

September 2018

Los Angeles International Airport

# **Addendum to the Environmental Impact Report for the Los Angeles International Airport Landside Access Modernization Program**

Prepared for:

Los Angeles World Airports

Prepared by:

**RICONDO**

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## Table of Contents

<b>1. Purpose</b>	<b>1</b>
<b>2. Previously Approved LAX Landside Access Modernization Program</b>	<b>2</b>
<b>3. Project Changes Addressed in this Addendum</b>	<b>5</b>
3.1 Manchester Square Property Relocation	5
3.2 APM Backup Power Generators	7
3.3 APM Emergency Access Points and Minor Modifications to APM Guideway	7
3.4 Parcel and Billboard Acquisition	10
3.5 Security Badge Office Relocation	10
3.6 Alleyway Merger	11
<b>4. Requirements for Use of an Addendum</b>	<b>14</b>
<b>5. Evaluation of Environmental Impacts</b>	<b>15</b>
5.1 Summary Of Environmental Topics/Resource Areas That Would Not Be Affected By The Proposed Refinements	15
5.2 Evaluation Of Environmental Topics/Resource Areas That Would Be Affected By The Proposed Refinements But Would Not Result In Any New Significant Or Substantially More Severe Impacts	16
5.2.1 Air Quality and Human Health Risk	16
5.2.2 Construction Noise and Vibration	21
5.2.3 Off-Airport Transportation/Traffic	24
<b>6. Cumulative Impacts</b>	<b>27</b>
6.1 Air Quality	27
6.2 Construction Noise and Vibration	28
6.3 Off-Airport Transportation/Traffic	28
6.4 Analysis of the Proposed Change in the Project	28
<b>7. Assessment of Changes in Impacts</b>	<b>29</b>
<b>8. Conclusion</b>	<b>30</b>

## List of Exhibits

Figure 1: LAX Landside Access Modernization Program Components..... 4

Figure 2: Manchester Square Property Acquisition Status..... 6

Figure 3: APM Emergency Access Point and Additional Crossover Switch Locations..... 9

Figure 4: ITF West and Proposed Security Badging Office.....12

Figure 5: Alleyway Merger .....13

## List of Tables

Table 1: Manchester Square Property Acquisition Status ..... 7

Table 2: APM Platform Distances <sup>1</sup>..... 8

Table 3: Additional Properties to be Acquired.....10

Table 4: Approved Project and Proposed Backup Generator Operational Emissions (2024 and 2035) .....18

Table 5: Operational Concentrations – 2024 Future With Project and Backup Generators Compared to 2024  
Future Without Project.....19

Table 6: Operational Concentrations – 2035 Future With Project and Backup Generators Compared to 2035  
Future Without Project.....20

Table 7: Construction Noise Levels at Varying Distances.....23

Table 8: Construction Vibration Levels Estimates.....24

## List of Appendices

- Appendix A Air Quality and Human Health Risk
- Appendix B Noise and Vibration
- Appendix C Off-Airport Traffic

# 1. PURPOSE

Los Angeles World Airports (LAWA) is working to transform the Los Angeles International Airport (LAX or Airport) into a modern airport and to address increasing levels of traffic congestion at and around LAX. LAWA has initiated redevelopment of the ground access system to the Airport, which will include a seamless connection to the regional rail and transit system. On March 2, 2017, the Board of Airport Commissioners (BOAC) certified the LAX Landside Access Modernization Program (Project) Final Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA), and this certification was subsequently affirmed on June 7, 2017 by the Los Angeles City Council. The certified Final EIR for the LAX Landside Access Modernization Program (“certified Final EIR”) contained a project-level analysis of the LAX Landside Access Modernization Program Project, and a program-level analysis of the potential future related development that may occur on land that would become available after construction of Phase 1 of the Project.

This Addendum has been prepared to address modifications to the LAX Landside Access Modernization Program. The certified Final EIR, along with this Addendum, serve as the environmental review of the proposed Project pursuant to the provisions of CEQA, Public Resources Code Section 21000 *et. seq.*, and State and local CEQA Guidelines.<sup>1</sup>

As part of the natural progression of the design process, plans for the LAX Landside Access Modernization Program Project have been further refined. Subsequent to completing the CEQA environmental review process for the LAX Landside Access Modernization Program Project, LAWA has refined its plans as follows:

- Inclusion of up to four backup power generators for the Automated People Mover (APM);
- Addition of three emergency access point locations for the APM, another crossover switch, which allows trains to switch from one track to another in case of a disabled train, between the East Central Terminal Area (CTA) APM Station and the Intermodal Transportation Facility (ITF) West APM Station, and minor modifications to the APM guideway in this area to preserve the option for a potential future APM station;
- Acquisition of additional existing billboards and parcels;
- Relocation of the existing Security Badge Office (SBO) to space within the previously approved ITF West; and
- Merger of an alleyway east of the APM Maintenance and Storage Facility (MSF) with new “D” Street and modification of Vesting Tract Map VTTM 73422.

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<sup>1</sup> California Administrative Code, Title 14, Division 6, Chapter 3, Sections 15000-15387, “Guidelines for Implementation of the California Environmental Quality Act”; *City of Los Angeles Environmental Quality Act Guidelines*, Adopted July 31, 2002, [http://cityplanning.lacity.org/EIR/CEQA\\_Guidelines/City\\_CEQA\\_Guidelines.pdf](http://cityplanning.lacity.org/EIR/CEQA_Guidelines/City_CEQA_Guidelines.pdf); City of Los Angeles, L.A. *CEQA Thresholds Guide, Your Resource for Preparing CEQA Analyses in Los Angeles*, 2006; South Coast Air Quality Management District, *CEQA Air Quality Handbook*, April 1993; South Coast Air Quality Management District, *SCAQMD Air Quality Significance Thresholds*, March 2015, <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>.



Also, due to an extended acquisition process, LAWA is considering beginning construction within the Manchester Square area prior to the relocation of the remaining two residential buildings and the Stella Middle Charter Academy/Bright Star Secondary Charter Academy.

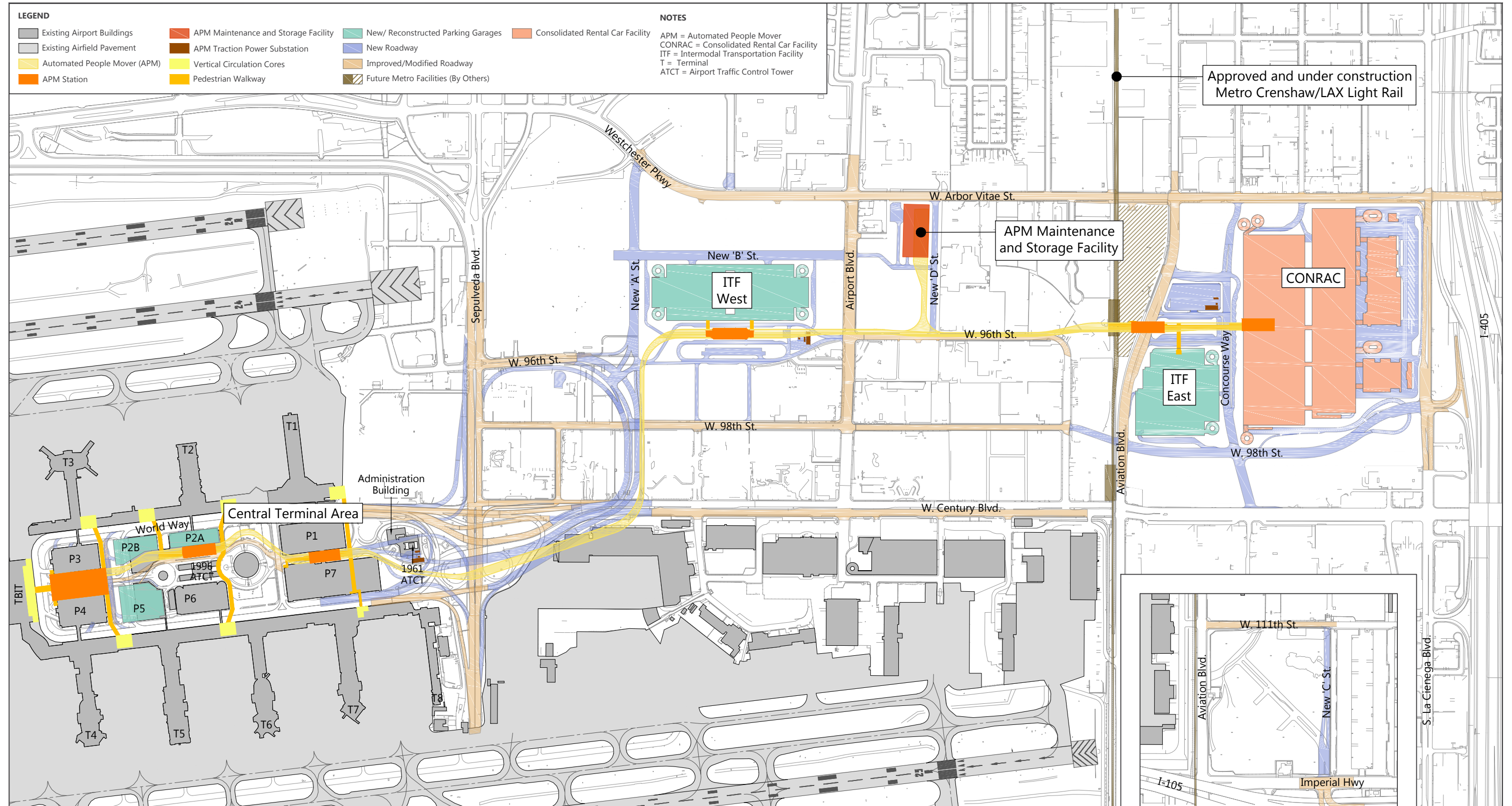
## 2. PREVIOUSLY APPROVED LAX LANDSIDE ACCESS MODERNIZATION PROGRAM

The LAX Landside Access Modernization Program Project, as described and analyzed in the certified Final EIR, included: 1) construction of an APM system; 2) construction of two ITFs; 3) construction of a Consolidated Rental Car Facility (CONRAC); 4) roadway improvements; (5) utilities that support the LAX Landside Access Modernization Program Project; (6) establishment of transportation policies at LAX; (7) enabling projects to allow for construction of the LAX Landside Access Modernization Program; and (8) development of design and sustainability guidelines. The LAX Landside Access Modernization Program Project components as identified and analyzed in the LAX Landside Access Modernization Program EIR are shown in **Figure 1**.

- **Automated People Mover.** The APM system is the primary component of the approved Project. The APM is designed to provide reliable, time-certain access to the CTA for passengers, employees, and other users. The APM will be a fully automated, grade-separated train system, consisting of an elevated dual-lane guideway with six stations; three located within the CTA and three outside of the CTA. The APM system also includes an MSF, as well as the construction of up to four traction power substations (TPSSs) to provide power to the APM guideway and trains.
- **Intermodal Transportation Facilities.** The approved Project includes two ITFs: an ITF West and an ITF East, as shown on Figure 1. The ITFs will provide convenient locations outside of the CTA for passenger pick-up and drop-off by private vehicles, limousines, taxis, transportation network companies (e.g., Uber and Lyft), and other commercial vehicles or for passengers and employees to park and take the APM to the CTA, which will reduce traffic on the Airport entrance roads and within the CTA.
- **Consolidated Rental Car Facility.** The CONRAC will provide a centralized location for rental car agencies serving LAX. A CONRAC is a facility or complex that hosts multiple rental car agencies in one location. It typically provides facilities for customers to complete rental car contract paperwork, pick-up and drop-off their vehicles, and for the rental car companies to stage, store, and service the vehicles in preparation for renting them to the next customer. The CONRAC will be located south of W. Arbor Vitae Street, west of S. La Cienega Boulevard (and just west of I-405), north of the extended W. 98th Street, and east of the extended Concourse Way. The CONRAC will also be located just east of the ITF East and the future Metro AMC 96th Street Transit Station.
- **Roadway Improvements.** Improvements to roadways serving the CTA and the new ITFs and CONRAC are an important component of the approved Project. Improvements will include, among others, new roadway segments, additional lanes, realignment of segments of some existing roads, restriping, new or realigned driveways, roadway closures, streetscape improvements, landscaping, and intersection improvements.
- **Utilities.** Utility improvements are required to support the operations of the approved Project facilities. In addition, the relocation of existing utility lines affected by construction of the approved Project will also be

required. The approved Project will include new buildings and facilities generally located to the east of the CTA, requiring new utility connections for their operations. Such connections may require some level of new infrastructure within the adjacent roadways, depending on the quantity and quality of existing service. Each of the buildings will require new and/or upgraded reclaimed water, power, storm and wastewater drains, natural gas, communications, and other related utility services.

- **Transportation Policy Changes.** In addition to the approved Project components described above, LAWA will establish policy changes to fees, pricing, licenses, traffic patterns, and agreements with various commercial vehicle operators at LAX, as well as fees and prices for parking at LAX facilities as part of the approved Project. Additionally, LAWA may implement tolls for commercial vehicle operators and potentially to the public to access Airport facilities if needed to manage traffic during peak periods and for incident management. During construction, a variety of strategies were identified to alleviate roadway and curbside congestion, including encouraging use of the Departures level during the Arrivals level peak, making use of kiss-and-ride, remote passenger pick-up, and restricting vehicle recirculation within the CTA.
- **Enabling Projects.** The approved Project will require a series of enabling projects to allow for construction, including utility relocation and demolition of certain existing facilities, some of which will be reconstructed. Additionally, acquisition of approximately 49 properties and 21 billboards located along the proposed APM and roadway alignments will be required, including residential properties within the Belford and Manchester Square areas. Additionally, roadway improvements will require the construction of new driveways, curb cuts, and ramps, which will also require easements or property acquisition.
- **Design and Sustainability Guidelines.** LAWA has developed a set of design and sustainability guidelines to be incorporated into the design, construction, and operations of each approved Project component. The design guidelines establish LAWA's comprehensive vision for the passenger experience at LAX. They are intended to integrate the design of new and existing facilities and to create an improved passenger experience. The sustainability guidelines serve as a mechanism to promote LAWA's commitment to reduce its environmental footprint and promote energy efficient design requirements; water conservation and water quality improvement projects; natural resource protection efforts; waste reduction and recycling; and numerous air quality emissions reduction policies and programs. LAWA requires that all Airport building projects with a City of Los Angeles Department of Building and Safety (LADBS) permit-valuation over \$200,000 shall achieve Los Angeles Green Building Code (LAGBC) Tier 1 conformance.



NOTE: Improvements depicted are conceptual only and do not represent engineered design.  
 SOURCE: HNTB Corp., Los Angeles International Airport Layout Plan, July 2012; MapLAX, July 2016; Ricondo & Associates, Inc., September 2018.



FIGURE 1

LAX Landside Access Modernization Program Components

### 3. PROJECT CHANGES ADDRESSED IN THIS ADDENDUM

Since certification of the Final EIR, components of the LAX Landside Access Modernization Program Project have been refined. LAWA is proposing the following changes (proposed refinements) to the previously approved Project: the inclusion of up to four backup power generators for the APM; the addition of three emergency access point locations for the APM, a potential additional crossover switch between the East CTA APM Station and the ITF West APM Station, and minor modifications to the APM guideway in this area to preserve the option for a potential future APM station; additional billboard and parcel acquisition; relocation of the existing SBO to the ITF West; and merger of an alleyway east of the APM MSF and modification of Vesting Tract Map VTTM 73422. Also, due to an extended acquisition process, LAWA is considering beginning construction within the Manchester Square area prior to the relocation of the remaining two residential buildings and the Stella Middle Charter Academy/Bright Star Secondary Charter Academy.

The proposed refinements would affect the construction period and operations of Phase 1 (2024) and Phase 2 (2035) of the approved Project. The proposed refinements would not affect the potential future related development described in EIR Section 2.7.

#### 3.1 MANCHESTER SQUARE PROPERTY RELOCATION

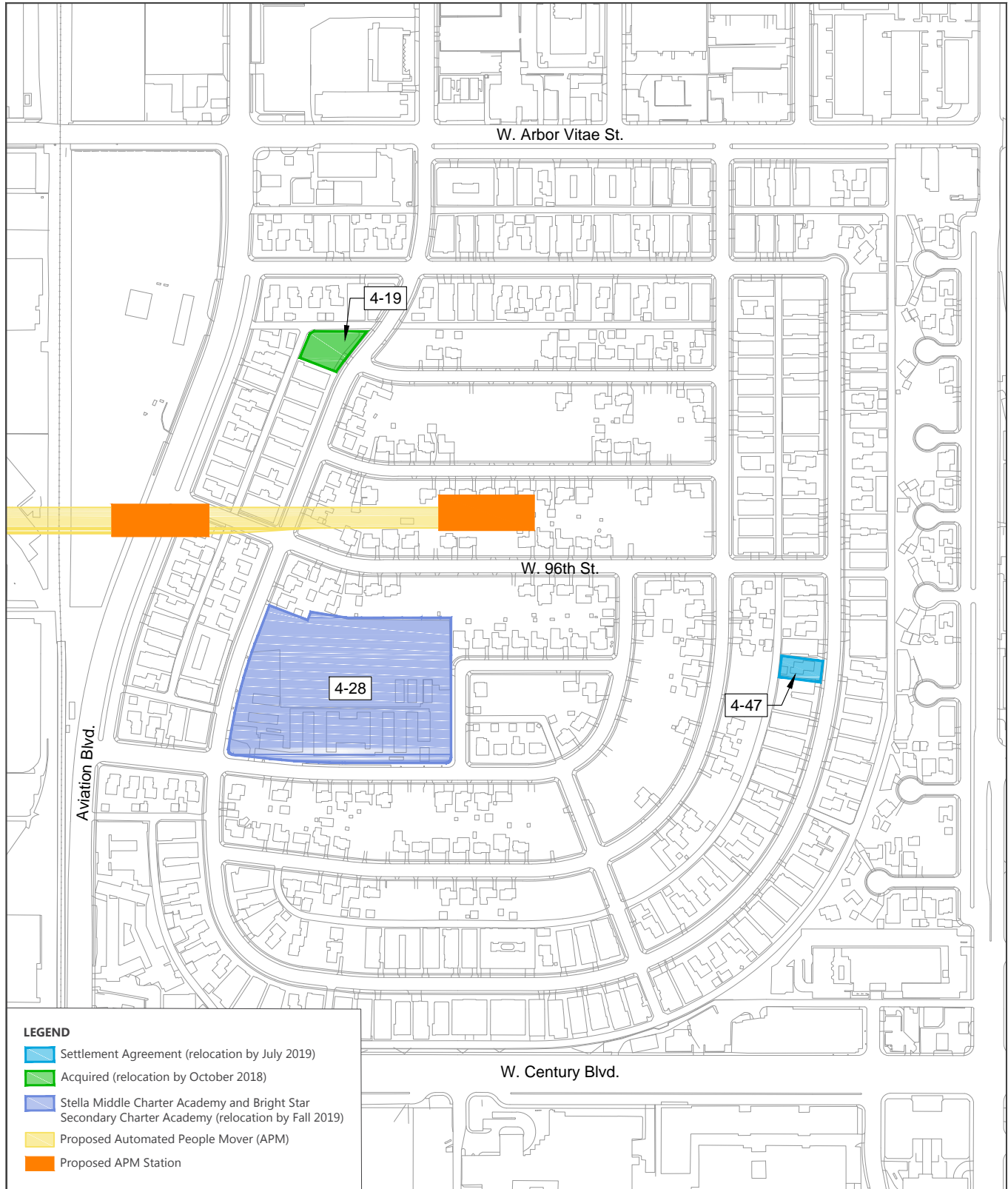
Components of the LAX Landside Access Modernization Program, including the CONRAC, ITF East, and portions of the APM, will be constructed in the area known as Manchester Square, which is bounded by S. La Cienega Boulevard on the east, W. Century Boulevard on the south, Aviation Boulevard on the west, and W. Arbor Vitae Street on the north. LAWA has been purchasing residential properties in Manchester Square as part of the *Los Angeles World Airports Relocation Plan: Manchester Square and the Belford Area*—also known as the existing Aircraft Noise Mitigation Program (ANMP) Relocation Plan for the Belford and Manchester Square areas.<sup>2</sup> The LAX Landside Access Modernization Program Draft EIR Section 2.5.20 explained that “it is LAWA’s goal that the two charter schools would be closed and relocated prior to Project construction. However, LAWA may need to construct some of the APM guideway columns west of the schools and east of Aviation Boulevard prior to the school relocation.” While LAWA has reached agreement on the acquisition of the last two parcels, relocation of the existing residential tenants may not occur until October 2018 for one of the residential parcels or until July 2019 for the other residential parcel. The schools have agreed to relocate by September 1, 2019.

The relocation status of the remaining three parcels in Manchester Square are shown on **Figure 2** and listed on **Table 1**. In order for the APM and CONRAC to be operational by 2024, some initial construction activities such as clearing, site preparation, utility work, and possibly foundation work within the Manchester Square area would need to occur prior to September 2019.

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<sup>2</sup> As of 2016, when LAWA was preparing the LAX Landside Access Modernization Program EIR, the Belford and Manchester Square areas respectively contained 1 and 37 remaining residential parcels, for a total of 38 residential parcels that had not been acquired as part of the existing ANMP Relocation Plan.





SOURCE: HNTB Corp., Los Angeles International Airport Layout Plan, July 2012; MapLAX, July 2016; LAWA December 13, 2017; Ricondo & Associates, Inc., September 2018.

FIGURE 2



### Manchester Square Property Acquisition Status

Drawing: P:\Project-Denver\LAX\LAMP\05 - AutoCAD\LAMP\_EIR Addendum\_Manchester Sq Prop Acquisition Status\_20180806.dwg Layout: Manchester Sq Prop Acq Status Plotted: Sep 7, 2018, 10:30AM

TABLE 1: MANCHESTER SQUARE PROPERTY ACQUISITION STATUS

PARCEL ID	ADDRESS	ACQUISITION STATUS
4-19	9329 Isis Ave, Los Angeles, CA 90045	Relocation by October 2018
4-28	5431 W. 98 <sup>th</sup> Street (Stella Middle Charter Academy/Bright Star Secondary)	Relocation by September 2019
4-47	9627 Glasgow Pl, Los Angeles, CA 90045	Settlement Agreement – to be vacated by July 2019

SOURCE: Los Angeles World Airports, December 13, 2017.

### 3.2 APM BACKUP POWER GENERATORS

The EIR analyzed an APM Operating System, which consisted of integration of various subsystems (vehicles, automated train control, power distribution, APM power substations, guidance, propulsion, etc.) to create a fully functional automated and driverless system. The main components of the operating system include the APM cars, the power distribution system, the automated train control system, communication facilities, and other miscellaneous equipment necessary for the proper operation and maintenance of the system. (EIR Section 2.4.1.1 and Table 2-1).

Since the Final EIR was certified, LAWA has selected an APM developer, and technical provisions of the APM system have been further refined to include emergency power systems for use during failure management situations. The APM system has been designed to maintain a minimum of 50 percent available line capacity for any single point failure for a period of at least 40 minutes. To provide emergency power, alternative emergency power shall be derived from energy storage devices (such as batteries) except at the West CTA APM Station and APM MSF where a combination of energy storage devices and diesel generators would be used. Diesel generators may be used for fire/life-safety functions only. The APM developer currently plans for the installation of two backup generators, one rated at up to 1,200 kilowatts (kW) at the West CTA APM Station, and one rated at 500 kW at the APM MSF. At the time the analysis for this Addendum was conducted, the APM developer had not been selected and it was assumed that up to four backup generators, each rated at 3,000 kilowatts (kW), would be located in the vicinity of each TPSS station, and one at the APM MSF (see Figure 1). To be conservative, and because the technology utilized to meet the emergency backup requirements could change, the evaluation of the backup power system in this Addendum assumed four 3,000-kW generators. Any fuel tanks associated with the generators would be located outside of the buildings at their respective locations.

In the event of the loss of power from the Los Angeles Department of Water and Power (LADWP), the emergency systems would provide power to operate the APM system for a period of time sufficient for every normally scheduled train to complete its scheduled trip to the end of line station to discharge passengers, and then to be removed from service and stored at the APM MSF. The time from the request for generator power to full availability of emergency power shall not exceed one hundred and twenty (120) seconds. Once the emergency power system is on-line, it shall also power all escalators and 50 percent of the elevators in the APM stations and any other station loads required to ensure Americans with Disabilities Act (ADA) compliance for a minimum of 40 minutes. Operations of the generators would be for backup purposes only but would be occasionally run for testing and maintenance.

### 3.3 APM EMERGENCY ACCESS POINTS AND MINOR MODIFICATIONS TO APM GUIDEWAY

The Final EIR identified that the height of the elevated guideway could pose accessibility constraints depending on the location of the incident, and subsequently affect response times. The Final EIR identified that the Los Angeles

Fire Department (LAFD) would access the APM with a 100-foot ladder from Fire Station 95; however, it also noted that access may be difficult due to variations in elevation, topography, and the street network operating underneath the guideway. The APM guideway, as proposed in the Final EIR, and in compliance with California Public Utility Commission (CPUC) requirements, would have an emergency walkway along the entire guideway to provide egress for passengers in the event of an emergency as well as access for emergency personnel. (EIR p. 4.11-24).

Subsequent to the certification of the Final EIR, the LAFD has requested additional emergency access point locations be placed along the proposed APM alignment to increase accessibility in areas with long distances between APM stations. Two of the emergency access points would consist of a single secured open staircase with a footprint of up to 12 feet by 25 feet and would be accessed from ground level (Emergency Access Locations 1 and 3). The third access point (Emergency Access Location 2) is planned to be accessed via ladder truck. The proposed emergency access point locations identified in **Figure 3** indicates general location and configuration, as the developer will select the final site locations within the zone limits provided. **Table 2** identifies the distance between the APM platforms included in the certified Final EIR and the additional emergency access points.

The Final EIR further explained that the dual-lane guideway would be equipped with switching locations to support the APM operation. (EIR p. 2-33). LAWA has identified the potential need for another crossover switch, which allows trains to switch from one track to another in case of a disabled train, between the East CTA APM Station and the ITF West APM Station (see Figure 3). In order to accomplish this, LAWA may split the tracks and add a switch platform in the area of Emergency Access Location 1 (i.e., east of Sepulveda Boulevard). Preliminary consideration has been given to a potential additional station in this same location.<sup>3</sup> To preserve the option for a potential additional station without major future disruptions to the APM, it is necessary to develop four (4) additional columns, expansion joints, and modifications to the emergency walkway structure in this area. These modifications would be incorporated into the emergency access point and crossover switch identified for this portion of the APM guideway.

TABLE 2: APM PLATFORM DISTANCES <sup>1</sup>

	EAST CTA APM STATION	EMERGENCY ACCESS LOCATION 1	EMERGENCY ACCESS LOCATION 2	ITF WEST STATION	EMERGENCY ACCESS LOCATION 3	ITF EAST STATION
East CTA APM Station	---	1,855 feet	3,440 feet	4,860 feet	6,465 feet	8,335 feet
Emergency Access Location 1	1,855 feet	---	1,585 feet	3,005 feet	4,610 feet	6,480 feet
Emergency Access Location 2	3,440 feet	1,585 feet	---	1,420 feet	3,025 feet	4,895 feet
ITF West Station	4,860 feet	3,005 feet	1,420 feet	---	1,605 feet	3,475 feet
Emergency Access Location 3	6,465 feet	4,610 feet	3,025 feet	1,605 feet	---	1,870 feet
ITF East Station	8,335 feet	6,480 feet	4,895 feet	3,475 feet	1,870 feet	---

NOTES:

--- = not applicable

<sup>1</sup> All distance measurements are approximate and are measured from the center of platform to center of platform.

