0.244	32	1174	4800	0.250	84	1226	4800	0.261	32	1258	4800	0.268	0	1258	4800	0.268
Wb Right	27	0	-	0	27	0	-	1	28	0	-	0	28	0	-	0	28	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.572				0.579				0.639				0.647				0.647
LOS			A				A				B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 The eastbound right-turn lane has an overlapping phase with the northbound phase.

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INTERSECTION CAPACITY UTILIZATION

I-405 Fwy NB Ramps-Recreation Road @ Carson Street

Peak hr:	AM
Annual Growth:	1.00%
Date:	01/26/2015
Date of Count:	2014
Projection Year:	2017

N-S St:	I-405 Fwy NB Ramps-Recreation Road
E-W St:	Carson Street
Project:	Avalon Mixed-Use Project/1-14-4101-1
File:	ICU10

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	4	0	0.003	0	4	0	0.003	21	25	0	0.016 *	0	25	0	0.016 *	0	25	0	0.016 *
Nb Thru	0	1600	0.003	0	0	1600	0.003	16	16	1600	0.026	0	16	1600	0.026	0	16	1600	0.026
Nb Right	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001
Sb Left	13	0	0.008	0	13	0	0.008	8	21	0	0.013	0	21	0	0.013	0	21	0	0.013
Sb Thru	0	1600	0.008	0	0	1600	0.008	39	39	1600	0.038 *	0	39	1600	0.038 *	0	39	1600	0.038 *
Sb Right [3]	523	1600	0.000	9	532	1600	0.000	22	545	1600	0.000	9	554	1600	0.000	0	554	1600	0.000
Eb Left	87	1600	0.054 *	0	87	1600	0.054 *	3	90	1600	0.056 *	0	90	1600	0.056 *	0	90	1600	0.056 *
Eb Thru	844	3200	0.266	10	854	3200	0.269	44	888	3200	0.295	10	898	3200	0.298	0	898	3200	0.298
Eb Right	6	0	-	0	6	0	-	49	55	0	-	0	55	0	-	0	55	0	-
Wb Left	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000
Wb Thru	890	3200	0.278 *	3	893	3200	0.279 *	45	935	3200	0.292 *	3	938	3200	0.293 *	0	938	3200	0.293 *
Wb Right	294	1600	0.184	0	294	1600	0.184	12	306	1600	0.191	0	306	1600	0.191	0	306	1600	0.191
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.443				0.444				0.502				0.502				0.502
LOS			A				A				A				A				A

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Free-flow movement.

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INTERSECTION CAPACITY UTILIZATION

I-405 Fwy NB Ramps-Recreation Road @ Carson Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: I-405 Fwy NB Ramps-Recreation Road
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU10

WITHOUT BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	8	0	0.005	0	8	0	0.005	55	63	0	0.040	0	63	0	0.040	0	63	0	0.040
Nb Thru	1	1600	0.006	0	1	1600	0.006	44	45	1600	0.068 *	0	45	1600	0.068 *	0	45	1600	0.068 *
Nb Right	5	1600	0.003	0	5	1600	0.003	0	5	1600	0.003	0	5	1600	0.003	0	5	1600	0.003
Sb Left	27	0	0.017	0	27	0	0.017	2	29	0	0.018	0	29	0	0.018	0	29	0	0.018
Sb Thru	1	1600	0.018	0	1	1600	0.018	32	33	1600	0.039	0	33	1600	0.039	0	33	1600	0.039
Sb Right [3]	554	1600	0.000	22	576	1600	0.000	34	588	1600	0.000	22	610	1600	0.000	0	610	1600	0.000
Eb Left	114	1600	0.071 *	0	114	1600	0.071 *	3	117	1600	0.073 *	0	117	1600	0.073 *	0	117	1600	0.073 *
Eb Thru	856	3200	0.269	6	862	3200	0.271	50	906	3200	0.297	6	912	3200	0.299	0	912	3200	0.299
Eb Right	6	0	-	0	6	0	-	40	46	0	-	0	46	0	-	0	46	0	-
Wb Left	6	1600	0.004	0	6	1600	0.004	0	6	1600	0.004	0	6	1600	0.004	0	6	1600	0.004
Wb Thru	680	3200	0.213	9	689	3200	0.215	41	721	3200	0.225	9	730	3200	0.228	0	730	3200	0.228
Wb Right	419	1600	0.262 *	0	419	1600	0.262 *	31	450	1600	0.281 *	0	450	1600	0.281 *	0	450	1600	0.281 *
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.456				0.456				0.540				0.540				0.540
LOS			A				A				A				A				A

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Free-flow movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Main Street
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU1

Main Street @ Carson Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	131	1600	0.082	0	131	1600	0.082	4	135	1600	0.084	0	135	1600	0.084	0	135	1600	0.084
Nb Thru	753	4800	0.201 *	0	753	4800	0.201 *	122	875	4800	0.228 *	0	875	4800	0.228 *	0	875	4800	0.228 *
Nb Right	212	0	-	2	214	0	-	7	219	0	-	2	221	0	-	0	221	0	-
Sb Left	89	1600	0.056 *	2	91	1600	0.057 *	8	97	1600	0.060 *	2	99	1600	0.062 *	0	99	1600	0.062 *
Sb Thru	556	4800	0.145	0	556	4800	0.145	51	607	4800	0.157	0	607	4800	0.157	0	607	4800	0.157
Sb Right	139	0	-	0	139	0	-	7	146	0	-	0	146	0	-	0	146	0	-
Eb Left	141	1600	0.088 *	0	141	1600	0.088 *	100	241	1600	0.151 *	0	241	1600	0.151 *	0	241	1600	0.151 *
Eb Thru	622	4800	0.156	6	628	4800	0.158	47	669	4800	0.167	6	675	4800	0.168	0	675	4800	0.168
Eb Right	129	0	-	0	129	0	-	4	133	0	-	0	133	0	-	0	133	0	-
Wb Left	131	1600	0.082	2	133	1600	0.083	43	174	1600	0.109	2	176	1600	0.110	0	176	1600	0.110
Wb Thru	879	4800	0.221 *	18	897	4800	0.226 *	75	954	4800	0.241 *	18	972	4800	0.246 *	0	972	4800	0.246 *
Wb Right	183	0	-	5	188	0	-	19	202	0	-	5	207	0	-	0	207	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.666				0.673				0.780				0.787				0.787
LOS			B				B				C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

Main Street @ Carson Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: Main Street
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU1

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	138	1600	0.086	0	138	1600	0.086	4	142	1600	0.089	0	142	1600	0.089	0	142	1600	0.089
Nb Thru	472	4800	0.129 *	0	472	4800	0.130 *	228	700	4800	0.179 *	0	700	4800	0.180 *	0	700	4800	0.180 *
Nb Right	149	0	-	3	152	0	-	9	158	0	-	3	161	0	-	0	161	0	-
Sb Left	247	1600	0.154 *	4	251	1600	0.157 *	22	269	1600	0.168 *	4	273	1600	0.171 *	0	273	1600	0.171 *
Sb Thru	787	4800	0.196	0	787	4800	0.196	56	843	4800	0.211	0	843	4800	0.211	0	843	4800	0.211
Sb Right	154	0	-	0	154	0	-	17	171	0	-	0	171	0	-	0	171	0	-
Eb Left	135	1600	0.084	0	135	1600	0.084	213	348	1600	0.218 *	0	348	1600	0.218	0	348	1600	0.218
Eb Thru	1017	4800	0.242 *	16	1033	4800	0.245 *	74	1091	4800	0.258	16	1107	4800	0.261 *	0	1107	4800	0.261 *
Eb Right	143	0	-	0	143	0	-	4	147	0	-	0	147	0	-	0	147	0	-
Wb Left	157	1600	0.098 *	2	159	1600	0.099 *	113	270	1600	0.169	2	272	1600	0.170 *	0	272	1600	0.170 *
Wb Thru	724	4800	0.171	9	733	4800	0.173	176	900	4800	0.210 *	9	909	4800	0.212	0	909	4800	0.212
Wb Right	96	0	-	3	99	0	-	10	106	0	-	3	109	0	-	0	109	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.724				0.731				0.874				0.881				0.881
LOS			C				C				D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

Avalon Boulevard @ Dominguez Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: Avalon Boulevard
E-W St: Dominguez Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU2

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	10	1600	0.006	0	10	1600	0.006	0	10	1600	0.006	0	10	1600	0.006	0	10	1600	0.006
Nb Thru	1289	4800	0.269 *	12	1301	4800	0.271 *	100	1389	4800	0.289 *	12	1401	4800	0.292 *	0	1401	4800	0.292 *
Nb Right	383	1600	0.239	0	383	1600	0.239	74	457	1600	0.286	0	457	1600	0.286	0	457	1600	0.286
Sb Left	69	1600	0.043 *	0	69	1600	0.043 *	45	114	1600	0.071 *	0	114	1600	0.071 *	0	114	1600	0.071 *
Sb Thru	740	4800	0.157	4	744	4800	0.158	110	850	4800	0.180	4	854	4800	0.181	0	854	4800	0.181
Sb Right	14	0	-	0	14	0	-	0	14	0	-	0	14	0	-	0	14	0	-
Eb Left [3]	10	0	0.006	0	10	0	0.006	0	10	0	0.006	0	10	0	0.006	0	10	0	0.006
Eb Thru [3]	9	1600	0.016 *	0	9	1600	0.016 *	0	9	1600	0.017 *	0	9	1600	0.017 *	0	9	1600	0.017 *
Eb Right[3]	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-	0	7	0	-
Wb Left [3]	267	0	0.083	0	267	0	0.083	33	300	0	0.094	0	300	0	0.094	0	300	0	0.094
Wb Thru[3]	8	3200	0.086 *	0	8	3200	0.086 *	0	8	3200	0.096 *	0	8	3200	0.096 *	0	8	3200	0.096 *
Wb Right[3]	62	1600	0.039	0	62	1600	0.039	22	84	1600	0.052	0	84	1600	0.052	0	84	1600	0.052
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.514				0.516				0.574				0.576				0.576
LOS			A				A				A				A				A

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Split phase operation.

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INTERSECTION CAPACITY UTILIZATION

Avalon Boulevard @ Dominguez Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: Avalon Boulevard
E-W St: Dominguez Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU2

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	27	1600	0.017	0	27	1600	0.017	1	28	1600	0.017	0	28	1600	0.017	0	28	1600	0.017
Nb Thru	1005	4800	0.209	5	1010	4800	0.210	203	1208	4800	0.252	5	1213	4800	0.253	0	1213	4800	0.253
Nb Right	421	1600	0.263 *	0	421	1600	0.263 *	37	458	1600	0.286 *	0	458	1600	0.286 *	0	458	1600	0.286 *
Sb Left	183	1600	0.114 *	0	183	1600	0.114 *	23	206	1600	0.129 *	0	206	1600	0.129 *	0	206	1600	0.129 *
Sb Thru	1302	4800	0.273	11	1313	4800	0.276	153	1455	4800	0.305	11	1466	4800	0.308	0	1466	4800	0.308
Sb Right	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-
Eb Left [3]	10	0	0.006	0	10	0	0.006	0	10	0	0.006	0	10	0	0.006	0	10	0	0.006
Eb Thru [3]	8	1600	0.013 *	0	8	1600	0.013 *	0	8	1600	0.014 *	0	8	1600	0.014 *	0	8	1600	0.014 *
Eb Right[3]	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-	0	3	0	-
Wb Left [3]	625	0	0.195	0	625	0	0.195	77	702	0	0.219	0	702	0	0.219	0	702	0	0.219
Wb Thru[3]	6	3200	0.197 *	0	6	3200	0.197 *	0	6	3200	0.221 *	0	6	3200	0.221 *	0	6	3200	0.221 *
Wb Right[3]	71	1600	0.044	0	71	1600	0.044	42	113	1600	0.071	0	113	1600	0.071	0	113	1600	0.071
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.688				0.688				0.750				0.750				0.750
LOS			B				B				C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Split phase operation.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: I-405 Fwy NB Ramps
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU3

Avalon Boulevard @ I-405 Fwy NB Ramps
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	332	2880	0.115	28	360	2880	0.125	42	374	2880	0.130	28	402	2880	0.140	0	402	2880	0.140
Nb Thru	1287	3200	0.402 *	12	1299	3200	0.406 *	106	1393	3200	0.435 *	12	1405	3200	0.439 *	0	1405	3200	0.439 *
Nb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	774	4800	0.161	4	778	4800	0.162	137	911	4800	0.190	4	915	4800	0.191	0	915	4800	0.191
Sb Right	246	1600	0.154	0	246	1600	0.154	38	284	1600	0.178	0	284	1600	0.178	0	284	1600	0.178
Eb Left	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	39	0	0.012	0	39	0	0.012	156	195	0	0.061	0	195	0	0.061	0	195	0	0.061
Wb Thru	0	3200	0.012	0	0	3200	0.012	0	0	3200	0.061	0	0	3200	0.061	0	0	3200	0.061
Wb Right[3]	451	1600	0.000	0	451	1600	0.000	69	520	1600	0.000	0	520	1600	0.000	0	520	1600	0.000
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.514				0.518				0.596				0.600				0.600
LOS			A				A				A				A				A

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Free-flow movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: I-405 Fwy NB Ramps
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU3

Avalon Boulevard @ I-405 Fwy NB Ramps
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	358	2880	0.124 *	12	370	2880	0.128 *	60	418	2880	0.145 *	12	430	2880	0.149 *	0	430	2880	0.149 *
Nb Thru	1085	3200	0.339	5	1090	3200	0.341	132	1217	3200	0.380	5	1222	3200	0.382	0	1222	3200	0.382
Nb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Thru	1428	4800	0.298	11	1439	4800	0.300	166	1594	4800	0.332	11	1605	4800	0.334	0	1605	4800	0.334
Sb Right	514	1600	0.321 *	0	514	1600	0.321 *	65	579	1600	0.362 *	0	579	1600	0.362 *	0	579	1600	0.362 *
Eb Left	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	61	0	0.019	0	61	0	0.019	382	443	0	0.138	0	443	0	0.138	0	443	0	0.138
Wb Thru	2	3200	0.020 *	0	2	3200	0.020 *	0	2	3200	0.139 *	0	2	3200	0.139 *	0	2	3200	0.139 *
Wb Right[3]	365	1600	0.000	0	365	1600	0.000	108	473	1600	0.000	0	473	1600	0.000	0	473	1600	0.000
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.565				0.569				0.746				0.750				0.750
LOS			A				A				C				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Free-flow movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: I-405 Fwy SB Ramps
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU4

Avalon Boulevard @ I-405 Fwy SB Ramps
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left [3]	0	1600	0.000	0	0	1600	0.000	100	100	1600	0.063	0	100	1600	0.063	0	100	1600	0.063
Nb Thru	1093	3200	0.363 *	40	1133	3200	0.376 *	77	1170	3200	0.388 *	40	1210	3200	0.401 *	0	1210	3200	0.401 *
Nb Right	70	0	-	0	70	0	-	2	72	0	-	0	72	0	-	0	72	0	-
Sb Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	577	3200	0.180	4	581	3200	0.182	67	644	3200	0.201	4	648	3200	0.203	0	648	3200	0.203
Sb Right	232	1600	0.145	0	232	1600	0.145	201	433	1600	0.271	0	433	1600	0.271	0	433	1600	0.271
Eb Left	518	2880	0.180	0	518	2880	0.180	70	588	2880	0.204	0	588	2880	0.204	0	588	2880	0.204
Eb Thru	1	3200	0.000	0	1	3200	0.000	45	46	3200	0.014	0	46	3200	0.014	0	46	3200	0.014
Eb Right[4]	390	1600	0.000	9	399	1600	0.000	140	530	1600	0.000	9	539	1600	0.000	0	539	1600	0.000
Wb Left	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.643				0.656				0.692				0.705				0.705
LOS			B				B				B				C				C

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 The northbound left-turn lane is closed under existing conditions.
4 Free-flow movement.

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INTERSECTION CAPACITY UTILIZATION

Avalon Boulevard @ I-405 Fwy SB Ramps
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: Avalon Boulevard
E-W St: I-405 Fwy SB Ramps
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU4

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left [3]	0	1600	0.000	0	0	1600	0.000	170	170	1600	0.106 *	0	170	1600	0.106 *	0	170	1600	0.106 *
Nb Thru	1136	3200	0.395 *	17	1153	3200	0.400 *	114	1250	3200	0.432	17	1267	3200	0.437	0	1267	3200	0.437
Nb Right	127	0	-	0	127	0	-	4	131	0	-	0	131	0	-	0	131	0	-
Sb Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Thru	1052	3200	0.329	11	1063	3200	0.332	94	1146	3200	0.358	11	1157	3200	0.361	0	1157	3200	0.361
Sb Right	431	1600	0.269	0	431	1600	0.269	454	885	1600	0.553 *	0	885	1600	0.553 *	0	885	1600	0.553 *
Eb Left	319	2880	0.111	0	319	2880	0.111	78	397	2880	0.138	0	397	2880	0.138	0	397	2880	0.138
Eb Thru	67	3200	0.021	0	67	3200	0.021	172	239	3200	0.075	0	239	3200	0.075	0	239	3200	0.075
Eb Right[4]	401	1600	0.000	22	423	1600	0.000	411	812	1600	0.000	22	834	1600	0.000	0	834	1600	0.000
Wb Left	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.605				0.611				0.897				0.897				0.897
LOS			B				B				D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 The northbound left-turn lane is closed under existing conditions.
4 Free-flow movement.

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INTERSECTION CAPACITY UTILIZATION

Avalon Boulevard @ 213th Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: Avalon Boulevard
E-W St: 213th Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU5

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	61	1600	0.038	0	61	1600	0.038	2	63	1600	0.039	0	63	1600	0.039	0	63	1600	0.039
Nb Thru	912	4800	0.223 *	40	952	4800	0.231 *	146	1058	4800	0.255 *	40	1098	4800	0.264 *	0	1098	4800	0.264 *
Nb Right	159	0	-	0	159	0	-	9	168	0	-	0	168	0	-	0	168	0	-
Sb Left	49	1600	0.031 *	0	49	1600	0.031 *	21	70	1600	0.044 *	0	70	1600	0.044 *	0	70	1600	0.044 *
Sb Thru	769	4800	0.188	12	781	4800	0.191	187	956	4800	0.228	12	968	4800	0.231	0	968	4800	0.231
Sb Right	135	0	-	0	135	0	-	4	139	0	-	0	139	0	-	0	139	0	-
Eb Left	192	1600	0.120 *	0	192	1600	0.120 *	6	198	1600	0.124 *	0	198	1600	0.124 *	0	198	1600	0.124 *
Eb Thru	117	1600	0.106	0	117	1600	0.106	9	126	1600	0.112	0	126	1600	0.112	0	126	1600	0.112
Eb Right	52	0	-	0	52	0	-	2	54	0	-	0	54	0	-	0	54	0	-
Wb Left	51	1600	0.032	0	51	1600	0.032	4	55	1600	0.034	0	55	1600	0.034	0	55	1600	0.034
Wb Thru	141	3200	0.062 *	0	141	3200	0.062 *	6	147	3200	0.072 *	0	147	3200	0.072 *	0	147	3200	0.072 *
Wb Right	56	0	-	0	56	0	-	27	83	0	-	0	83	0	-	0	83	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.535				0.544				0.595				0.603				0.603
LOS			A				A				A				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: Avalon Boulevard
E-W St: 213th Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU5

Avalon Boulevard @ 213th Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	87	1600	0.054 *	0	87	1600	0.054 *	3	90	1600	0.056 *	0	90	1600	0.056 *	0	90	1600	0.056 *
Nb Thru	876	4800	0.204	17	893	4800	0.207	231	1107	4800	0.253	17	1124	4800	0.257	0	1124	4800	0.257
Nb Right	102	0	-	0	102	0	-	5	107	0	-	0	107	0	-	0	107	0	-
Sb Left	130	1600	0.081	0	130	1600	0.081	49	179	1600	0.112	0	179	1600	0.112	0	179	1600	0.112
Sb Thru	1198	4800	0.291 *	33	1231	4800	0.298 *	452	1650	4800	0.386 *	33	1683	4800	0.393 *	0	1683	4800	0.393 *
Sb Right	198	0	-	0	198	0	-	6	204	0	-	0	204	0	-	0	204	0	-
Eb Left	222	1600	0.139	0	222	1600	0.139	7	229	1600	0.143	0	229	1600	0.143	0	229	1600	0.143
Eb Thru	199	1600	0.178 *	0	199	1600	0.179 *	11	210	1600	0.187 *	0	210	1600	0.187 *	0	210	1600	0.187 *
Eb Right	86	0	-	1	87	0	-	3	89	0	-	1	90	0	-	0	90	0	-
Wb Left	126	1600	0.079 *	1	127	1600	0.079 *	8	134	1600	0.084 *	1	135	1600	0.084 *	0	135	1600	0.084 *
Wb Thru	148	3200	0.066	0	148	3200	0.066	10	158	3200	0.084	0	158	3200	0.084	0	158	3200	0.084
Wb Right	64	0	-	0	64	0	-	47	111	0	-	0	111	0	-	0	111	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.702				0.710				0.812				0.821				0.821
LOS			C				C				D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

Avalon Boulevard @ Carson Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/27/2015
Date of Count: 2014
Projection Year: 2017

N-S St: Avalon Boulevard
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU6

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2, 3	V/C	Added	Total	2, 3	V/C	Added	Total	2, 3	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	102	1600	0.064	-13	89	1600	0.056	5	107	1600	0.067	-13	94	1600	0.059	0	94	1600	0.059
Nb Thru	756	4800	0.221 *	18	774	4800	0.225 *	61	817	4800	0.170 *	18	835	4800	0.174 *	0	835	4800	0.174 *
Nb Right	306	0	-	0	306	0	-	12	318	1600	0.092	0	318	1600	0.092	0	318	1600	0.092
Sb Left	122	1600	0.076 *	37	159	1600	0.099 *	69	191	1600	0.119 *	37	228	1600	0.142 *	0	228	1600	0.142 *
Sb Thru	601	4800	0.150	8	609	4800	0.158	56	657	4800	0.137	8	665	4800	0.139	0	665	4800	0.139
Sb Right	117	0	-	33	150	0	-	66	183	1600	0.047	33	216	1600	0.058	0	216	1600	0.058
Eb Left	168	2880	0.058 *	29	197	2880	0.068 *	25	193	2880	0.067 *	29	222	2880	0.077 *	0	222	2880	0.077 *
Eb Thru	615	3200	0.214	14	629	3200	0.220	58	673	3200	0.235	14	687	3200	0.241	0	687	3200	0.241
Eb Right	69	0	-	6	75	0	-	10	79	0	-	6	85	0	-	0	85	0	-
Wb Left	295	2880	0.102	0	295	2880	0.102	14	309	2880	0.107	0	309	2880	0.107	0	309	2880	0.107
Wb Thru	957	3200	0.333 *	-9	948	3200	0.336 *	53	1010	3200	0.316 *	-9	1001	3200	0.313 *	0	1001	3200	0.313 *
Wb Right	108	0	-	20	128	0	-	68	176	1600	0.110	20	196	1600	0.123	0	196	1600	0.123
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.789				0.829				0.772				0.806				0.806
LOS			C				D				C				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 As part of the mitigation measures for the approved Boulevards at South Bay project, northbound, southbound, and westbound right-turn only lanes will be added.

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INTERSECTION CAPACITY UTILIZATION

Avalon Boulevard @ Carson Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/27/2015
Date of Count: 2014
Projection Year: 2017

N-S St: Avalon Boulevard
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU6

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2, 3	V/C	Added	Total	2, 3	V/C	Added	Total	2, 3	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	136	1600	0.085	-17	119	1600	0.074	13	149	1600	0.093	-17	132	1600	0.083	0	132	1600	0.083
Nb Thru	689	4800	0.213 *	33	722	4800	0.220 *	88	777	4800	0.162 *	33	810	4800	0.169 *	0	810	4800	0.169 *
Nb Right	332	0	-	0	332	0	-	13	345	1600	0.084	0	345	1600	0.084	0	345	1600	0.084
Sb Left	200	1600	0.125 *	1	201	1600	0.126 *	121	321	1600	0.201 *	1	322	1600	0.201 *	0	322	1600	0.201 *
Sb Thru	836	4800	0.219	5	841	4800	0.230	87	923	4800	0.192	5	928	4800	0.193	0	928	4800	0.193
Sb Right	217	0	-	48	265	0	-	251	468	1600	0.183	48	516	1600	0.201	0	516	1600	0.201
Eb Left	289	2880	0.100	34	323	2880	0.112	27	316	2880	0.110	34	350	2880	0.121	0	350	2880	0.121
Eb Thru	837	3200	0.286 *	6	843	3200	0.289 *	64	901	3200	0.309 *	6	907	3200	0.311 *	0	907	3200	0.311 *
Eb Right	79	0	-	2	81	0	-	8	87	0	-	2	89	0	-	0	89	0	-
Wb Left	364	2880	0.126 *	0	364	2880	0.126 *	14	378	2880	0.131 *	0	378	2880	0.131 *	0	378	2880	0.131 *
Wb Thru	732	3200	0.256	-9	723	3200	0.266	67	799	3200	0.250	-9	790	3200	0.247	0	790	3200	0.247
Wb Right	88	0	-	39	127	0	-	125	213	1600	0.133	39	252	1600	0.157	0	252	1600	0.157
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.850				0.860				0.903				0.913				0.913
LOS			D				D				E				E				E

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 As part of the mitigation measures for the approved Boulevards at South Bay project, northbound, southbound, and westbound right-turn only lanes will be added.

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INTERSECTION CAPACITY UTILIZATION

Avalon Boulevard @ 223rd Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/27/2015
Date of Count: 2014
Projection Year: 2017

N-S St: Avalon Boulevard
E-W St: 223rd Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU7

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	88	1600	0.055	0	88	1600	0.055	7	95	1600	0.059	0	95	1600	0.059	0	95	1600	0.059
Nb Thru	749	3200	0.234 *	2	751	3200	0.235 *	65	814	3200	0.255 *	2	816	3200	0.255 *	0	816	3200	0.255 *
Nb Right[3]	152	1600	0.095	0	152	1600	0.095	8	160	1600	0.100	0	160	1600	0.100	0	160	1600	0.100
Sb Left	121	1600	0.076 *	9	130	1600	0.081 *	8	129	1600	0.080 *	9	138	1600	0.086 *	0	138	1600	0.086 *
Sb Thru	498	3200	0.156	3	501	3200	0.157	62	560	3200	0.175	3	563	3200	0.176	0	563	3200	0.176
Sb Right[3]	214	1600	0.134	2	216	1600	0.135	6	220	1600	0.138	2	222	1600	0.139	0	222	1600	0.139
Eb Left	266	1600	0.166 *	2	268	1600	0.168 *	8	274	1600	0.171 *	2	276	1600	0.172 *	0	276	1600	0.172 *
Eb Thru	604	3200	0.189	0	604	3200	0.189	27	631	3200	0.197	0	631	3200	0.197	0	631	3200	0.197
Eb Right	62	1600	0.039	0	62	1600	0.039	8	70	1600	0.044	0	70	1600	0.044	0	70	1600	0.044
Wb Left	157	1600	0.098	0	157	1600	0.098	10	167	1600	0.104	0	167	1600	0.104	0	167	1600	0.104
Wb Thru	701	3200	0.219 *	0	701	3200	0.219 *	23	724	3200	0.226 *	0	724	3200	0.226 *	0	724	3200	0.226 *
Wb Right[3]	76	1600	0.048	4	80	1600	0.050	3	79	1600	0.050	4	83	1600	0.052	0	83	1600	0.052
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.795				0.803				0.832				0.840				0.840
LOS			C				D				D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Functional right-turn lane

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INTERSECTION CAPACITY UTILIZATION

Avalon Boulevard @ 223rd Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/27/2015
Date of Count: 2014
Projection Year: 2017

N-S St: Avalon Boulevard
E-W St: 223rd Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU7