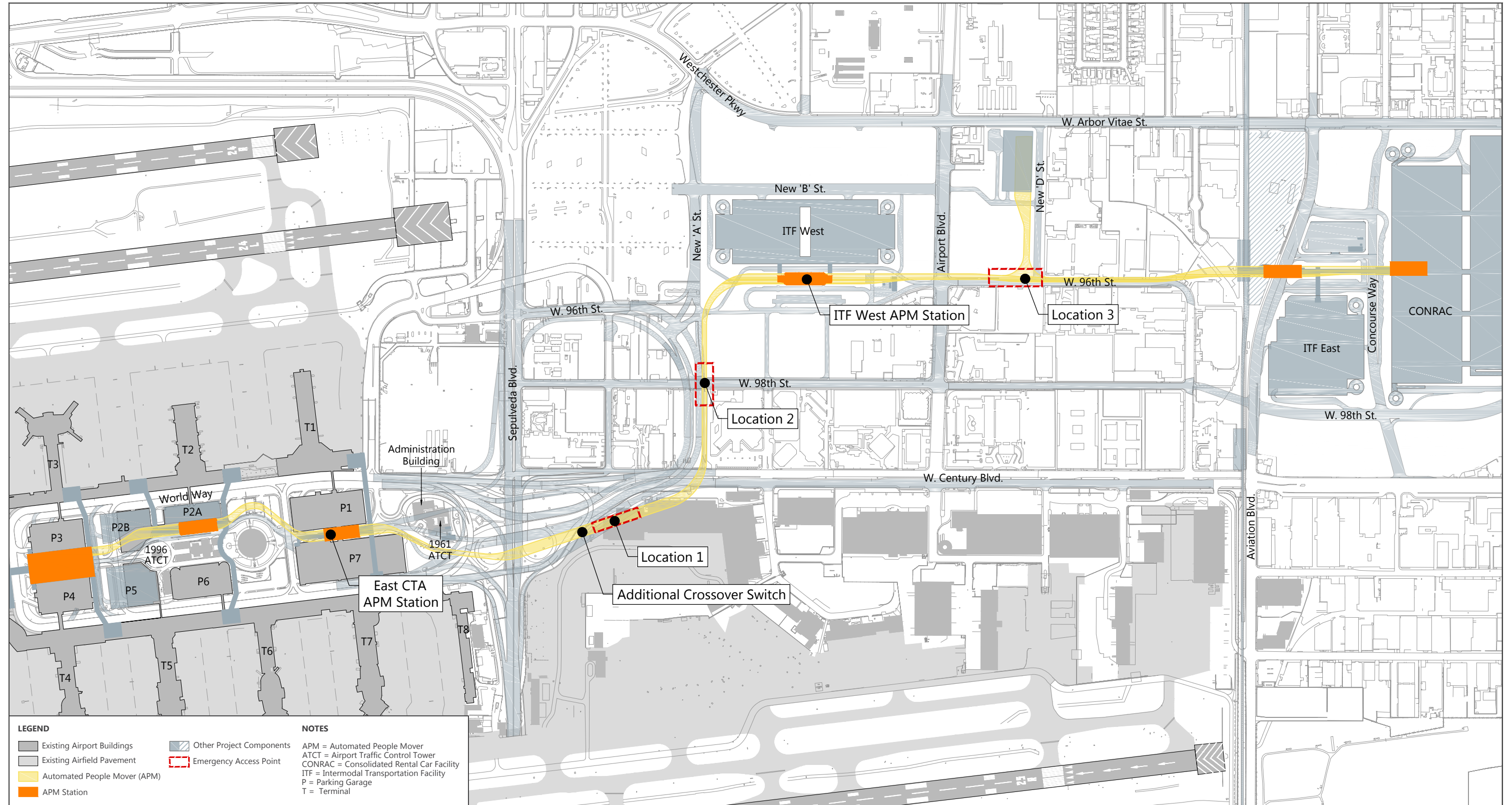
CTA = Central Terminal Area

APM = Automated People Mover

ITF = Intermodal Transportation Facility

SOURCE: Ricondo & Associates, Inc., May 2018.

<sup>3</sup> If the guideway was constructed as currently designed and LAWA later decided to build an additional station, extensive changes would be required to the guideway to support the additional station. Deferring this work to a later date would negatively impact APM schedule, cost, and, ultimately, the service availability date which the APM developer is obligated to meet under its agreement with LAWA.



NOTE: Improvements depicted are conceptual only and do not represent engineered design.  
 SOURCE: HNTB Corp., Los Angeles International Airport Layout Plan, July 2012; MapLAX, July 2016; Ricondo & Associates, Inc., September 2018.



**FIGURE 3**

Automated People Mover (APM)  
 Emergency Access Point and Additional Crossover Switch Locations



### 3.4 PARCEL AND BILLBOARD ACQUISITION

As identified in the certified Final EIR, the approved roadway improvements will require easements and property/billboard acquisition for the construction of new driveways, curb cuts, and ramps. (EIR Section 2.5.18).

Since certification of the LAX Landside Access Modernization Program Final EIR, additional parcels and billboards have been identified for acquisition, as identified in **Table 3**. This includes uneconomical remnants or landlocked parcels created by the approved Project, which LAWA is likely required to acquire under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (codified as amended at 42 U.S.C. 4601-4655) and California Government Code §7260. Also included on this list are areas for additional curb cuts and properties owned by, or being acquired by Metro, where easements for the APM columns are required. LAWA continues to negotiate with Metro for acquisition of the necessary easements. LAWA would utilize easement and partial takes to the extent feasible, to minimize any acquisition required.

TABLE 3: ADDITIONAL PROPERTIES TO BE ACQUIRED

PROPERTY ADDRESS	PRIMARY BUSINESS	LOT AREA (ACRES)	ZONING	APN
6155 W. 98th St., Los Angeles, CA 90045	N/A	1.00	LAX	4124027029
Remnant parcel located at the 9900 block of Aviation Boulevard	N/A	0.01	M2-1	4125026801
9800 S. La Cienega Blvd., Los Angeles, CA 90045	N/A	0.63	M2-1	4128026015
5730 W. Arbor Vitae St., Los Angeles, CA 90045	N/A	2.34	M2-1	4125020901
5740 W. Arbor Vitae St., Los Angeles, CA 90045	N/A	1.56	M2-1	4125020905
5630 W. Arbor Vitae St., Los Angeles, CA 90045	N/A	0.33	M2-1	4125020906
5600 W. Arbor Vitae St., Los Angeles, CA 90045	N/A	0.07	M1-1	4125026900
9432 Bellanca Ave., Los Angeles, CA 90045	N/A	1.61	M2-1	4125021903
"U" Bellanca Ave., Los Angeles, CA 90045	N/A	0.27	M2-1	4125021900
744 S. Glasgow Ave., Inglewood, CA 90301	N/A	0.70	N/A	4126011055
5447 W. Century Blvd., Los Angeles, CA 90045 <sup>1</sup>	N/A	N/A	N/A	4128024902
5447 W. Century Blvd., Los Angeles, CA 90045 <sup>1</sup>	N/A	N/A	N/A	4128024902
5994 W. 96th St., Los Angeles, CA 90045 <sup>1</sup>	N/A	N/A	N/A	4125010015
9717 S. Airport Blvd., Los Angeles, CA 90045 <sup>1</sup>	N/A	N/A	N/A	4124029040
9775 Airport Blvd., Los Angeles, CA 90045 <sup>1</sup>	N/A	N/A	N/A	4124029026
5563 W Arbor Vitae St., Los Angeles, CA 90045 <sup>1</sup>	N/A	N/A	N/A	4128002015

NOTES:

N/A = data not available

<sup>1</sup> Billboard

SOURCE: City GIS Data, 2018.

### 3.5 SECURITY BADGE OFFICE RELOCATION

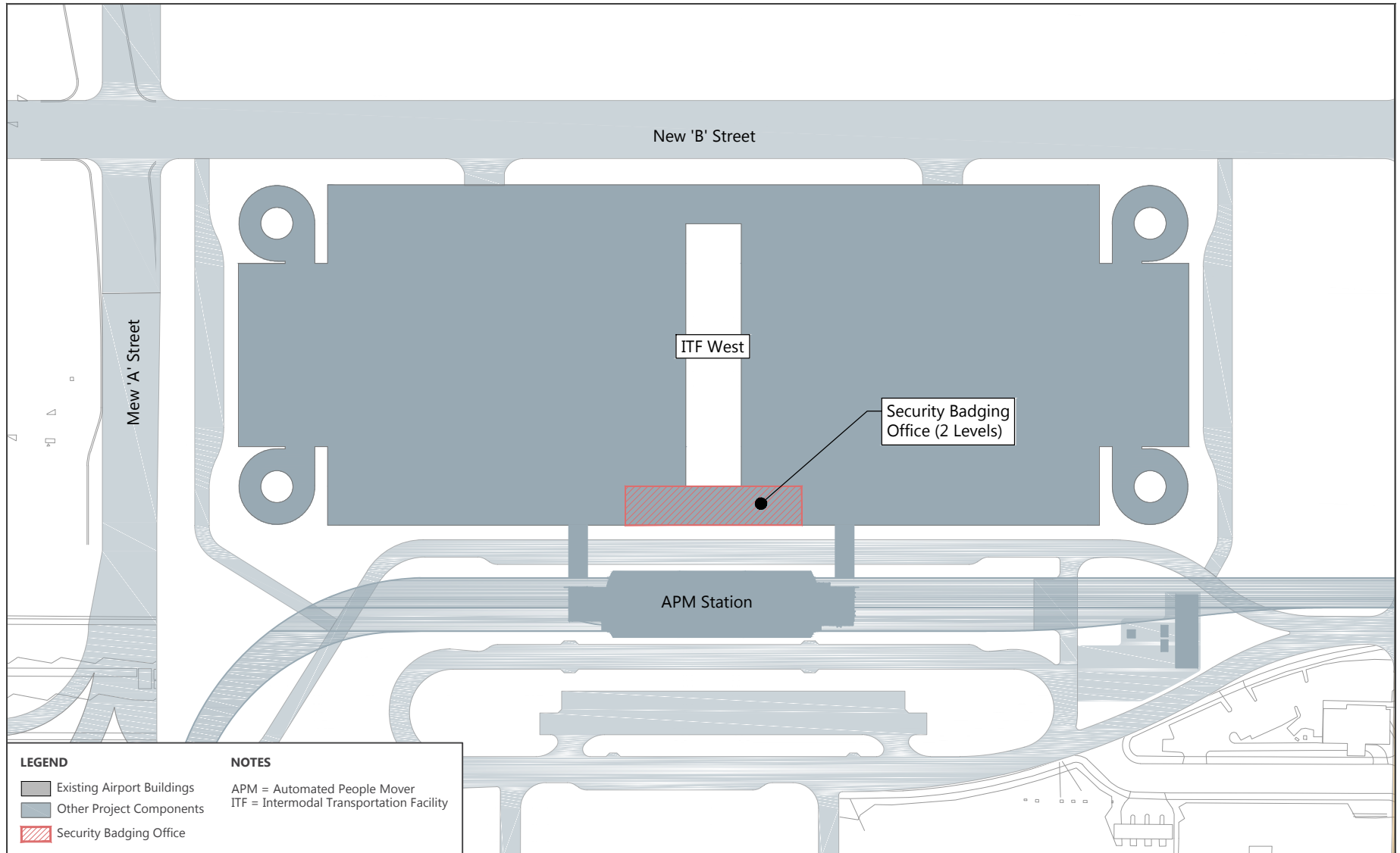
The existing SBO occupies approximately 25,000 square feet of a building on the west side of the Airport at 7333 World Way West. This location is inconvenient for the majority of Airport workers, who work within the CTA. Employees working in the CTA must take a shuttle to the employee parking lot, drive to the west side of the Airport, visit the SBO, drive back to the employee parking lot, then take a shuttle back to the CTA. Bus service to the west

side of the Airport is limited, also making it difficult and time consuming for employees to utilize mass transit to get to the SBO. To improve the operational efficiency and convenience of the SBO, LAWA has determined that the SBO needs to be located adjacent to the APM, as it is at similar, large-hub U.S. airports. The LAMP EIR did not include any analysis of relocating the existing LAWA SBO. However, since certification of the Final EIR, LAWA is now proposing to relocate the existing SBO facility to the ITF West. The new SBO would consist of approximately 25,000 square feet of floor space, incorporated into the first and second levels of the previously approved ITF West Garage core structure. The new SBO would not change the size of the previously approved ITF West. **Figure 4** depicts the ITF West and proposed SBO location. The facility would contain similar size spaces as the existing SBO, for administrative functions, waiting rooms, and badge processing. There are no current plans for the existing SBO space.

### 3.6 ALLEYWAY MERGER

The Final EIR, Figure 2-42, provides an overview of the proposed roadway improvements east of the CTA. This includes new "D" Street, new "B" Street, and a new roadway to access the APM MSF. EIR Section 1.1.4 further noted that the LAX Landside Access Modernization Program would require vacations of public rights-of-way.

Consistent with the Final EIR, an approximately 1,120-foot alleyway, located parallel to and approximately 160 feet east of Belford Avenue, and east of the approved APM MSF, would be merged into the approved 'D' Street, as shown in **Figure 5**. Merger of the alleyway has been coordinated with the adjacent property owner. Access to the adjacent property would be provided via 'D' Street. LAWA would modify Vesting Tract Map VTTM 73422, part of the entitlements approved in the EIR, to depict the merger.

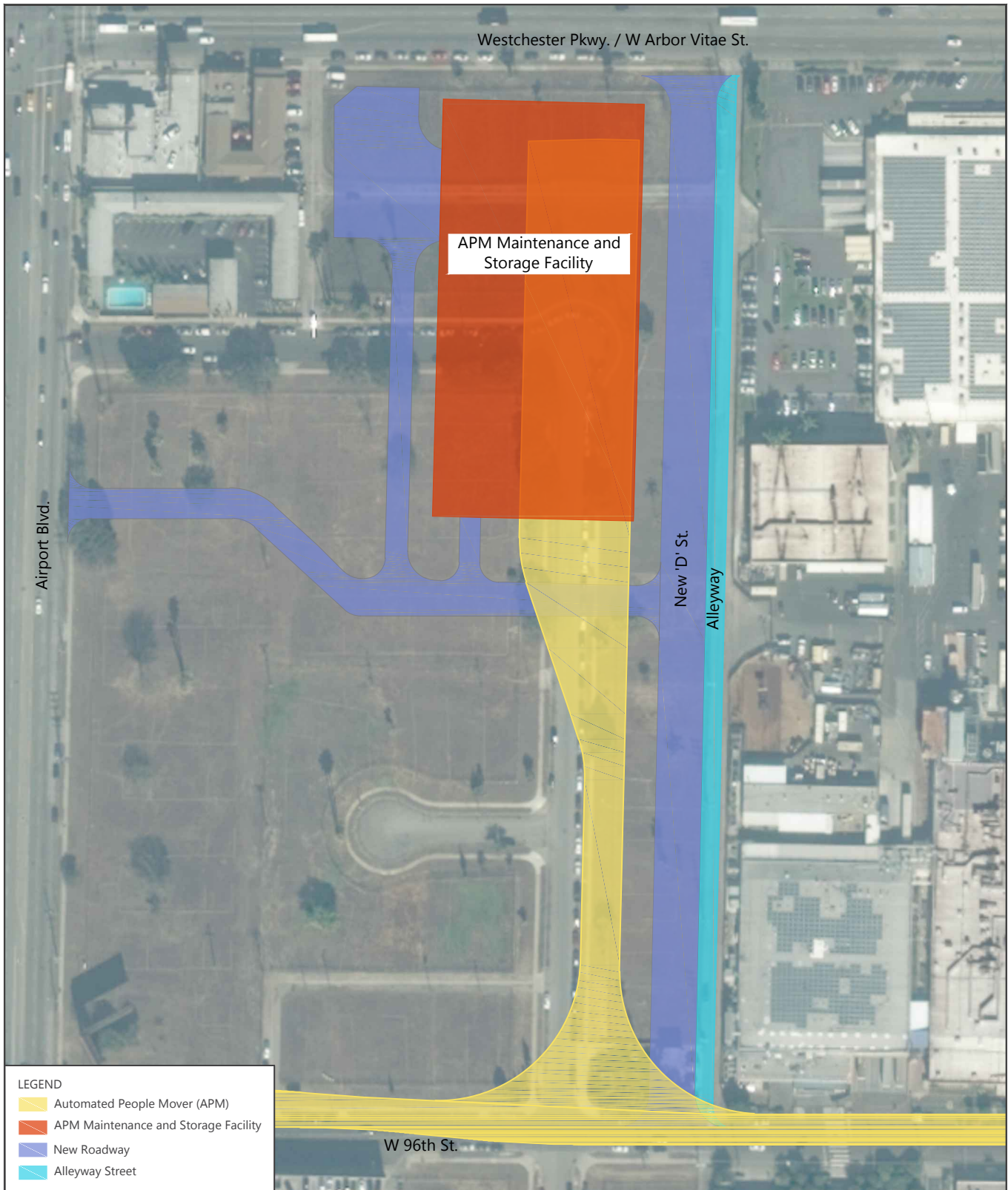


NOTE: Improvements depicted are conceptual only and do not represent engineered design.  
 SOURCE: HNTB Corp., Los Angeles International Airport Layout Plan, July 2012; MapLAX, July 2016; Ricondo & Associates, Inc., September 2018.

**FIGURE 4**

ITF West  
 Proposed Security Badging Office





SOURCE: Los Angeles World Airports, August 2016 (aerial imagery for visual reference only - may not be to scale); Ricondo & Associates, Inc., September 2018.

**FIGURE 5**

Alleyway Street Vacation



Drawing: P:\Project-Denver\LAX\LAMP\05 - AutoCAD\LAMP\_EIR Addendum\_Alleyway\_20180907.dwgLayout: Fig 5 - Alleyway Plotted: Sep 7, 2018, 10:02AM

## 4. REQUIREMENTS FOR USE OF AN ADDENDUM

Public Resources Code Section 21166 and Section 15162 of the State CEQA Guidelines identifies the circumstances that necessitate the preparation of a subsequent EIR. When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known, with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
  - (A) *The project will have one or more significant effects not discussed in the previous EIR or Negative Declaration;*
  - (B) *Significant effects previously examined will be substantially more severe than shown in the previous EIR;*
  - (C) *Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or*
  - (D) *Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*

Pursuant to Section 15164 of the State CEQA Guidelines, if some changes or additions to a previously certified EIR are necessary but none of the above conditions have occurred, the lead agency (in this case LAWA) may prepare an Addendum to document why no further environmental review is required. An addendum need not be circulated for public review, but can be included in or attached to the Final EIR, which the decision-making body shall consider prior to making a decision on the project. A brief explanation supported by substantial evidence of why an agency decided not to prepare a subsequent EIR under section 15162 should also be included in the addendum, the findings on the project, or somewhere in the record. This explanation is included in this Addendum.

## 5. EVALUATION OF ENVIRONMENTAL IMPACTS

In performing the required analysis pursuant to CEQA and determining that the criteria are met for use of an addendum, this Addendum compares impacts of the proposed refinements to impacts of the Project as previously approved and analyzed in the certified Final EIR. For purposes of determining whether the proposed refinements trigger the need to prepare a subsequent EIR pursuant to State CEQA Guidelines Section 15162, this Addendum relies on the evaluation of the environmental resources/issues below and summarizes the responses to whether any of the criteria presented in Section 4 have been met. Section 6 contains the discussion/analysis relative to cumulative impacts. Justification for the appropriateness of an addendum is provided in Section 7. Finally, the conclusion associated with the analysis of the Addendum is provided in Section 8.

### 5.1 SUMMARY OF ENVIRONMENTAL TOPICS/RESOURCE AREAS THAT WOULD NOT BE AFFECTED BY THE PROPOSED REFINEMENTS

The Notice of Preparation/Initial Study (NOP/IS) for the approved Project (refer to Appendix A of the LAX Landside Access Modernization Program Draft EIR) and the certified Final EIR determined that implementation of the approved Project would have no impact, a less than significant impact, or a less than significant impact after mitigation for a number of environmental topics/resource areas. As with the approved Project, the proposed refinements would not have impacts related to agricultural and forestry resources, geology/soils, mineral resources, and recreation. As with the approved Project, impacts of the proposed refinements would continue to be less than significant for aesthetics (shading, light and glare); biological resources; cultural resources (archaeological resources, paleontological resources, human remains); greenhouse gas emissions; hazards and hazardous materials; hydrology, water quality, and groundwater; land use and planning; noise and vibration (road traffic and transit); population and housing; public services (fire protection and law enforcement); and utilities and service systems. Additionally, there were several environmental topics/resource areas that were found to have significant and unavoidable impacts in the certified Final EIR but would not be affected by the proposed refinements, including: aesthetics (visual character); cultural resources (historic resources); greenhouse gas emissions (plan/policy consistency); transportation/traffic (on-Airport traffic and construction traffic); and public services (schools).<sup>4</sup>

Determination: *No Changes or New Information Requiring Preparation of a Subsequent EIR*

Conclusion Regarding Applicability of State CEQA Guidelines Section 15162:

As indicated above and in Section 5.2 below, the proposed refinements to the Project would not result in any new or substantially increased impacts or changes in circumstances or information identified in the certified LAX Landside Access Modernization Program Final EIR for all environmental topics, including but not limited to aesthetics, agricultural and forestry resources, air quality and human health risk, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, and utilities and service systems. Therefore, the impacts to these environmental topics/resources as a result of the proposed refinements to the Project would not trigger any of the conditions described in State CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR.

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<sup>4</sup> As discussed in Section 3, the proposed refinements to the approved Project would not affect the future potential related development.



## 5.2 EVALUATION OF ENVIRONMENTAL TOPICS/RESOURCE AREAS THAT WOULD BE AFFECTED BY THE PROPOSED REFINEMENTS BUT WOULD NOT RESULT IN ANY NEW SIGNIFICANT OR SUBSTANTIALLY MORE SEVERE IMPACTS

### 5.2.1 AIR QUALITY AND HUMAN HEALTH RISK

The air quality and human health risk analyses for the LAX Landside Access Modernization Program is detailed in Section 4.2 of the LAX Landside Access Modernization Program EIR.

#### 5.2.1.1 ANALYSIS

##### **Construction**

Peak daily construction-related emissions for the approved Project were calculated from a peak-month average day for each month of each year of construction. As shown in Table 4.2.1-7 of the LAX Landside Access Modernization Program EIR, maximum Project construction emissions for the approved Project were projected to be lower than the South Coast Air Quality Management District (SCAQMD) CEQA construction emission thresholds for carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM<sub>10</sub>), and particulate matter with a diameter less than or equal to 2.5 micrometers (PM<sub>2.5</sub>). Maximum Project construction emissions (without mitigation) would exceed the thresholds for nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs). Therefore, the EIR determined that the approved Project's construction emissions of NO<sub>x</sub> and VOCs would be significant. In addition, the local effects from the on-site portion of construction emissions were evaluated at nearby sensitive receptor locations that could be affected by the approved Project. As summarized in Table 4.2.1-8 of the LAX Landside Access Modernization Program EIR, the unmitigated Project peak construction concentrations would be less than the SCAQMD CEQA ambient air quality standards for all criteria pollutants except for the 24-hour and annual PM<sub>10</sub> thresholds and the 1-hour nitrogen dioxide (NO<sub>2</sub>) National Ambient Air Quality Standards (NAAQS). Therefore, the EIR determined that the localized construction impacts of the approved Project relative to NO<sub>2</sub> and PM<sub>10</sub> concentrations would be significant.

The EIR identified one Standard Control Measure (Mitigation Measure) LAX-AQ-1 - Construction-Related Air Quality Control Measures, and one project-specific Mitigation Measure, MM-AQ (LAMP)-1 – Preferential Use of Renewable Diesel Fuel, to address construction-related emissions associated with the approved Project. Implementation of the measures would result in substantial emission reductions compared to fleet-wide average emissions for heavy-duty construction equipment and trucks in the southern California region. Although the inclusion of the measures would reduce the project construction-related emissions, project-related regional emissions of NO<sub>x</sub> and VOCs would remain significant, as well as local annual concentrations of PM<sub>10</sub>. However, the EIR determined that the mitigated localized construction effects would be less than significant for NO<sub>2</sub> and 24-hour PM<sub>10</sub>.

As detailed in Section 4.2.2 of the LAX Landside Access Modernization Program EIR (beginning on page 4.2-69 of the EIR), human health impacts (i.e., incremental cancer risks) associated with construction of the approved Project were found to be less than significant with the aforementioned mitigation measures.<sup>5</sup>

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<sup>5</sup> Incremental chronic and acute *non-cancer* health hazards associated with construction of the approved Project were found to be less than significant even without implementation of Standard Control Measure (Mitigation Measure) LAX-AQ-1 - Construction-Related Air Quality Control Measures, and Mitigation Measure, MM-AQ (LAMP)-1 – Preferential Use of Renewable Diesel Fuel.

The proposed refinements to the approved Project would not result in a significant change to the maximum Project construction emissions. However, the potential construction in Manchester Square (the initiation of construction at Manchester Square prior to relocation of all residences and the schools) could affect the localized emissions concentrations and the associated human health risk assessment for residents, workers, and school children. Because the acquisition of two residential properties and the two schools has taken longer than anticipated, resident and school children receptors would be present during initial construction activities such as clearing, site preparation, utility work, APM guideway columns, and possibly foundation work. Air quality and human health risk analysis associated with the proposed refinements, including the construction in Manchester Square, can be found in **Appendix A**. As documented in Appendix A, incremental cancer risks and incremental chronic and acute non-cancer health hazards for the proposed refinements were found to be below the thresholds of significance for all receptors during the construction period.

### **Operations**

Operationally, the approved Project would improve the local transportation system, eliminate most rental car shuttles, and result in more passengers and Airport-related employees accessing the Airport via transit. The primary sources of operational emissions are the vehicles traveling to and from the Airport, including those accessing the various Project elements. The operational air quality analysis included in the LAX Landside Access Modernization Program EIR compared emissions from the 2024 With and Without the approved Project, and 2035 With and Without the approved Project. As shown in Tables 4.2.1-10 and 4.2.1-11 of the LAX Landside Access Modernization Program EIR, implementation of the Project would decrease regional operational emissions for all criterial pollutants when compared to future conditions without the approved Project. Therefore, the approved Project's regional operational emissions in 2024 and 2035 would be less than significant when compared to future conditions without the Project. In addition, the local effects from operational emissions were evaluated at nearby sensitive receptor locations that could be affected by the approved Project. Tables 4.2.1-14 and 4.2.1-15 of the LAX Landside Access Modernization Program EIR compare the incremental increase in peak concentrations in pollutants for the 2024 Future With Project scenario to the 2024 Future Without Project scenario, and the 2035 Future With Project scenario to the 2035 Future Without Project scenario, respectively. The Project-related incremental changes in pollutant concentrations for the 2024 Future With Project scenario would not exceed local operational-based thresholds and, therefore, the approved Project would not result in a significant impact; however, the Project-related incremental changes in pollutant concentrations for the 2035 Future With Project scenario would exceed local operational thresholds for annual PM<sub>10</sub>. Therefore, the approved Project's operational annual concentrations of PM<sub>10</sub> would result in a significant impact compared to future conditions without the approved Project.

The EIR identified two Standard Control Measures (Mitigation Measures), Standard Control Measures (Mitigation Measures) LAX-AQ-2 - Transportation-Related Air Quality Control Measures, and LAX-AQ-3 - Operations-Related Air Quality Control Measure, and one project-specific Mitigation Measure, MM-GHG (LAMP)-1 – Incorporate Solar Energy into Landside Access Modernization Program Facilities, to address operational emissions associated with the approved Project. Although the inclusion of the measures would reduce operational-related emissions, localized annual PM<sub>10</sub> impacts in 2035 would remain significant and unavoidable.

Two of the proposed refinements that could affect air quality and the human health risk analysis include: 1) testing and maintenance of the proposed APM backup generators for up to 1-hour per week; and 2) the emissions related to the changes in vehicle miles traveled (VMT) from the relocation of the LAX SBO. Assumptions, methodologies, and detailed results for these analyses are provided in Appendix A of this Addendum. None of the other proposed refinements would affect the operational emissions analysis.



As stated in Section 3.2 of this Addendum, at the time the analysis for this Addendum was conducted, the APM developer had not been selected and it was assumed that up to four backup generators, each rated at 3,000 kilowatts (kW), would be located in the vicinity of each TPSS station, and one at the APM MSF (see Figure 1). Analysis of the proposed backup generators assumed weekly, one-hour tests would be conducted for each of the four generators. As identified in the EIR, a significant air quality impact would occur if the estimated incremental increase in operations-related emissions attributable to the Project would be greater than the daily emissions thresholds. Operational emissions comparisons are shown in **Table 4**; localized operational concentrations comparisons are shown in **Table 5** and **Table 6** for 2024 and 2035, respectively. As shown, the additional emissions associated with weekly generator testing, when added to total Project emissions, would not change any significance determination presented in the EIR regarding regional or local operations emissions or concentrations. Operations of the generators were also analyzed for potential to increase human health risk in the area. As documented in Appendix A of this Addendum, incremental cancer risks and incremental chronic and acute non-cancer health hazards for the backup generators, when added to total Project emissions, were found to be below the thresholds of significance for all receptors for future operational years.