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	89	1600	0.056	0	89	1600	0.056	7	96	1600	0.060	0	96	1600	0.060	0	96	1600	0.060
Nb Thru	744	3200	0.233 *	5	749	3200	0.234 *	97	841	3200	0.263 *	5	846	3200	0.264 *	0	846	3200	0.264 *
Nb Right[3]	124	1600	0.078	0	124	1600	0.078	7	131	1600	0.082	0	131	1600	0.082	0	131	1600	0.082
Sb Left	133	1600	0.083 *	5	138	1600	0.086 *	6	139	1600	0.087 *	5	144	1600	0.090 *	0	144	1600	0.090 *
Sb Thru	782	3200	0.244	2	784	3200	0.245	92	874	3200	0.273	2	876	3200	0.274	0	876	3200	0.274
Sb Right[3]	208	1600	0.130	1	209	1600	0.131	6	214	1600	0.134	1	215	1600	0.135	0	215	1600	0.135
Eb Left	231	1600	0.144	4	235	1600	0.147	7	238	1600	0.149	4	242	1600	0.151	0	242	1600	0.151
Eb Thru	966	3200	0.302 *	0	966	3200	0.302 *	36	1002	3200	0.313 *	0	1002	3200	0.313 *	0	1002	3200	0.313 *
Eb Right	91	1600	0.057	0	91	1600	0.057	8	99	1600	0.062	0	99	1600	0.062	0	99	1600	0.062
Wb Left	200	1600	0.125 *	0	200	1600	0.125 *	9	209	1600	0.131 *	0	209	1600	0.131 *	0	209	1600	0.131 *
Wb Thru	823	3200	0.257	0	823	3200	0.257	34	857	3200	0.268	0	857	3200	0.268	0	857	3200	0.268
Wb Right[3]	110	1600	0.069	8	118	1600	0.074	6	116	1600	0.073	8	124	1600	0.078	0	124	1600	0.078
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.843				0.847				0.894				0.898				0.898
LOS			D				D				D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Functional right-turn lane

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INTERSECTION CAPACITY UTILIZATION

N-S St: Civic Plaza Drive-Bonita Street
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU8

Civic Plaza Drive-Bonita Street @ Carson Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	110	0	0.069	0	110	0	0.069	3	113	0	0.071	0	113	0	0.071	0	113	0	0.071
Nb Thru	32	1600	0.089 *	0	32	1600	0.089 *	1	33	1600	0.091 *	0	33	1600	0.091 *	0	33	1600	0.091 *
Nb Right	156	1600	0.098	0	156	1600	0.098	5	161	1600	0.100	0	161	1600	0.100	0	161	1600	0.100
Sb Left	67	1600	0.042 *	0	67	1600	0.042 *	2	69	1600	0.043 *	0	69	1600	0.043 *	0	69	1600	0.043 *
Sb Thru	62	1600	0.039	0	62	1600	0.039	2	64	1600	0.040	0	64	1600	0.040	0	64	1600	0.040
Sb Right	55	1600	0.034	0	55	1600	0.034	2	57	1600	0.035	0	57	1600	0.035	0	57	1600	0.035
Eb Left	47	1600	0.029	0	47	1600	0.029	1	48	1600	0.030	0	48	1600	0.030	0	48	1600	0.030
Eb Thru	863	3200	0.296 *	38	901	3200	0.308 *	134	997	3200	0.339 *	38	1035	3200	0.350 *	0	1035	3200	0.350 *
Eb Right	84	0	-	0	84	0	-	3	87	0	-	0	87	0	-	0	87	0	-
Wb Left	174	1600	0.109 *	0	174	1600	0.109 *	5	179	1600	0.112 *	0	179	1600	0.112 *	0	179	1600	0.112 *
Wb Thru	1243	4800	0.262	12	1255	4800	0.265	131	1374	4800	0.290	12	1386	4800	0.292	0	1386	4800	0.292
Wb Right	15	0	-	0	15	0	-	0	15	0	-	0	15	0	-	0	15	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.635				0.647				0.685				0.697				0.697
LOS			B				B				B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: Civic Plaza Drive-Bonita Street
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU8

Civic Plaza Drive-Bonita Street @ Carson Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	53	0	0.033	0	53	0	0.033	2	55	0	0.034	0	55	0	0.034	0	55	0	0.034
Nb Thru	35	1600	0.055	0	35	1600	0.055	1	36	1600	0.057	0	36	1600	0.057	0	36	1600	0.057
Nb Right	249	1600	0.156 *	0	249	1600	0.156 *	7	256	1600	0.160 *	0	256	1600	0.160 *	0	256	1600	0.160 *
Sb Left	55	1600	0.034 *	0	55	1600	0.034 *	2	57	1600	0.035 *	0	57	1600	0.035 *	0	57	1600	0.035 *
Sb Thru	40	1600	0.025	0	40	1600	0.025	1	41	1600	0.026	0	41	1600	0.026	0	41	1600	0.026
Sb Right	35	1600	0.022	0	35	1600	0.022	1	36	1600	0.023	0	36	1600	0.023	0	36	1600	0.023
Eb Left	54	1600	0.034	0	54	1600	0.034	2	56	1600	0.035	0	56	1600	0.035	0	56	1600	0.035
Eb Thru	1138	3200	0.371 *	18	1156	3200	0.377 *	191	1329	3200	0.431 *	18	1347	3200	0.437 *	0	1347	3200	0.437 *
Eb Right	49	0	-	0	49	0	-	1	50	0	-	0	50	0	-	0	50	0	-
Wb Left	125	1600	0.078 *	0	125	1600	0.078 *	4	129	1600	0.080 *	0	129	1600	0.080 *	0	129	1600	0.080 *
Wb Thru	945	4800	0.208	32	977	4800	0.215	198	1143	4800	0.250	32	1175	4800	0.257	0	1175	4800	0.257
Wb Right	55	0	-	0	55	0	-	2	57	0	-	0	57	0	-	0	57	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.739				0.745				0.807				0.813				0.813
LOS			C				C				D				D				D

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

I-405 Fwy SB Ramps @ Carson Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: I-405 Fwy SB Ramps
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU9

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	38	1600	0.024	0	38	1600	0.024	1	39	1600	0.024	0	39	1600	0.024	0	39	1600	0.024
Nb Thru	4	0	0.000	0	4	0	0.000	0	4	0	0.000	0	4	0	0.000	0	4	0	0.000
Nb Right	241	1600	0.151 *	0	241	1600	0.151 *	46	287	1600	0.180 *	0	287	1600	0.180 *	0	287	1600	0.180 *
Sb Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Eb Left	3	1600	0.002	0	3	1600	0.002	0	3	1600	0.002	0	3	1600	0.002	0	3	1600	0.002
Eb Thru	692	3200	0.216	10	702	3200	0.219	120	812	3200	0.254	10	822	3200	0.257	0	822	3200	0.257
Eb Right[3]	461	1600	0.264 *	28	489	1600	0.282 *	23	484	1600	0.278 *	28	512	1600	0.295 *	0	512	1600	0.295 *
Wb Left	95	1600	0.059 *	0	95	1600	0.059 *	19	114	1600	0.071 *	0	114	1600	0.071 *	0	114	1600	0.071 *
Wb Thru	1314	4800	0.276	12	1326	4800	0.279	133	1447	4800	0.304	12	1459	4800	0.306	0	1459	4800	0.306
Wb Right	11	0	-	0	11	0	-	0	11	0	-	0	11	0	-	0	11	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.574				0.592				0.629				0.646				0.646
LOS			A				A				B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 The eastbound right-turn lane has an overlapping phase with the northbound phase.

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INTERSECTION CAPACITY UTILIZATION

N-S St: I-405 Fwy SB Ramps
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU9

I-405 Fwy SB Ramps @ Carson Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	32	1600	0.020	0	32	1600	0.020	1	33	1600	0.021	0	33	1600	0.021	0	33	1600	0.021
Nb Thru	9	0	0.000	0	9	0	0.000	0	9	0	0.000	0	9	0	0.000	0	9	0	0.000
Nb Right	103	1600	0.064 *	0	103	1600	0.064 *	35	138	1600	0.086 *	0	138	1600	0.086 *	0	138	1600	0.086 *
Sb Left	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Eb Left	1	1600	0.001	0	1	1600	0.001	0	1	1600	0.001	0	1	1600	0.001	0	1	1600	0.001
Eb Thru	876	3200	0.274	6	882	3200	0.276	173	1049	3200	0.328	6	1055	3200	0.330	0	1055	3200	0.330
Eb Right[3]	610	1600	0.361 *	12	622	1600	0.369 *	27	637	1600	0.378 *	12	649	1600	0.385 *	0	649	1600	0.385 *
Wb Left	74	1600	0.046 *	0	74	1600	0.046 *	46	120	1600	0.075 *	0	120	1600	0.075 *	0	120	1600	0.075 *
Wb Thru	1142	4800	0.244	32	1174	4800	0.250	204	1346	4800	0.286	32	1378	4800	0.293	0	1378	4800	0.293
Wb Right	27	0	-	0	27	0	-	1	28	0	-	0	28	0	-	0	28	0	-
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.572				0.579				0.639				0.647				0.647
LOS			A				A				B				B				B

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 The eastbound right-turn lane has an overlapping phase with the northbound phase.

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INTERSECTION CAPACITY UTILIZATION

I-405 Fwy NB Ramps-Recreation Road @ Carson Street
Peak hr: AM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: I-405 Fwy NB Ramps-Recreation Road
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU10

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
	1	2	V/C	Added	Total		V/C	Added	Total	2	V/C	Added	Total	2	V/C	Added	Total	2	V/C
Movement	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio	Volume	Volume	Capacity	Ratio
Nb Left	4	0	0.003	0	4	0	0.003	21	25	0	0.016 *	0	25	0	0.016 *	0	25	0	0.016 *
Nb Thru	0	1600	0.003	0	0	1600	0.003	16	16	1600	0.026	0	16	1600	0.026	0	16	1600	0.026
Nb Right	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001	0	2	1600	0.001
Sb Left	13	0	0.008	0	13	0	0.008	8	21	0	0.013	0	21	0	0.013	0	21	0	0.013
Sb Thru	0	1600	0.008	0	0	1600	0.008	39	39	1600	0.038 *	0	39	1600	0.038 *	0	39	1600	0.038 *
Sb Right [3]	523	1600	0.000	9	532	1600	0.000	22	545	1600	0.000	9	554	1600	0.000	0	554	1600	0.000
Eb Left	87	1600	0.054 *	0	87	1600	0.054 *	3	90	1600	0.056 *	0	90	1600	0.056 *	0	90	1600	0.056 *
Eb Thru	844	3200	0.266	10	854	3200	0.269	109	953	3200	0.315	10	963	3200	0.318	0	963	3200	0.318
Eb Right	6	0	-	0	6	0	-	49	55	0	-	0	55	0	-	0	55	0	-
Wb Left	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000
Wb Thru	890	3200	0.278 *	3	893	3200	0.279 *	110	1000	3200	0.312 *	3	1003	3200	0.313 *	0	1003	3200	0.313 *
Wb Right	294	1600	0.184	0	294	1600	0.184	12	306	1600	0.191	0	306	1600	0.191	0	306	1600	0.191
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.443				0.444				0.522				0.523				0.523
LOS			A				A				A				A				A

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Free-flow movement.

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INTERSECTION CAPACITY UTILIZATION

I-405 Fwy NB Ramps-Recreation Road @ Carson Street
Peak hr: PM
Annual Growth: 1.00%
Date: 01/26/2015
Date of Count: 2014
Projection Year: 2017

N-S St: I-405 Fwy NB Ramps-Recreation Road
E-W St: Carson Street
Project: Avalon Mixed-Use Project/1-14-4101-1
File: ICU10

WITH BOULEVARDS AT SOUTH BAY PROJECT

	2014 EXIST. TRAFFIC			2014 EXISTING PLUS PROJECT				2017 FUTURE PRE-PROJECT				2017 FUTURE WITH PROJECT				2017 FUTURE W/PROJECT + MITIGATION			
Movement	1 Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio	Added Volume	Total Volume	2 Capacity	V/C Ratio
Nb Left	8	0	0.005	0	8	0	0.005	55	63	0	0.040	0	63	0	0.040	0	63	0	0.040
Nb Thru	1	1600	0.006	0	1	1600	0.006	44	45	1600	0.068 *	0	45	1600	0.068 *	0	45	1600	0.068 *
Nb Right	5	1600	0.003	0	5	1600	0.003	0	5	1600	0.003	0	5	1600	0.003	0	5	1600	0.003
Sb Left	27	0	0.017	0	27	0	0.017	2	29	0	0.018	0	29	0	0.018	0	29	0	0.018
Sb Thru	1	1600	0.018	0	1	1600	0.018	32	33	1600	0.039	0	33	1600	0.039	0	33	1600	0.039
Sb Right [3]	554	1600	0.000	22	576	1600	0.000	34	588	1600	0.000	22	610	1600	0.000	0	610	1600	0.000
Eb Left	114	1600	0.071 *	0	114	1600	0.071 *	3	117	1600	0.073 *	0	117	1600	0.073 *	0	117	1600	0.073 *
Eb Thru	856	3200	0.269	6	862	3200	0.271	160	1016	3200	0.332	6	1022	3200	0.334	0	1022	3200	0.334
Eb Right	6	0	-	0	6	0	-	40	46	0	-	0	46	0	-	0	46	0	-
Wb Left	6	1600	0.004	0	6	1600	0.004	0	6	1600	0.004	0	6	1600	0.004	0	6	1600	0.004
Wb Thru	680	3200	0.213	9	689	3200	0.215	161	841	3200	0.263	9	850	3200	0.266	0	850	3200	0.266
Wb Right	419	1600	0.262 *	0	419	1600	0.262 *	31	450	1600	0.281 *	0	450	1600	0.281 *	0	450	1600	0.281 *
Yellow Allowance:			0.100 *				0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.456				0.456				0.540				0.540				0.540
LOS			A				A				A				A				A

** Key conflicting movement as a part of ICU*
1 Counts conducted by.City Traffic Counters
2 Capacity expressed in veh/hour of green
3 Free-flow movement.