TABLE 4: APPROVED PROJECT AND PROPOSED BACKUP GENERATOR OPERATIONAL EMISSIONS (2024 AND 2035)

POLLUTANT	2024 (LBS/DAY)			2035 (LBS/DAY)			SIGNIFICANCE THRESHOLD (LBS/DAY)	SIGNIFICANT?
	EIR INCREMENTAL CHANGE <sup>1</sup>	BACKUP GENERATORS <sup>2</sup>	TOTAL INCREMENTAL CHANGE	EIR INCREMENTAL CHANGE <sup>3</sup>	BACKUP GENERATORS <sup>2</sup>	TOTAL INCREMENTAL CHANGE		
NO <sub>x</sub>	-7	19	12	0	19	19	55	No
VOC	-3	- <sup>4</sup>	-3	-1	- <sup>4</sup>	-1	55	No
PM <sub>10</sub>	-33	1	-32	-95	1	-94	150	No
PM <sub>2.5</sub>	-9	1	-8	-27	1	-26	55	No
SO <sub>2</sub>	0	2	2	-1	2	1	150	No
CO	-233	9	-224	-371	9	-362	550	No

NOTES:

- As identified in the EIR, in accordance with the South Coast Air Quality Management District's *Air Quality Handbook*, a significant air quality impact would occur if the incremental increase in operations-related emissions attributable to the proposed Project would be greater than the daily emission thresholds. EIR incremental change is the change between the proposed Project operational emissions and the 2024 Future Without Project operational emissions for 2024.
- Assumes that generator testing occurs on the peak day of emissions and that generators are tested on different days.
- EIR incremental change is the change between the proposed Project operational emissions and the 2035 Future Without Project operational emissions for 2035.
- USEPA AP-42 does not establish VOC emission rates for stationary diesel compression-ignition engines.

SOURCE: Appendix A of this EIR Addendum.

TABLE 5: OPERATIONAL CONCENTRATIONS – 2024 FUTURE WITH PROJECT AND BACKUP GENERATORS COMPARED TO 2024 FUTURE WITHOUT PROJECT

POLLUTANT	AVERAGING PERIOD <sup>1</sup>	TOTAL (FROM FINAL EIR) <sup>2</sup> ( $\mu\text{g}/\text{m}^3$ )	GENERATOR INCREMENT <sup>3</sup> ( $\mu\text{g}/\text{m}^3$ )	TOTAL INCLUDING GENERATORS ( $\mu\text{g}/\text{m}^3$ )	THRESHOLD ( $\mu\text{g}/\text{m}^3$ )	SIGNIFICANT?
CO <sub>2</sub>	1-hr CAAQS	3,620	31	3,651	23,000	No
	8-hr CAAQS	2,803	2	2,805	10,000	No
NO <sub>x</sub>	1-hr CAAQS	165	44	209	339	No
	1-hr NAAQS	118	29	147	188	No
	Annual CAAQS	24	<1	24	57	No
SO <sub>2</sub>	1-hr CAAQS	39	4	43	655	No
	1-hr NAAQS	16	3	19	196	No
	3-hr NAAQS	39	4 <sup>4</sup>	43	1,300	No
	24-hr CAAQS	8	<1	8	105	No
	Annual NAAQS	3	<1	3	80	No
PM <sub>10</sub>	24-hr	1.6	0.1	1.7	2.5	No
	Annual	0.7	<0.1	0.7	1.0	No
PM <sub>2.5</sub>	24-hr	0.9	0.1	1.0	2.5	No

## NOTES:

CAAQS = California Ambient Air Quality Standard.

NAAQS = National Ambient Air Quality Standard.

<sup>1</sup>NAAQS and CAAQS often have the same averaging period, but usually have different standard values and may have different methods of determining compliance with each standard.

<sup>2</sup> As identified in the EIR, in accordance with the South Coast Air Quality Management District's *Air Quality Handbook*, a significant air quality impact would occur if the incremental increase in operations-related emissions attributable to the proposed Project would be greater than the daily emission thresholds. Totals from EIR were calculated by adding the Incremental Peak concentration (determined by calculating the differences between Future With Project and Future Without Project scenarios at each receptor, then selecting the maximum value across all receptors) to background concentrations.

<sup>3</sup> The receptor of maximum concentration from the backup generators does not necessarily match up with the peak receptor from the Final EIR, therefore exaggerating potential impacts.

<sup>4</sup> 1-hr CAAQS value used in lieu of 3-hr concentration.

SOURCE: Appendix A of this EIR Addendum.

TABLE 6: OPERATIONAL CONCENTRATIONS – 2035 FUTURE WITH PROJECT AND BACKUP GENERATORS COMPARED TO 2035 FUTURE WITHOUT PROJECT

POLLUTANT	AVERAGING PERIOD <sup>1</sup>	TOTAL (FROM FINAL EIR) <sup>2</sup> ( $\mu\text{g}/\text{m}^3$ )	GENERATOR INCREMENT <sup>3</sup> ( $\mu\text{g}/\text{m}^3$ )	TOTAL INCLUDING GENERATORS ( $\mu\text{g}/\text{m}^3$ )	THRESHOLD ( $\mu\text{g}/\text{m}^3$ )	SIGNIFICANT?
CO <sub>2</sub>	1-hr CAAQS	3,605	31	3,636	23,000	No
	8-hr CAAQS	2,796	2	2,798	10,000	No
NO <sub>x</sub>	1-hr CAAQS	176	44	220	339	No
	1-hr NAAQS	126	29	155	188	No
	Annual CAAQS	25	<1	25	57	No
SO <sub>2</sub>	1-hr CAAQS	39	4	43	655	No
	1-hr NAAQS	16	3	19	196	No
	3-hr NAAQS	39	4 <sup>4</sup>	43	1,300	No
	24-hr CAAQS	8	<1	8	105	No
	Annual NAAQS	3	<1	3	80	No
PM <sub>10</sub>	24-hr	2.3	0.1	2.4	2.5	No
	Annual	1.2	<0.1	1.2	1.0	Yes
PM <sub>2.5</sub>	24-hr	1.0	0.1	1.1	2.5	No

## NOTES:

CAAQS = California Ambient Air Quality Standard.

NAAQS = National Ambient Air Quality Standard.

- 1 NAAQS and CAAQS often have the same averaging period, but usually have different standard values and may have different methods of determining compliance with each standard.
- 2 As identified in the EIR, in accordance with the South Coast Air Quality Management District's *Air Quality Handbook*, a significant air quality impact would occur if the incremental increase in operations-related emissions attributable to the proposed Project would be greater than the daily emission thresholds. Totals from EIR were calculated by adding the Incremental Peak concentration (determined by calculating the differences between Future With Project and Future Without Project scenarios at each receptor, then selecting the maximum value across all receptors) to background concentrations.
- 3 The receptor of maximum concentration from the backup generators does not necessarily match up with the peak receptor from the Final EIR, therefore exaggerating potential impacts.
- 4 1-hr CAAQS value used in lieu of 3-hr concentration.

SOURCE: Appendix A of this EIR Addendum.

Analysis of the LAX SBO relocation found that trips within the local traffic system to the existing SBO would be rerouted to a location closer to more of the greater Los Angeles area and with direct access to alternative modes of transportation (i.e. the APM and transit). Therefore, the average trip to the badging office would require less VMT for future operational years. The shortened trip length to the SBO would result in an estimated decrease in overall emissions, resulting in a less than significant impact on operational-related regional air quality. Furthermore, SBO trips account for less than one percent of annual airport-related traffic; this change in origin and/or destination trips for such a small fraction of the total emissions in the local area would have a negligible impact on peak local concentrations of criterial pollutants. Additional analysis on the SBO relocation can be found in Section 5.2.3, *Off-Airport Transportation/Traffic*.

Results of the analyses concluded that the proposed refinements would not result in a significant increase in operational emissions, local operational pollutant concentrations impacts, or human health impacts (i.e., incremental cancer risks and incremental chronic and acute non-cancer health hazards). Therefore, no significant change in

operational air quality or human health is anticipated from the proposed Project refinements in this Addendum. Additionally, operations of the proposed refinements would not require additional mitigation measures or changes to the approved mitigation measures.

### 5.2.1.2 DETERMINATION

Determination: *No New Significant Environmental Effects or a Substantial Increase in the Severity of Previously Identified Significant Effects Requiring Preparation of a Subsequent EIR*

#### Conclusions Regarding Applicability of State CEQA Guidelines Section 15162:

The proposed refinements to the approved Project would not substantially increase the severity of previously identified air quality or human health risk impacts, nor would they result in any new significant effects that were not previously identified in the LAX Landside Access Modernization Program EIR. The mitigation measures previously adopted for the approved Project (LAX-AQ-1, LAX-AQ-2, LAX-AQ-3, MM-AQ (LAMP)-1, and MM-GHG (LAMP)-1) would be applied to the construction and operation of the proposed refinements, as applicable, in a manner consistent with those suggested in the EIR. No additional mitigation measures would be required for the proposed refinements. Therefore, the impacts to air quality and human health risk as a result of the proposed refinements to the approved Project would not trigger any of the conditions described in State CEQA Guidelines Section 15162 requiring preparation of a subsequent EIR.

## 5.2.2 CONSTRUCTION NOISE AND VIBRATION

The noise and vibrations analyses for the LAX Landside Access Modernization Program is detailed in Section 4.9 of the LAX Landside Access Modernization Program EIR.

### 5.2.2.1 ANALYSIS

#### **Noise**

Section 4.9.3 of the LAX Landside Access Modernization Program EIR addresses potential noise impacts associated with construction-related traffic and operation of construction equipment during development of the approved Project. As detailed in Section 4.9.3.5 of the LAX Landside Access Modernization Program EIR, the daily transportation of construction workers and the hauling of materials both on and off the Project site would cause increases in noise levels along study area roadways. However, construction-related trucks would be restricted to designated routes ensuring these vehicles utilize the nearby freeways and major arterials to the maximum extent and minimize use of local roadways. Construction traffic noise would be less than significant because noise increases would be less than the 3 dB(A)  $L_{eq(th)}$  threshold.<sup>6</sup> Construction equipment noise levels were also calculated for noise-sensitive receptor locations. As detailed in Section 4.9.3.5 of the LAX Landside Access Modernization Program EIR, construction of several components of the approved Project would result in increases in the ambient exterior noise levels at noise-sensitive land uses over the CEQA 5 dB(A) threshold, including: ITF West; APM MSF; ITF East;

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<sup>6</sup> Equivalent Continuous Noise Level ( $L_{eq}$ ):  $L_{eq}$  is the sound level, expressed in dBA, of a steady sound that has the same A-weighted sound energy as the time-varying sound over the averaging period. Unlike SEL,  $L_{eq}$  is the average sound level for a specified time period (e.g., 24 hours, 8 hours, 1 hour, etc.).  $L_{eq}$  is calculated by integrating the sound energy from all noise events over a given time period and applying a factor for the number of events.  $L_{eq}$  can be expressed for any time interval; for example, the  $L_{eq}$  representing an averaged level over an 8-hour period would be expressed as  $L_{eq}(8)$ .

demolition of the remaining buildings in Manchester Square; CONRAC and associated roadways; and several new roadway segments resulting in a significant impact.

The EIR identified one Standard Control Measure (Mitigation Measure), LAX-N-1 – Construction-Related Noise Control, and one Project-specific Mitigation Measure, MM-N (LAMP)-1 – Noise Curtains, to reduce construction-related noise impacts to nearby noise-sensitive receptors. Implementation of these measures would reduce impacts to a level that would be less than significant, and the Project's incremental contribution to significant construction equipment noise impacts would be less than cumulatively considerable.

Construction for the proposed refinements would result in no change in the number of construction hauling and employee trips. The LAX Landside Access Modernization Program EIR noise analysis utilized the highest Average Daily Trip (ADT) data during the construction period from the Transportation/Traffic analysis, which is not affected by the refinements analyzed in this Addendum. (EIR p. 4.9-6). Consistent with the EIR, construction-related trucks would be restricted to designated routes ensuring these vehicles utilize the nearby freeways and major arterials to the maximum extent and minimize use of local roadways. No significant change in construction-related traffic would result from the proposed refinements.

Because the acquisition and relocation of two residential properties and the Stella Middle Charter Academy/Bright Star Secondary Charter Academy has taken longer than anticipated, resident and school children receptors would be present during initial construction activities such as clearing, site preparation, utility work, APM guideway columns, and possibly foundation work. Thus, the initial construction activities in Manchester Square would result in a change in the proximity of noise-sensitive land uses to the approved Project components during the construction period. An analysis of construction noise levels at occupied residential and school properties in Manchester Square is provided in **Appendix B** of this Addendum. None of the other proposed refinements would result in a change to construction noise, transit noise, or roadway noise.

Potential construction noise was evaluated from a select number of properties that were still occupied in Manchester Square in September 2017. Subsequent to this date, LAWA has acquired and relocated a majority of those parcels, such that only two residential parcels and the Stella Middle Charter Academy/Bright Star Secondary Charter Academy remain occupied. Ambient noise levels in Manchester Square were measured at the property line of those properties that would be located closest to potential construction activities. Parcels 4-19 and 4-28, which are located closer to the end of Runway 6R-24L, are located within the Community Noise Equivalent Level (CNEL) 65 dBA noise contour and have an existing ambient daytime noise level of approximately 67.6 dBA. Parcel 4-47, which is located further from Runway 6R-24L, has an existing daytime ambient noise level of approximately 61.3 dBA. As shown in **Table 7**, for properties with existing daytime ambient noise levels of 67.6 dBA, construction activities occurring at a distance of 50 feet or greater would not cause a significant noise impact. At distances less than 50 feet, noise mitigation would be required, consistent with the Final EIR. For parcels with existing daytime ambient noise levels of 61.3 dBA, construction activities occurring within a distance of 85 feet would require noise mitigation. The potentially affected properties could be located as close to 25 feet to 55 feet from construction activities. Use of best management practices during construction such as standard exhaust mufflers for all equipment would reduce construction noise levels by approximately 7 dBA. With implementation of the adopted mitigation measure MM-N (LAMP)-1, construction noise levels would not increase ambient noise levels by more than 5 dBA and would be less than significant.

TABLE 7: CONSTRUCTION NOISE LEVELS AT VARYING DISTANCES

APPROXIMATE DISTANCE OF CONSTRUCTION ACTIVITIES TO PROPERTY LINE (FEET)	AMBIENT DAYTIME NOISE LEQ (DBA)	CONSTRUCTION NOISE LEVEL WITHOUT MITIGATION (DBA)	CONSTRUCTION PLUS AMBIENT NOISE LEVEL (DBA)	NOISE INCREASE ABOVE AMBIENT (DBA)	CONSTRUCTION NOISE LEVEL WITH MITIGATION (DBA)	NOISE INCREASE ABOVE AMBIENT WITH MITIGATION (DBA)
25	61.3	71.3	71.7	10.4	49.3	0.3
45	67.6	84.4	84.5	16.8	62.4	1.1
50	67.6	70.4	72.2	4.6	N/A	N/A
55	67.6	56.6	67.9	0.3	N/A	N/A
85	61.3	67.0	68.0	6.7	46.0	0.1
515	61.3	53.9	62.0	0.7	N/A	N/A
530	67.6	42.8	67.6	0.0	N/A	N/A

## NOTES:

N/A = Not Applicable

SOURCE: Appendix B of this EIR Addendum.

**Vibration**

Section 4.9.3 of the LAX Landside Access Modernization Program EIR also addresses potential vibration impacts from construction equipment during development of the approved Project. As detailed in Section 4.9.3.5 of the LAX Landside Access Modernization Program EIR, construction vibration is a localized event and is typically only perceptible to a receptor that is close to the vibration source. As shown in Table 4.9.3-8 of the LAX Landside Access Modernization Program EIR, construction of the approved Project would not exceed Federal Transit Authority (FTA) significance thresholds. As such, the EIR concluded that construction equipment vibration impacts associated with the approved Project would be less than significant.

The initial construction activities in Manchester Square would result in a change in the proximity of vibration-sensitive land uses to the approved Project components during the construction period. Potential construction vibration was evaluated from a select number of properties that were still occupied in Manchester Square in September 2017. Subsequent to this date, LAWA has acquired and relocated a majority of those parcels, such that only two residential parcels and the Stella Middle Charter Academy/Bright Star Secondary Charter Academy remain occupied. None of the other proposed refinements would result in a change to construction equipment vibration or vibration due to APM operations.

An analysis of construction vibration levels at occupied residential and school properties in Manchester Square is provided in Appendix B of this Addendum. With the use of the construction equipment in **Table 8**, potential affected properties, located anywhere between 25 feet to 55 feet from construction activities, would experience some attenuation of ground borne vibration. All of the anticipated equipment shown on Table 8, except for pile drivers, would result in vibrations levels below the FTA vibration significance criterion at any distance. The minimum distance at which pile drivers would not exceed the FTA vibration criterion of 0.20 inches per second peak particle velocity (PPV) would be approximately 97 feet. As such, the use of pile drivers will be limited to areas greater than 100 feet from vibration-sensitive land uses while Manchester Square properties are still occupied. Therefore, construction vibration from the proposed refinements would be less than significant.

TABLE 8: CONSTRUCTION VIBRATION LEVELS ESTIMATES

EQUIPMENT	INCHES PER SECOND PPV AT ADJUSTED DISTANCE				THRESHOLD	SIGNIFICANT? (AT 100 FEET)
	25 FEET	50 FEET	75 FEET	100 FEET		
Backhoe	0.040	0.014	0.008	0.005	0.200	No
Concrete Mixer	0.040	0.014	0.008	0.005	0.200	No
Crane	0.057	0.020	0.011	0.007	0.200	No
Grader	0.025	0.003	0.001	0.001	0.200	No
Forklift	0.020	0.007	0.004	0.003	0.200	No
Pile Driver	1.518	0.537	0.292	0.190	0.200	No
Pump	0.014	0.005	0.003	0.002	0.200	No

SOURCE: Office of Planning and Environment, *Federal Transit Administration, Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06 (May 2006), p. 12-9.

### 5.2.2.2 DETERMINATION

**Determination:** *No New Significant Environmental Effects or a Substantial Increase in the Severity of Previously Identified Significant Effects Requiring Preparation of a Subsequent EIR*

#### Conclusion Regarding Applicability of State CEQA Guidelines Section 15162:

The proposed refinements to the approved Project would not substantially increase the severity of previously identified noise or vibration impacts, nor would they result in any new significant effects that were not previously identified in the LAX Landside Access Modernization Program EIR with incorporation of Standard Control Measure (Mitigation Measure) LAX-N-1 and Mitigation Measure MM-N (LAMP)-1. Additionally, the use of pile drivers would be limited to areas greater than 100 feet from any vibration-sensitive land use while properties within Manchester Square are occupied. The incremental contribution to significant construction equipment noise impacts from the proposed refinements would be less than cumulatively considerable because construction activities would not exceed ambient exterior noise levels by 5 dB(A) at a noise-sensitive use. Therefore, the impacts from noise and vibration as a result of the proposed refinements to the approved Project would not trigger any of the conditions described in State CEQA Guidelines Section 15162 requiring the preparation of a subsequent EIR.

### 5.2.3 OFF-AIRPORT TRANSPORTATION/TRAFFIC

The off-airport traffic analysis for the LAX Landside Access Modernization Program is detailed in Section 4.12.2 of the LAX Landside Access Modernization Program EIR.

#### 5.2.3.1 ANALYSIS

Section 4.12.2 of the LAX Landside Access Modernization Program EIR provides the analysis of the changes in traffic conditions that would result from the ground access system improvements as a part of the approved Project. The analysis identified potential traffic impacts to a traffic analysis study area<sup>7</sup> for traffic conditions in 2024 With and Without the approved Project, and in 2035 With and Without the approved Project. Impact significance was

<sup>7</sup> The traffic analysis study area from the LAX Landside Access Modernization Program EIR includes the Airport and an immediate surrounding area of approximately 75 square miles, with 183 intersections selected for analysis.

determined using significance thresholds (depending on jurisdiction of intersection and corridor location) specifying reductions in level of service (LOS) of the With Project scenarios when compared to the Without Project scenarios. As shown in Tables 4.12.2-18 of the LAX Landside Access Modernization Program EIR, under the 2024 Future With Project scenario, significant (and cumulatively considerable) impacts would occur at one intersection during the a.m. peak hour; at four intersections during the p.m. peak hour; at one intersection during both the a.m. and p.m. peak hour; and at two intersections during the mid-day peak hour. As shown in Table 4.12.2-20 of the LAX Landside Access Modernization Program EIR, under the 2035 Future With Project scenario, significant (and cumulatively considerable) impacts would occur at one intersection during the a.m. peak hour; at five intersections during the p.m. peak hour; at two intersections during both the a.m. and p.m. peak hour; and at four intersections during the mid-day peak hour.

The EIR identified 13 Project-specific Mitigation Measures to address off-airport traffic impacts, including:

- Implementation of a Transportation Demand Management Plan
  - MM-ST (LAMP)-6. Transportation Demand Management (TDM) Program.
- Intelligent System Improvements
  - MM-ST (LAMP)-7. Signal System Corridor Improvements – Intelligent Transportation System (ITS), City of Inglewood.
  - MM-ST (LAMP)-8. Signal System Corridor Improvements – Closed Circuit TV (CCTV) Camera and Changeable Message Signs (CMS) Installation
- Intersection Improvements
  - MM-ST (LAMP)-9. Modify the Intersection of Airport Boulevard and Century Boulevard.
  - MM-ST (LAMP)-10. Modify the Intersection of Arbor Vitae Street and Concourse Way-Isis Avenue.
  - MM-ST (LAMP)-11. Modify the Intersection of La Cienega Boulevard and Arbor Vitae Street.
  - MM-ST (LAMP)-12. Modify the Intersection of La Cienega Boulevard and Century Boulevard.
  - MM-ST (LAMP)-13. Modify the Intersection of La Cienega Boulevard and Florence Avenue.
  - MM-ST (LAMP)-14. Modify the Intersection of Inglewood Avenue and Century Boulevard.
  - MM-ST (LAMP)-15. Modify the Intersection of I-105 Freeway Ramps (east of Aviation Boulevard) and Imperial Highway.
  - MM-ST (LAMP)-16. Modify the Intersection of La Cienega Boulevard and Manchester Boulevard.
  - MM-ST (LAMP)-17. Modify the Intersection of Sepulveda Boulevard and Century Boulevard.
  - MM-ST (LAMP)-18. Modify the Intersection of La Brea Avenue/Hawthorne Boulevard and Century Boulevard.
- Fair-Share Contributions to Highway Improvements

Implementation of these Project-specific mitigation measures would fully mitigate all Project-related intersection impacts under the 2024 With Project scenario to less than significant levels. Incorporation of the mitigation measures in the 2035 Future With Project condition would result in seven intersections with less than significant impacts and one intersection (La Cienega Boulevard and Arbor Vitae Street) with a significant unavoidable impact



which would also be cumulatively considerable. The EIR concluded that no feasible further mitigation measures within LAWA's control are available to reduce this impact to a less than significant level. Additionally, under the 2035 With Project conditions, one freeway segment, the I-405 at La Cienega Boulevard (northbound), would be significantly impacted and would also be a cumulatively considerable impact. Implementation of the fair share contribution to I-405 mobility improvements would not fully mitigate the significant impact; impacts to this freeway segment would be significant and unavoidable.

One of the proposed refinements to the approved Project was recognized as having potential to affect off-Airport traffic: relocation of the SBO. Operations of the proposed LAX SBO would relocate 46 Airport-employees within the local traffic system from the existing SBO on the west side of the Airport to a new SBO at the ITF West. Under existing conditions the SBO contains 46 employees. As outlined in Appendix C, Table 7, employment at the existing SBO is anticipated to increase regardless of the proposed refinements. More detailed information on the traffic analysis related to the SBO relocation are provided in **Appendix C**. None of the other proposed refinements would result in a significant change to the off-Airport surface transportation network.

The traffic analysis for the relocation of the SBO evaluates the potential effects on the street system produced by the approved Project and relocated SBO, including analysis of peak hour traffic volumes and intersection LOS for a focused study area of 30 intersections with the potential to be impacted (within the traffic analysis study area described in the EIR). Relocation of the SBO would not result in additional trips generated in the traffic analysis study area, but a shifting of trips within the traffic analysis study area.

Under the 2024 Future With Project and SBO relocation scenario, traffic impacts would be the same as those reported in the EIR. There would be significant (and cumulatively considerable) impacts at one intersection during the a.m. peak hour; at three intersections during the p.m. peak hour; at one intersection during both the a.m. and p.m. peak hour; and at two intersections during the mid-day peak hour. These intersection impacts are the same as the previous impacts identified in the LAX Landside Access Modernization Program EIR. Through incorporation of the EIR Mitigation Measures MM-ST (LAMP)-6 through MM-ST (LAMP)-18, impacts to these intersections for 2024 conditions including the approved Project and relocated SBO would be fully mitigated, consistent with the findings from the EIR.

Under the 2035 Future With Project scenario, traffic impacts would be the same as those reported in the EIR. There would be significant (and cumulatively considerable) impacts at one intersection during the a.m. peak hour; at two intersections during the p.m. peak hour; at two intersections during both the a.m. and p.m. peak hour; and at three intersections during the mid-day peak hour. These intersection impacts are the same as the previous impacts identified in the LAX Landside Access Modernization Program EIR; the Project refinements do not create any new intersection impacts or increase the severity of those impacts. Incorporation of the EIR Mitigation Measures MM-ST (LAMP)-6 through MM-ST (LAMP)-18 would still fully mitigate the impacts at two of the three intersections that would be significantly impacted by the approved Project with the Project refinements. A residual impact would remain at the intersection of La Cienega Boulevard and Arbor Vitae Street during the a.m. and p.m. peak hours, consistent with the residual impacts from the EIR.

As documented in Appendix C, the relocation of the SBO would have no additional significant intersection impacts beyond those reported in the EIR for the 2024 and 2035 With Project traffic conditions as compared to the 2024 and 2035 Without Project traffic conditions. Therefore, no significant change in off-Airport transportation/traffic impacts are anticipated from the proposed Project refinements in this Addendum.

### 5.2.3.2 DETERMINATION

Determination: *No New Significant Environmental Effects or a Substantial Increase in the Severity of Previously Identified Significant Effects Preparation of a Subsequent EIR*

Conclusions Regarding Applicability of State CEQA Guidelines Section 15162:

The proposed refinements to the approved Project would not substantially increase the severity of previously identified off-Airport traffic impacts, nor would they result in any new significant effects that were not previously identified in the LAX Landside Access Modernization Program EIR. The mitigation measures previously adopted for the approved Project (MM-ST (LAMP)-6 through MM-ST (LAMP)-18) would be applied to the proposed refinements, as applicable, in a manner consistent with those suggested in the EIR. No additional mitigation measures would be required for the proposed refinements. Therefore, the impacts to off-Airport transportation/traffic as a result of the proposed Project refinements would not trigger any of the conditions described in State CEQA Guidelines Section 15162 requiring preparation of a subsequent EIR.

## 6. CUMULATIVE IMPACTS

As described above in Section 5, as with the approved Project analyzed in the LAX Landside Access Modernization Program EIR, the proposed refinements to the approved Project would not result in any new significant or more severe impacts related to: aesthetics (shading, light and glare); agricultural and forestry resources; biological resources; cultural resources (archaeological resources, paleontological resources, human remains); greenhouse gas emissions; geology/soils; hazards and hazardous materials; human health; hydrology, water quality, and groundwater; land use and planning; mineral resources; noise; population and housing; public services (fire protection and law enforcement); recreation; and utilities and service systems.

Additionally, there were several environmental topics/resource areas that were found to have significant and unavoidable impacts in the certified Final EIR but would not be affected by the proposed refinements, including: aesthetics (visual character); cultural resources (historic resources); greenhouse gas emissions (plan/policy consistency); transportation/traffic; and public services (schools).

The LAX Landside Access Modernization Program EIR determined that the approved Project would result in unmitigable cumulatively considerable impacts for air quality and transportation/traffic before mitigation. The analyses below provide additional information related to cumulative impacts in addition to the cumulative analysis provided in Section 5.

### 6.1 AIR QUALITY

The LAX Landside Access Modernization Program EIR determined that construction of the approved Project would be cumulatively considerable for VOC, NO<sub>x</sub>, and PM<sub>10</sub>. Additionally, operational contributions to air quality impacts would be cumulatively considerable for all analyzed criteria air pollutants except SO<sub>2</sub>. Analysis provided in Appendix A showed that the addition of emissions associated with proposed Project refinements would not change any significance determination presented in the EIR regarding regional or local operations emissions. Therefore, cumulative air quality impacts identified in the EIR would remain unchanged. As discussed in Section 4.2.1.6.3 of

the LAX Landside Access Modernization Program EIR, project-related cumulative impacts are based on the regional significance of a project's emissions. Project-related significance did not change relative to regional emissions; therefore, the Project's cumulative impacts including the proposed refinements would not differ from those presented in the LAX Landside Access Modernization Program EIR. The mitigation measures recommended in the EIR would be applied to the construction and operation of the proposed refinements in a manner consistent with those suggested in the EIR.

## **6.2 CONSTRUCTION NOISE AND VIBRATION**

As discussed in Section 4.9.3.8 of the LAX Landside Access Modernization Program EIR, implementation of mitigation measures would reduce construction equipment noise to a level that would be less than significant, and the Project's incremental contribution to significant construction equipment noise impacts would be less than cumulatively considerable. While the potential expedited construction in Manchester Square would have the potential to result in a change in the proximity of noise-sensitive land uses to the approved Project components during the construction period, these potential impacts would be mitigated through measures stipulated in the LAX Landside Access Modernization Program EIR. Implementation of Standard Control Measure (Mitigation Measure) LAX-N-1 and Mitigation Measure MM-N (LAMP)-1 would reduce significant Project-related construction equipment noise impacts to a level that would be less than significant, and the Project's incremental contribution to significant construction equipment noise impacts would be less than cumulatively considerable, because construction activities would not exceed ambient exterior noise levels by 5 dB(A) at a noise-sensitive use.

## **6.3 OFF-AIRPORT TRANSPORTATION/TRAFFIC**

The off-Airport traffic analysis included in the LAX Landside Access Modernization Program EIR identified one intersection for the 2035 With Project condition as having a significant and unavoidable impact which would also be cumulatively considerable. Analysis found that there are no feasible further mitigation measures within LAWA's control to reduce this impact to a less than significant level. As discussed in Appendix C, none of the proposed refinements, including relocation of the SBO, would affect the significance determinations in the EIR; there would be no additional significant intersection impacts beyond those reported in the LAX Landside Access Modernization Program EIR. None of the proposed Project refinements would substantially affect the cumulative traffic impacts that are addressed in the certified LAX Landside Access Modernization Program EIR.

## **6.4 ANALYSIS OF THE PROPOSED CHANGE IN THE PROJECT**

The nature and characteristics of the proposed refinements to the approved Project do not represent a substantial change to the overall approved LAX Landside Access Modernization Program and, based on the discussions above, implementation of the refinements would not substantially affect the analysis or conclusions regarding cumulative impacts that are addressed in the certified LAX Landside Access Modernization Program EIR.

## 7. ASSESSMENT OF CHANGES IN IMPACTS

Section 15164 of the State CEQA Guidelines identifies the circumstances that permit the preparation of an addendum. The State CEQA Guidelines state that, "The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred." The State CEQA Guidelines also require that a brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR, the lead agency's findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence.

An explanation of why none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR have occurred is provided below.

- (1) *Substantial changes are proposed in the project which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.*

The proposed refinements analyzed in this Addendum do not constitute substantial changes to the overall approved LAX Landside Access Modernization Program that would involve new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

- (2) *Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.*

There have not been any significant changes with respect to the circumstances under which the LAX Landside Access Modernization Program, including the proposed refinements, is undertaken, that would result in a new significant environmental impact or a substantial increase in the severity of previously identified significant effects, including changes in City regulations related to the Airport property or changes in the federal or State rules related to Airport operations.

- (3) *New information of substantial importance, which was not known and could not have been known, with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:*

- (A) *The project will have one or more significant effects not discussed in the previous EIR or Negative Declaration.*

- (B) *Significant effects previously examined will be substantially more severe than shown in the previous EIR.*

- (C) *Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative.*

There is no new information of substantial importance, which was not known and could not have been known, with the exercise of reasonable diligence at the time the previous EIR was certified that shows that the LAX Landside Access Modernization Program, including the proposed refinements, would result in a new significant environmental impact or a substantial increase in the

severity of previously identified significant effects, or that mitigation measures previously found infeasible would in fact be feasible. Further, all mitigation measures and Project Design Features identified in the LAX Landside Access Modernization Program EIR's Mitigation Monitoring and Reporting Program remain applicable.

*(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*

No additional mitigation measures or alternatives have been identified that would substantially reduce the significant impacts identified in the LAX Landside Access Modernization Program EIR. Previously identified mitigation measures and Project Design Features contained in the LAX Landside Access Modernization Program EIR's Mitigation Monitoring and Reporting Program remain applicable.

## 8. CONCLUSION

Based on this analysis and the information contained in this Addendum, the design, layout, and implementation of the proposed Project refinements would not result in a new significant impact or substantial increase in the severity of previously identified impacts in the LAX Landside Access Modernization Program EIR. There are no substantial changes to the circumstances under which the LAX Landside Access Modernization Program will be undertaken, and no new information of substantial importance which was not known and could not have been known when the LAX Landside Access Modernization Program EIR was certified has since been identified. Therefore, substantial evidence, including the analysis and information contained in this Addendum, supports the conclusion that none of the conditions described in State CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR have occurred.



## APPENDIX A

# Air Quality and Human Health Risk

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## Memorandum

*To: Stephen Culberson, Ricondo & Associates*

*From: John Pehrson, PE, CDM Smith Inc.*

*Date: February 16, 2018*

*Subject: Draft Air Quality and Health Risk Technical Memorandum  
Landside Access Modernization Program EIR Addendum*

This technical memorandum analyzes the potential changes to air quality and human health risk impacts associated with the introduction of additional information since the publication of the Los Angeles International Airport (LAX or Airport) Landside Access Modernization Program (LAMP) Environmental Impact Report (EIR). To date, the LAMP EIR consists of the Draft EIR published in September 2016 and the Final EIR published in February 2017. No changes to any impact determination presented in the LAMP EIR have been identified as a result of this information. Additional information with the potential to impact air quality and/or human health risk are as follows:

- The need for backup generators for the Automated People Mover (APM) has been identified. Potential air quality and human health risk impacts associated with the weekly testing and maintenance of these generator engines are addressed quantitatively in this memorandum.
- Residencies and schools located in Manchester Square have been identified which may not be vacated during the construction of the proposed Project up through July 2019. Potential human health risk impacts are addressed quantitatively in this memorandum.
- The need to relocate the LAX Badging Office from the west side of the airport to the east side of the airport has been identified. Potential air quality and traffic impacts are addressed qualitatively in this memorandum.

The air quality impact analysis for the APM backup generator engines includes the development of an emission inventory (i.e., the quantities of specific pollutants, typically expressed in pounds per day or tons per year) based on emissions modeling, and an assessment of localized concentrations of air pollutants (i.e., the concentrations of specific pollutants within ambient air, typically expressed in terms of micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )) based on dispersion modeling. The criteria pollutant emission inventory and localized concentrations were developed using standard

industry software/models and federal, State, and locally approved methodologies. Results of the emission inventory were added to the operational emission inventory presented in the LAMP EIR and compared to daily emissions thresholds established by the South Coast Air Quality Management District (SCAQMD) for the South Coast Air Basin (Basin).<sup>1</sup> Ambient concentration increments were modeled and added to the ambient concentrations presented in the LAMP EIR and compared to SCAQMD concentration thresholds.

The human health risk impact analysis for the APM backup generator engines includes a screening analysis of potential cancer impacts associated with weekly testing of the emergency generators. Localized concentrations of diesel particulate matter (DPM), the primary toxic air contaminant associated with cancer risk identified in the Draft EIR, were multiplied by California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment (OEHHA) cancer slope factors and averaged over each receptor's exposure period to determine total risk. This incremental risk (cancer risk is typically expressed in units of potential new cases of cancer per one million inhabitants) was added to the incremental risk presented in the LAMP EIR and compared to the risk thresholds based on SCAQMD guidance.

The human health risk impact analysis for Manchester Square includes a complete analysis of cancer risk, chronic non-cancer health hazards, and acute non-cancer health hazards for all remaining residential and school addresses in Manchester Square which were not previously analyzed in the LAMP EIR. Dispersion modeling was used to estimate total volatile organic compound (VOC) and particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM<sub>10</sub>) concentrations at each receptor. Then, individual organic or particulate TAC concentrations were calculated using emissions profiles to speciate total VOC and PM<sub>10</sub> estimates into individual elements and compounds (specie). Project-related concentrations for TAC from construction and operational sources were estimated using an air dispersion model (AERMOD Version 15181) with model options for 1-hour maximum, 8-hour maximum, and annual average concentrations selected. These concentrations were used to estimate localized acute, chronic, and cancer risk using equations and methodology developed by the California Air Resources Board (CARB) for the software human health risk software package, Hot Spots Analysis and Reporting Program Version 2 (HARP2). This risk was compared to risk thresholds based on SCAQMD guidance.

The air quality and traffic analysis for the LAX badging office relocation includes a qualitative discussion of traffic magnitudes and travel distances for ground transportation associated with visitors to the LAX badging office. A comparison of relative traffic magnitudes is presented and compared with emissions and traffic levels reported in the LAMP EIR.

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<sup>1</sup> South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, March 2015, Available: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>, accessed August 23, 2016.



## Methodology

The air quality and human health risk analyses presented in this memorandum are consistent with the SCAQMD guidance and the methodology presented in the LAMP EIR.

### APM Backup Generators

#### Emission Modeling

In the context of the California Environmental Quality Act (CEQA), operational emissions provide an indication of the changes in emissions that completing and operating the proposed Project would have when comparing operational emissions without the proposed Project.

The backup generator engines associated with the APM system are stationary sources. A total of four backup generators have been assumed for this evaluation. Each generator was assumed to be rated at 3,000 kilowatts (Kw), and would be operated for no more than 50 hours per year (each) for the purposes of testing and maintenance pursuant to SCAQMD in Rule 1470(c)(2)(B)(i). Actual make and model of the backup generator sets have not yet been established; therefore, emissions were estimated using U.S. Environmental Protection Agency (USEPA) AP-42 emission factors for stationary compression-ignition engines.<sup>2</sup> Although the generator engines would likely operate at less than 100% load while testing, for the purposes of this assessment, 100% load was assumed.

#### Air Dispersion Modeling

Air dispersion modeling was used to estimate the localized effects from the daily emissions from the backup generators. The localized effects were evaluated at the same nearby sensitive receptor locations as evaluated in the LAMP EIR. The USEPA and SCAQMD-approved dispersion model, AMS/EPA Regulatory Model (AERMOD), was used to model the air quality impacts of carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), PM<sub>10</sub>, and particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (PM<sub>2.5</sub>) emissions. AERMOD can estimate the air quality impacts of single or multiple point, area, or volume sources using historical meteorological conditions. Point sources are representative of an exhaust stack on a stationary source of emissions and are used to model the backup generator engines. Model parameters for the engines include an exit gas temperature of 525 degrees Celsius, a stack diameter of 0.44 meters and a gas exit velocity of 78.8 meters per second. These values are typical parameters of industry standard diesel compression-ignition engines of comparable power rating to the APM backup generator engines. Model inputs were developed following the SCAQMD's Final Localized

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<sup>2</sup> U.S. Environmental Protection Agency, 1995. *Compilation of Air Pollutant Emission Factors (AP-42), Volume I, Stationary Point and Area Sources*, as updated on <https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emission-factors>, accessed February 13, 2018.

Mr. Stephen Culberson  
February 16, 2018  
Page 4

Significance Threshold (LST) Methodology<sup>3</sup> and its Modeling Guidance for AERMOD.<sup>4</sup> To be conservative, this analysis did not calculate PM<sub>10</sub> deposition, which would otherwise reduce the ambient modeled concentration of PM<sub>10</sub>.

For the backup generator engines, dispersion modeling assumed continuous operation between the hours of 8 AM and 5 PM, Monday through Friday. Although actual engine testing and maintenance time would be limited to approximately one (1) hour per week, in compliance with SCAQMD Rule 1470, continuous modeling ensured that the maximum short-term averaging period concentrations of criteria pollutant were captured in the analysis. One backup generator was assumed to be at each of the APM power substations and one at the APM maintenance facility, with the locations as described in the LAMP EIR.

Receptor locations used in dispersion modeling were unchanged from those detailed in the LAMP EIR.

Meteorological data used in dispersion modeling were unchanged from those detailed in the LAMP EIR.

The Ozone limiting methodology for modeling the conversion of oxides of nitrogen (NO<sub>x</sub>) to NO<sub>2</sub> was unchanged from that described in the LAMP EIR.

Existing climatological conditions, the regulatory setting, and existing ambient air conditions were unchanged from those detailed in the LAMP EIR.

Background concentrations were unchanged from those used in the LAMP EIR.

### **Thresholds of Significance**

The SCAQMD has developed CEQA operational-related thresholds of significance for air pollutant emissions from projects proposed in the Basin. Operational emission thresholds are summarized in **Table 1**. In accordance with the SCAQMD *CEQA Air Quality Handbook*, a significant air quality impact would occur if the estimated incremental increase in operations-related emissions attributable to the proposed Project would be greater than the daily emission thresholds.

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<sup>3</sup> South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, revised July 2008, Available: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2>, accessed July 7, 2016.

<sup>4</sup> South Coast Air Quality Management District, SCAQMD Modeling Guidance for AERMOD, Available: <http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/modeling-guidance>, accessed July 7, 2016.

**Table 1 SCAQMD CEQA Thresholds of Significance for Operational Air Pollutant Emissions in the South Coast Air Basin**

Pollutant	Mass Emission Thresholds lbs/day
<i>Carbon monoxide, CO</i>	550
<i>Volatile organic compounds, VOC<sup>[1]</sup></i>	55
<i>Nitrogen oxides, NO<sub>x</sub></i>	55
<i>Sulfur dioxide, SO<sub>2</sub></i>	150
<i>Respirable particulate matter, PM<sub>10</sub></i>	150
<i>Fine particulate matter, PM<sub>2.5</sub></i>	55
<i>Lead, Pb<sup>[2]</sup></i>	3

Source: South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, March 2015, Available: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>, accessed November 12, 2015.

Notes:

- [1] The emissions of VOCs and reactive organic gases are essentially the same for the combustion emission sources that are considered in this EIR. This EIR will typically refer to organic emissions as VOCs.
- [2] The only source of lead emissions from LAX is from aviation gasoline (AvGas) associated with piston-engine general aviation aircraft; however, due to the low number of piston-engines general aviation aircraft operations at LAX, AvGas quantities are low and emissions from these sources would not be materially affected by the Project

Prepared By: CDM Smith, February 2018.

The scenarios used for determination of significance when compared with the SCAQMD thresholds were unchanged from the LAMP EIR and are as follows. The potential future-related development scenarios were not analyzed.

- 2015 with Project to 2015 Existing Conditions
- 2024 Future with Project to 2025 Future without Project
- 2035 Future with Project to 2035 Future without Project

The SCAQMD has also developed construction-related thresholds of significance<sup>5</sup> for air pollutant concentration impacts from projects proposed in the Basin. These thresholds are summarized in **Table 2**. In accordance with the SCAQMD *CEQA Air Quality Handbook*, a significant air quality impact would occur if the estimated incremental ambient concentrations due to operations-related emissions would be greater than the concentration thresholds. The SCAQMD's recommended thresholds for the evaluation of local air quality impacts are based on the difference between the maximum monitored ambient pollutant concentrations in the area and the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS). Therefore, the

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<sup>5</sup> South Coast Air Quality Management District, *CEQA Air Quality Handbook*, April 1993; as updated by *SCAQMD Air Quality Significance Thresholds*, March 2015, Available: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>.

thresholds depend upon the concentrations of pollutants monitored locally with respect to a project site. For pollutants that already exceed the CAAQS or NAAQS (e.g., PM<sub>10</sub> and PM<sub>2.5</sub>), the thresholds are based on SCAQMD Rule 403 for construction and Rule 1303, Table A-2, for operations as described in the *Final Localized Significance Threshold Methodology*.<sup>6</sup>

**Table 2 SCAQMD CEQA Thresholds of Significance for Operational Air Pollutant Concentrations in the South Coast Air Basin**

Project-Related Concentration Thresholds			
Pollutant	Averaging Period	Operations	Project Only or Total
PM <sub>10</sub>	Annual <sup>[1]</sup>	1.0 µg/m <sup>3</sup>	Project Only
PM <sub>10</sub>	24-hour <sup>[1]</sup>	2.5 µg/m <sup>3</sup>	Project Only
PM <sub>2.5</sub>	24-hour <sup>[1]</sup>	2.5 µg/m <sup>3</sup>	Project Only
CO	1-hour <sup>[2]</sup>	20 ppm (23 mg/m <sup>3</sup> )	Total incl. Background
CO	8-hour	9.0 ppm (10 mg/m <sup>3</sup> )	Total incl. Background
NO <sub>2</sub>	1-hour (State)	0.18 ppm (339 µg/m <sup>3</sup> )	Total incl. Background
NO <sub>2</sub>	1-hour (Federal) <sup>[3]</sup>	0.100 ppm (188 µg/m <sup>3</sup> )	Total incl. Background
NO <sub>2</sub>	Annual (State) <sup>[2]</sup>	0.030 ppm (57 µg/m <sup>3</sup> )	Total incl. Background
SO <sub>2</sub>	1-hour (State)	0.25 ppm (655 µg/m <sup>3</sup> )	Total incl. Background
SO <sub>2</sub>	1-hour (Federal) <sup>[4]</sup>	0.075 ppm (655 µg/m <sup>3</sup> )	Total incl. Background
SO <sub>2</sub>	24-hour	0.04 ppm (655 µg/m <sup>3</sup> )	Total incl. Background

Source: SCAQMD, 1993, 2011; USEPA, 2010a (Primary National Ambient Air Quality Standards for Nitrogen Dioxide, Final Rule, Federal Register Vol. 75, No. 6474, February 9, 2010) and 2010b (Primary National Ambient Air Quality Standard for Sulfur Dioxide, Final Rule, Federal Register Vol. 75, No. 35520, June 22, 2010).

Notes:

- [1] The concentration thresholds for PM<sub>10</sub> and PM<sub>2.5</sub> have been developed by SCAQMD for construction or operational impacts associated with the proposed project.
- [2] The concentration threshold for 1-hour CO and annual NO<sub>2</sub> is the CAAQS, which is more stringent than the NAAQS for these pollutants and averaging periods.
- [3] To evaluate impacts of the proposed Project to ambient 1-hour NO<sub>2</sub> levels, the analysis includes both the current SCAQMD 1-hour State NO<sub>2</sub> threshold and the more stringent revised 1-hour federal ambient air quality standard of 0.100 ppm (188 µg/m<sup>3</sup>). To attain the federal standard, the 3-year average of 98th percentile of the daily maximum 1-hour average at a receptor must not exceed 0.100 ppm.
- [4] To attain the SO<sub>2</sub> federal 1-hour standard, the 3-year average of the 99th percentile of the daily maximum 1-hour averages at a receptor must not exceed 0.075 ppm

Prepared By: CDM Smith, February 2018.

The methodology requires that the increase in ambient air concentrations, determined using a computer-based air quality dispersion model, be compared to local significance thresholds for PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub>, SO<sub>2</sub> and CO. The thresholds for NO<sub>2</sub>, SO<sub>2</sub>, and CO represent the allowable increase in concentrations above background levels in the vicinity of the Project site that would not cause or

<sup>6</sup> South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, as revised July 2008.

contribute to an exceedance of the relevant ambient air quality standards. The significance thresholds for PM<sub>10</sub> and PM<sub>2.5</sub> are intended to constrain emissions so as to aid in the progress toward attainment and maintenance of the ambient air quality standards.<sup>7</sup> For the purposes of this analysis, the local operational emissions resulting from development of the proposed Project are assessed with respect to the thresholds in Table 2 using dispersion modeling (i.e., AERMOD). Details regarding the thresholds associated with each pollutant are provided in the LAMP EIR.

The scenarios used for determination of significance when compared with the SCAQMD thresholds were unchanged from the LAMP EIR and are as follows. The potential future-related development scenarios were not analyzed.

- 2024 Future with Project to 2024 Future without Project
- 2035 Future with Project to 2035 Future without Project

### **Cancer Screening**

As discussed in the LAMP EIR (Section 4.2.2.4.1, subsection Construction - Cancer Risks), DPM would consist of upwards of 90 percent of all cancer risk across all receptor types; as a result, for the purposes of addressing any increase to the incremental change in cancer risk associated with the operation of the diesel backup generators, only risk associated with diesel exhaust was considered.

Cancer slope factors, developed by CalEPA OEHHA, discussed in greater detail in the LAMP EIR (Section 4.2.2.1.4), have been developed to estimate risk associated with exposure to concentrations of Toxic Air Contaminants (TACs). This risk, averaged across a receptor's exposure period, provides an estimate of total cancer risk.

Cancer risk was calculated for the same scenarios as air quality: 2024 Future with Project to 2024 Future without Project; and 2035 Future with Project to 2035 Future without Project. For each scenario, four exposure periods were evaluated which were representative of the Adult Resident, Child Resident, School Child, and Adult Worker receptor types.

For the purposes of this screening assessment, receptor exposure periods were determined based on the receptor type, described in in the LAMP EIR (Section 4.2.2.1.4, subsection Risk Characterization). It was assumed that for each year of operations, beginning in 2024, each receptor would be exposed to the full risk associated with weekly testing of the backup generators. The addition of this risk to the incremental risk presented in the LAMP EIR would equal the total risk of the LAMP-related activity, including for the testing of the backup generator engines.

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<sup>7</sup> South Coast Air Quality Management District, Final - Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, October 2006, Available: [http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-\(pm\)-2.5-significance-thresholds-and-calculation-methodology/final\\_pm2\\_5methodology.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf?sfvrsn=2), accessed November 12, 2015.

## **Manchester Square**

### **Human Health Risk**

This human health risk assessment is based on estimates for TAC emissions associated with the proposed Project from the period of September 2017 through July 2019 for residential, worker, and school child receptors located in Manchester Square. Because this period only covers project construction, and baseline construction emissions are zero, the incremental exposure associated with the proposed Project during this period is equal to the total exposure associated with average construction emissions.

Receptors were assumed to be continuously exposed to TACs from construction throughout the two-year construction period, after which zero exposure was assumed, as receptors would be moved to a location outside of the Manchester Square study area. Average annual concentrations of TACs were used to estimate cancer risk and chronic non-cancer health hazards, and 1-hour and 8-hour concentrations of TACs were used to estimate acute non-cancer health hazards.

TACs of concern for LAX construction activities were selected as described previously in the LAMP EIR (Appendix F.2).

Human health risk impacts were evaluated for exposure periods representative of the adult resident, child resident, school child, and adult worker receptor types. Receptor exposure periods were determined based on the receptor type, as detailed in the LAMP EIR.

The only exposure pathway with a substantial effect on health risks, as explained in the LAMP EIR, is the inhalation exposure pathway. No other exposure pathways were analyzed in this analysis.

Concentrations of TACs were estimated by grid point for each year of construction, 2017 through 2019, using the USEPA approved AERMOD air dispersion model. Methodology for air dispersion modeling did not differ from that described in the LAMP EIR. As discussed therein, this approach conservatively assumes 24-hour-per-day, 365-day-per-year exposure for any given receptor. Due to an individual recreating, shopping, or traveling for any reason outside of the study area throughout the course of project construction, actual exposure would be lower than that estimated through this approach.

These concentrations were used to estimate health risk impacts using equations and calculations from the Hot Spots Analysis and Reporting Program Version 2 (HARP2) developed by the Air Resources Board, for calculating and presenting HRA results for the Hot Spots Program. These equations and calculations were built into an Excel spreadsheet to allow for customization of calculations to address Project-specific criteria and for ease of conducting multiple iterations of calculations.

The locations of grid points were selected to be representative of residences near Manchester Square and the charter school property. Receptor were centered on residences and the school, with four additional receptors placed at each corner of the school's property boundary.

Exposure parameters vary by receptor type and age group and remain unchanged from those used in the LAMP EIR.

## **LAX Badging Office Relocation**

### **Traffic Volume**

Concurrent with the proposed Project, the LAX Badging Office would be relocated from its current location on the west side of the airport to a new location east of the airport. To determine the potential impacts that this move could have on regional and local air quality, relative traffic volumes were considered.

### **Regional Air Quality**

Routes to the new and existing badging office were considered and relative emissions associated with those routes were compared. Emission rates for automobiles for the proposed Project were estimated using CARB's EMFAC2014 emission factor model and are given in units of grams per mile. Thus, emissions associated with shorter routes would be lower than emissions associated with longer routes. Where routes to the new badging office were determined to be shorter, emissions were estimated to be lower and no impact to regional air quality was assumed.

### **Local Air Quality**

With respect to local air quality, the shift in location of the daily traffic associated with the badging office was compared against the total daily volume of traffic associated with the airport. Where the percent of total volume was sufficiently low, no substantial change to local concentrations of pollutants and no impact to local air quality was assumed.

## **Impact Analysis**

### **APM Backup Generator Engines**

The details of the emission inventories, dispersion modeling, and health risk screening are included in **Attachment A** of this Memorandum. The results are summarized below.

### **Regional Operational Emissions**

As described in Section 4.2.1.6.1 of the Draft EIR, the first full year of analyzed operations is 2024. The analysis of regional operational emissions presented in the LAMP Draft EIR includes vehicular emissions, as would be influenced by implementation of the proposed Project, as well as facility space and water heating (natural gas combustion), and secondary emissions from electrical demand associated with the proposed Project. As shown in **Tables 3, 4 and 5** below, with the addition of emissions associated with testing of the backup generators, there would be no changes to any significance determination presented in the LAMP Draft EIR.

**Table 3 Operational Emissions – 2015 With Project and Backup Generators Compared to 2015 Existing Conditions**

<i>Pollutant</i>	<i>Incremental Change (From Draft EIR)</i>		<i>Backup Generators</i>		<i>Total Incremental Change</i>		<i>Threshold</i>	<i>Significant?</i>
	<i>(TPY)</i>	<i>(lbs/day)</i>	<i>(TPY)</i>	<i>(lbs/day)<sup>[1]</sup></i>	<i>(TPY)</i>	<i>(lbs/day)</i>	<i>(LBS/DAY)</i>	
<i>NO<sub>x</sub></i>	-54	-296	1.9	19	-52	-244	55	No
<i>VOC</i>	-5	-26	- <sup>[2]</sup>	- <sup>[2]</sup>	-5	-26	55	No
<i>PM<sub>10</sub></i>	-8	-45	0.1	1	-8	-44	150	No
<i>PM<sub>2.5</sub></i>	-4	-21	0.1	1	-4	-20	55	No
<i>SO<sub>2</sub></i>	0	-1	0.2	2	0	1	150	No
<i>CO</i>	-61	-334	0.9	9	-60	-325	550	No

Source: Appendix F of the Draft EIR, Appendix A of this memorandum.

<sup>[1]</sup> Assumes that generator testing occurs on the peak day of emissions and that generators are tested on different days.

<sup>[2]</sup> USEPA AP-42 does not establish VOC emission rates for stationary diesel compression-ignition engines.

Prepared By CDM Smith, February 2018.

**Table 4 Operational Emissions – 2024 Future With Project and Backup Generators Compared to 2024 Future Without Project**

<i>Pollutant</i>	<i>Incremental Change (From Draft EIR)</i>		<i>Backup Generators</i>		<i>Total Incremental Change</i>		<i>Threshold</i>	<i>Significant?</i>
	<i>(TPY)</i>	<i>(lbs/day)</i>	<i>(TPY)</i>	<i>(lbs/day)<sup>[1]</sup></i>	<i>(TPY)</i>	<i>(lbs/day)</i>	<i>(LBS/DAY)</i>	
<i>NO<sub>x</sub></i>	-1	-7	1.9	19	1	12	55	No
<i>VOC</i>	0	-3	- <sup>[2]</sup>	- <sup>[2]</sup>	0	-3	55	No
<i>PM<sub>10</sub></i>	-6	-33	0.1	1	-6	-32	150	No
<i>PM<sub>2.5</sub></i>	-1	-9	0.1	1	-1	-8	55	No
<i>SO<sub>2</sub></i>	0	0	0.2	2	0	2	150	No
<i>CO</i>	-42	-233	0.9	9	-41	-224	550	No

Source: Appendix F of the Draft EIR, Appendix A of this memorandum.

<sup>[1]</sup> Assumes that generator testing occurs on the peak day of emissions and that generators are tested on different days.

<sup>[2]</sup> USEPA AP-42 does not establish VOC emission rates for stationary diesel compression-ignition engines.

Prepared By CDM Smith, February 2018.



**Table 5 Operational Emissions – 2035 Future With Project and Backup Generators Compared to 2035 Future Without Project**

Pollutant	Incremental Change (From Draft EIR)		Backup Generators		Total Incremental Change		Threshold	Significant?
	(TPY)	(lbs/day)	(TPY)	(lbs/day) <sup>[1]</sup>	(TPY)	(lbs/day)	(LBS/DAY)	
NO <sub>x</sub>	0	0	1.9	19	1.9	19	55	No
VOC	0	-1	- <sup>[2]</sup>	- <sup>[2]</sup>	0	-1	55	No
PM <sub>10</sub>	-17	-95	0.1	1	-17	-94	150	No
PM <sub>2.5</sub>	-4	-27	0.1	1	-4	-26	55	No
SO <sub>2</sub>	0	-1	0.2	2	0	1	150	No
CO	-68	-371	0.9	9	-67	-362	550	No

Source: Appendix F of the Draft EIR, Appendix A of this memorandum.