APPENDIX D

HCM AND LEVELS OF SERVICE EXPLANATION
HCM DATA WORKSHEETS – WEEKDAY AM AND PM PEAK HOURS

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

In the *Highway Capacity Manual (HCM)*, published by the Transportation Research Board, 2000, level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of incidents, and when there are no other vehicles on the road. Only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Level of Service criteria for traffic signals are stated in terms of the average control delay per vehicle. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the *v/c* ratio for the lane group in question.

Level of Service Criteria for Signalized Intersections

Level of Service	Control Delay (Sec/Veh)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Level of Service (LOS) values are used to describe intersection operations with service levels varying from LOS A (free flow) to LOS F (jammed condition). The following descriptions summarize *HCM* criteria for each level of service:

LOS A describes operations with very low control delay, up to 10 seconds per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay values.

LOS B describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

LOS C describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with control delay greater than 55 and up to 80 seconds per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with control delay in excess of 80 seconds per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the lane groups. It may also occur at high *v/c* ratios with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	332	1287	0	0	774	246	0	0	0	39	0	451
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	382	1479	0	0	890	0				45	0	0
Adj No. of Lanes	2	2	0	0	3	1				2	0	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87				0.87	0.87	0.87
Percent Heavy Veh, %	2	2	0	0	2	2				2	2	2
Cap, veh/h	485	2853	0	0	3001	934				156	0	70
Arrive On Green	0.28	1.00	0.00	0.00	0.59	0.00				0.04	0.00	0.00
Sat Flow, veh/h	3442	3632	0	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	382	1479	0	0	890	0				45	0	0
Grp Sat Flow(s),veh/h/ln	1721	1770	0	0	1695	1583				1774	0	1583
Q Serve(g_s), s	6.1	0.0	0.0	0.0	5.2	0.0				0.7	0.0	0.0
Cycle Q Clear(g_c), s	6.1	0.0	0.0	0.0	5.2	0.0				0.7	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	485	2853	0	0	3001	934				156	0	70
V/C Ratio(X)	0.79	0.52	0.00	0.00	0.30	0.00				0.29	0.00	0.00
Avail Cap(c_a), veh/h	591	2853	0	0	3001	934				1064	0	475
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.00	0.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	20.7	0.0	0.0	0.0	6.1	0.0				27.8	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.5	0.0	0.0	0.3	0.0				1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.6	0.4	0.0	0.0	4.4	0.0				0.7	0.0	0.0
LnGrp Delay(d),s/veh	25.0	0.5	0.0	0.0	6.4	0.0				28.8	0.0	0.0
LnGrp LOS	C	A			A					C		
Approach Vol, veh/h		1861			890						45	
Approach Delay, s/veh		5.5			6.4						28.8	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.9			13.0	39.9		7.1
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		33.0			10.3	18.2		18.0
Max Q Clear Time (g_c+I1), s		2.0			8.1	7.2		2.7
Green Ext Time (p_c), s		22.3			0.3	9.5		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	6.2
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	360	1299	0	0	778	246	0	0	0	39	0	451
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	414	1493	0	0	894	0				45	0	0
Adj No. of Lanes	2	2	0	0	3	1				2	0	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87				0.87	0.87	0.87
Percent Heavy Veh, %	2	2	0	0	2	2				2	2	2
Cap, veh/h	513	2853	0	0	2960	922				156	0	70
Arrive On Green	0.30	1.00	0.00	0.00	0.58	0.00				0.04	0.00	0.00
Sat Flow, veh/h	3442	3632	0	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	414	1493	0	0	894	0				45	0	0
Grp Sat Flow(s),veh/h/ln	1721	1770	0	0	1695	1583				1774	0	1583
Q Serve(g_s), s	6.7	0.0	0.0	0.0	5.3	0.0				0.7	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	0.0	0.0	5.3	0.0				0.7	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	513	2853	0	0	2960	922				156	0	70
V/C Ratio(X)	0.81	0.52	0.00	0.00	0.30	0.00				0.29	0.00	0.00
Avail Cap(c_a), veh/h	591	2853	0	0	2960	922				1064	0	475
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.00	0.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	20.3	0.0	0.0	0.0	6.4	0.0				27.8	0.0	0.0
Incr Delay (d2), s/veh	5.2	0.5	0.0	0.0	0.3	0.0				1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	0.3	0.0	0.0	4.6	0.0				0.7	0.0	0.0
LnGrp Delay(d),s/veh	25.5	0.5	0.0	0.0	6.6	0.0				28.8	0.0	0.0
LnGrp LOS	C	A			A					C		
Approach Vol, veh/h		1907			894						45	
Approach Delay, s/veh		5.9			6.6						28.8	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.9			13.4	39.4		7.1
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		33.0			10.3	18.2		18.0
Max Q Clear Time (g_c+I1), s		2.0			8.7	7.3		2.7
Green Ext Time (p_c), s		22.4			0.3	9.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	6.5
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	354	1378	0	0	841	284	0	0	0	40	0	495
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	407	1584	0	0	967	0				46	0	0
Adj No. of Lanes	2	2	0	0	3	1				2	0	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87				0.87	0.87	0.87
Percent Heavy Veh, %	2	2	0	0	2	2				2	2	2
Cap, veh/h	507	2850	0	0	2965	923				158	0	71
Arrive On Green	0.29	1.00	0.00	0.00	0.58	0.00				0.04	0.00	0.00
Sat Flow, veh/h	3442	3632	0	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	407	1584	0	0	967	0				46	0	0
Grp Sat Flow(s),veh/h/ln	1721	1770	0	0	1695	1583				1774	0	1583
Q Serve(g_s), s	6.6	0.0	0.0	0.0	5.9	0.0				0.8	0.0	0.0
Cycle Q Clear(g_c), s	6.6	0.0	0.0	0.0	5.9	0.0				0.8	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	507	2850	0	0	2965	923				158	0	71
V/C Ratio(X)	0.80	0.56	0.00	0.00	0.33	0.00				0.29	0.00	0.00
Avail Cap(c_a), veh/h	591	2850	0	0	2965	923				1064	0	475
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.00	0.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	20.4	0.0	0.0	0.0	6.4	0.0				27.7	0.0	0.0
Incr Delay (d2), s/veh	4.7	0.5	0.0	0.0	0.3	0.0				1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	0.4	0.0	0.0	5.0	0.0				0.7	0.0	0.0
LnGrp Delay(d),s/veh	25.1	0.5	0.0	0.0	6.7	0.0				28.7	0.0	0.0
LnGrp LOS	C	A			A					C		
Approach Vol, veh/h		1991			967						46	
Approach Delay, s/veh		5.5			6.7						28.7	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.8			13.3	39.5		7.2
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		33.0			10.3	18.2		18.0
Max Q Clear Time (g_c+I1), s		2.0			8.6	7.9		2.8
Green Ext Time (p_c), s		23.8			0.3	9.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	6.3
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	382	1390	0	0	845	284	0	0	0	40	0	495
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	439	1598	0	0	971	0				46	0	0
Adj No. of Lanes	2	2	0	0	3	1				2	0	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87				0.87	0.87	0.87
Percent Heavy Veh, %	2	2	0	0	2	2				2	2	2
Cap, veh/h	534	2850	0	0	2925	911				158	0	71
Arrive On Green	0.31	1.00	0.00	0.00	0.58	0.00				0.04	0.00	0.00
Sat Flow, veh/h	3442	3632	0	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	439	1598	0	0	971	0				46	0	0
Grp Sat Flow(s),veh/h/ln	1721	1770	0	0	1695	1583				1774	0	1583
Q Serve(g_s), s	7.1	0.0	0.0	0.0	6.0	0.0				0.8	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	0.0	6.0	0.0				0.8	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	534	2850	0	0	2925	911				158	0	71
V/C Ratio(X)	0.82	0.56	0.00	0.00	0.33	0.00				0.29	0.00	0.00
Avail Cap(c_a), veh/h	591	2850	0	0	2925	911				1064	0	475
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.00	0.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	0.0	0.0	0.0	6.7	0.0				27.7	0.0	0.0
Incr Delay (d2), s/veh	5.6	0.5	0.0	0.0	0.3	0.0				1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.3	0.4	0.0	0.0	5.2	0.0				0.7	0.0	0.0
LnGrp Delay(d),s/veh	25.6	0.5	0.0	0.0	7.0	0.0				28.7	0.0	0.0
LnGrp LOS	C	A			A					C		
Approach Vol, veh/h		2037			971						46	
Approach Delay, s/veh		5.9			7.0						28.7	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.8			13.8	39.0		7.2
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		33.0			10.3	18.2		18.0
Max Q Clear Time (g_c+I1), s		2.0			9.1	8.0		2.8
Green Ext Time (p_c), s		24.0			0.2	9.1		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	6.6
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	358	1085	0	0	1428	514	0	0	0	61	2	365
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	373	1130	0	0	1488	0				65	0	0
Adj No. of Lanes	2	2	0	0	3	1				2	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	2	2	0	0	2	2				2	2	2
Cap, veh/h	477	2813	0	0	2956	920				196	0	87
Arrive On Green	0.28	1.00	0.00	0.00	0.58	0.00				0.06	0.00	0.00
Sat Flow, veh/h	3442	3632	0	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	373	1130	0	0	1488	0				65	0	0
Grp Sat Flow(s),veh/h/ln	1721	1770	0	0	1695	1583				1774	0	1583
Q Serve(g_s), s	6.0	0.0	0.0	0.0	10.4	0.0				1.1	0.0	0.0
Cycle Q Clear(g_c), s	6.0	0.0	0.0	0.0	10.4	0.0				1.1	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	477	2813	0	0	2956	920				196	0	87
V/C Ratio(X)	0.78	0.40	0.00	0.00	0.50	0.00				0.33	0.00	0.00
Avail Cap(c_a), veh/h	591	2813	0	0	2956	920				1064	0	475
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.81	0.81	0.00	0.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	20.8	0.0	0.0	0.0	7.4	0.0				27.3	0.0	0.0
Incr Delay (d2), s/veh	4.4	0.3	0.0	0.0	0.6	0.0				1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.6	0.2	0.0	0.0	8.7	0.0				1.0	0.0	0.0
LnGrp Delay(d),s/veh	25.3	0.3	0.0	0.0	8.1	0.0				28.3	0.0	0.0
LnGrp LOS	C	A			A					C		
Approach Vol, veh/h		1503			1488						65	
Approach Delay, s/veh		6.5			8.1						28.3	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.2			12.8	39.4		7.8
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		33.0			10.3	18.2		18.0
Max Q Clear Time (g_c+I1), s		2.0			8.0	12.4		3.1
Green Ext Time (p_c), s		23.9			0.3	5.4		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	7.7
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	370	1090	0	0	1439	514	0	0	0	61	2	365
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	385	1135	0	0	1499	0				65	0	0
Adj No. of Lanes	2	2	0	0	3	1				2	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	2	2	0	0	2	2				2	2	2
Cap, veh/h	488	2813	0	0	2940	915				196	0	87
Arrive On Green	0.28	1.00	0.00	0.00	0.58	0.00				0.06	0.00	0.00
Sat Flow, veh/h	3442	3632	0	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	385	1135	0	0	1499	0				65	0	0
Grp Sat Flow(s),veh/h/ln	1721	1770	0	0	1695	1583				1774	0	1583
Q Serve(g_s), s	6.2	0.0	0.0	0.0	10.6	0.0				1.1	0.0	0.0
Cycle Q Clear(g_c), s	6.2	0.0	0.0	0.0	10.6	0.0				1.1	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	488	2813	0	0	2940	915				196	0	87
V/C Ratio(X)	0.79	0.40	0.00	0.00	0.51	0.00				0.33	0.00	0.00
Avail Cap(c_a), veh/h	591	2813	0	0	2940	915				1064	0	475
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.00	0.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	20.7	0.0	0.0	0.0	7.6	0.0				27.3	0.0	0.0
Incr Delay (d2), s/veh	4.8	0.3	0.0	0.0	0.6	0.0				1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.8	0.2	0.0	0.0	8.7	0.0				1.0	0.0	0.0
LnGrp Delay(d),s/veh	25.4	0.3	0.0	0.0	8.2	0.0				28.3	0.0	0.0
LnGrp LOS	C	A			A					C		
Approach Vol, veh/h		1520			1499						65	
Approach Delay, s/veh		6.7			8.2						28.3	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.2			13.0	39.2		7.8
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		33.0			10.3	18.2		18.0
Max Q Clear Time (g_c+I1), s		2.0			8.2	12.6		3.1
Green Ext Time (p_c), s		24.0			0.3	5.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	7.9
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	378	1172	0	0	1549	579	0	0	0	63	2	393
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	394	1221	0	0	1614	0				67	0	0
Adj No. of Lanes	2	2	0	0	3	1				2	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	2	2	0	0	2	2				2	2	2
Cap, veh/h	496	2810	0	0	2924	910				199	0	89
Arrive On Green	0.29	1.00	0.00	0.00	0.57	0.00				0.06	0.00	0.00
Sat Flow, veh/h	3442	3632	0	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	394	1221	0	0	1614	0				67	0	0
Grp Sat Flow(s),veh/h/ln	1721	1770	0	0	1695	1583				1774	0	1583
Q Serve(g_s), s	6.3	0.0	0.0	0.0	11.9	0.0				1.1	0.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	0.0	11.9	0.0				1.1	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	496	2810	0	0	2924	910				199	0	89
V/C Ratio(X)	0.80	0.43	0.00	0.00	0.55	0.00				0.34	0.00	0.00
Avail Cap(c_a), veh/h	591	2810	0	0	2924	910				1064	0	475
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.00	0.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	20.5	0.0	0.0	0.0	7.9	0.0				27.2	0.0	0.0
Incr Delay (d2), s/veh	4.9	0.4	0.0	0.0	0.8	0.0				1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	0.3	0.0	0.0	9.7	0.0				1.0	0.0	0.0
LnGrp Delay(d),s/veh	25.4	0.4	0.0	0.0	8.7	0.0				28.2	0.0	0.0
LnGrp LOS	C	A			A					C		
Approach Vol, veh/h		1615			1614						67	
Approach Delay, s/veh		6.5			8.7						28.2	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.1			13.1	39.0		7.9
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		33.0			10.3	18.2		18.0
Max Q Clear Time (g_c+I1), s		2.0			8.3	13.9		3.1
Green Ext Time (p_c), s		25.5			0.3	4.1		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	8.0
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (veh/h)	390	1177	0	0	1560	579	0	0	0	63	2	393
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1863				1863	1863	1863
Adj Flow Rate, veh/h	406	1226	0	0	1625	0				67	0	0
Adj No. of Lanes	2	2	0	0	3	1				2	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	2	2	0	0	2	2				2	2	2
Cap, veh/h	506	2810	0	0	2908	906				199	0	89
Arrive On Green	0.29	1.00	0.00	0.00	0.57	0.00				0.06	0.00	0.00
Sat Flow, veh/h	3442	3632	0	0	5253	1583				3548	0	1583
Grp Volume(v), veh/h	406	1226	0	0	1625	0				67	0	0
Grp Sat Flow(s),veh/h/ln	1721	1770	0	0	1695	1583				1774	0	1583
Q Serve(g_s), s	6.5	0.0	0.0	0.0	12.1	0.0				1.1	0.0	0.0
Cycle Q Clear(g_c), s	6.5	0.0	0.0	0.0	12.1	0.0				1.1	0.0	0.0
Prop In Lane	1.00		0.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	506	2810	0	0	2908	906				199	0	89
V/C Ratio(X)	0.80	0.44	0.00	0.00	0.56	0.00				0.34	0.00	0.00
Avail Cap(c_a), veh/h	591	2810	0	0	2908	906				1064	0	475
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.00	0.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	20.4	0.0	0.0	0.0	8.1	0.0				27.2	0.0	0.0
Incr Delay (d2), s/veh	5.3	0.4	0.0	0.0	0.8	0.0				1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	0.3	0.0	0.0	9.7	0.0				1.0	0.0	0.0
LnGrp Delay(d),s/veh	25.6	0.4	0.0	0.0	8.9	0.0				28.2	0.0	0.0
LnGrp LOS	C	A			A					C		
Approach Vol, veh/h		1632			1625						67	
Approach Delay, s/veh		6.7			8.9						28.2	
Approach LOS		A			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		52.1			13.3	38.8		7.9
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5
Max Green Setting (Gmax), s		33.0			10.3	18.2		18.0
Max Q Clear Time (g_c+I1), s		2.0			8.5	14.1		3.1
Green Ext Time (p_c), s		25.6			0.3	4.0		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	8.2
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	518	1	390	0	0	0	0	1093	70	0	577	232
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				1863	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	582	1	0				0	1228	79	0	648	261
Adj No. of Lanes	2	2	1				1	2	0	0	2	1
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2				2	2	2	0	2	2
Cap, veh/h	786	808	362				3	2098	135	0	2200	984
Arrive On Green	0.23	0.23	0.00				0.00	0.62	0.62	0.00	1.00	1.00
Sat Flow, veh/h	3442	3539	1583				1774	3375	217	0	3632	1583
Grp Volume(v), veh/h	582	1	0				0	643	664	0	648	261
Grp Sat Flow(s),veh/h/ln	1721	1770	1583				1774	1770	1822	0	1770	1583
Q Serve(g_s), s	9.4	0.0	0.0				0.0	13.0	13.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.4	0.0	0.0				0.0	13.0	13.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.12	0.00		1.00
Lane Grp Cap(c), veh/h	786	808	362				3	1100	1133	0	2200	984
V/C Ratio(X)	0.74	0.00	0.00				0.00	0.58	0.59	0.00	0.29	0.27
Avail Cap(c_a), veh/h	1119	1150	515				148	1100	1133	0	2200	984
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	0.00	0.96	0.96
Uniform Delay (d), s/veh	21.5	17.9	0.0				0.0	6.7	6.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0				0.0	2.3	2.2	0.0	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	0.0				0.0	11.3	11.5	0.0	0.2	0.3
LnGrp Delay(d),s/veh	23.1	17.9	0.0				0.0	9.0	9.0	0.0	0.3	0.6
LnGrp LOS	C	B						A	A		A	A
Approach Vol, veh/h		583						1307			909	
Approach Delay, s/veh		23.1						9.0			0.4	
Approach LOS		C						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		41.8		18.2	0.0	41.8		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		31.5		19.5	5.0	22.0		
Max Q Clear Time (g_c+I1), s		15.0		11.4	0.0	2.0		
Green Ext Time (p_c), s		12.1		1.5	0.0	14.0		

Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	518	1	399	0	0	0	0	1133	70	0	581	232
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				1863	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	582	1	0				0	1273	79	0	653	261
Adj No. of Lanes	2	2	1				1	2	0	0	2	1
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2				2	2	2	0	2	2
Cap, veh/h	786	808	362				3	2103	130	0	2200	984
Arrive On Green	0.23	0.23	0.00				0.00	0.62	0.62	0.00	1.00	1.00
Sat Flow, veh/h	3442	3539	1583				1774	3383	210	0	3632	1583
Grp Volume(v), veh/h	582	1	0				0	665	687	0	653	261
Grp Sat Flow(s),veh/h/ln	1721	1770	1583				1774	1770	1823	0	1770	1583
Q Serve(g_s), s	9.4	0.0	0.0				0.0	13.7	13.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.4	0.0	0.0				0.0	13.7	13.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.11	0.00		1.00
Lane Grp Cap(c), veh/h	786	808	362				3	1100	1133	0	2200	984
V/C Ratio(X)	0.74	0.00	0.00				0.00	0.60	0.61	0.00	0.30	0.27
Avail Cap(c_a), veh/h	1119	1150	515				148	1100	1133	0	2200	984
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	0.00	0.95	0.95
Uniform Delay (d), s/veh	21.5	17.9	0.0				0.0	6.9	6.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0				0.0	2.5	2.4	0.0	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	0.0				0.0	11.6	11.9	0.0	0.2	0.3
LnGrp Delay(d),s/veh	23.1	17.9	0.0				0.0	9.3	9.3	0.0	0.3	0.6
LnGrp LOS	C	B						A	A		A	A
Approach Vol, veh/h		583						1352			914	
Approach Delay, s/veh		23.1						9.3			0.4	
Approach LOS		C						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		41.8		18.2	0.0	41.8		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		31.5		19.5	5.0	22.0		
Max Q Clear Time (g_c+I1), s		15.7		11.4	0.0	2.0		
Green Ext Time (p_c), s		11.9		1.5	0.0	14.3		

Intersection Summary	
HCM 2010 Ctrl Delay	9.3
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	568	1	405	0	0	0	0	1155	72	0	609	248
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				1863	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	638	1	0				0	1298	81	0	684	279
Adj No. of Lanes	2	2	1				1	2	0	0	2	1
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2				2	2	2	0	2	2
Cap, veh/h	833	857	383				3	2056	128	0	2151	962
Arrive On Green	0.24	0.24	0.00				0.00	0.61	0.61	0.00	1.00	1.00
Sat Flow, veh/h	3442	3539	1583				1774	3382	211	0	3632	1583
Grp Volume(v), veh/h	638	1	0				0	678	701	0	684	279
Grp Sat Flow(s),veh/h/ln	1721	1770	1583				1774	1770	1823	0	1770	1583
Q Serve(g_s), s	10.3	0.0	0.0				0.0	14.6	14.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.3	0.0	0.0				0.0	14.6	14.7	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.12	0.00		1.00
Lane Grp Cap(c), veh/h	833	857	383				3	1076	1108	0	2151	962
V/C Ratio(X)	0.77	0.00	0.00				0.00	0.63	0.63	0.00	0.32	0.29
Avail Cap(c_a), veh/h	1119	1150	515				148	1076	1108	0	2151	962
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	0.00	0.94	0.94
Uniform Delay (d), s/veh	21.2	17.2	0.0				0.0	7.5	7.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0				0.0	2.8	2.8	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.9	0.0	0.0				0.0	12.4	12.7	0.0	0.2	0.3
LnGrp Delay(d),s/veh	23.4	17.2	0.0				0.0	10.3	10.2	0.0	0.4	0.7
LnGrp LOS	C	B						B	B		A	A
Approach Vol, veh/h		639						1379			963	
Approach Delay, s/veh		23.4						10.3			0.5	
Approach LOS		C						B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		41.0		19.0	0.0	41.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		31.5		19.5	5.0	22.0		
Max Q Clear Time (g_c+I1), s		16.7		12.3	0.0	2.0		
Green Ext Time (p_c), s		11.6		1.5	0.0	14.7		

Intersection Summary	
HCM 2010 Ctrl Delay	9.9
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	568	1	414	0	0	0	0	1195	72	0	613	248
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				1863	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	638	1	0				0	1343	81	0	689	279
Adj No. of Lanes	2	2	1				1	2	0	0	2	1
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2				2	2	2	0	2	2
Cap, veh/h	833	857	383				3	2061	124	0	2151	962
Arrive On Green	0.24	0.24	0.00				0.00	0.61	0.61	0.00	1.00	1.00
Sat Flow, veh/h	3442	3539	1583				1774	3390	204	0	3632	1583
Grp Volume(v), veh/h	638	1	0				0	700	724	0	689	279
Grp Sat Flow(s),veh/h/ln	1721	1770	1583				1774	1770	1824	0	1770	1583
Q Serve(g_s), s	10.3	0.0	0.0				0.0	15.4	15.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.3	0.0	0.0				0.0	15.4	15.5	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.11	0.00		1.00
Lane Grp Cap(c), veh/h	833	857	383				3	1076	1109	0	2151	962
V/C Ratio(X)	0.77	0.00	0.00				0.00	0.65	0.65	0.00	0.32	0.29
Avail Cap(c_a), veh/h	1119	1150	515				148	1076	1109	0	2151	962
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	0.00	0.94	0.94
Uniform Delay (d), s/veh	21.2	17.2	0.0				0.0	7.6	7.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0				0.0	3.1	3.0	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.9	0.0	0.0				0.0	13.0	13.4	0.0	0.2	0.3
LnGrp Delay(d),s/veh	23.4	17.2	0.0				0.0	10.7	10.7	0.0	0.4	0.7
LnGrp LOS	C	B						B	B		A	A
Approach Vol, veh/h		639						1424			968	
Approach Delay, s/veh		23.4						10.7			0.5	
Approach LOS		C						B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		41.0		19.0	0.0	41.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		31.5		19.5	5.0	22.0		
Max Q Clear Time (g_c+I1), s		17.5		12.3	0.0	2.0		
Green Ext Time (p_c), s		11.2		1.5	0.0	15.0		

Intersection Summary	
HCM 2010 Ctrl Delay	10.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	319	67	401	0	0	0	0	1136	127	0	1052	431
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				1863	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	322	68	0				0	1147	128	0	1063	435
Adj No. of Lanes	2	2	1				1	2	0	0	2	1
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				2	2	2	0	2	2
Cap, veh/h	569	585	262				3	2197	245	0	2424	1084
Arrive On Green	0.17	0.17	0.00				0.00	0.68	0.68	0.00	1.00	1.00
Sat Flow, veh/h	3442	3539	1583				1774	3208	357	0	3632	1583
Grp Volume(v), veh/h	322	68	0				0	632	643	0	1063	435
Grp Sat Flow(s),veh/h/ln	1721	1770	1583				1774	1770	1796	0	1770	1583
Q Serve(g_s), s	5.2	1.0	0.0				0.0	10.5	10.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.2	1.0	0.0				0.0	10.5	10.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.20	0.00		1.00
Lane Grp Cap(c), veh/h	569	585	262				3	1212	1230	0	2424	1084
V/C Ratio(X)	0.57	0.12	0.00				0.00	0.52	0.52	0.00	0.44	0.40
Avail Cap(c_a), veh/h	1119	1150	515				148	1212	1230	0	2424	1084
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	0.00	0.83	0.83
Uniform Delay (d), s/veh	23.1	21.3	0.0				0.0	4.6	4.6	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.1	0.0				0.0	1.6	1.6	0.0	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	0.9	0.0				0.0	9.3	9.7	0.0	0.3	0.5
LnGrp Delay(d),s/veh	24.0	21.4	0.0				0.0	6.2	6.2	0.0	0.5	0.9
LnGrp LOS	C	C						A	A		A	A
Approach Vol, veh/h		390						1275			1498	
Approach Delay, s/veh		23.5						6.2			0.6	
Approach LOS		C						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.6		14.4	0.0	45.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		31.5		19.5	5.0	22.0		
Max Q Clear Time (g_c+I1), s		12.6		7.2	0.0	2.0		
Green Ext Time (p_c), s		15.7		1.3	0.0	16.4		

Intersection Summary	
HCM 2010 Ctrl Delay	5.7
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	319	67	423	0	0	0	0	1153	127	0	1063	431
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				1863	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	322	68	0				0	1165	128	0	1074	435
Adj No. of Lanes	2	2	1				1	2	0	0	2	1
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				2	2	2	0	2	2
Cap, veh/h	569	585	262				3	2201	241	0	2424	1084
Arrive On Green	0.17	0.17	0.00				0.00	0.68	0.68	0.00	1.00	1.00
Sat Flow, veh/h	3442	3539	1583				1774	3214	352	0	3632	1583
Grp Volume(v), veh/h	322	68	0				0	640	653	0	1074	435
Grp Sat Flow(s),veh/h/ln	1721	1770	1583				1774	1770	1797	0	1770	1583
Q Serve(g_s), s	5.2	1.0	0.0				0.0	10.7	10.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.2	1.0	0.0				0.0	10.7	10.8	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.20	0.00		1.00
Lane Grp Cap(c), veh/h	569	585	262				3	1212	1230	0	2424	1084
V/C Ratio(X)	0.57	0.12	0.00				0.00	0.53	0.53	0.00	0.44	0.40
Avail Cap(c_a), veh/h	1119	1150	515				148	1212	1230	0	2424	1084
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	0.00	0.82	0.82
Uniform Delay (d), s/veh	23.1	21.3	0.0				0.0	4.7	4.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.1	0.0				0.0	1.7	1.6	0.0	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	0.9	0.0				0.0	9.6	9.8	0.0	0.3	0.5
LnGrp Delay(d),s/veh	24.0	21.4	0.0				0.0	6.3	6.3	0.0	0.5	0.9
LnGrp LOS	C	C						A	A		A	A
Approach Vol, veh/h		390						1293			1509	
Approach Delay, s/veh		23.5						6.3			0.6	
Approach LOS		C						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.6		14.4	0.0	45.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		31.5		19.5	5.0	22.0		
Max Q Clear Time (g_c+I1), s		12.8		7.2	0.0	2.0		
Green Ext Time (p_c), s		15.6		1.3	0.0	16.5		