[1] Assumes that generator testing occurs on the peak day of emissions and that generators are tested on different days.

[2] USEPA AP-42 does not establish VOC emission rates for stationary diesel compression-ignition engines.

### Local Operational Concentrations

As discussed in Section 4.2.1.3, Methodology, of the LAMP Draft EIR, the local effects from the on-site portion of daily emissions were evaluated at nearby sensitive receptor locations that could be affected by the proposed Project consistent with the methodologies in the SCAQMD's *Final Localized Significance Threshold Methodology*, and *Modeling Guidance for AERMOD*. The SCAQMD recommends that lead agencies perform project-specific air quality modeling for larger projects; therefore, Project-specific dispersion modeling was used to assess local operational impacts. As shown in **Tables 6 and 7** below, with the addition of concentration increments associated with testing of the backup generators, there would be no changes to any significance determination presented in the LAMP Draft EIR.

### Cumulative Air Quality Impacts

As discussed in Section 4.2.1.6.3 of the Draft EIR, project-related cumulative impacts are based on the regional significance of a project's emissions. Because project-related significance did not change relative to regional emissions, the project's cumulative impacts would not differ from those presented in the Draft EIR.

### Health Risk Screening

As described in the Draft EIR, the peak operation-related cancer risks for maximally exposed individuals were evaluated across all analyzed receptors and included risk from operations and construction. As shown in **Table 8** below, even with the inclusion of risk associated with the weekly testing of the backup generators, cancer risks would be below the threshold of significance for all receptors for the 2024 Future With Project vs. 2024 Future Without Project scenario and for the 2035 Future With Project vs. 2035 Future Without Project scenario.

**Table 6 Operational Concentrations - 2024 Future With Project and Backup Generators Compared to 2024 Future Without Project**

<i>Pollutant</i>	<i>Averaging Period<sup>[1]</sup></i>	<i>Total (From Draft EIR) (µg/m<sup>3</sup>)</i>	<i>generator increment<sup>[2]</sup> (µg/m<sup>3</sup>)</i>	<i>Total Including generators (µg/m<sup>3</sup>)</i>	<i>Threshold (µg/m<sup>3</sup>)</i>	<i>Significant?</i>
<i>CO</i>	1-hr CAAQS	3,620	31	3,651	23,000	No
	8-hr CAAQS	2,803	2	2,805	10,000	No
<i>NO<sub>2</sub></i>	1-hr CAAQS	165	44	209	339	No
	1-hr NAAQS	118	29	147	188	No
	Annual CAAQS	24	<1	24	57	No
	Annual NAAQS	3	<1	3	80	No
<i>SO<sub>2</sub></i>	1-hr CAAQS	39	4	43	655	No
	1-hr NAAQS	16	3	19	196	No
	3-hr NAAQS	39	4 <sup>[3]</sup>	43	1,300	No
	24-hr CAAQS	8	<1	8	105	No
<i>PM<sub>10</sub></i>	24-hr	1.6	0.1	1.7	2.5	No
	Annual	0.7	<0.1	0.7	1.0	No
<i>PM<sub>2.5</sub></i>	24-hr	0.9	0.1	1.0	2.5	No

Source: Appendix F of the LAMP EIR.

Notes:

[1] NAAQS and CAAQS often have the same averaging period, but usually have different standard values and may have different methods of determining compliance with each standard.

[2] The receptor of maximum concentration from the backup generators does not necessarily match up with the peak receptor from the Draft EIR, therefore exaggerating potential impacts.

[3] 1-hr CAAQS value used in lieu of 3-hr concentration.

Key:

CAAQS = California Ambient Air Quality Standard.

NAAQS = National Ambient Air Quality Standard.

Prepared By: CDM Smith, February 2018.

**Table 7 Operational Concentrations - 2035 Future With Project and Backup Generators Compared to 2035 Future Without Project**

<i>Pollutant</i>	<i>Averaging Period<sup>[1]</sup></i>	<i>Total (From Draft EIR) (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>generator increment<sup>[2]</sup> (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>Total Including generators (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>Threshold (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>Significant?</i>
CO	1-hr CAAQS	3,605	31	3,636	23,000	No
	8-hr CAAQS	2,796	2	2,798	10,000	No
NO <sub>2</sub>	1-hr CAAQS	176	44	220	339	No
	1-hr NAAQS	126	29	155	188	No
	Annual CAAQS	25	<1	25	57	No
SO <sub>2</sub>	1-hr CAAQS	39	4	43	655	No
	1-hr NAAQS	16	3	19	196	No
	3-hr NAAQS	39	4 <sup>[3]</sup>	43	1,300	No
	24-hr CAAQS	8	<1	8	105	No
	Annual NAAQS	3	<1	3	80	No
PM <sub>10</sub>	24-hr	2.3	0.1	2.4	2.5	No
	Annual	1.2	<0.1	1.2	1.0	<b>Yes</b>
PM <sub>2.5</sub>	24-hr	1.0	0.1	1.1	2.5	No

Source: Appendix A of this memorandum.

Notes:

- [1] NAAQS and CAAQS often have the same averaging period, but usually have different standard values and may have different methods of determining compliance with each standard.
- [2] The receptor of maximum concentration from the backup generators does not necessarily match up with the peak receptor from the Draft EIR, therefore exaggerating potential impacts.
- [3] 1-hr CAAQS value used in lieu of 3-hr concentration.

Key:

CAAQS = California Ambient Air Quality Standard.  
 NAAQS = National Ambient Air Quality Standard.

Prepared By: CDM Smith, February 2018.

**Table 8 Incremental Peak Operation-Related Cancer Risks for Maximally Exposed Individuals**

<i>Receptor Type</i>	<i>Cancer Risks (per million people) (From Draft EIR <sup>[1]</sup>)</i>	<i>Cancer Risks (per million people) (From Generators)</i>	<i>Total Cancer Risks (per million people)</i>	<i>Threshold (per million people)</i>	<i>Exceeds Threshold?</i>
<b>2024 Future With Project VS. 2024 Future Without Project</b>					
<i>Adult Resident, 30 years</i>	8	0.5	8.5	10	No
<i>Child Resident, 9 years</i>	5	0.2	5.2	10	No
<i>School Child, 12 years</i>	2	0.2	2.2	10	No
<i>Adult Worker, 25 years</i>	1	0.3	1.3	10	No
<b>2035 Future With Project VS. 2035 Future Without Project</b>					
<i>Adult Resident, 30 years</i>	8	0.5	8.5	10	No
<i>Child Resident, 9 years</i>	6	0.2	6.2	10	No
<i>School Child, 12 years</i>	3	0.2	3.2	10	No
<i>Adult Worker, 25 years</i>	1	0.3	1.3	10	No

Source: Appendix F of the LAMP EIR.

Prepared by: CDM Smith, February 2018.

<sup>[1]</sup> As revised on page 3-67 of Chapter 3, Corrections and Additions to the Draft EIR, in Volume 11 of the certified Final EIR.

## Manchester Square

This analysis assesses incremental changes to health risk impacts for people living, working, or attending school at select locations previously not analyzed in the LAMP EIR and who would be exposed to TACs resulting from construction associated with the proposed Project from September 2017 to July 2019. Cancer risk, chronic non-cancer health hazard estimates, and acute non-cancer health hazard estimate for impacts of the proposed Project are based on estimated project construction emissions and air dispersion modeling as discussed above and are discussed in the following sections. Details of the calculation of health risk impacts to individuals potentially located at Manchester Square during construction are included in **Attachment B** (Dispersion Modeling and TAC Profiles) and **Attachment C** (Health Risk Technical Report), and the results are summarized below.

### Cancer Risks and Chronic Non-Cancer Health Hazards for Maximally Exposed Individuals (MEI)

Thirty-one grid points were identified to represent residential receptors and 5 grid points were identified to represent existing charter schools in Manchester Square. For the schools, four locations were chosen along the school property boundary and one location was centered on the property. Concentrations at these grid point locations represent maximum concentrations of TAC predicted by the air dispersion modeling for off-airport/ off-site receptors.

For each construction year, annual concentrations were modeled and a weighted average of predicted air concentrations was calculated for each grid point based on the duration of construction exposure – four months in 2017 (September to December), 12 months in 2018, and seven months in 2019 (January to July) – and zero exposure for the remainder of the receptor’s exposure period inherent to the receptor type. Exposure periods for adult and child residents, adult workers, and for school children are the same as those used to assess health risks for the LAMP EIR.

Air concentrations of TAC were developed using emissions estimates and air dispersion modeling consistent with the LAMP EIR and described in detail in Attachment B of this memorandum. TAC concentrations, along with exposure parameters for each receptor type and available toxicity values allowed for the calculation of cancer risk and chronic non-cancer health hazards on a grid point basis. Peak cancer risks and chronic non-cancer health hazards were identified for MEI from these calculations and are presented in **Table 9**.

**Table 9 Incremental Cancer Risk and Chronic Non-Cancer Human Health Hazards for Maximally Exposed Individuals from Proposed Project Construction in 2017-2019 in the Manchester Square Area**

<i>Receptor Type</i>	<i>Incremental Cancer Risk (per million people)<sup>[1]</sup></i>	<i>Incremental Chronic Non-Cancer Human Health Hazards (Unitless HI)<sup>[2,3]</sup></i>	<i>Threshold</i>	<i>Exceeds Threshold?</i>
<i>Adult Resident</i>	0.1	-	10	No
<i>Child Resident, Age 0-2</i>	6.0	-	10	No
<i>Middle School Child, Age 12-14</i>	0.2	-	10	No
<i>High School Child, Age 16-18</i>	0.03	-	10	No
<i>Adult School Worker</i>	0.03	-	10	No
<i>Charter School</i>	-	0.02	1	No
<i>Residential</i>	-	0.07	1	No

Source: Attachment C of this memorandum.

Notes:

[1] Values are changes in number of cases per cancer per one million people. No values exceeded the threshold of 10 in one million.

[2] Hazard Indices (HI) are totals for all TAC that may affect the respiratory system. This incremental HI is essential equal

to the total for all TACs.

[3] Peak Chronic Non-Cancer Human Health Hazards occurred in construction year 2019. No values exceeded the unitless threshold of 1.

Prepared By: CDM Smith, February 2018.

### *Residential and School Chronic Non-Cancer Health Hazards*

Per OEHHA Guidance methodology for calculating chronic non-cancer health hazards, there is no difference in how exposure is calculated between differing receptor types; HI calculations are intrinsically designed to conservatively reflect the impacts of exposure for the most sensitive individuals in a community. Therefore, peak HI's were aggregated by receptor designation, and not by a receptor's age category.

Incremental chronic non-cancer health hazard HI's were analyzed for each year of exposure and were estimated to be greatest in 2019 with a peak HI of 0.07 for residential receptors and a peak HI of 0.02 for schools; they are both less than the unitless threshold of significance of 1. Silicon, chlorine, cobalt, aluminum, manganese, and DPM would be the primary contributing TACs to chronic non-cancer health hazards.

### *Adult and Child Residents Cancer Risk*

Incremental cancer risk for residents at the peak location is estimated to be 0.1 in one million for adult residents and to be 6 in one million for a child resident; they are both less than the threshold of significance of 10 in one million. DPM would contribute to the majority of the cancer risk (93 percent), followed by hexavalent chromium (6 percent).

### *School Children Cancer Risk*

Incremental cancer risk for school children at the peak location is estimated to be 0.2 in one million for a middle school child and 0.03 in one million for a high school child; both are less than the threshold of significance of 10 in one million. DPM would contribute to most of cancer risk (94 percent), followed by hexavalent chromium (6 percent).

### *Adult School Worker Cancer Risk*

Incremental cancer risk for adult workers at the peak location is estimated to be 0.03 in one million. DPM would contribute to the majority of cancer risk (94 percent) followed by hexavalent chromium (6 percent); this is less than the threshold of significance of 10 in one million.

## **Acute Non-Cancer Health Hazards**

The same grid points analyzed for the cancer risk and chronic non-cancer health hazards analysis were also analyzed for acute non-cancer health hazard risk. Short term concentrations of TAC were modeled for the peak year of proposed Project construction near Manchester Square (2019) at each grid point and were compared with OEHHA acute relative exposure levels (RELS). All TAC identified from proposed Project construction for which OEHHA has developed RELS were analyzed for potential acute human health hazard impacts. As with the chronic non-cancer health hazards, acute

non-cancer health hazards are calculated the same way regardless of receptor type; HI calculations are intrinsically designed to conservatively reflect the impacts of exposure for the most sensitive individuals in a community.

Acute non-cancer health hazards were evaluated for the peak months of emissions for PM<sub>10</sub> and VOC – January 2019 and April 2018 respectively. These months were identified in the air dispersion modeling analysis presented in the LAMP EIR. The peak month of PM<sub>10</sub> concentrations would result in the highest concentrations of particulate TACs whereas the peak month of VOC concentrations would result in the highest concentrations of organic TACs. Hazard quotients, the fraction of a TAC's concentration over its respective REL, across all receptors would be less than the threshold of one (1). A hazard quotient above this threshold would indicate the possibility of acute health hazards. The TACs with the highest hazard quotients associated with proposed Project construction were manganese, nickel, and benzene. Acute non-cancer health hazards are summarized in **Table 10**.

**Table 10 Range of Incremental Acute Non-Cancer Hazard Indices for Mitigated Project Construction for April 2018 / January 2019 in Manchester Square Area**

<i>Receptor Type</i>	<i>Manganese Peak Year 2019<sup>[1]</sup></i>	<i>Nicel Peak Year 2019<sup>[1]</sup></i>	<i>Acrolein Peak Year 2018<sup>[1]</sup></i>
<i>Residential Receptors</i>			
<i>Maximum HI</i>	0.6	0.06	0.0002
<i>Average HI</i>	0.1	0.02	0.0001
<i>Minimum HI</i>	0.02	0.003	0.00004
<i>School Receptors</i>			
<i>Maximum HI</i>	0.2	0.02	0.0001
<i>Average HI</i>	0.2	0.02	0.0001
<i>Minimum HI</i>	0.1	0.01	0.0001

Source: Attachment C of this EIR.

Notes:

[1] Only organics (e.g., acrolein) was modeled in April 2018 and only particulates (e.g., manganese and nickel) were modeled in January 2019 for the acute 1-hour scenarios.

Key:

HI = Hazard Index.

Prepared By: CDM Smith, January 2018.

TACs which would target the same organ system in a human body have their hazard quotients summed for determining total non-cancer health hazards. Manganese and nickel represent potential hazards for different organ systems in the human body, and represent 86% and 8% of all non-cancer health hazards respectively.

## **LAX Badging Office Relocation**

### **Regional Air Quality**

Determination of region air quality impacts associated with the LAX Badging Office relocation is based on a comparison of different routes to and from the office. Routes to the badging office have no distinct origin and would begin wherever in the surrounding city the visitor would happen to be. Therefore, while it is not reasonable to calculate specific routes to the current and future badging office locations, general proximity of the badging office to the rest of the surrounding city can be considered in lieu of specific routes. As seen in **Figure 1**, the potential future Badging Office location would be closer to more of the greater Los Angeles area than the existing location; thus, trips to the badging office would more often be shorter to the new location, so overall vehicular emissions would be less. Due to an estimated decrease in overall emissions associated with vehicle trips to the badging office, the LAX Badging Office relocation would have a less than significant impact on regional air quality.

### **Local Air Quality**

Determination of local air quality impacts associated with the LAX Badging Office relation is based on a comparison of daily traffic volumes to the badging office versus daily traffic volumes associated with airport activity. The LAX Badging Office currently handles approximately 550 badging appointments per day; this number is not expected to change as a result of the office relocation. As shown in the LAMP EIR (Appendix F), it was estimated that for the 2015 Baseline year, an average of over 8.6 million automobile trips would be attributable to airport activity in the study area. Vehicle trips associated with the LAX Badging office would therefore account for approximately 0.006% of all airport-related vehicle traffic. Thus, the change in origin for such a small fraction of the total emissions within the study area would have a negligible impact on peak local concentrations of criteria pollutants.



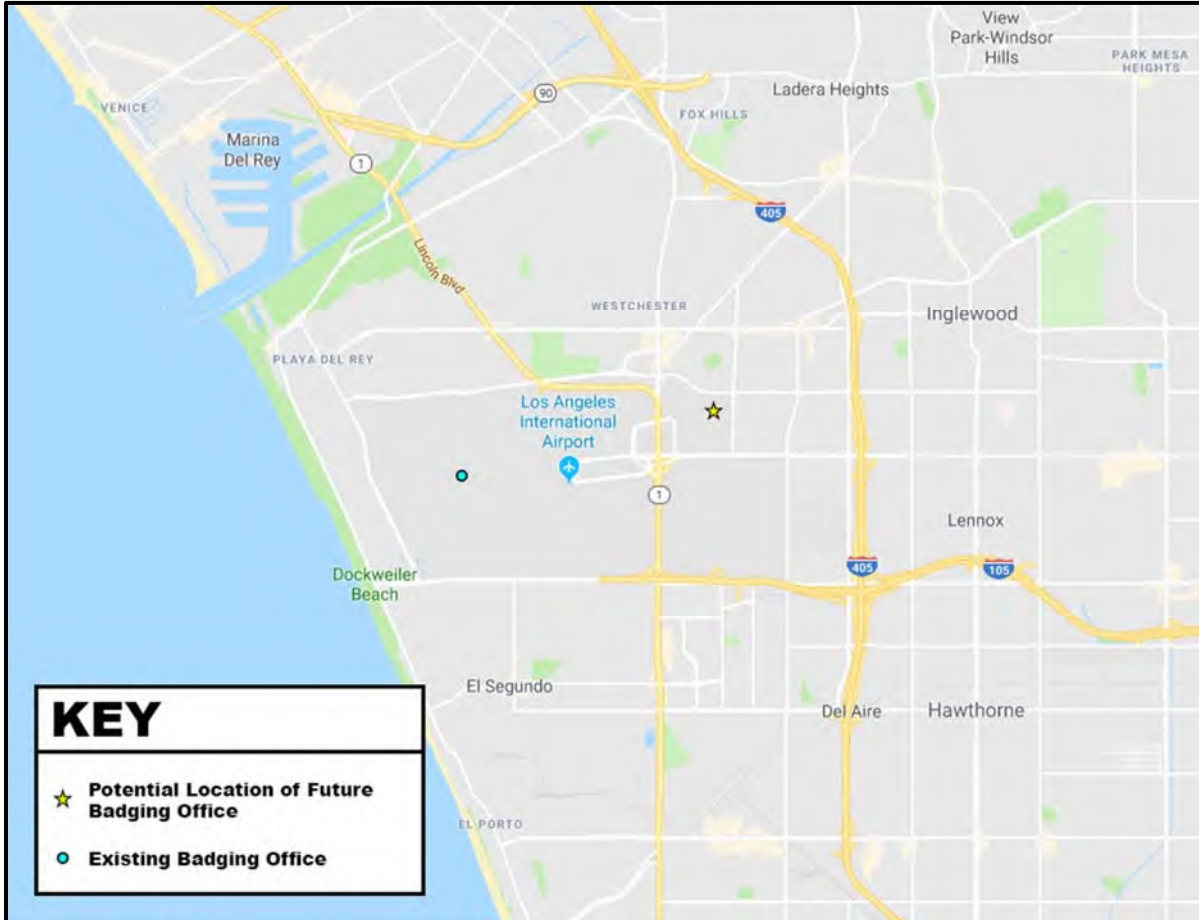


Figure 1: Existing and Future LAX Badging Office Locations

## Impacts after Mitigation

### APM Backup Generator Engines

#### Mitigation Measures

There are no additional mitigation measures pursuant to the testing and maintenance of the APM backup generator engines.

#### Mitigated Regional Operational Emissions

As in the unmitigated scenario, the first full year of analyzed operations is 2024. The analysis of regional operational emissions includes vehicular emissions, as would be influenced by implementation of the proposed Project, as well as facility space and water heating (natural gas combustion), and secondary emissions from electrical demand associated with the proposed Project. As shown in **Tables 11 and 12** below, with the addition of emissions associated with testing of the backup generators, there would be no changes to any significance determination presented in the LAMP EIR for mitigated regional operational emissions.

**Table 11 Mitigated Operational Emissions – 2024 Future With Project and Backup Generators Compared to 2024 Future Without Project**

Pollutant	Incremental Change (From Draft EIR)		Backup Generators		Total Incremental Change		Threshold (LBS/DAY)	Significant?
	(TPY)	(lbs/day)	(TPY)	(lbs/day) <sup>[1]</sup>	(TPY)	(lbs/day)		
NO <sub>x</sub>	-2	-14	1.9	19	0	5	55	No
VOC	-1	-4	- [2]	- [2]	-1	-4	55	No
PM <sub>10</sub>	-6	-34	0.1	1	-6	-33	150	No
PM <sub>2.5</sub>	-1	-10	0.1	1	-1	-9	55	No
SO <sub>2</sub>	0	0	0.2	2	0	2	150	No
CO	-45	-248	0.9	9	-44	-239	550	No

Source: Appendix F of the LAMP EIR, Appendix A of this memorandum.

<sup>[1]</sup> Assumes that generator testing occurs on the peak day of emissions and that generators are tested on different days.

<sup>[2]</sup> USEPA AP-42 does not establish VOC emission rates for stationary diesel compression-ignition engines.

**Table 12 Mitigated Operational Emissions – 2035 Future With Project and Backup Generators Compared to 2035 Future Without Project**

Pollutant	Incremental Change (From Draft EIR)		Backup Generators		Total Incremental Change		Threshold	Significant?
	(TPY)	(lbs/day)	(TPY)	(lbs/day) <sup>[1]</sup>	(TPY)	(lbs/day)	(LBS/DAY)	
NO <sub>x</sub>	-1	-6	1.9	19	1	-5	55	No
VOC	-1	-2	- <sup>[2]</sup>	- <sup>[2]</sup>	-1	-2	55	No
PM <sub>10</sub>	-17	-96	0.1	1	-17	-95	150	No
PM <sub>2.5</sub>	-4	-28	0.1	1	-4	-27	55	No
SO <sub>2</sub>	0	-1	0.2	2	0	1	150	No
CO	-71	-384	0.9	9	-70	-375	550	No

Source: Appendix F of the LAMP EIR, Appendix A of this memorandum.

<sup>[1]</sup> Assumes that generator testing occurs on the peak day of emissions and that generators are tested on different days.

<sup>[2]</sup> USEPA AP-42 does not establish VOC emission rates for stationary diesel compression-ignition engines.

Prepared By: CDM Smith, February 2018.

### Mitigated Local Operational Concentrations

As discussed in the LAX EIR, mitigation measures associated with operations would reduce regional operational emissions, but would have little to no impact on the local operational concentrations. Therefore, the mitigated local operational impacts would be the same as those for unmitigated impacts shown in Tables 6 and 7, above.

## **Technical Memorandum Attachments - Table of Contents**

### **ATTACHMENT A:**

#### **APM Emergency Generator Emissions, Dispersion, and Health Risk**

Emission Rates

AERMOD Dispersion Results Summary

AERMOD Temporal Profiles

Emergency Generator and Receptor Locations

Emergency Generator DPM Cancer Risk Screening Results

### **ATTACHMENT B:**

#### **Manchester Square Dispersion Results and TAC Profiles**

AERMOD Dispersion Results Summary

PM10 Speciation Profiles

TOG Speciation Profiles

### **ATTACHMENT C:**

#### **Manchester Square Health Risk Technical Report**

**ATTACHMENT A:**  
**APM Emergency Generator Emissions, Dispersion, and Health Risk**

## LAX LAMP Addendum Emergency Generators - Emission Rates

### Diesel Stationary CI Engines

#### Emission Factors - Criteria Air Pollutants

Pollutant		Emission Factors		
		lb/hp-hr	lb/MMBtu	lb/kWh
Nitrogen oxides (NOx)	Uncontrolled	2.40E-02	3.20E+00	1.09E-02
	Controlled	1.30E-02	1.90E+00	6.48E-03
Carbon monoxide (CO)		5.50E-03	8.50E-01	2.90E-03
Sulfur dioxide (SO <sub>2</sub> )		8.09E-03	1.01E+00	3.45E-03
Particulate matter - Total (PM <sub>10</sub> and PM <sub>2.5</sub> )		7.00E-04	1.00E-01	3.41E-04

#### Actual Emissions - Criteria Air Pollutants

Pollutant	Emission Factor lb/kWh	Total Emissions (tons/year)	Emission Factor g/s/generator	lb/day
NOx	6.48E-03	<b>1.94</b>	2.45E+00	19.45
CO	2.90E-03	<b>0.87</b>	1.10E+00	8.70
PM10	3.41E-04	<b>0.10</b>	1.29E-01	1.02
SO2	3.45E-03	<b>0.16</b>	1.95E-01	1.55
PM2.5	3.41E-04	<b>0.10</b>	1.29E-01	1.02

#### Operations

50 hours per generator per year  
 4 generators  
 3000 kW rating of generators  
 100% load during testing

#### Conversions

2,000 pounds per ton  
 8,760 hours per year  
 2.205 pounds per kilogram  
 293.071 kWh per MMBtu  
 453.592 grams per pound

0.15 sulfur content of fuel

## LAX LAMP Addendum Emergency Generators - AERMOD Dispersion Results Summary - Peak Receptors

All concentrations are in units of  $\mu\text{g}/\text{m}^3$

Pollutant:	Carbon Monoxide (CO)	Carbon Monoxide (CO)	Carbon Monoxide (CO)	Carbon Monoxide (CO)
Averaging Period:	1 Hour, High 1st High	1 Hour, High 2nd High	8 Hour, High 1st High	8 Hour, High 2nd High
Scenario:	Emergency Generator	Emergency Generator	Emergency Generator	Emergency Generator
Peak:	30.7242	23.4911	1.57653	1.33467
Receptors ( X , Y )				
370963.12 3756966.90	3.07E+01	2.35E+01	1.58E+00	1.33E+00
371061.56 3756965.39	1.98E+01	1.94E+01	1.07E+00	1.06E+00

## LAX LAMP Addendum Emergency Generators - AERMOD Dispersion Results Summary - Peak Receptors

All concentrations are in units of  $\mu\text{g}/\text{m}^3$

Pollutant:	Nitrogen Dioxide (NO2)	Nitrogen Dioxide (NO2)	Nitrogen Dioxide (NO2)	Particulate Matter, (PM)
Averaging Period:	1Hour, High 1st High	1Hour, High 8th High	Annual	24 Hour, High 1st High
Scenario:	Emergency Generator	Emergency Generator	Emergency Generator	Emergency Generator
Peak:	44.1087	28.5795	0.24586	0.05881
Receptors ( X , Y )				
370963.12 3756966.90	4.41E+01	2.86E+01	2.09E-01	5.88E-02
371061.56 3756965.39	3.48E+01	2.10E+01	2.46E-01	4.39E-02



## LAX LAMP Addendum Emergency Generators - AERMOD Dispersion Results Summary - Peak Receptors

All concentrations are in units of  $\mu\text{g}/\text{m}^3$

Pollutant:	Particulate Matter, (PM)	Sulfur Dioxide (SO2)	Sulfur Dioxide (SO2)	Sulfur Dioxide (SO2)
Averaging Period:	Annual	1 Hour, High 1st High	1 Hour, High 4th High	24 Hour, High 1st High
Scenario:	Emergency Generator	Emergency Generator	Emergency Generator	Emergency Generator
Peak:	0.01438	3.90077	2.66819	0.0889
Receptors ( X , Y )				
370963.12 3756966.90	1.23E-02	3.90E+00	2.67E+00	8.89E-02
371061.56 3756965.39	1.44E-02	3.08E+00	2.15E+00	6.64E-02

## LAX LAMP Addendum Emergency Generators - AERMOD Dispersion Results Summary - Peak Receptors

All concentrations are in units of  $\mu\text{g}/\text{m}^3$

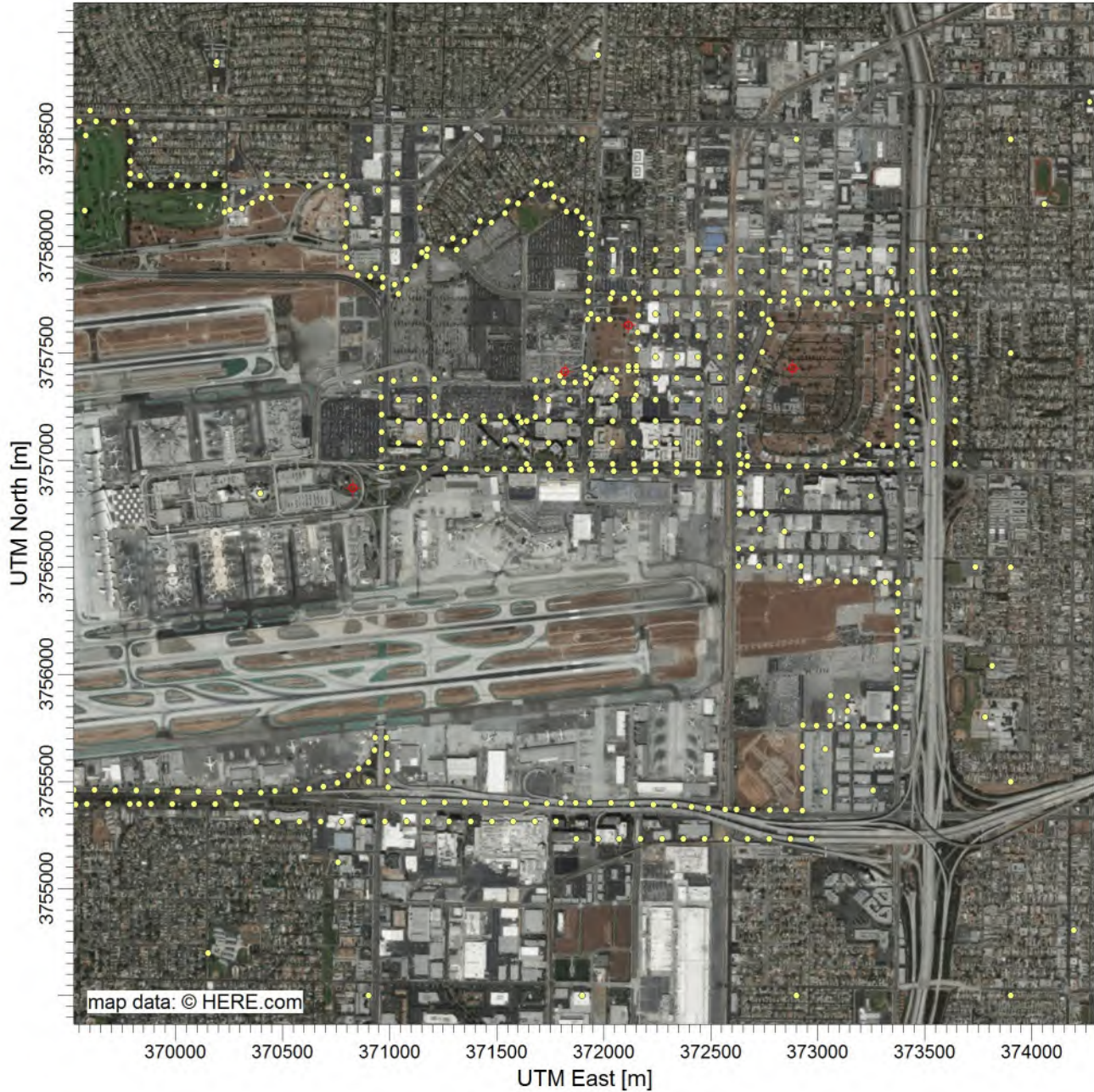
Pollutant:	Sulfur Dioxide (SO <sub>2</sub> )	
Averaging Period:	24 Hour, High 2nd High	
Scenario:	Emergency Generator	
Peak:	0.08156	
Receptors ( X , Y )		
370963.12	3756966.90	8.16E-02
371061.56	3756965.39	6.08E-02

**LAX LAMP Addendum Emergency Generator - AERMOD Temporal Profiles**

1 HR Averaging Period				8 HR Averaging Period				24 HR Averaging Period				ANN Averaging Period							
Hour	Mon-Fri	Sat	Sun	Hour	Mon-Fri	Sat	Sun	Hour	Mon-Fri	Sat	Sun	Hour	Mon	Tues	Wed	Thr	Fri	Sat	Sun
1:00	0	0	0	1:00	0	0	0	1:00	0	0	0	1:00	0	0	0	0	0	0	0
2:00	0	0	0	2:00	0	0	0	2:00	0	0	0	2:00	0	0	0	0	0	0	0
3:00	0	0	0	3:00	0	0	0	3:00	0	0	0	3:00	0	0	0	0	0	0	0
4:00	0	0	0	4:00	0	0	0	4:00	0	0	0	4:00	0	0	0	0	0	0	0
5:00	0	0	0	5:00	0	0	0	5:00	0	0	0	5:00	0	0	0	0	0	0	0
6:00	0	0	0	6:00	0	0	0	6:00	0	0	0	6:00	0	0	0	0	0	0	0
7:00	0	0	0	7:00	0	0	0	7:00	0	0	0	7:00	0	0	0	0	0	0	0
8:00	0.5	0	0	8:00	0.0625	0	0	8:00	0.05	0	0	8:00	0.0125	0.0125	0.0125	0.0125	0	0	0
9:00	0.5	0	0	9:00	0.0625	0	0	9:00	0.05	0	0	9:00	0.0125	0.0125	0.0125	0.0125	0	0	0
10:00	0.5	0	0	10:00	0.0625	0	0	10:00	0.05	0	0	10:00	0.0125	0.0125	0.0125	0.0125	0	0	0
11:00	0.5	0	0	11:00	0.0625	0	0	11:00	0.05	0	0	11:00	0.0125	0.0125	0.0125	0.0125	0	0	0
12:00	0.5	0	0	12:00	0.0625	0	0	12:00	0.05	0	0	12:00	0.0125	0.0125	0.0125	0.0125	0	0	0
13:00	0.5	0	0	13:00	0.0625	0	0	13:00	0.05	0	0	13:00	0.0125	0.0125	0.0125	0.0125	0	0	0
14:00	0.5	0	0	14:00	0.0625	0	0	14:00	0.05	0	0	14:00	0.0125	0.0125	0.0125	0.0125	0	0	0
15:00	0.5	0	0	15:00	0.0625	0	0	15:00	0.05	0	0	15:00	0.0125	0.0125	0.0125	0.0125	0	0	0
16:00	0.5	0	0	16:00	0.0625	0	0	16:00	0.05	0	0	16:00	0.0125	0.0125	0.0125	0.0125	0	0	0
17:00	0.5	0	0	17:00	0.0625	0	0	17:00	0.05	0	0	17:00	0.0125	0.0125	0.0125	0.0125	0	0	0
18:00	0	0	0	18:00	0	0	0	18:00	0	0	0	18:00	0	0	0	0	0	0	0
19:00	0	0	0	19:00	0	0	0	19:00	0	0	0	19:00	0	0	0	0	0	0	0
20:00	0	0	0	20:00	0	0	0	20:00	0	0	0	20:00	0	0	0	0	0	0	0
21:00	0	0	0	21:00	0	0	0	21:00	0	0	0	21:00	0	0	0	0	0	0	0
22:00	0	0	0	22:00	0	0	0	22:00	0	0	0	22:00	0	0	0	0	0	0	0
23:00	0	0	0	23:00	0	0	0	23:00	0	0	0	23:00	0	0	0	0	0	0	0
24:00	0	0	0	24:00	0	0	0	24:00	0	0	0	24:00	0	0	0	0	0	0	0

PROJECT TITLE:

**LAX LAMP Addendum**  
**Emergency Generator and Receptor Locations**



COMMENTS:

Prospective emergency generator locations presented as red crossmarks.

Receptor locations presented as yellow circles.

SOURCES:

**4**

RECEPTORS:

**573**

COMPANY NAME:

**CDM Smith**

MODELER:

**J. Gilbride**

SCALE:

1:30,000

0  1 km







**LAX LAMP Addendum Emergency Generators - Cancer Risk DPM Screening**

					Resident Adult		Worker	
			Risk (unitless)		Risk (unitless)		Risk (unitless)	
			Child Resident 0 years -		Res Adult 16-45 yrs		Worker 16-40 yrs	
Receptor Group	X	Y	Mean	95th %ile	Mean	95th %ile	Mean	95th %ile
		Maximum Risk:	1.07E-07	1.73E-07	6.15E-08	9.81E-08	1.71E-07	2.73E-07
Child Care	369131.40	3758945.42	1.07E-07	1.73E-07	1.47E-09	2.35E-09	1.59E-09	2.54E-09
Child Care	370946.70	3758260.69	2.40E-09	3.86E-09	3.44E-09	5.49E-09	3.73E-09	5.95E-09
Elderly Care	374498.14	3758643.27	1.42E-09	2.28E-09	5.38E-09	8.58E-09	5.84E-09	9.31E-09
Hospital	372241.00	3757383.00	4.91E-09	7.90E-09	6.15E-08	9.81E-08	6.67E-08	1.06E-07
Hospital	374194.97	3754806.86	1.07E-07	1.73E-07	6.96E-10	1.11E-09	7.55E-10	1.20E-09
Onsite	370394.80	3756845.73	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E-08	1.79E-08
Residential	373641.00	3757583.00	7.48E-08	1.20E-07	4.62E-08	7.37E-08	0.00E+00	0.00E+00
Residential	373641.00	3757683.00	8.07E-08	1.30E-07	4.11E-08	6.56E-08	0.00E+00	0.00E+00
Roadway	373441.00	3757583.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.49E-08	1.19E-07
School	373758.20	3758043.23	4.54E-09	7.31E-09	1.70E-08	2.71E-08	1.84E-08	2.93E-08
School	373781.58	3755802.14	2.96E-08	4.76E-08	1.18E-09	1.88E-09	1.28E-09	2.04E-09
Worker	372341.00	3757683.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E-07	2.73E-07

**ATTACHMENT B:**  
**Manchester Square Dispersion Results and TAC Profiles**



## LAX LAMP Addendum Manchester Square - Dispersion Results

Modeled concentrations for each pollutant source group

Receptor Group	UTM-X	UTM-Y	Acute Averaging Period (1-Hour) - units of ug/m3					
			PM10	PM10	PM10	PM10	PM10	TOG
			Brake Wear	Diesel Exhaust	Fugitive Dust	Gasoline Exhaust	Tire Wear	Architectural Coating
Charter School	372795.83	3757341.18	3.72271	2.38009	29.87577	0.18571	1.04062	37.03737
Charter School	372752.17	3757256.62	1.53661	1.16408	16.04996	0.07934	0.43388	34.83909
Charter School	372928.48	3757228.44	1.4611	0.916	15.74238	0.08128	0.40368	32.60171
Charter School	372921.57	3757337.32	2.52637	1.43782	26.87757	0.11403	0.70427	29.96563
Charter School	372846.86	3757303.53	2.58245	1.59453	28.33591	0.12988	0.71956	30.52935
Residential	372814.39	3757385.67	4.91299	2.86361	50.0704	0.21604	1.37532	37.22474
Residential	372698.25	3757256.78	3.00619	1.9538	15.86517	0.13529	0.84846	35.02314
Residential	372713.94	3757405.04	11.93838	7.31794	26.98633	0.532	3.35046	37.32521
Residential	372783.32	3757471.50	8.11301	5.30486	75.96913	0.3724	2.28896	29.77956
Residential	372746.07	3757487.46	10.13695	6.36989	42.06286	0.44072	2.85747	26.15162
Residential	372751.75	3757504.13	8.00001	5.10671	49.77596	0.35287	2.25504	24.80844
Residential	372783.82	3757620.25	1.60613	1.11132	25.03929	0.08513	0.45449	20.03057
Residential	372913.15	3757062.21	0.75533	0.47904	7.78151	0.04261	0.21359	37.16092
Residential	372980.44	3757061.53	0.64473	0.46606	6.63932	0.04386	0.18224	34.37912
Residential	373046.37	3757066.28	0.59798	0.45382	2.63317	0.0469	0.16644	32.39255
Residential	373119.10	3757139.69	1.13779	0.66586	5.6652	0.0596	0.31458	33.86579
Residential	373132.01	3757028.90	0.61412	0.45095	3.37159	0.04547	0.16627	25.58895
Residential	373178.91	3757058.81	0.83074	0.52031	4.30528	0.04942	0.2279	27.37422
Residential	373215.61	3757095.51	1.01122	0.59515	3.7708	0.05255	0.27683	29.32781
Residential	373325.72	3757298.06	0.68538	0.51212	6.4233	0.0328	0.18264	24.11301
Residential	373362.14	3757404.95	0.7677	0.83545	4.44	0.05063	0.20263	21.60286
Residential	373361.46	3757473.60	1.18051	1.12869	7.06334	0.06858	0.32282	22.09022
Residential	373292.81	3757544.97	1.81046	1.44663	14.28441	0.0887	0.48306	25.70603
Residential	373292.13	3757561.29	1.77598	1.43091	13.73714	0.08912	0.47246	25.4535
Residential	373237.08	3757490.60	1.747	1.53569	12.70075	0.09039	0.47215	26.47775
Residential	373195.24	3757573.21	1.8344	1.63029	15.99648	0.10107	0.48573	25.28559
Residential	373234.67	3757607.20	1.48298	1.34862	14.23214	0.08999	0.3914	23.305
Residential	373295.16	3757620.79	1.3992	1.2172	11.99742	0.08323	0.36879	22.87812
Residential	373149.94	3757613.91	1.64057	1.52392	13.62375	0.09337	0.44793	21.59199
Residential	373124.51	3757612.18	1.65893	1.58477	12.77181	0.09479	0.45454	21.25315
Residential	373067.89	3757615.65	1.47315	1.56728	23.42202	0.0931	0.41026	19.57196
Residential	373049.98	3757615.65	1.40131	1.67928	25.58073	0.09246	0.39203	19.2783
Residential	373084.65	3757673.42	1.24584	1.32151	14.7956	0.07662	0.3306	18.50581
Residential	373134.34	3757673.42	1.19147	1.12251	15.47257	0.07678	0.30674	18.06297
Residential	373190.38	3757670.54	1.1728	1.17194	10.53712	0.07719	0.31125	17.35971
Residential	372985.27	3757713.29	1.41218	0.9754	4.36946	0.07496	0.36488	17.09091

## LAX LAMP Addendum Manchester Square - Dispersion Results

Modeled concentrations for each pollutant source group

Receptor Group	UTM-X	UTM-Y	Acute Averaging Period (8-Hour) - units of ug					
			TOG	TOG	TOG	PM10	PM10	PM10
			Diesel Exhasut	Gasoline Exhaust	Pavement Off-Gasing	Brake Wear	Diesel Exhaust	Fugitive Dust
Charter School	372795.83	3757341.18	0.83217	0.29181	0	0.61096	0.39668	3.73447
Charter School	372752.17	3757256.62	0.91725	0.29133	0	0.1942	0.14551	2.00624
Charter School	372928.48	3757228.44	0.67346	0.24246	0	0.22177	0.15267	1.9678
Charter School	372921.57	3757337.32	0.76625	0.21677	0	0.42208	0.23964	3.3597
Charter School	372846.86	3757303.53	0.76685	0.27103	0	0.41482	0.26576	3.58933
Residential	372814.39	3757385.67	0.96342	0.25629	0	0.82032	0.47727	6.2588
Residential	372698.25	3757256.78	1.03678	0.29322	0	0.37794	0.24423	1.98315
Residential	372713.94	3757405.04	1.11945	0.32758	0	1.99337	1.2448	3.64169
Residential	372783.32	3757471.50	1.4322	0.1962	0	1.01649	0.80724	9.49614
Residential	372746.07	3757487.46	1.59175	0.21502	0	1.31156	1.00738	5.84637
Residential	372751.75	3757504.13	1.69283	0.23201	0	1.00224	0.64723	7.00965
Residential	372783.82	3757620.25	2.30774	0.38635	0	0.20336	0.18522	4.17321
Residential	372913.15	3757062.21	1.1839	0.19749	0	0.0965	0.06351	0.97269
Residential	372980.44	3757061.53	1.04581	0.19881	0	0.08614	0.06724	0.82991
Residential	373046.37	3757066.28	0.90953	0.19769	0	0.09348	0.07564	0.32915
Residential	373119.10	3757139.69	0.61216	0.19312	0	0.18842	0.11098	0.70815
Residential	373132.01	3757028.90	0.85474	0.18443	0	0.09695	0.07516	0.42145
Residential	373178.91	3757058.81	0.71451	0.18211	0	0.12822	0.08672	0.53816
Residential	373215.61	3757095.51	0.58359	0.17476	0	0.16964	0.09919	0.47135
Residential	373325.72	3757298.06	0.58472	0.0901	0	0.11476	0.08535	1.07055
Residential	373362.14	3757404.95	0.76546	0.11196	0	0.12838	0.10443	0.74
Residential	373361.46	3757473.60	0.9289	0.1352	0	0.14809	0.14109	0.88292
Residential	373292.81	3757544.97	1.17765	0.17549	0	0.22685	0.18083	1.78555
Residential	373292.13	3757561.29	1.22558	0.18429	0	0.22253	0.17886	1.71714
Residential	373237.08	3757490.60	1.06058	0.15318	0	0.219	0.19196	1.58759
Residential	373195.24	3757573.21	1.36382	0.20733	0	0.22992	0.20379	1.99956
Residential	373234.67	3757607.20	1.41779	0.22158	0	0.18593	0.16858	1.77902
Residential	373295.16	3757620.79	1.38079	0.21774	0	0.17541	0.15215	1.49968
Residential	373149.94	3757613.91	1.54756	0.24482	0	0.2056	0.19049	1.70297
Residential	373124.51	3757612.18	1.5789	0.24974	0	0.20792	0.1981	1.59648
Residential	373067.89	3757615.65	1.67719	0.26772	0	0.18477	0.19591	2.92775
Residential	373049.98	3757615.65	1.7069	0.27292	0	0.17581	0.20991	3.19759
Residential	373084.65	3757673.42	1.79735	0.30602	0	0.15614	0.16519	1.84945
Residential	373134.34	3757673.42	1.71528	0.28935	0	0.14956	0.14031	1.93407
Residential	373190.38	3757670.54	1.62431	0.27071	0	0.14717	0.14649	1.31714
Residential	372985.27	3757713.29	2.02699	0.37049	0	0.17736	0.12193	0.54618

## LAX LAMP Addendum Manchester Square - Dispersion Results

Modeled concentrations for each pollutant source group

Receptor Group	UTM-X	UTM-Y	µ/m3				
			PM10		TOG	TOG	TOG
			Gasoline Exhaust	Tire Wear	Architectural Coating	Diesel Exhaust	Gasoline Exhaust
Charter School	372795.83	3757341.18	0.03095	0.16971	4.62967	0.1387	0.04864
Charter School	372752.17	3757256.62	0.00992	0.05424	4.35489	0.15288	0.04855
Charter School	372928.48	3757228.44	0.01355	0.06042	4.07521	0.11224	0.04041
Charter School	372921.57	3757337.32	0.019	0.11738	3.7457	0.12397	0.03613
Charter School	372846.86	3757303.53	0.02165	0.11463	3.81617	0.12781	0.04517
Residential	372814.39	3757385.67	0.03601	0.22922	4.65309	0.14039	0.04272
Residential	372698.25	3757256.78	0.01691	0.10606	4.37789	0.1728	0.04887
Residential	372713.94	3757405.04	0.08867	0.55841	4.66565	0.15623	0.0546
Residential	372783.32	3757471.50	0.0554	0.28633	3.72244	0.17903	0.0327
Residential	372746.07	3757487.46	0.06934	0.37064	3.26895	0.19897	0.03458
Residential	372751.75	3757504.13	0.04434	0.28188	3.10105	0.2116	0.02998
Residential	372783.82	3757620.25	0.01064	0.05681	2.50382	0.28847	0.04829
Residential	372913.15	3757062.21	0.0071	0.0267	4.64512	0.19732	0.03292
Residential	372980.44	3757061.53	0.00731	0.02278	4.29739	0.1743	0.03313
Residential	373046.37	3757066.28	0.00782	0.02409	4.04907	0.15159	0.03295
Residential	373119.10	3757139.69	0.00993	0.05133	4.23322	0.10203	0.03219
Residential	373132.01	3757028.90	0.00758	0.02509	3.19862	0.14246	0.03074
Residential	373178.91	3757058.81	0.00824	0.03422	3.42178	0.11908	0.03035
Residential	373215.61	3757095.51	0.00876	0.04614	3.66598	0.09727	0.02913
Residential	373325.72	3757298.06	0.00547	0.03044	3.01413	0.08947	0.0141
Residential	373362.14	3757404.95	0.00633	0.03377	2.70036	0.09568	0.01507
Residential	373361.46	3757473.60	0.00857	0.04035	2.76128	0.11611	0.0169
Residential	373292.81	3757544.97	0.01109	0.06038	3.21325	0.14721	0.02194
Residential	373292.13	3757561.29	0.01114	0.05906	3.18169	0.1532	0.02304
Residential	373237.08	3757490.60	0.0113	0.05902	3.30972	0.13257	0.01915
Residential	373195.24	3757573.21	0.01263	0.06072	3.1607	0.17048	0.02592
Residential	373234.67	3757607.20	0.01125	0.04892	2.91312	0.17722	0.0277
Residential	373295.16	3757620.79	0.0104	0.0461	2.85977	0.1726	0.02722
Residential	373149.94	3757613.91	0.01167	0.05599	2.699	0.19345	0.0306
Residential	373124.51	3757612.18	0.01185	0.05682	2.65664	0.19736	0.03122
Residential	373067.89	3757615.65	0.01164	0.05128	2.44649	0.20965	0.03347
Residential	373049.98	3757615.65	0.01156	0.049	2.40979	0.21336	0.03411
Residential	373084.65	3757673.42	0.00958	0.04133	2.31323	0.22467	0.03825
Residential	373134.34	3757673.42	0.0096	0.03834	2.25787	0.21441	0.03617
Residential	373190.38	3757670.54	0.00965	0.03891	2.16996	0.20304	0.03384
Residential	372985.27	3757713.29	0.00937	0.04561	2.13636	0.25337	0.04631

## LAX LAMP Addendum Manchester Square - Dispersion Results

Modeled concentrations for each pollutant source group

Receptor Group	UTM-X	UTM-Y	Annual Averaging Period (2017) - units of ug/m3					
			TOG	PM10	PM10	PM10	PM10	PM10
			Pavement Off-Gasing	Brake Wear	Diesel Exhaust	Fugitive Dust	Gasoline Exhaust	Tire Wear
Charter School	372795.83	3757341.18	0	0.00008	0.00018	0.00283	0.00001	0.00002
Charter School	372752.17	3757256.62	0	0.0001	0.00021	0.00339	0.00001	0.00002
Charter School	372928.48	3757228.44	0	0.00009	0.00018	0.00304	0.00001	0.00002
Charter School	372921.57	3757337.32	0	0.00008	0.00017	0.00264	0	0.00002
Charter School	372846.86	3757303.53	0	0.00008	0.00018	0.00293	0.00001	0.00002
Residential	372814.39	3757385.67	0	0.00007	0.00017	0.00256	0	0.00002
Residential	372698.25	3757256.78	0	0.0001	0.00022	0.00354	0.00001	0.00002
Residential	372713.94	3757405.04	0	0.00007	0.00017	0.00255	0.00001	0.00002
Residential	372783.32	3757471.50	0	0.00006	0.00015	0.00213	0	0.00001
Residential	372746.07	3757487.46	0	0.00006	0.00015	0.00207	0	0.00001
Residential	372751.75	3757504.13	0	0.00005	0.00014	0.00199	0	0.00001
Residential	372783.82	3757620.25	0	0.00004	0.00011	0.00151	0	0.00001
Residential	372913.15	3757062.21	0	0.0001	0.00019	0.00322	0.00001	0.00002
Residential	372980.44	3757061.53	0	0.00009	0.00018	0.00299	0.00001	0.00002
Residential	373046.37	3757066.28	0	0.00008	0.00017	0.00281	0.00001	0.00002
Residential	373119.10	3757139.69	0	0.00008	0.00016	0.00267	0	0.00002
Residential	373132.01	3757028.90	0	0.00007	0.00016	0.00253	0	0.00002
Residential	373178.91	3757058.81	0	0.00007	0.00015	0.00247	0	0.00002
Residential	373215.61	3757095.51	0	0.00007	0.00015	0.00243	0	0.00002
Residential	373325.72	3757298.06	0	0.00006	0.00013	0.00218	0	0.00001
Residential	373362.14	3757404.95	0	0.00005	0.00012	0.0019	0	0.00001
Residential	373361.46	3757473.60	0	0.00005	0.00011	0.00174	0	0.00001
Residential	373292.81	3757544.97	0	0.00004	0.00011	0.00166	0	0.00001
Residential	373292.13	3757561.29	0	0.00004	0.00011	0.00162	0	0.00001
Residential	373237.08	3757490.60	0	0.00005	0.00012	0.0018	0	0.00001
Residential	373195.24	3757573.21	0	0.00004	0.00011	0.0016	0	0.00001
Residential	373234.67	3757607.20	0	0.00004	0.0001	0.00152	0	0.00001
Residential	373295.16	3757620.79	0	0.00004	0.0001	0.00143	0	0.00001
Residential	373149.94	3757613.91	0	0.00004	0.0001	0.00149	0	0.00001
Residential	373124.51	3757612.18	0	0.00004	0.0001	0.0015	0	0.00001
Residential	373067.89	3757615.65	0	0.00004	0.00011	0.00149	0	0.00001
Residential	373049.98	3757615.65	0	0.00004	0.00011	0.00149	0	0.00001
Residential	373084.65	3757673.42	0	0.00003	0.0001	0.00134	0	0.00001
Residential	373134.34	3757673.42	0	0.00003	0.0001	0.00133	0	0.00001
Residential	373190.38	3757670.54	0	0.00003	0.00009	0.00134	0	0.00001
Residential	372985.27	3757713.29	0	0.00003	0.00009	0.00123	0	0.00001

## LAX LAMP Addendum Manchester Square - Dispersion Results

Modeled concentrations for each pollutant source group

Receptor Group	UTM-X	UTM-Y					Annual Avera
			TOG	TOG	TOG	TOG	PM10
			Architectural Coating	Diesel Exhasut	Gasoline Exhaust	Pavement Off-Gasing	Brake Wear
Charter School	372795.83	3757341.18	0.00657	0.00251	0.00026	0.00007	0.00173
Charter School	372752.17	3757256.62	0.00684	0.00275	0.00029	0.00008	0.00125
Charter School	372928.48	3757228.44	0.00618	0.00241	0.00025	0.00008	0.00096
Charter School	372921.57	3757337.32	0.00615	0.00231	0.00024	0.00007	0.00145
Charter School	372846.86	3757303.53	0.00644	0.00248	0.00026	0.00007	0.00136
Residential	372814.39	3757385.67	0.00641	0.00239	0.00025	0.00006	0.00233
Residential	372698.25	3757256.78	0.00706	0.00287	0.00031	0.00008	0.00133
Residential	372713.94	3757405.04	0.00668	0.0025	0.00026	0.00007	0.00327
Residential	372783.32	3757471.50	0.00623	0.00224	0.00022	0.00006	0.00473
Residential	372746.07	3757487.46	0.00626	0.00224	0.00022	0.00006	0.00429
Residential	372751.75	3757504.13	0.00618	0.00219	0.00022	0.00006	0.00406
Residential	372783.82	3757620.25	0.00554	0.00187	0.00018	0.00005	0.00476
Residential	372913.15	3757062.21	0.00598	0.00245	0.00026	0.00011	0.0007
Residential	372980.44	3757061.53	0.00574	0.00232	0.00024	0.00011	0.00066
Residential	373046.37	3757066.28	0.00553	0.00221	0.00023	0.00011	0.00063
Residential	373119.10	3757139.69	0.00545	0.00211	0.00022	0.00009	0.00067
Residential	373132.01	3757028.90	0.00517	0.00206	0.00021	0.00012	0.00057
Residential	373178.91	3757058.81	0.00511	0.002	0.00021	0.00011	0.00056
Residential	373215.61	3757095.51	0.00509	0.00197	0.0002	0.0001	0.00058
Residential	373325.72	3757298.06	0.00501	0.00181	0.00018	0.00007	0.00081
Residential	373362.14	3757404.95	0.00489	0.00171	0.00017	0.00006	0.0011
Residential	373361.46	3757473.60	0.00482	0.00165	0.00016	0.00005	0.0014
Residential	373292.81	3757544.97	0.00483	0.00163	0.00016	0.00005	0.00187
Residential	373292.13	3757561.29	0.00479	0.00161	0.00016	0.00005	0.00193
Residential	373237.08	3757490.60	0.00505	0.00174	0.00017	0.00005	0.00179
Residential	373195.24	3757573.21	0.00494	0.00167	0.00016	0.00005	0.00227
Residential	373234.67	3757607.20	0.00478	0.00159	0.00015	0.00004	0.00227
Residential	373295.16	3757620.79	0.00464	0.00154	0.00015	0.00004	0.00215
Residential	373149.94	3757613.91	0.0049	0.00164	0.00016	0.00004	0.00258
Residential	373124.51	3757612.18	0.00495	0.00166	0.00016	0.00004	0.00267
Residential	373067.89	3757615.65	0.00504	0.00169	0.00016	0.00004	0.00291
Residential	373049.98	3757615.65	0.00508	0.0017	0.00016	0.00004	0.00298
Residential	373084.65	3757673.42	0.0048	0.00158	0.00015	0.00004	0.00314
Residential	373134.34	3757673.42	0.00473	0.00156	0.00015	0.00004	0.00291
Residential	373190.38	3757670.54	0.00465	0.00153	0.00014	0.00004	0.00268
Residential	372985.27	3757713.29	0.00478	0.00156	0.00015	0.00004	0.00395