Intersection Summary	
HCM 2010 Ctrl Delay	5.7
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	357	69	427	0	0	0	0	1205	131	0	1116	490
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				1863	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	361	70	0				0	1217	132	0	1127	495
Adj No. of Lanes	2	2	1				1	2	0	0	2	1
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				2	2	2	0	2	2
Cap, veh/h	605	622	278				3	2171	235	0	2387	1068
Arrive On Green	0.18	0.18	0.00				0.00	0.67	0.67	0.00	1.00	1.00
Sat Flow, veh/h	3442	3539	1583				1774	3219	348	0	3632	1583
Grp Volume(v), veh/h	361	70	0				0	667	682	0	1127	495
Grp Sat Flow(s),veh/h/ln	1721	1770	1583				1774	1770	1798	0	1770	1583
Q Serve(g_s), s	5.8	1.0	0.0				0.0	11.8	11.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.8	1.0	0.0				0.0	11.8	11.9	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.19	0.00		1.00
Lane Grp Cap(c), veh/h	605	622	278				3	1193	1212	0	2387	1068
V/C Ratio(X)	0.60	0.11	0.00				0.00	0.56	0.56	0.00	0.47	0.46
Avail Cap(c_a), veh/h	1119	1150	515				148	1193	1212	0	2387	1068
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	0.00	0.78	0.78
Uniform Delay (d), s/veh	22.8	20.8	0.0				0.0	5.1	5.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.1	0.0				0.0	1.9	1.9	0.0	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.1	0.9	0.0				0.0	10.3	10.4	0.0	0.3	0.6
LnGrp Delay(d),s/veh	23.7	20.9	0.0				0.0	7.0	7.0	0.0	0.5	1.1
LnGrp LOS	C	C						A	A		A	A
Approach Vol, veh/h		431						1349			1622	
Approach Delay, s/veh		23.3						7.0			0.7	
Approach LOS		C						A			A	

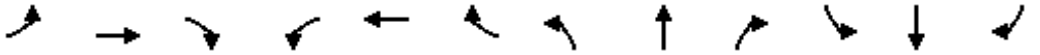
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.0		15.0	0.0	45.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		31.5		19.5	5.0	22.0		
Max Q Clear Time (g_c+I1), s		13.9		7.8	0.0	2.0		
Green Ext Time (p_c), s		15.2		1.4	0.0	17.1		

Intersection Summary	
HCM 2010 Ctrl Delay	6.1
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	357	69	449	0	0	0	0	1222	131	0	1127	490
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				1863	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	361	70	0				0	1234	132	0	1138	495
Adj No. of Lanes	2	2	1				1	2	0	0	2	1
Peak Hour Factor	0.99	0.99	0.99				0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2				2	2	2	0	2	2
Cap, veh/h	605	622	278				3	2174	232	0	2387	1068
Arrive On Green	0.18	0.18	0.00				0.00	0.67	0.67	0.00	1.00	1.00
Sat Flow, veh/h	3442	3539	1583				1774	3224	344	0	3632	1583
Grp Volume(v), veh/h	361	70	0				0	676	690	0	1138	495
Grp Sat Flow(s),veh/h/ln	1721	1770	1583				1774	1770	1798	0	1770	1583
Q Serve(g_s), s	5.8	1.0	0.0				0.0	12.1	12.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.8	1.0	0.0				0.0	12.1	12.2	0.0	0.0	0.0
Prop In Lane	1.00		1.00				1.00		0.19	0.00		1.00
Lane Grp Cap(c), veh/h	605	622	278				3	1193	1213	0	2387	1068
V/C Ratio(X)	0.60	0.11	0.00				0.00	0.57	0.57	0.00	0.48	0.46
Avail Cap(c_a), veh/h	1119	1150	515				148	1193	1213	0	2387	1068
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00	0.00	0.77	0.77
Uniform Delay (d), s/veh	22.8	20.8	0.0				0.0	5.1	5.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.1	0.0				0.0	1.9	1.9	0.0	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.1	0.9	0.0				0.0	10.6	10.8	0.0	0.3	0.6
LnGrp Delay(d),s/veh	23.7	20.9	0.0				0.0	7.1	7.1	0.0	0.5	1.1
LnGrp LOS	C	C						A	A		A	A
Approach Vol, veh/h		431						1366			1633	
Approach Delay, s/veh		23.3						7.1			0.7	
Approach LOS		C						A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.0		15.0	0.0	45.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		31.5		19.5	5.0	22.0		
Max Q Clear Time (g_c+I1), s		14.2		7.8	0.0	2.0		
Green Ext Time (p_c), s		15.1		1.4	0.0	17.2		

Intersection Summary	
HCM 2010 Ctrl Delay	6.1
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	692	461	95	1314	11	38	4	241	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	3	752	501	103	1428	12	41	4	262			
Adj No. of Lanes	1	2	1	1	3	0	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	304	1769	1093	132	3376	28	326	32	318			
Arrive On Green	0.50	0.50	0.50	0.10	0.86	0.86	0.20	0.20	0.20			
Sat Flow, veh/h	369	3539	1552	1774	5202	44	1623	158	1583			
Grp Volume(v), veh/h	3	752	501	103	931	509	45	0	262			
Grp Sat Flow(s),veh/h/ln	369	1770	1552	1774	1695	1855	1782	0	1583			
Q Serve(g_s), s	0.2	8.1	8.6	3.4	3.5	3.5	1.2	0.0	9.5			
Cycle Q Clear(g_c), s	0.2	8.1	8.6	3.4	3.5	3.5	1.2	0.0	9.5			
Prop In Lane	1.00		1.00	1.00		0.02	0.91		1.00			
Lane Grp Cap(c), veh/h	304	1769	1093	132	2201	1204	358	0	318			
V/C Ratio(X)	0.01	0.43	0.46	0.78	0.42	0.42	0.13	0.00	0.82			
Avail Cap(c_a), veh/h	304	1769	1093	222	2201	1204	534	0	475			
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	1.00			
Uniform Delay (d), s/veh	7.6	9.5	4.0	26.6	1.7	1.7	19.7	0.0	23.0			
Incr Delay (d2), s/veh	0.1	0.8	1.4	8.9	0.6	1.0	0.2	0.0	7.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.1	7.3	7.3	3.5	3.1	3.7	1.1	0.0	8.4			
LnGrp Delay(d),s/veh	7.6	10.3	5.4	35.5	2.2	2.7	19.8	0.0	30.2			
LnGrp LOS	A	B	A	D	A	A	B		C			
Approach Vol, veh/h		1256			1543			307				
Approach Delay, s/veh		8.3			4.6			28.6				
Approach LOS		A			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		16.6	9.0	34.5				43.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	7.5	21.0				33.0
Max Q Clear Time (g_c+I1), s		11.5	5.4	10.6				5.5
Green Ext Time (p_c), s		0.6	0.0	9.0				19.9

Intersection Summary	
HCM 2010 Ctrl Delay	8.5
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	702	489	95	1326	11	38	4	241	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	3	763	532	103	1441	12	41	4	262			
Adj No. of Lanes	1	2	1	1	3	0	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	302	1769	1093	132	3377	28	326	32	318			
Arrive On Green	0.50	0.50	0.50	0.10	0.86	0.86	0.20	0.20	0.20			
Sat Flow, veh/h	365	3539	1552	1774	5202	43	1623	158	1583			
Grp Volume(v), veh/h	3	763	532	103	939	514	45	0	262			
Grp Sat Flow(s),veh/h/ln	365	1770	1552	1774	1695	1855	1782	0	1583			
Q Serve(g_s), s	0.2	8.2	9.4	3.4	3.6	3.6	1.2	0.0	9.5			
Cycle Q Clear(g_c), s	0.2	8.2	9.4	3.4	3.6	3.6	1.2	0.0	9.5			
Prop In Lane	1.00		1.00	1.00		0.02	0.91		1.00			
Lane Grp Cap(c), veh/h	302	1769	1093	132	2201	1204	358	0	318			
V/C Ratio(X)	0.01	0.43	0.49	0.78	0.43	0.43	0.13	0.00	0.82			
Avail Cap(c_a), veh/h	302	1769	1093	222	2201	1204	534	0	475			
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	1.00			
Uniform Delay (d), s/veh	7.6	9.6	4.1	26.6	1.7	1.7	19.7	0.0	23.0			
Incr Delay (d2), s/veh	0.1	0.8	1.5	8.9	0.6	1.0	0.2	0.0	7.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.1	7.6	7.7	3.5	3.1	3.7	1.1	0.0	8.4			
LnGrp Delay(d),s/veh	7.6	10.3	5.6	35.5	2.2	2.7	19.8	0.0	30.2			
LnGrp LOS	A	B	A	D	A	A	B		C			
Approach Vol, veh/h		1298			1556			307				
Approach Delay, s/veh		8.4			4.6			28.6				
Approach LOS		A			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		16.6	9.0	34.5				43.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	7.5	21.0				33.0
Max Q Clear Time (g_c+I1), s		11.5	5.4	11.4				5.6
Green Ext Time (p_c), s		0.6	0.0	8.4				20.2

Intersection Summary	
HCM 2010 Ctrl Delay	8.5
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	747	484	114	1382	11	39	4	287	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	3	812	526	124	1502	12	42	4	312			
Adj No. of Lanes	1	2	1	1	3	0	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	276	1609	1070	158	3220	26	376	36	366			
Arrive On Green	0.45	0.45	0.45	0.12	0.82	0.82	0.23	0.23	0.23			
Sat Flow, veh/h	344	3539	1549	1774	5204	42	1627	155	1583			
Grp Volume(v), veh/h	3	812	526	124	978	536	46	0	312			
Grp Sat Flow(s),veh/h/ln	344	1770	1549	1774	1695	1855	1781	0	1583			
Q Serve(g_s), s	0.3	9.7	9.7	4.1	5.0	5.0	1.2	0.0	11.3			
Cycle Q Clear(g_c), s	0.3	9.7	9.7	4.1	5.0	5.0	1.2	0.0	11.3			
Prop In Lane	1.00		1.00	1.00		0.02	0.91		1.00			
Lane Grp Cap(c), veh/h	276	1609	1070	158	2098	1148	412	0	366			
V/C Ratio(X)	0.01	0.50	0.49	0.79	0.47	0.47	0.11	0.00	0.85			
Avail Cap(c_a), veh/h	276	1609	1070	222	2098	1148	534	0	475			
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	0.00	1.00			
Uniform Delay (d), s/veh	9.0	11.6	4.5	25.9	2.5	2.5	18.2	0.0	22.1			
Incr Delay (d2), s/veh	0.1	1.1	1.6	10.5	0.7	1.2	0.1	0.0	11.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.1	8.7	8.0	4.4	4.3	5.0	1.1	0.0	10.1			
LnGrp Delay(d),s/veh	9.1	12.7	6.1	36.3	3.1	3.7	18.3	0.0	33.3			
LnGrp LOS	A	B	A	D	A	A	B		C			
Approach Vol, veh/h		1341			1638			358				
Approach Delay, s/veh		10.1			5.8			31.3				
Approach LOS		B			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		18.4	9.8	31.8				41.6
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	7.5	21.0				33.0
Max Q Clear Time (g_c+I1), s		13.3	6.1	11.7				7.0
Green Ext Time (p_c), s		0.6	0.0	8.3				20.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	757	512	114	1394	11	39	4	287	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	3	823	557	124	1515	12	42	4	312			
Adj No. of Lanes	1	2	1	1	3	0	0	1	1			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	274	1609	1070	158	3220	26	376	36	366			
Arrive On Green	0.45	0.45	0.45	0.12	0.82	0.82	0.23	0.23	0.23			
Sat Flow, veh/h	340	3539	1549	1774	5204	41	1627	155	1583			
Grp Volume(v), veh/h	3	823	557	124	987	540	46	0	312			
Grp Sat Flow(s),veh/h/ln	340	1770	1549	1774	1695	1855	1781	0	1583			
Q Serve(g_s), s	0.3	9.9	10.6	4.1	5.0	5.0	1.2	0.0	11.3			
Cycle Q Clear(g_c), s	0.3	9.9	10.6	4.1	5.0	5.0	1.2	0.0	11.3			
Prop In Lane	1.00		1.00	1.00		0.02	0.91		1.00			
Lane Grp Cap(c), veh/h	274	1609	1070	158	2098	1148	412	0	366			
V/C Ratio(X)	0.01	0.51	0.52	0.79	0.47	0.47	0.11	0.00	0.85			
Avail Cap(c_a), veh/h	274	1609	1070	222	2098	1148	534	0	475			
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	0.00	1.00			
Uniform Delay (d), s/veh	9.0	11.6	4.6	25.9	2.5	2.5	18.2	0.0	22.1			
Incr Delay (d2), s/veh	0.1	1.2	1.8	10.4	0.7	1.2	0.1	0.0	11.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.1	8.8	8.7	4.4	4.3	5.1	1.1	0.0	10.1			
LnGrp Delay(d),s/veh	9.1	12.8	6.4	36.3	3.2	3.7	18.3	0.0	33.3			
LnGrp LOS	A	B	A	D	A	A	B		C			
Approach Vol, veh/h		1383			1651			358				
Approach Delay, s/veh		10.2			5.8			31.3				
Approach LOS		B			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		18.4	9.8	31.8				41.6
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	7.5	21.0				33.0
Max Q Clear Time (g_c+I1), s		13.3	6.1	12.6				7.0
Green Ext Time (p_c), s		0.6	0.0	7.6				20.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	876	610	74	1142	27	32	9	103	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	1	894	622	76	1165	28	33	9	105			
Adj No. of Lanes	1	2	1	1	3	0	0	1	1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	410	2195	1116	106	3858	93	134	36	150			
Arrive On Green	0.62	0.62	0.62	0.12	1.00	1.00	0.09	0.09	0.09			
Sat Flow, veh/h	467	3539	1558	1774	5109	123	1408	384	1583			
Grp Volume(v), veh/h	1	894	622	76	773	420	42	0	105			
Grp Sat Flow(s),veh/h/ln	467	1770	1558	1774	1695	1841	1792	0	1583			
Q Serve(g_s), s	0.0	7.7	11.4	2.5	0.0	0.0	1.3	0.0	3.9			
Cycle Q Clear(g_c), s	0.0	7.7	11.4	2.5	0.0	0.0	1.3	0.0	3.9			
Prop In Lane	1.00		1.00	1.00		0.07	0.79		1.00			
Lane Grp Cap(c), veh/h	410	2195	1116	106	2560	1390	170	0	150			
V/C Ratio(X)	0.00	0.41	0.56	0.72	0.30	0.30	0.25	0.00	0.70			
Avail Cap(c_a), veh/h	410	2195	1116	222	2560	1390	538	0	475			
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.00	1.00			
Uniform Delay (d), s/veh	4.3	5.8	4.1	25.9	0.0	0.0	25.2	0.0	26.3			
Incr Delay (d2), s/veh	0.0	0.6	2.0	8.2	0.3	0.5	0.7	0.0	5.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	7.0	9.1	2.6	0.2	0.4	1.2	0.0	3.4			
LnGrp Delay(d),s/veh	4.3	6.4	6.1	34.2	0.3	0.5	25.9	0.0	32.1			
LnGrp LOS	A	A	A	C	A	A	C		C			
Approach Vol, veh/h		1517			1269			147				
Approach Delay, s/veh		6.2			2.4			30.3				
Approach LOS		A			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		10.2	8.1	41.7				49.8
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	7.5	21.0				33.0
Max Q Clear Time (g_c+I1), s		5.9	4.5	13.4				2.0
Green Ext Time (p_c), s		0.4	0.0	6.7				21.6