## LAX LAMP Addendum Manchester Square - Dispersion Results

Modeled concentrations for each pollutant source group

Receptor Group	UTM-X	UTM-Y	Modeling Period (2018) - units of ug/m3					
			PM10	PM10	PM10	PM10	TOG	TOG
			Diesel Exhaust	Fugitive Dust	Gasoline Exhaust	Tire Wear	Architectural Coating	Diesel Exhaust
Charter School	372795.83	3757341.18	0.00186	0.01684	0.00012	0.00047	0.02635	0.00955
Charter School	372752.17	3757256.62	0.00136	0.01046	0.00009	0.00035	0.03087	0.00703
Charter School	372928.48	3757228.44	0.00101	0.00719	0.00007	0.00027	0.02641	0.00522
Charter School	372921.57	3757337.32	0.00152	0.01314	0.00011	0.00039	0.02408	0.00781
Charter School	372846.86	3757303.53	0.00145	0.01174	0.0001	0.00037	0.02669	0.00745
Residential	372814.39	3757385.67	0.00249	0.02845	0.00016	0.00063	0.02433	0.01273
Residential	372698.25	3757256.78	0.00149	0.01163	0.00009	0.00038	0.03252	0.00765
Residential	372713.94	3757405.04	0.00341	0.04534	0.00021	0.00091	0.02511	0.01756
Residential	372783.32	3757471.50	0.00463	0.07605	0.00029	0.00127	0.02324	0.02367
Residential	372746.07	3757487.46	0.00417	0.05774	0.00028	0.00117	0.02395	0.02139
Residential	372751.75	3757504.13	0.00382	0.04781	0.00027	0.00109	0.02446	0.0195
Residential	372783.82	3757620.25	0.00319	0.03233	0.00031	0.00123	0.03704	0.01639
Residential	372913.15	3757062.21	0.00074	0.00542	0.00004	0.0002	0.02484	0.00384
Residential	372980.44	3757061.53	0.0007	0.00503	0.00004	0.00019	0.02275	0.00363
Residential	373046.37	3757066.28	0.00067	0.00468	0.00004	0.00018	0.02113	0.00345
Residential	373119.10	3757139.69	0.00069	0.00457	0.00005	0.00019	0.0211	0.00358
Residential	373132.01	3757028.90	0.00063	0.0047	0.00004	0.00017	0.01788	0.00328
Residential	373178.91	3757058.81	0.0006	0.00417	0.00004	0.00016	0.01788	0.00313
Residential	373215.61	3757095.51	0.0006	0.00397	0.00004	0.00016	0.0181	0.00313
Residential	373325.72	3757298.06	0.00082	0.00547	0.00006	0.00022	0.01793	0.00422
Residential	373362.14	3757404.95	0.00103	0.0082	0.00008	0.00029	0.01716	0.00532
Residential	373361.46	3757473.60	0.00121	0.01147	0.00009	0.00037	0.01713	0.00619
Residential	373292.81	3757544.97	0.00149	0.01611	0.00012	0.00049	0.01837	0.00764
Residential	373292.13	3757561.29	0.00151	0.01619	0.00013	0.0005	0.01864	0.00774
Residential	373237.08	3757490.60	0.00156	0.01719	0.00012	0.00047	0.01842	0.00795
Residential	373195.24	3757573.21	0.00179	0.01927	0.00015	0.00059	0.02021	0.00912
Residential	373234.67	3757607.20	0.00167	0.01734	0.00015	0.00059	0.02056	0.00855
Residential	373295.16	3757620.79	0.00154	0.01559	0.00014	0.00055	0.01992	0.00787
Residential	373149.94	3757613.91	0.00189	0.01926	0.00017	0.00066	0.02243	0.00963
Residential	373124.51	3757612.18	0.00196	0.01998	0.00017	0.00069	0.02291	0.00999
Residential	373067.89	3757615.65	0.00211	0.02119	0.00019	0.00075	0.02447	0.01075
Residential	373049.98	3757615.65	0.00216	0.02159	0.00019	0.00077	0.02496	0.011
Residential	373084.65	3757673.42	0.00197	0.01944	0.00019	0.0008	0.02752	0.01014
Residential	373134.34	3757673.42	0.00186	0.01832	0.00018	0.00075	0.02576	0.00955
Residential	373190.38	3757670.54	0.00174	0.01721	0.00017	0.00069	0.02393	0.00893
Residential	372985.27	3757713.29	0.00222	0.02231	0.00024	0.00101	0.03544	0.01145

## LAX LAMP Addendum Manchester Square - Dispersion Results

Modeled concentrations for each pollutant source group

Receptor Group	UTM-X	UTM-Y	Annual Averaging Period (2019) - units of ug/m3					
			TOG		PM10		PM10	
			Gasoline Exhaust	Pavement Off-Gasing	Brake Wear	Diesel Exhaust	Fugitive Dust	Gasoline Exhaust
Charter School	372795.83	3757341.18	0.00171	0.00022	0.01564	0.01521	0.06858	0.00092
Charter School	372752.17	3757256.62	0.00123	0.00019	0.0095	0.00974	0.05758	0.00055
Charter School	372928.48	3757228.44	0.00095	0.00014	0.00929	0.0105	0.0983	0.00055
Charter School	372921.57	3757337.32	0.00145	0.00019	0.02045	0.0178	0.07077	0.00121
Charter School	372846.86	3757303.53	0.00136	0.00019	0.01336	0.01264	0.05983	0.00079
Residential	372814.39	3757385.67	0.00224	0.00023	0.02486	0.02399	0.10273	0.00143
Residential	372698.25	3757256.78	0.0013	0.0002	0.00916	0.00968	0.05948	0.00052
Residential	372713.94	3757405.04	0.00292	0.00027	0.02829	0.02839	0.15927	0.0014
Residential	372783.32	3757471.50	0.00402	0.00027	0.05527	0.04729	0.25998	0.0024
Residential	372746.07	3757487.46	0.0038	0.00028	0.04007	0.03691	0.20632	0.00188
Residential	372751.75	3757504.13	0.00368	0.00028	0.03353	0.03076	0.1625	0.00167
Residential	372783.82	3757620.25	0.00421	0.00029	0.01986	0.01622	0.08117	0.0011
Residential	372913.15	3757062.21	0.00061	0.00009	0.00705	0.00885	0.13826	0.00035
Residential	372980.44	3757061.53	0.00058	0.00009	0.00664	0.00955	0.13247	0.00036
Residential	373046.37	3757066.28	0.00056	0.00008	0.0055	0.0076	0.09084	0.00031
Residential	373119.10	3757139.69	0.00063	0.00009	0.01367	0.0159	0.3684	0.00061
Residential	373132.01	3757028.90	0.00049	0.00007	0.00401	0.00526	0.05262	0.00022
Residential	373178.91	3757058.81	0.0005	0.00007	0.00417	0.00546	0.05465	0.00024
Residential	373215.61	3757095.51	0.00053	0.00008	0.00495	0.0067	0.07563	0.00029
Residential	373325.72	3757298.06	0.00082	0.00011	0.00705	0.00912	0.05897	0.00056
Residential	373362.14	3757404.95	0.00109	0.00013	0.02251	0.01898	0.0619	0.00146
Residential	373361.46	3757473.60	0.00131	0.00015	0.04072	0.02702	0.0926	0.00215
Residential	373292.81	3757544.97	0.00167	0.00017	0.05154	0.03423	0.11567	0.00275
Residential	373292.13	3757561.29	0.00172	0.00017	0.04561	0.03146	0.10533	0.00252
Residential	373237.08	3757490.60	0.00164	0.00017	0.08636	0.05425	0.17586	0.00445
Residential	373195.24	3757573.21	0.00203	0.00019	0.04271	0.03419	0.10342	0.00271
Residential	373234.67	3757607.20	0.002	0.00018	0.02844	0.02372	0.07635	0.00185
Residential	373295.16	3757620.79	0.00187	0.00018	0.02592	0.02077	0.06885	0.00162
Residential	373149.94	3757613.91	0.00228	0.0002	0.02185	0.01958	0.06684	0.00147
Residential	373124.51	3757612.18	0.00236	0.0002	0.02088	0.01863	0.06618	0.00138
Residential	373067.89	3757615.65	0.00258	0.00022	0.01852	0.01592	0.06342	0.00113
Residential	373049.98	3757615.65	0.00265	0.00022	0.01841	0.01566	0.06376	0.00111
Residential	373084.65	3757673.42	0.00267	0.00022	0.01406	0.01143	0.05018	0.00082
Residential	373134.34	3757673.42	0.00248	0.00021	0.0141	0.0118	0.04937	0.00086
Residential	373190.38	3757670.54	0.00228	0.0002	0.01492	0.01296	0.04997	0.00096
Residential	372985.27	3757713.29	0.00328	0.00023	0.0139	0.01044	0.04879	0.00078

## LAX LAMP Addendum Manchester Square - Dispersion Results

Modeled concentrations for each pollutant source group

Receptor Group	UTM-X	UTM-Y	PM10	TOG	TOG	TOG	TOG
			Tire Wear	Architectural Coating	Diesel Exhasut	Gasoline Exhaust	Pavement Off-Gasing
Charter School	372795.83	3757341.18	0.00461	0.01577	0.01072	0.01072	0.00018
Charter School	372752.17	3757256.62	0.00283	0.00897	0.0054	0.0054	0.00016
Charter School	372928.48	3757228.44	0.00268	0.00723	0.00494	0.00494	0.00012
Charter School	372921.57	3757337.32	0.00583	0.02202	0.01245	0.01245	0.00015
Charter School	372846.86	3757303.53	0.00388	0.01396	0.00825	0.00825	0.00016
Residential	372814.39	3757385.67	0.00741	0.02296	0.01952	0.01952	0.00018
Residential	372698.25	3757256.78	0.0028	0.00816	0.00511	0.00511	0.00017
Residential	372713.94	3757405.04	0.00897	0.0147	0.02289	0.02289	0.00021
Residential	372783.32	3757471.50	0.01731	0.03115	0.04269	0.04269	0.0002
Residential	372746.07	3757487.46	0.01257	0.02585	0.03064	0.03064	0.00021
Residential	372751.75	3757504.13	0.0103	0.02729	0.02467	0.02467	0.00021
Residential	372783.82	3757620.25	0.00572	0.04292	0.0115	0.0115	0.00019
Residential	372913.15	3757062.21	0.00208	0.00342	0.00316	0.00316	0.00007
Residential	372980.44	3757061.53	0.00195	0.00305	0.00323	0.00323	0.00006
Residential	373046.37	3757066.28	0.00164	0.00289	0.00257	0.00257	0.00006
Residential	373119.10	3757139.69	0.00371	0.00321	0.00577	0.00577	0.00007
Residential	373132.01	3757028.90	0.00127	0.00238	0.0016	0.0016	0.00005
Residential	373178.91	3757058.81	0.00127	0.00247	0.00175	0.00175	0.00005
Residential	373215.61	3757095.51	0.00145	0.00258	0.00225	0.00225	0.00006
Residential	373325.72	3757298.06	0.00201	0.00463	0.00384	0.00384	0.00009
Residential	373362.14	3757404.95	0.00625	0.01761	0.00937	0.00937	0.0001
Residential	373361.46	3757473.60	0.01125	0.0337	0.01395	0.01395	0.00011
Residential	373292.81	3757544.97	0.01425	0.04677	0.01872	0.01872	0.00012
Residential	373292.13	3757561.29	0.01263	0.04264	0.01731	0.01731	0.00012
Residential	373237.08	3757490.60	0.02375	0.0739	0.0295	0.0295	0.00012
Residential	373195.24	3757573.21	0.01188	0.04444	0.02033	0.02033	0.00013
Residential	373234.67	3757607.20	0.00794	0.03191	0.01369	0.01369	0.00013
Residential	373295.16	3757620.79	0.00723	0.02891	0.01154	0.01154	0.00012
Residential	373149.94	3757613.91	0.00616	0.02827	0.01213	0.01213	0.00014
Residential	373124.51	3757612.18	0.00591	0.02766	0.01178	0.01178	0.00014
Residential	373067.89	3757615.65	0.00527	0.02666	0.01029	0.01029	0.00015
Residential	373049.98	3757615.65	0.00524	0.027	0.01017	0.01017	0.00015
Residential	373084.65	3757673.42	0.00397	0.02848	0.00707	0.00707	0.00014
Residential	373134.34	3757673.42	0.00398	0.02656	0.00715	0.00715	0.00014
Residential	373190.38	3757670.54	0.0042	0.02525	0.00764	0.00764	0.00013
Residential	372985.27	3757713.29	0.00389	0.04008	0.00679	0.00679	0.00015



## LAX LAMP Addendum Manchester Square - Speciation Profiles

Particulate Matter toxic air contaminant speciation profiles

PM PROFILE NUMBER	SAROAD	WEIGHT FRACTION OF PM10	PM PROFILE NAME	SPECIES	CAS
400	12112	0.000500	GASOLINE VEHICLES-CATALYST	chromium	7440-47-3
400	12109	0.0005	GASOLINE VEHICLES-CATALYST	bromine	7726-95-6
400	12111	0.0055	GASOLINE VEHICLES-CATALYST	calcium	7440-70-2
400	12113	0.0005	GASOLINE VEHICLES-CATALYST	cobalt	7440-48-4
400	12114	0.0005	GASOLINE VEHICLES-CATALYST	copper	7440-50-8
400	12115	0.07	GASOLINE VEHICLES-CATALYST	chlorine	7782-50-5
400	12116	0.2	GASOLINE VEHICLES-CATALYST	elem carbon	7440-44-0
400	12126	0.0005	GASOLINE VEHICLES-CATALYST	iron	7439-89-6
400	12132	0.0005	GASOLINE VEHICLES-CATALYST	manganese	7439-96-5
400	12136	0.0005	GASOLINE VEHICLES-CATALYST	nickel	7440-02-0
400	12167	0.0005	GASOLINE VEHICLES-CATALYST	zinc	7440-66-6
400	12180	0.0055	GASOLINE VEHICLES-CATALYST	potassium	7440-09-7
400	12306	0.0055	GASOLINE VEHICLES-CATALYST	nitrates	14797-55-8
400	12403	0.45	GASOLINE VEHICLES-CATALYST	sulfates	14808-79-8
400	12999	0.2595	GASOLINE VEHICLES-CATALYST	other	
420	99999		CONSTRUCTION DUST	unidentified	
420	12124	0.000008	CONSTRUCTION DUST	gallium	7440-55-3
420	12126	0.059254	CONSTRUCTION DUST	iron	7439-89-6
420	12116	0.005412	CONSTRUCTION DUST	elem carbon	7440-44-0
420	12114	0.000138	CONSTRUCTION DUST	copper	7440-50-8
420	12501	0.003293	CONSTRUCTION DUST	carbonate ion	
420	12113	0.000135	CONSTRUCTION DUST	cobalt	7440-48-4
420	12115	0.00425	CONSTRUCTION DUST	chlorine	7782-50-5
420	12185	0.000118	CONSTRUCTION DUST	zirconium	7440-67-7
420	12167	0.000664	CONSTRUCTION DUST	zinc	7440-66-6
420	12183	0.000033	CONSTRUCTION DUST	yttrium	7440-65-5
420	12164	0.000331	CONSTRUCTION DUST	vanadium (fume or dust)	7440-62-2
420	12000	0.420364	CONSTRUCTION DUST	unknown	N/A
420	12161	0.005747	CONSTRUCTION DUST	titanium	7440-32-6
420	12168	0.000398	CONSTRUCTION DUST	strontium	7440-24-6
420	12403	0.005895	CONSTRUCTION DUST	sulfates	14808-79-8
420	12160	0.000041	CONSTRUCTION DUST	tin	7440-31-5
420	12165	0.244	CONSTRUCTION DUST	silicon	7440-21-3
420	12154	0.000003	CONSTRUCTION DUST	selenium	7782-49-2
420	12102	0.000019	CONSTRUCTION DUST	antimony	7440-36-0
420	12169	0.003715	CONSTRUCTION DUST	sulfur	7704-34-9
420	12176	0.000163	CONSTRUCTION DUST	rubidium	7440-17-7
420	12151	0.000009	CONSTRUCTION DUST	palladium	7440-05-3
420	12128	0.000701	CONSTRUCTION DUST	lead	7439-92-1

## LAX LAMP Addendum Manchester Square - Speciation Profiles

Particulate Matter toxic air contaminant speciation profiles

PM PROFILE NUMBER	SAROAD	WEIGHT FRACTION OF PM10	PM PROFILE NAME	SPECIES	CAS
420	12152	0.001979	CONSTRUCTION DUST	phosphorus	7723-14-0
420	11102	0.057162	CONSTRUCTION DUST	organic compound	0
420	12306	0.001104	CONSTRUCTION DUST	nitrates	14797-55-8
420	12136	0.000076	CONSTRUCTION DUST	nickel	7440-02-0
420	12301	0.000158	CONSTRUCTION DUST	ammonium	14798-03-9
420	12184	0.003091	CONSTRUCTION DUST	sodium	7440-23-5
420	12134	0.000008	CONSTRUCTION DUST	molybdenum	7439-98-7
420	12132	0.00115	CONSTRUCTION DUST	manganese	7439-96-5
420	12146	0.000074	CONSTRUCTION DUST	lanthanum	7439-91-0
420	12180	0.022941	CONSTRUCTION DUST	potassium	7440-09-7
420	12131	0.000031	CONSTRUCTION DUST	indium	7440-74-6
420	12142	0.00002	CONSTRUCTION DUST	mercury	7439-97-6
420	12110	0.000039	CONSTRUCTION DUST	cadmium	7440-43-9
420	12111	0.040304	CONSTRUCTION DUST	calcium	7440-70-2
420	12109	0.000035	CONSTRUCTION DUST	bromine	7726-95-6
420	12107	0.000952	CONSTRUCTION DUST	barium	7440-39-3
420	12103	0.000024	CONSTRUCTION DUST	arsenic	7440-38-2
420	12101	0.094913	CONSTRUCTION DUST	aluminum	7429-90-5
420	12166	0.00001	CONSTRUCTION DUST	silver	7440-22-4
420	12182	0.021137	CONSTRUCTION DUST	insol potassium	
420	12404	0.00175	CONSTRUCTION DUST	nonsulfate sulfur	
420	65312	0.001804	CONSTRUCTION DUST	potassium ion	24203-36-9
420	12112	0.000262	CONSTRUCTION DUST	chromium	7440-47-3
425	99999		DIESEL VEHICLE EXHAUST	unidentified	
425	12166	0.000028	DIESEL VEHICLE EXHAUST	silver	7440-22-4
425	12111	0.000548	DIESEL VEHICLE EXHAUST	calcium	7440-70-2
425	12128	0.000042	DIESEL VEHICLE EXHAUST	lead	7439-92-1
425	12152	0.000127	DIESEL VEHICLE EXHAUST	phosphorus	7723-14-0
425	11102	0.688796	DIESEL VEHICLE EXHAUST	organic compound	0
425	12306	0.000291	DIESEL VEHICLE EXHAUST	nitrates	14797-55-8
425	12136	0.000019	DIESEL VEHICLE EXHAUST	nickel	7440-02-0
425	12301	0.003369	DIESEL VEHICLE EXHAUST	ammonium	14798-03-9
425	12184	0.000224	DIESEL VEHICLE EXHAUST	sodium	7440-23-5
425	12146	0.000181	DIESEL VEHICLE EXHAUST	lanthanum	7439-91-0
425	12180	0.000154	DIESEL VEHICLE EXHAUST	potassium	7440-09-7
425	12131	0.000057	DIESEL VEHICLE EXHAUST	indium	7440-74-6
425	12142	0.00003	DIESEL VEHICLE EXHAUST	mercury	7439-97-6
425	12124	0.000008	DIESEL VEHICLE EXHAUST	gallium	7440-55-3
425	12126	0.000525	DIESEL VEHICLE EXHAUST	iron	7439-89-6

## LAX LAMP Addendum Manchester Square - Speciation Profiles

Particulate Matter toxic air contaminant speciation profiles

PM PROFILE NUMBER	SAROAD	WEIGHT FRACTION OF PM10	PM PROFILE NAME	SPECIES	CAS
425	12116	0.261005	DIESEL VEHICLE EXHAUST	elem carbon	7440-44-0
425	12114	0.000025	DIESEL VEHICLE EXHAUST	copper	7440-50-8
425	12501	0.000119	DIESEL VEHICLE EXHAUST	carbonate ion	
425	12113	0.000011	DIESEL VEHICLE EXHAUST	cobalt	7440-48-4
425	12167	0.000438	DIESEL VEHICLE EXHAUST	zinc	7440-66-6
425	12183	0.000012	DIESEL VEHICLE EXHAUST	yttrium	7440-65-5
425	12164	0.000029	DIESEL VEHICLE EXHAUST	vanadium (fume or dust)	7440-62-2
425	12000	0.015472	DIESEL VEHICLE EXHAUST	unknown	N/A
425	12161	0.000054	DIESEL VEHICLE EXHAUST	titanium	7440-32-6
425	12168	0.000014	DIESEL VEHICLE EXHAUST	strontium	7440-24-6
425	12403	0.017429	DIESEL VEHICLE EXHAUST	sulfates	14808-79-8
425	12160	0.00008	DIESEL VEHICLE EXHAUST	tin	7440-31-5
425	12185	0.000008	DIESEL VEHICLE EXHAUST	zirconium	7440-67-7
425	12165	0.002488	DIESEL VEHICLE EXHAUST	silicon	7440-21-3
425	12154	0.00001	DIESEL VEHICLE EXHAUST	selenium	7782-49-2
425	12102	0.000036	DIESEL VEHICLE EXHAUST	antimony	7440-36-0
425	12169	0.013269	DIESEL VEHICLE EXHAUST	sulfur	7704-34-9
425	12176	0.000007	DIESEL VEHICLE EXHAUST	rubidium	7440-17-7
425	12151	0.000016	DIESEL VEHICLE EXHAUST	palladium	7440-05-3
425	12134	0.000006	DIESEL VEHICLE EXHAUST	molybdenum	7439-98-7
425	12132	0.00004	DIESEL VEHICLE EXHAUST	manganese	7439-96-5
425	12115	0.000344	DIESEL VEHICLE EXHAUST	chlorine	7782-50-5
425	12110	0.00004	DIESEL VEHICLE EXHAUST	cadmium	7440-43-9
425	12101	0.000176	DIESEL VEHICLE EXHAUST	aluminum	7429-90-5
425	12109	0.000018	DIESEL VEHICLE EXHAUST	bromine	7726-95-6
425	12107	0.000251	DIESEL VEHICLE EXHAUST	barium	7440-39-3
425	12103	0.000005	DIESEL VEHICLE EXHAUST	arsenic	7440-38-2
425	12404	0.007459	DIESEL VEHICLE EXHAUST	nonsulfate sulfur	
425	65312	0.000151	DIESEL VEHICLE EXHAUST	potassium ion	24203-36-9
425	12112	0.000012	DIESEL VEHICLE EXHAUST	chromium	7440-47-3
470	12112	0.000017	UNPAVD RD DUST -1997 AND AFTER	chromium	7440-47-3
470	12101	0.099408	UNPAVD RD DUST -1997 AND AFTER	aluminum	7429-90-5
470	12301	0.001033	UNPAVD RD DUST -1997 AND AFTER	ammonium	14798-03-9
470	12102	0.000081	UNPAVD RD DUST -1997 AND AFTER	antimony	7440-36-0
470	12103	0.000015	UNPAVD RD DUST -1997 AND AFTER	arsenic	7440-38-2
470	12107	0.000697	UNPAVD RD DUST -1997 AND AFTER	barium	7440-39-3
470	12109	0.000018	UNPAVD RD DUST -1997 AND AFTER	bromine	7726-95-6
470	12110	0.000013	UNPAVD RD DUST -1997 AND AFTER	cadmium	7440-43-9
470	12111	0.05633	UNPAVD RD DUST -1997 AND AFTER	calcium	7440-70-2

## LAX LAMP Addendum Manchester Square - Speciation Profiles

Particulate Matter toxic air contaminant speciation profiles

PM PROFILE NUMBER	SAROAD	WEIGHT FRACTION OF PM10	PM PROFILE NAME	SPECIES	CAS
470	12116	0.001164	UNPAVD RD DUST -1997 AND AFTER	elem carbon	7440-44-0
470	11102	0.033684	UNPAVD RD DUST -1997 AND AFTER	organic compound	0
470	12115	0.000844	UNPAVD RD DUST -1997 AND AFTER	chlorine	7782-50-5
470	12113	0.000005	UNPAVD RD DUST -1997 AND AFTER	cobalt	7440-48-4
470	12114	0.000158	UNPAVD RD DUST -1997 AND AFTER	copper	7440-50-8
470	12124	0.000005	UNPAVD RD DUST -1997 AND AFTER	gallium	7440-55-3
470	12143	0.000011	UNPAVD RD DUST -1997 AND AFTER	gold	7440-57-5
470	12131	0	UNPAVD RD DUST -1997 AND AFTER	indium	7440-74-6
470	12126	0.052316	UNPAVD RD DUST -1997 AND AFTER	iron	7439-89-6
470	12146	0.000812	UNPAVD RD DUST -1997 AND AFTER	lanthanum	7439-91-0
470	12128	0.00013	UNPAVD RD DUST -1997 AND AFTER	lead	7439-92-1
470	12140	0.007556	UNPAVD RD DUST -1997 AND AFTER	magnesium	7439-95-4
470	12132	0.000915	UNPAVD RD DUST -1997 AND AFTER	manganese	7439-96-5
470	12142	0.000014	UNPAVD RD DUST -1997 AND AFTER	mercury	7439-97-6
470	12134	0.00001	UNPAVD RD DUST -1997 AND AFTER	molybdenum	7439-98-7
470	12136	0.000037	UNPAVD RD DUST -1997 AND AFTER	nickel	7440-02-0
470	12306	0.00752	UNPAVD RD DUST -1997 AND AFTER	nitrates	14797-55-8
470	12151	0.000007	UNPAVD RD DUST -1997 AND AFTER	palladium	7440-05-3
470	12152	0.001096	UNPAVD RD DUST -1997 AND AFTER	phosphorus	7723-14-0
470	12180	0.027222	UNPAVD RD DUST -1997 AND AFTER	potassium	7440-09-7
470	12176	0.000141	UNPAVD RD DUST -1997 AND AFTER	rubidium	7440-17-7
470	12154	0.000003	UNPAVD RD DUST -1997 AND AFTER	selenium	7782-49-2
470	12165	0.324839	UNPAVD RD DUST -1997 AND AFTER	silicon	7440-21-3
470	12166	0	UNPAVD RD DUST -1997 AND AFTER	silver	7440-22-4
470	12184	0.002687	UNPAVD RD DUST -1997 AND AFTER	sodium	7440-23-5
470	12168	0.000423	UNPAVD RD DUST -1997 AND AFTER	strontium	7440-24-6
470	12169	0.002928	UNPAVD RD DUST -1997 AND AFTER	sulfur	7704-34-9
470	12173	0.00004	UNPAVD RD DUST -1997 AND AFTER	thallium	7440-28-0
470	12160	0.000076	UNPAVD RD DUST -1997 AND AFTER	tin	7440-31-5
470	12161	0.004289	UNPAVD RD DUST -1997 AND AFTER	titanium	7440-32-6
470	12179	0.000022	UNPAVD RD DUST -1997 AND AFTER	uranium	7440-61-1
470	12164	0.000077	UNPAVD RD DUST -1997 AND AFTER	vanadium (fume or dust)	7440-62-2
470	12183	0.000031	UNPAVD RD DUST -1997 AND AFTER	yttrium	7440-65-5
470	12167	0.000374	UNPAVD RD DUST -1997 AND AFTER	zinc	7440-66-6
470	12185	0.000117	UNPAVD RD DUST -1997 AND AFTER	zirconium	7440-67-7
470	12000	0.368603	UNPAVD RD DUST -1997 AND AFTER	unknown	N/A
470	12403	0.005685	UNPAVD RD DUST -1997 AND AFTER	sulfates	14808-79-8
470	12203	0.00118	UNPAVD RD DUST -1997 AND AFTER	chloride ion	16887-00-6
470	12153	0.000157	UNPAVD RD DUST -1997 AND AFTER	phosphate	14265-44-2