Intersection Summary	
HCM 2010 Ctrl Delay	5.8
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	882	622	74	1174	27	32	9	103	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	1	900	635	76	1198	28	33	9	105			
Adj No. of Lanes	1	2	1	1	3	0	0	1	1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	401	2195	1116	106	3860	90	134	36	150			
Arrive On Green	0.62	0.62	0.62	0.08	1.00	1.00	0.09	0.09	0.09			
Sat Flow, veh/h	453	3539	1558	1774	5112	119	1408	384	1583			
Grp Volume(v), veh/h	1	900	635	76	794	432	42	0	105			
Grp Sat Flow(s),veh/h/ln	453	1770	1558	1774	1695	1842	1792	0	1583			
Q Serve(g_s), s	0.1	7.8	11.8	2.5	0.0	0.0	1.3	0.0	3.9			
Cycle Q Clear(g_c), s	0.1	7.8	11.8	2.5	0.0	0.0	1.3	0.0	3.9			
Prop In Lane	1.00		1.00	1.00		0.06	0.79		1.00			
Lane Grp Cap(c), veh/h	401	2195	1116	106	2560	1391	170	0	150			
V/C Ratio(X)	0.00	0.41	0.57	0.72	0.31	0.31	0.25	0.00	0.70			
Avail Cap(c_a), veh/h	401	2195	1116	222	2560	1391	538	0	475			
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	0.00	1.00			
Uniform Delay (d), s/veh	4.3	5.8	4.1	27.1	0.0	0.0	25.2	0.0	26.3			
Incr Delay (d2), s/veh	0.0	0.6	2.1	8.2	0.3	0.6	0.7	0.0	5.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	7.1	9.5	2.6	0.2	0.4	1.2	0.0	3.4			
LnGrp Delay(d),s/veh	4.3	6.4	6.2	35.3	0.3	0.6	25.9	0.0	32.1			
LnGrp LOS	A	A	A	D	A	A	C		C			
Approach Vol, veh/h		1536			1302			147				
Approach Delay, s/veh		6.3			2.4			30.3				
Approach LOS		A			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		10.2	8.1	41.7				49.8
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	7.5	21.0				33.0
Max Q Clear Time (g_c+I1), s		5.9	4.5	13.8				2.0
Green Ext Time (p_c), s		0.4	0.0	6.5				22.0

Intersection Summary	
HCM 2010 Ctrl Delay	5.8
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	939	637	120	1226	28	33	9	138	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	1	958	650	122	1251	29	34	9	141			
Adj No. of Lanes	1	2	1	1	3	0	0	1	1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	364	2005	1073	155	3728	86	171	45	192			
Arrive On Green	0.57	0.57	0.57	0.12	0.97	0.97	0.12	0.12	0.12			
Sat Flow, veh/h	430	3539	1555	1774	5114	119	1417	375	1583			
Grp Volume(v), veh/h	1	958	650	122	829	451	43	0	141			
Grp Sat Flow(s),veh/h/ln	430	1770	1555	1774	1695	1842	1792	0	1583			
Q Serve(g_s), s	0.1	9.7	13.5	4.0	0.7	0.7	1.3	0.0	5.2			
Cycle Q Clear(g_c), s	0.1	9.7	13.5	4.0	0.7	0.7	1.3	0.0	5.2			
Prop In Lane	1.00		1.00	1.00		0.06	0.79		1.00			
Lane Grp Cap(c), veh/h	364	2005	1073	155	2472	1343	217	0	192			
V/C Ratio(X)	0.00	0.48	0.61	0.78	0.34	0.34	0.20	0.00	0.74			
Avail Cap(c_a), veh/h	364	2005	1073	222	2472	1343	538	0	475			
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.7	7.7	5.0	26.0	0.3	0.3	23.8	0.0	25.4			
Incr Delay (d2), s/veh	0.0	0.8	2.5	10.4	0.3	0.6	0.4	0.0	5.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	8.5	10.4	4.3	0.6	0.8	1.2	0.0	4.6			
LnGrp Delay(d),s/veh	5.7	8.6	7.6	36.4	0.6	0.9	24.2	0.0	30.9			
LnGrp LOS	A	A	A	D	A	A	C		C			
Approach Vol, veh/h		1609			1402			184				
Approach Delay, s/veh		8.2			3.8			29.3				
Approach LOS		A			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		11.8	9.8	38.5				48.2
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	7.5	21.0				33.0
Max Q Clear Time (g_c+I1), s		7.2	6.0	15.5				2.7
Green Ext Time (p_c), s		0.5	0.0	5.1				22.7

Intersection Summary	
HCM 2010 Ctrl Delay	7.5
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	945	649	120	1258	28	33	9	138	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1863			
Adj Flow Rate, veh/h	1	964	662	122	1284	29	34	9	141			
Adj No. of Lanes	1	2	1	1	3	0	0	1	1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2			
Cap, veh/h	356	2005	1073	155	3730	84	171	45	192			
Arrive On Green	0.57	0.57	0.57	0.12	0.97	0.97	0.12	0.12	0.12			
Sat Flow, veh/h	417	3539	1555	1774	5117	116	1417	375	1583			
Grp Volume(v), veh/h	1	964	662	122	851	462	43	0	141			
Grp Sat Flow(s),veh/h/ln	417	1770	1555	1774	1695	1842	1792	0	1583			
Q Serve(g_s), s	0.1	9.7	13.9	4.0	0.7	0.7	1.3	0.0	5.2			
Cycle Q Clear(g_c), s	0.1	9.7	13.9	4.0	0.7	0.7	1.3	0.0	5.2			
Prop In Lane	1.00		1.00	1.00		0.06	0.79		1.00			
Lane Grp Cap(c), veh/h	356	2005	1073	155	2472	1343	217	0	192			
V/C Ratio(X)	0.00	0.48	0.62	0.78	0.34	0.34	0.20	0.00	0.74			
Avail Cap(c_a), veh/h	356	2005	1073	222	2472	1343	538	0	475			
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	1.00	0.92	0.92	0.92	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.7	7.8	5.1	26.0	0.3	0.3	23.8	0.0	25.4			
Incr Delay (d2), s/veh	0.0	0.8	2.7	10.3	0.4	0.6	0.4	0.0	5.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	8.6	10.9	4.3	0.6	0.8	1.2	0.0	4.6			
LnGrp Delay(d),s/veh	5.7	8.6	7.8	36.3	0.6	0.9	24.2	0.0	30.9			
LnGrp LOS	A	A	A	D	A	A	C		C			
Approach Vol, veh/h		1627			1435			184				
Approach Delay, s/veh		8.2			3.7			29.3				
Approach LOS		A			A			C				

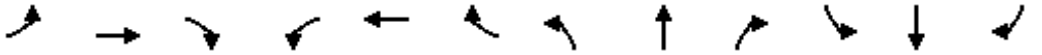
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		11.8	9.8	38.5				48.2
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	7.5	21.0				33.0
Max Q Clear Time (g_c+I1), s		7.2	6.0	15.9				2.7
Green Ext Time (p_c), s		0.5	0.0	4.7				23.0

Intersection Summary	
HCM 2010 Ctrl Delay	7.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	87	844	6	0	890	294	4	0	2	13	0	523
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	97	938	7	0	989	327	4	0	2	14	0	0
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	2975	22	120	2412	1070	158	0	37	150	0	37
Arrive On Green	0.09	1.00	1.00	0.00	0.68	0.68	0.02	0.00	0.02	0.02	0.00	0.00
Sat Flow, veh/h	1774	3600	27	591	3539	1569	1596	0	1583	1278	0	1583
Grp Volume(v), veh/h	97	461	484	0	989	327	4	0	2	14	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	591	1770	1569	1596	0	1583	1278	0	1583
Q Serve(g_s), s	3.2	0.0	0.0	0.0	7.4	5.0	0.0	0.0	0.1	0.6	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	0.0	7.4	5.0	0.1	0.0	0.1	0.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	124	1462	1535	120	2412	1070	158	0	37	150	0	37
V/C Ratio(X)	0.78	0.32	0.32	0.00	0.41	0.31	0.03	0.00	0.05	0.09	0.00	0.00
Avail Cap(c_a), veh/h	192	1462	1535	120	2412	1070	548	0	475	540	0	475
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.8	0.0	0.0	0.0	4.2	3.8	28.7	0.0	28.6	29.0	0.0	0.0
Incr Delay (d2), s/veh	9.3	0.5	0.5	0.0	0.5	0.7	0.1	0.0	0.6	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	0.4	0.4	0.0	6.7	4.2	0.1	0.0	0.1	0.4	0.0	0.0
LnGrp Delay(d),s/veh	36.1	0.5	0.5	0.0	4.7	4.6	28.7	0.0	29.2	29.3	0.0	0.0
LnGrp LOS	D	A	A		A	A	C		C	C		
Approach Vol, veh/h		1042			1316			6			14	
Approach Delay, s/veh		3.8			4.7			28.9			29.3	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		5.9		54.1		5.9	8.7	45.4
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0		33.0		18.0	6.5	22.0
Max Q Clear Time (g_c+I1), s		2.1		2.0		2.7	5.2	9.4
Green Ext Time (p_c), s		0.0		18.1		0.0	0.0	9.6

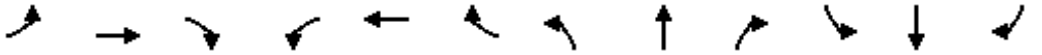
Intersection Summary	
HCM 2010 Ctrl Delay	4.5
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	87	854	6	0	893	294	4	0	2	13	0	532
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	97	949	7	0	992	327	4	0	2	14	0	0
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	2976	22	120	2412	1070	158	0	37	150	0	37
Arrive On Green	0.09	1.00	1.00	0.00	0.68	0.68	0.02	0.00	0.02	0.02	0.00	0.00
Sat Flow, veh/h	1774	3601	27	585	3539	1569	1596	0	1583	1278	0	1583
Grp Volume(v), veh/h	97	466	490	0	992	327	4	0	2	14	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	585	1770	1569	1596	0	1583	1278	0	1583
Q Serve(g_s), s	3.2	0.0	0.0	0.0	7.4	5.0	0.0	0.0	0.1	0.6	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	0.0	7.4	5.0	0.1	0.0	0.1	0.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	124	1462	1535	120	2412	1070	158	0	37	150	0	37
V/C Ratio(X)	0.78	0.32	0.32	0.00	0.41	0.31	0.03	0.00	0.05	0.09	0.00	0.00
Avail Cap(c_a), veh/h	192	1462	1535	120	2412	1070	548	0	475	540	0	475
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.8	0.0	0.0	0.0	4.2	3.8	28.7	0.0	28.6	29.0	0.0	0.0
Incr Delay (d2), s/veh	9.3	0.5	0.5	0.0	0.5	0.7	0.1	0.0	0.6	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	0.4	0.4	0.0	6.8	4.2	0.1	0.0	0.1	0.4	0.0	0.0
LnGrp Delay(d),s/veh	36.0	0.5	0.5	0.0	4.7	4.6	28.7	0.0	29.2	29.3	0.0	0.0
LnGrp LOS	D	A	A		A	A	C		C	C		
Approach Vol, veh/h		1053			1319			6			14	
Approach Delay, s/veh		3.8			4.7			28.9			29.3	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		5.9		54.1		5.9	8.7	45.4
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0		33.0		18.0	6.5	22.0
Max Q Clear Time (g_c+I1), s		2.1		2.0		2.7	5.2	9.4
Green Ext Time (p_c), s		0.0		18.2		0.0	0.0	9.6

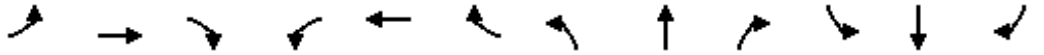
Intersection Summary	
HCM 2010 Ctrl Delay	4.5
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	90	888	55	0	935	306	25	16	2	21	39	545
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	100	987	61	0	1039	340	28	18	2	23	43	0
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	2626	162	120	2224	986	161	62	117	110	80	117
Arrive On Green	0.02	0.26	0.26	0.00	0.63	0.63	0.07	0.07	0.07	0.07	0.07	0.00
Sat Flow, veh/h	1774	3383	209	536	3539	1568	873	837	1583	392	1086	1583
Grp Volume(v), veh/h	100	516	532	0	1039	340	46	0	2	66	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1823	536	1770	1568	1710	0	1583	1479	0	1583
Q Serve(g_s), s	3.4	14.4	14.4	0.0	9.3	6.2	0.0	0.0	0.1	1.4	0.0	0.0
Cycle Q Clear(g_c), s	3.4	14.4	14.4	0.0	9.3	6.2	1.4	0.0	0.1	2.8	0.0	0.0
Prop In Lane	1.00		0.11	1.00		1.00	0.61		1.00	0.35		1.00
Lane Grp Cap(c), veh/h	129	1374	1415	120	2224	986	223	0	117	190	0	117
V/C Ratio(X)	0.77	0.38	0.38	0.00	0.47	0.34	0.21	0.00	0.02	0.35	0.00	0.00
Avail Cap(c_a), veh/h	192	1374	1415	120	2224	986	566	0	475	566	0	475
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.8	10.4	10.4	0.0	5.9	5.3	26.4	0.0	25.8	27.1	0.0	0.0
Incr Delay (d2), s/veh	9.2	0.7	0.6	0.0	0.7	1.0	0.5	0.0	0.1	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	11.4	11.7	0.0	8.2	5.2	1.4	0.0	0.1	2.0	0.0	0.0
LnGrp Delay(d),s/veh	38.0	11.0	11.0	0.0	6.6	6.2	26.9	0.0	25.8	28.2	0.0	0.0
LnGrp LOS	D	B	B		A	A	C		C	C		
Approach Vol, veh/h		1148			1379			48			66	
Approach Delay, s/veh		13.4			6.5			26.8			28.2	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		8.9		51.1		8.9	8.9	42.2
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0		33.0		18.0	6.5	22.0
Max Q Clear Time (g_c+I1), s		3.4		16.4		4.8	5.4	11.3
Green Ext Time (p_c), s		0.4		12.6		0.4	0.0	8.8

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	90	898	55	0	938	306	25	16	2	21	39	554
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	100	998	61	0	1042	340	28	18	2	23	43	0
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	2628	161	120	2224	986	161	62	117	110	80	117
Arrive On Green	0.02	0.26	0.26	0.00	0.63	0.63	0.07	0.07	0.07	0.07	0.07	0.00
Sat Flow, veh/h	1774	3386	207	531	3539	1568	873	837	1583	392	1086	1583
Grp Volume(v), veh/h	100	522	537	0	1042	340	46	0	2	66	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1823	531	1770	1568	1710	0	1583	1479	0	1583
Q Serve(g_s), s	3.4	14.6	14.6	0.0	9.3	6.2	0.0	0.0	0.1	1.4	0.0	0.0
Cycle Q Clear(g_c), s	3.4	14.6	14.6	0.0	9.3	6.2	1.4	0.0	0.1	2.8	0.0	0.0
Prop In Lane	1.00		0.11	1.00		1.00	0.61		1.00	0.35		1.00
Lane Grp Cap(c), veh/h	129	1374	1415	120	2224	986	223	0	117	190	0	117
V/C Ratio(X)	0.77	0.38	0.38	0.00	0.47	0.34	0.21	0.00	0.02	0.35	0.00	0.00
Avail Cap(c_a), veh/h	192	1374	1415	120	2224	986	566	0	475	566	0	475
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.8	10.4	10.4	0.0	5.9	5.3	26.4	0.0	25.8	27.1	0.0	0.0
Incr Delay (d2), s/veh	9.1	0.7	0.7	0.0	0.7	1.0	0.5	0.0	0.1	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	11.6	11.8	0.0	8.3	5.2	1.4	0.0	0.1	2.0	0.0	0.0
LnGrp Delay(d),s/veh	37.9	11.1	11.1	0.0	6.6	6.2	26.9	0.0	25.8	28.2	0.0	0.0
LnGrp LOS	D	B	B		A	A	C		C	C		
Approach Vol, veh/h		1159			1382			48			66	
Approach Delay, s/veh		13.4			6.5			26.8			28.2	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		8.9		51.1		8.9	8.9	42.2
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0		33.0		18.0	6.5	22.0
Max Q Clear Time (g_c+I1), s		3.4		16.6		4.8	5.4	11.3
Green Ext Time (p_c), s		0.4		12.5		0.4	0.0	8.8

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	114	856	6	6	680	419	8	1	5	27	1	554
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	120	901	6	6	716	441	8	1	5	28	1	0
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	2910	19	514	2286	1013	174	10	68	170	2	68
Arrive On Green	0.09	0.81	0.81	0.65	0.65	0.65	0.04	0.04	0.04	0.04	0.04	0.00
Sat Flow, veh/h	1774	3604	24	610	3539	1569	1414	233	1583	1213	43	1583
Grp Volume(v), veh/h	120	442	465	6	716	441	9	0	5	29	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	610	1770	1569	1647	0	1583	1257	0	1583
Q Serve(g_s), s	4.0	3.9	3.9	0.2	5.4	8.3	0.0	0.0	0.2	1.2	0.0	0.0
Cycle Q Clear(g_c), s	4.0	3.9	3.9	0.2	5.4	8.3	0.3	0.0	0.2	1.5	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.89		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	153	1429	1500	514	2286	1013	184	0	68	172	0	68
V/C Ratio(X)	0.78	0.31	0.31	0.01	0.31	0.44	0.05	0.00	0.07	0.17	0.00	0.00
Avail Cap(c_a), veh/h	192	1429	1500	514	2286	1013	557	0	475	536	0	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.9	1.5	1.5	3.8	4.7	5.2	27.6	0.0	27.6	28.4	0.0	0.0
Incr Delay (d2), s/veh	13.2	0.5	0.5	0.0	0.4	1.4	0.1	0.0	0.5	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	3.7	3.8	0.1	4.9	7.1	0.3	0.0	0.2	0.9	0.0	0.0
LnGrp Delay(d),s/veh	40.1	2.0	1.9	3.8	5.1	6.6	27.7	0.0	28.0	28.8	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	C		C	C		
Approach Vol, veh/h		1027			1163			14			29	
Approach Delay, s/veh		6.4			5.6			27.8			28.8	
Approach LOS		A			A			C			C	

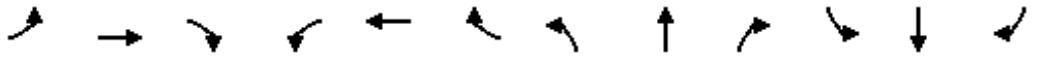
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		7.1		52.9		7.1	9.7	43.3
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0		33.0		18.0	6.5	22.0
Max Q Clear Time (g_c+I1), s		2.3		5.9		3.5	6.0	10.3
Green Ext Time (p_c), s		0.1		14.5		0.1	0.0	8.3

Intersection Summary	
HCM 2010 Ctrl Delay	6.4
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	114	862	6	6	689	419	8	1	5	27	1	576
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	120	907	6	6	725	441	8	1	5	28	1	0
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	2910	19	512	2286	1013	174	10	68	170	2	68
Arrive On Green	0.09	0.81	0.81	0.65	0.65	0.65	0.04	0.04	0.04	0.04	0.04	0.00
Sat Flow, veh/h	1774	3604	24	606	3539	1569	1414	233	1583	1213	43	1583
Grp Volume(v), veh/h	120	445	468	6	725	441	9	0	5	29	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1858	606	1770	1569	1647	0	1583	1257	0	1583
Q Serve(g_s), s	4.0	3.9	3.9	0.2	5.5	8.3	0.0	0.0	0.2	1.2	0.0	0.0
Cycle Q Clear(g_c), s	4.0	3.9	3.9	0.2	5.5	8.3	0.3	0.0	0.2	1.5	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.89		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	153	1429	1500	512	2286	1013	184	0	68	172	0	68
V/C Ratio(X)	0.78	0.31	0.31	0.01	0.32	0.44	0.05	0.00	0.07	0.17	0.00	0.00
Avail Cap(c_a), veh/h	192	1429	1500	512	2286	1013	557	0	475	536	0	475
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.9	1.5	1.5	3.8	4.7	5.2	27.6	0.0	27.6	28.4	0.0	0.0
Incr Delay (d2), s/veh	13.2	0.5	0.5	0.0	0.4	1.4	0.1	0.0	0.5	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	3.7	3.9	0.1	4.9	7.1	0.3	0.0	0.2	0.9	0.0	0.0
LnGrp Delay(d),s/veh	40.0	2.0	2.0	3.8	5.1	6.6	27.7	0.0	28.0	28.8	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	C		C	C		
Approach Vol, veh/h		1033			1172			14			29	
Approach Delay, s/veh		6.4			5.6			27.8			28.8	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		7.1		52.9		7.1	9.7	43.3
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0		33.0		18.0	6.5	22.0
Max Q Clear Time (g_c+I1), s		2.3		5.9		3.5	6.0	10.3
Green Ext Time (p_c), s		0.1		14.6		0.1	0.0	8.3

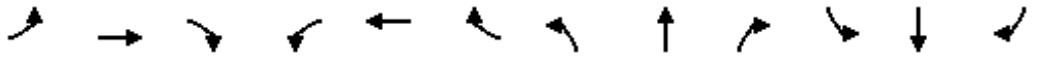
Intersection Summary	
HCM 2010 Ctrl Delay	6.4
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	117	906	46	6	721	450	63	45	5	29	33	588
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	123	954	48	6	759	474	66	47	5	31	35	0
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	2549	128	439	2053	909	193	84	168	123	91	168
Arrive On Green	0.06	0.50	0.50	0.58	0.58	0.58	0.11	0.11	0.11	0.11	0.11	0.00
Sat Flow, veh/h	1774	3427	172	558	3539	1567	918	794	1583	328	861	1583
Grp Volume(v), veh/h	123	493	509	6	759	474	113	0	5	66	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1830	558	1770	1567	1712	0	1583	1188	0	1583
Q Serve(g_s), s	4.1	10.3	10.3	0.3	6.9	10.9	0.0	0.0	0.2	0.4	0.0	0.0
Cycle Q Clear(g_c), s	4.1	10.3	10.3	0.8	6.9	10.9	3.6	0.0	0.2	4.0	0.0	0.0
Prop In Lane	1.00		0.09	1.00		1.00	0.58		1.00	0.47		1.00
Lane Grp Cap(c), veh/h	157	1316	1361	439	2053	909	277	0	168	214	0	168
V/C Ratio(X)	0.78	0.37	0.37	0.01	0.37	0.52	0.41	0.00	0.03	0.31	0.00	0.00
Avail Cap(c_a), veh/h	192	1316	1361	439	2053	909	575	0	475	520	0	475
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.6	6.4	6.4	5.6	6.7	7.6	25.5	0.0	24.0	25.1	0.0	0.0
Incr Delay (d2), s/veh	12.4	0.6	0.6	0.1	0.5	2.1	1.0	0.0	0.1	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	8.6	8.8	0.1	6.1	8.9	3.4	0.0	0.1	2.0	0.0	0.0
LnGrp Delay(d),s/veh	40.0	7.1	7.1	5.6	7.2	9.7	26.5	0.0	24.1	25.9	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	C		C	C		
Approach Vol, veh/h		1125			1239			118			66	
Approach Delay, s/veh		10.7			8.2			26.4			25.9	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		10.9		49.1		10.9	9.8	39.3
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0		33.0		18.0	6.5	22.0
Max Q Clear Time (g_c+I1), s		5.6		12.3		6.0	6.1	12.9
Green Ext Time (p_c), s		0.7		13.5		0.7	0.0	7.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	117	912	46	6	730	450	63	45	5	29	33	610
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	123	960	48	6	768	474	66	47	5	31	35	0
Adj No. of Lanes	1	2	0	1	2	1	0	1	1	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	2550	127	437	2053	909	193	84	168	123	91	168
Arrive On Green	0.06	0.50	0.50	0.58	0.58	0.58	0.11	0.11	0.11	0.11	0.11	0.00
Sat Flow, veh/h	1774	3428	171	555	3539	1567	918	794	1583	328	861	1583
Grp Volume(v), veh/h	123	496	512	6	768	474	113	0	5	66	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1830	555	1770	1567	1712	0	1583	1188	0	1583
Q Serve(g_s), s	4.1	10.4	10.4	0.3	7.0	10.9	0.0	0.0	0.2	0.4	0.0	0.0
Cycle Q Clear(g_c), s	4.1	10.4	10.4	0.8	7.0	10.9	3.6	0.0	0.2	4.0	0.0	0.0
Prop In Lane	1.00		0.09	1.00		1.00	0.58		1.00	0.47		1.00
Lane Grp Cap(c), veh/h	157	1316	1361	437	2053	909	277	0	168	214	0	168
V/C Ratio(X)	0.78	0.38	0.38	0.01	0.37	0.52	0.41	0.00	0.03	0.31	0.00	0.00
Avail Cap(c_a), veh/h	192	1316	1361	437	2053	909	575	0	475	520	0	475
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.6	6.5	6.5	5.6	6.8	7.6	25.5	0.0	24.0	25.1	0.0	0.0
Incr Delay (d2), s/veh	12.3	0.6	0.6	0.1	0.5	2.1	1.0	0.0	0.1	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	8.6	8.8	0.1	6.2	8.9	3.4	0.0	0.1	2.0	0.0	0.0
LnGrp Delay(d),s/veh	40.0	7.1	7.1	5.6	7.3	9.7	26.5	0.0	24.1	25.9	0.0	0.0
LnGrp LOS	D	A	A	A	A	A	C		C	C		
Approach Vol, veh/h		1131			1248			118			66	
Approach Delay, s/veh		10.7			8.2			26.4			25.9	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		10.9		49.1		10.9	9.8	39.3
Change Period (Y+Rc), s		4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		18.0		33.0		18.0	6.5	22.0
Max Q Clear Time (g_c+I1), s		5.6		12.4		6.0	6.1	12.9
Green Ext Time (p_c), s		0.7		13.5		0.7	0.0	7.2

Intersection Summary		
HCM 2010 Ctrl Delay		10.6
HCM 2010 LOS		B