## LAX LAMP Addendum Manchester Square - Speciation Profiles

Particulate Matter toxic air contaminant speciation profiles

PM PROFILE NUMBER	SAROAD	WEIGHT FRACTION OF PM10	PM PROFILE NAME	SPECIES	CAS
470	12156	0.001045	UNPAVD RD DUST -1997 AND AFTER	non-phosphate phosphorous	
470	12182	0.025934	UNPAVD RD DUST -1997 AND AFTER	insol potassium	
470	12404	0.001033	UNPAVD RD DUST -1997 AND AFTER	nonsulfate sulfur	
470	65312	0.001288	UNPAVD RD DUST -1997 AND AFTER	potassium ion	24203-36-9
471	12101	0.106709	PAVED RD DUST -1997 AND AFTER	aluminum	7429-90-5
471	12301	0.002886	PAVED RD DUST -1997 AND AFTER	ammonium	14798-03-9
471	12102	0.000068	PAVED RD DUST -1997 AND AFTER	antimony	7440-36-0
471	12103	0.000013	PAVED RD DUST -1997 AND AFTER	arsenic	7440-38-2
471	12107	0.00104	PAVED RD DUST -1997 AND AFTER	barium	7440-39-3
471	12109	0.000012	PAVED RD DUST -1997 AND AFTER	bromine	7726-95-6
471	12110	0.000003	PAVED RD DUST -1997 AND AFTER	cadmium	7440-43-9
471	12111	0.03268	PAVED RD DUST -1997 AND AFTER	calcium	7440-70-2
471	12116	0.007718	PAVED RD DUST -1997 AND AFTER	elem carbon	7440-44-0
471	11102	0.059742	PAVED RD DUST -1997 AND AFTER	organic compound	0
471	12115	0.000533	PAVED RD DUST -1997 AND AFTER	chlorine	7782-50-5
471	12112	0.000017	PAVED RD DUST -1997 AND AFTER	chromium	7440-47-3
471	12113	0.000023	PAVED RD DUST -1997 AND AFTER	cobalt	7440-48-4
471	12114	0.000148	PAVED RD DUST -1997 AND AFTER	copper	7440-50-8
471	12124	0.000017	PAVED RD DUST -1997 AND AFTER	gallium	7440-55-3
471	12143	0.000007	PAVED RD DUST -1997 AND AFTER	gold	7440-57-5
471	12131	0.000006	PAVED RD DUST -1997 AND AFTER	indium	7440-74-6
471	12126	0.05435	PAVED RD DUST -1997 AND AFTER	iron	7439-89-6
471	12146	0.000111	PAVED RD DUST -1997 AND AFTER	lanthanum	7439-91-0
471	12128	0.000124	PAVED RD DUST -1997 AND AFTER	lead	7439-92-1
471	12140	0.007392	PAVED RD DUST -1997 AND AFTER	magnesium	7439-95-4
471	12132	0.0008	PAVED RD DUST -1997 AND AFTER	manganese	7439-96-5
471	12142	0.000009	PAVED RD DUST -1997 AND AFTER	mercury	7439-97-6
471	12134	0.000005	PAVED RD DUST -1997 AND AFTER	molybdenum	7439-98-7
471	12136	0.000012	PAVED RD DUST -1997 AND AFTER	nickel	7440-02-0
471	12306	0.00058	PAVED RD DUST -1997 AND AFTER	nitrates	14797-55-8
471	12151	0.000005	PAVED RD DUST -1997 AND AFTER	palladium	7440-05-3
471	12152	0.002723	PAVED RD DUST -1997 AND AFTER	phosphorus	7723-14-0
471	12180	0.028459	PAVED RD DUST -1997 AND AFTER	potassium	7440-09-7
471	12176	0.000149	PAVED RD DUST -1997 AND AFTER	rubidium	7440-17-7
471	12154	0.000002	PAVED RD DUST -1997 AND AFTER	selenium	7782-49-2
471	12165	0.303673	PAVED RD DUST -1997 AND AFTER	silicon	7440-21-3
471	12166	0	PAVED RD DUST -1997 AND AFTER	silver	7440-22-4
471	12184	0.001985	PAVED RD DUST -1997 AND AFTER	sodium	7440-23-5
471	12168	0.00034	PAVED RD DUST -1997 AND AFTER	strontium	7440-24-6

## LAX LAMP Addendum Manchester Square - Speciation Profiles

Particulate Matter toxic air contaminant speciation profiles

PM PROFILE NUMBER	SAROAD	WEIGHT FRACTION OF PM10	PM PROFILE NAME	SPECIES	CAS
471	12169	0.003131	PAVED RD DUST -1997 AND AFTER	sulfur	7704-34-9
471	12173	0.000004	PAVED RD DUST -1997 AND AFTER	thallium	7440-28-0
471	12160	0.000053	PAVED RD DUST -1997 AND AFTER	tin	7440-31-5
471	12161	0.004866	PAVED RD DUST -1997 AND AFTER	titanium	7440-32-6
471	12179	0.000009	PAVED RD DUST -1997 AND AFTER	uranium	7440-61-1
471	12164	0.000071	PAVED RD DUST -1997 AND AFTER	vanadium (fume or dust)	7440-62-2
471	12183	0.000028	PAVED RD DUST -1997 AND AFTER	yttrium	7440-65-5
471	12167	0.000991	PAVED RD DUST -1997 AND AFTER	zinc	7440-66-6
471	12185	0.000128	PAVED RD DUST -1997 AND AFTER	zirconium	7440-67-7
471	12000	0.375801	PAVED RD DUST -1997 AND AFTER	unknown	N/A
471	12403	0.002692	PAVED RD DUST -1997 AND AFTER	sulfates	14808-79-8
471	12203	0.001051	PAVED RD DUST -1997 AND AFTER	chloride ion	16887-00-6
471	12153	0.000392	PAVED RD DUST -1997 AND AFTER	phosphate	14265-44-2
471	12155	0.002595	PAVED RD DUST -1997 AND AFTER	praseodymium	7440-10-0
471	12182	0.02694	PAVED RD DUST -1997 AND AFTER	insol potassium	
471	12404	0.002234	PAVED RD DUST -1997 AND AFTER	nonsulfate sulfur	
471	65312	0.001519	PAVED RD DUST -1997 AND AFTER	potassium ion	24203-36-9
473	12128	0.00005	BRAKE WEAR	lead	7439-92-1
473	12176	0.00005	BRAKE WEAR	rubidium	7440-17-7
473	12109	0.00004	BRAKE WEAR	bromine	7726-95-6
473	12301	0.00003	BRAKE WEAR	ammonium	14798-03-9
473	12154	0.00002	BRAKE WEAR	selenium	7782-49-2
473	12000	0.303948	BRAKE WEAR	unknown	N/A
473	12126	0.287	BRAKE WEAR	iron	7439-89-6
473	11102	0.107	BRAKE WEAR	organic compound	0
473	12140	0.083	BRAKE WEAR	magnesium	7439-95-4
473	12165	0.0679	BRAKE WEAR	silicon	7440-21-3
473	12107	0.05445	BRAKE WEAR	barium	7440-39-3
473	12116	0.0261	BRAKE WEAR	elem carbon	7440-44-0
473	12169	0.0128	BRAKE WEAR	sulfur	7704-34-9
473	12114	0.011485	BRAKE WEAR	copper	7440-50-8
473	12160	0.0066	BRAKE WEAR	tin	7440-31-5
473	12134	0.0037	BRAKE WEAR	molybdenum	7439-98-7
473	12161	0.0036	BRAKE WEAR	titanium	7440-32-6
473	12132	0.0017	BRAKE WEAR	manganese	7439-96-5
473	12306	0.0016	BRAKE WEAR	nitrates	14797-55-8
473	12115	0.0015	BRAKE WEAR	chlorine	7782-50-5
473	12111	0.0011	BRAKE WEAR	calcium	7440-70-2
473	12168	0.00074	BRAKE WEAR	strontium	7440-24-6

## LAX LAMP Addendum Manchester Square - Speciation Profiles

Particulate Matter toxic air contaminant speciation profiles

PM PROFILE NUMBER	SAROAD	WEIGHT FRACTION OF PM10	PM PROFILE NAME	SPECIES	CAS
473	12136	0.00066	BRAKE WEAR	nickel	7440-02-0
473	12164	0.00066	BRAKE WEAR	vanadium (fume or dust)	7440-62-2
473	12101	0.00033	BRAKE WEAR	aluminum	7429-90-5
473	12167	0.00027	BRAKE WEAR	zinc	7440-66-6
473	12180	0.00019	BRAKE WEAR	potassium	7440-09-7
473	12103	0.00001	BRAKE WEAR	arsenic	7440-38-2
473	12403	0.0334	BRAKE WEAR	sulfates	14808-79-8
473	12203	0.0015	BRAKE WEAR	chloride ion	16887-00-6
473	12404	0.001667	BRAKE WEAR	nonsulfate sulfur	
473	12112	0.0012	BRAKE WEAR	chromium	7440-47-3
472	11102	0.4715	TIRE WEAR	organic compound	0
472	12000	0.260568	TIRE WEAR	unknown	N/A
472	12116	0.22	TIRE WEAR	elem carbon	7440-44-0
472	12169	0.01989	TIRE WEAR	sulfur	7704-34-9
472	12115	0.0078	TIRE WEAR	chlorine	7782-50-5
472	12167	0.005305	TIRE WEAR	zinc	7440-66-6
472	12126	0.0046	TIRE WEAR	iron	7439-89-6
472	12152	0.00125	TIRE WEAR	phosphorus	7723-14-0
472	12403	0.0025	TIRE WEAR	sulfates	14808-79-8
472	12306	0.0015	TIRE WEAR	nitrates	14797-55-8
472	12165	0.00115	TIRE WEAR	silicon	7440-21-3
472	12111	0.00112	TIRE WEAR	calcium	7440-70-2
472	12184	0.00061	TIRE WEAR	sodium	7440-23-5
472	12101	0.000605	TIRE WEAR	aluminum	7429-90-5
472	12114	0.00049	TIRE WEAR	copper	7440-50-8
472	12180	0.00038	TIRE WEAR	potassium	7440-09-7
472	12140	0.000375	TIRE WEAR	magnesium	7439-95-4
472	12161	0.00036	TIRE WEAR	titanium	7440-32-6
472	12107	0.000195	TIRE WEAR	barium	7440-39-3
472	12301	0.00019	TIRE WEAR	ammonium	14798-03-9
472	12128	0.00016	TIRE WEAR	lead	7439-92-1
472	12132	0.0001	TIRE WEAR	manganese	7439-96-5
472	12168	0.00007	TIRE WEAR	strontium	7440-24-6
472	12136	0.00005	TIRE WEAR	nickel	7440-02-0
472	12112	0.00003	TIRE WEAR	chromium	7440-47-3
472	12154	0.00002	TIRE WEAR	selenium	7782-49-2
472	12109	0.000015	TIRE WEAR	bromine	7726-95-6
472	12404	0.019057	TIRE WEAR	nonsulfate sulfur	

**LAX LAMP Addendum Machester Square - Speciation Profiles**
*Volitile Organic Compound toxic air contaminant speciation profiles*

ORG PROFILE NUMBER	SAROAD	WEIGHT FRACTION TOG	ORG PROFILE NAME	SPECIES	CAS
716	43108	0.0201	Medium cure asphalt	isomers of nonane	--
716	43109	0.0806	Medium cure asphalt	isomers of decane	--
716	43233	0.0564	Medium cure asphalt	n-octane	111-65-9
716	43235	0.1047	Medium cure asphalt	n-nonane	111-84-2
716	43238	0.1249	Medium cure asphalt	n-decane	124-18-5
716	43241	0.0212	Medium cure asphalt	n-undecane	1120-21-4
716	43261	0.0212	Medium cure asphalt	methylcyclohexane	108-87-2
716	45102	0.0856	Medium cure asphalt	xylene (mixed)	--
716	45104	0.0292	Medium cure asphalt	c9 dialkyl benzenes	--
716	45105	0.0937	Medium cure asphalt	isomers of butylbenzene	--
716	45107	0.0534	Medium cure asphalt	trimethylbenzenes	--
716	45202	0.0645	Medium cure asphalt	toluene	108-88-3
716	45203	0.0232	Medium cure asphalt	ethyl benzene	100-41-4
716	45204	0.0373	Medium cure asphalt	o-xylene	95-47-6
716	98064	0.0342	Medium cure asphalt	c8 alkyl cyclohexanes	--
716	98065	0.0987	Medium cure asphalt	c9 alkyl cyclohexanes	--
716	91289	0.0514	Medium cure asphalt	c10 alkyl cyclohexanes	--
717	43110	0.0101	Architectural surface coating-water based paint	isomers of undecane	--
717	43238	0.002	Architectural surface coating-water based paint	n-decane	124-18-5
717	43241	0.001	Architectural surface coating-water based paint	n-undecane	1120-21-4
717	43305	0.202	Architectural surface coating-water based paint	n-butyl alcohol	--
717	43370	0.0051	Architectural surface coating-water based paint	ethylene glycol	--
717	43371	0.0141	Architectural surface coating-water based paint	hexylene glycol {2-methyl-2,4-pentanediol}	--
717	43391	0.001	Architectural surface coating-water based paint	2-butyltetrahydrofuran	--
717	43801	0.0051	Architectural surface coating-water based paint	methyl chloride {chloromethane}	--
717	43802	0.0556	Architectural surface coating-water based paint	methylene chloride {dichloromethane}	--
717	43812	0.0061	Architectural surface coating-water based paint	ethyl chloride {chloroethane}	--
717	45201	0.003	Architectural surface coating-water based paint	benzene	71-43-2
717	98104	0.0222	Architectural surface coating-water based paint	1-chlorobutane	--
717	98105	0.0061	Architectural surface coating-water based paint	3-(chloromethyl)-heptane	--
717	98106	0.0525	Architectural surface coating-water based paint	ethyl isopropyl ether	--
717	98107	0.002	Architectural surface coating-water based paint	dibutyl ether	--
717	98109	0.0101	Architectural surface coating-water based paint	propylcyclohexanone	--
717	98110	0.0071	Architectural surface coating-water based paint	diethylene glycol monobutyl ether	--
717	98111	0.0141	Architectural surface coating-water based paint	1-ethoxy-2-propanol	--
717	98112	0.0101	Architectural surface coating-water based paint	2-ethyl-1-hexanol	--
717	98113	0.0071	Architectural surface coating-water based paint	1-heptanol	--
717	98114	0.001	Architectural surface coating-water based paint	methyl isobutyrate	--
717	98115	0.003	Architectural surface coating-water based paint	isoamyl isobutyrate	--
717	98116	0.2717	Architectural surface coating-water based paint	substituted c7 ester (c12)	--
717	98117	0.2879	Architectural surface coating-water based paint	substituted c9 ester (c12)	--
818	43201	0.0408	Farm equipment - diesel - light & heavy - (ems=actual weight)	methane	74-82-8
818	43202	0.0057	Farm equipment - diesel - light & heavy - (ems=actual weight)	ethane	74-84-0
818	43203	0.1438	Farm equipment - diesel - light & heavy - (ems=actual weight)	ethylene	74-85-1
818	43204	0.0019	Farm equipment - diesel - light & heavy - (ems=actual weight)	propane	74-98-6
818	43205	0.026	Farm equipment - diesel - light & heavy - (ems=actual weight)	propylene	115-07-1



**LAX LAMP Addendum Machester Square - Speciation Profiles**
*Volitile Organic Compound toxic air contaminant speciation profiles*

ORG PROFILE NUMBER	SAROAD	WEIGHT FRACTION TOG	ORG PROFILE NAME	SPECIES	CAS
818	43206	0.0425	Farm equipment - diesel - light & heavy - (ems=actual weight)	acetylene	74-86-2
818	43208	0.0047	Farm equipment - diesel - light & heavy - (ems=actual weight)	1,2-propadiene	463-49-0
818	43212	0.001	Farm equipment - diesel - light & heavy - (ems=actual weight)	n-butane	106-97-8
818	43213	0.0067	Farm equipment - diesel - light & heavy - (ems=actual weight)	1-butene	106-98-9
818	43214	0.0122	Farm equipment - diesel - light & heavy - (ems=actual weight)	isobutane	75-28-5
818	43215	0.0092	Farm equipment - diesel - light & heavy - (ems=actual weight)	isobutylene	115-11-7
818	43216	0.002	Farm equipment - diesel - light & heavy - (ems=actual weight)	trans-2-butene	624-64-6
818	43217	0.0009	Farm equipment - diesel - light & heavy - (ems=actual weight)	cis-2-butene	590-18-1
818	43218	0.0019	Farm equipment - diesel - light & heavy - (ems=actual weight)	1,3-butadiene	106-99-0
818	43220	0.0018	Farm equipment - diesel - light & heavy - (ems=actual weight)	n-pentane	109-66-0
818	43224	0.0032	Farm equipment - diesel - light & heavy - (ems=actual weight)	1-pentene	109-67-1
818	43226	0.0004	Farm equipment - diesel - light & heavy - (ems=actual weight)	trans-2-pentene	646-04-8
818	43227	0.0003	Farm equipment - diesel - light & heavy - (ems=actual weight)	cis-2-pentene	627-20-3
818	43229	0.0039	Farm equipment - diesel - light & heavy - (ems=actual weight)	2-methylpentane	107-83-5
818	43230	0.0012	Farm equipment - diesel - light & heavy - (ems=actual weight)	3-methylpentane	96-14-0
818	43231	0.0016	Farm equipment - diesel - light & heavy - (ems=actual weight)	hexane	110-54-3
818	43232	0.0007	Farm equipment - diesel - light & heavy - (ems=actual weight)	n-heptane	142-82-5
818	43233	0.0014	Farm equipment - diesel - light & heavy - (ems=actual weight)	n-octane	111-65-9
818	43234	0.0003	Farm equipment - diesel - light & heavy - (ems=actual weight)	2,3-dimethyl-1-butene	563-78-0
818	43235	0.0023	Farm equipment - diesel - light & heavy - (ems=actual weight)	n-nonane	111-84-2
818	43238	0.0053	Farm equipment - diesel - light & heavy - (ems=actual weight)	n-decane	124-18-5
818	43241	0.0026	Farm equipment - diesel - light & heavy - (ems=actual weight)	n-undecane	1120-21-4
818	43242	0.0001	Farm equipment - diesel - light & heavy - (ems=actual weight)	cyclopentane	287-92-3
818	43248	0.0003	Farm equipment - diesel - light & heavy - (ems=actual weight)	cyclohexane	110-82-7
818	43261	0.0007	Farm equipment - diesel - light & heavy - (ems=actual weight)	methylcyclohexane	108-87-2
818	43262	0.0015	Farm equipment - diesel - light & heavy - (ems=actual weight)	methylcyclopentane	96-37-7
818	43264	0.0011	Farm equipment - diesel - light & heavy - (ems=actual weight)	cyclohexanone	108-94-1
818	43271	0.0002	Farm equipment - diesel - light & heavy - (ems=actual weight)	2,4-dimethylpentane	108-08-7
818	43274	0.0007	Farm equipment - diesel - light & heavy - (ems=actual weight)	2,3-dimethylpentane	565-59-3
818	43275	0.0012	Farm equipment - diesel - light & heavy - (ems=actual weight)	2-methylhexane	591-76-4
818	43276	0.003	Farm equipment - diesel - light & heavy - (ems=actual weight)	2,2,4-trimethylpentane	540-84-1
818	43277	0.0004	Farm equipment - diesel - light & heavy - (ems=actual weight)	2,4-dimethylhexane	589-43-5
818	43279	0.0002	Farm equipment - diesel - light & heavy - (ems=actual weight)	2,3,4-trimethylpentane	565-75-3
818	43291	0.0006	Farm equipment - diesel - light & heavy - (ems=actual weight)	2,2-dimethylbutane	75-83-2
818	43295	0.0035	Farm equipment - diesel - light & heavy - (ems=actual weight)	3-methylhexane	589-34-4
818	43301	0.0003	Farm equipment - diesel - light & heavy - (ems=actual weight)	methanol	67-56-1
818	43302	0.0001	Farm equipment - diesel - light & heavy - (ems=actual weight)	ethyl alcohol	64-17-5
818	43502	0.1471	Farm equipment - diesel - light & heavy - (ems=actual weight)	formaldehyde	50-00-0
818	43503	0.0735	Farm equipment - diesel - light & heavy - (ems=actual weight)	acetaldehyde	75-07-0
818	43504	0.0097	Farm equipment - diesel - light & heavy - (ems=actual weight)	propionaldehyde	123-38-6
818	43510	0.0187	Farm equipment - diesel - light & heavy - (ems=actual weight)	butyraldehyde	123-72-8
818	43512	0.0011	Farm equipment - diesel - light & heavy - (ems=actual weight)	c5 aldehyde	--
818	43551	0.0751	Farm equipment - diesel - light & heavy - (ems=actual weight)	[d] acetone [deleted/obsolete emittent id]	67-64-1
818	43552	0.0148	Farm equipment - diesel - light & heavy - (ems=actual weight)	methyl ethyl ketone {2-butanone}	78-93-3
818	43559	0.009	Farm equipment - diesel - light & heavy - (ems=actual weight)	methyl n-butyl ketone	591-78-6
818	45105	0.0013	Farm equipment - diesel - light & heavy - (ems=actual weight)	isomers of butylbenzene	--

**LAX LAMP Addendum Machester Square - Speciation Profiles**

Volitile Organic Compound toxic air contaminant speciation profiles

ORG PROFILE NUMBER	SAROAD	WEIGHT FRACTION TOG	ORG PROFILE NAME	SPECIES	CAS
818	45106	0.0014	Farm equipment - diesel - light & heavy - (ems=actual weight)	isomers of diethylbenzene	--
818	45201	0.02	Farm equipment - diesel - light & heavy - (ems=actual weight)	benzene	71-43-2
818	45202	0.0147	Farm equipment - diesel - light & heavy - (ems=actual weight)	toluene	108-88-3
818	45203	0.0031	Farm equipment - diesel - light & heavy - (ems=actual weight)	ethyl benzene	100-41-4
818	45204	0.0034	Farm equipment - diesel - light & heavy - (ems=actual weight)	o-xylene	95-47-6
818	45205	0.0061	Farm equipment - diesel - light & heavy - (ems=actual weight)	m-xylene	108-38-3
818	45206	0.001	Farm equipment - diesel - light & heavy - (ems=actual weight)	p-xylene	106-42-3
818	45207	0.0019	Farm equipment - diesel - light & heavy - (ems=actual weight)	1,3,5-trimethylbenzene	108-67-8
818	45208	0.0053	Farm equipment - diesel - light & heavy - (ems=actual weight)	1,2,4-trimethylbenzene	95-63-6
818	45209	0.0012	Farm equipment - diesel - light & heavy - (ems=actual weight)	n-propylbenzene	103-65-1
818	45215	0.0001	Farm equipment - diesel - light & heavy - (ems=actual weight)	t-butylbenzene	98-06-6
818	45220	0.0006	Farm equipment - diesel - light & heavy - (ems=actual weight)	styrene	100-42-5
818	45225	0.0012	Farm equipment - diesel - light & heavy - (ems=actual weight)	1,2,3-trimethylbenzene	526-73-8
818	45234	0.0005	Farm equipment - diesel - light & heavy - (ems=actual weight)	(1-methylpropyl)benzene	135-98-8
818	45235	0.0013	Farm equipment - diesel - light & heavy - (ems=actual weight)	(2-methylpropyl)benzene	538-93-2
818	45501	0.007	Farm equipment - diesel - light & heavy - (ems=actual weight)	benzaldehyde	100-52-7
818	90081	0.0006	Farm equipment - diesel - light & heavy - (ems=actual weight)	ethylhexane	--
818	98020	0.0005	Farm equipment - diesel - light & heavy - (ems=actual weight)	b-methylstyrene	637-50-3
818	98043	0.0002	Farm equipment - diesel - light & heavy - (ems=actual weight)	cumene	98-82-8
818	98044	0.0019	Farm equipment - diesel - light & heavy - (ems=actual weight)	indan	496-11-7
818	98046	0.0009	Farm equipment - diesel - light & heavy - (ems=actual weight)	naphthalene	91-20-3
818	98049	0.005	Farm equipment - diesel - light & heavy - (ems=actual weight)	c9 aromatics	--
818	98050	0.0008	Farm equipment - diesel - light & heavy - (ems=actual weight)	c10 aromatics	--
818	98078	0.0175	Farm equipment - diesel - light & heavy - (ems=actual weight)	alkene ketone	--
818	98095	0.038	Farm equipment - diesel - light & heavy - (ems=actual weight)	c6 aldehydes	--
818	98132	0.006	Farm equipment - diesel - light & heavy - (ems=actual weight)	isopentane	78-78-4
818	98139	0.0001	Farm equipment - diesel - light & heavy - (ems=actual weight)	2,3-dimethylhexane	584-94-1
818	98140	0.0006	Farm equipment - diesel - light & heavy - (ems=actual weight)	2-methylheptane	592-27-8
818	98154	0.0009	Farm equipment - diesel - light & heavy - (ems=actual weight)	1,2-diethylbenzene (ortho)	135-01-3
818	98169	0.0282	Farm equipment - diesel - light & heavy - (ems=actual weight)	3,3-dimethyl-1-butene	558-37-2
818	99912	0.0025	Farm equipment - diesel - light & heavy - (ems=actual weight)	1-methyl-3-ethylbenzene	620-14-4
818	99915	0.0014	Farm equipment - diesel - light & heavy - (ems=actual weight)	1-methyl-2-ethylbenzene	611-14-3
818	99999	0.1386	Farm equipment - diesel - light & heavy - (ems=actual weight)	unidentified	999-99-9
2120	43160	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,2,3-trimethylbutane	464-06-2
2120	43201	0.3114	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	methane	74-82-8
2120	43202	0.0087	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	ethane	74-84-0
2120	43203	0.0539	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	ethylene	74-85-1
2120	43204	0.0005	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	propane	74-98-6
2120	43205	0.0259	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	propylene	115-07-1
2120	43206	0.0275	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	acetylene	74-86-2
2120	43208	0.0012	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,2-propadiene	463-49-0
2120	43209	0.0019	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-propyne	74-99-7
2120	43211	0.0009	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3-methyl-1-pentene	760-20-3
2120	43212	0.0065	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	n-butane	106-97-8
2120	43213	0.0035	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-butene	106-98-9
2120	43214	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	isobutane	75-28-5

**LAX LAMP Addendum Manchester Square - Speciation Profiles**
*Volatile Organic Compound toxic air contaminant speciation profiles*

ORG PROFILE NUMBER	SAROAD	WEIGHT FRACTION TOG	ORG PROFILE NAME	SPECIES	CAS
2120	43215	0.0147	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	isobutylene	115-11-7
2120	43216	0.002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	trans-2-butene	624-64-6
2120	43217	0.0014	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cis-2-butene	590-18-1
2120	43218	0.0046	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,3-butadiene	106-99-0
2120	43220	0.0236	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	n-pentane	109-66-0
2120	98006	0.0004	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	trans-3-heptene	14686-14-7
2120	98033	0.0036	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,2,5-trimethylhexane	3522-94-9
2120	98034	0.001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	trans-2-hexene	4050-45-7
2120	98035	0.0003	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cis-2-hexene	7688-21-3
2120	98040	0.0006	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2-methyl-1-pentene	763-29-1
2120	98043	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cumene	98-82-8
2120	98044	0.0007	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	indan	496-11-7
2120	98046	0.0004	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	naphthalene	91-20-3
2120	98056	0.0003	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	isovaleraldehyde	590-86-3
2120	98057	0.0016	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	ethylcyclopentane	1640-89-7
2120	98059	0.0004	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	trans-1,3-dimethylcyclohexane	2207-03-6
2120	98061	0.0008	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,3,5-trimethylcyclohexane	1839-63-0
2120	98132	0.0585	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	isopentane	78-78-4
2120	98134	0.0006	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	vinylacetylene	689-97-4
2120	98135	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	4-methyl-1-pentene	691-37-2
2120	98136	0.0004	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	trans-3-hexene	13269-52-8
2120	98138	0.0008	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,2-dimethylhexane	590-73-8
2120	98139	0.0027	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,3-dimethylhexane	584-94-1
2120	98140	0.0038	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2-methylheptane	592-27-8
2120	98141	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,3,5-trimethylhexane	1069-53-0
2120	98142	0.0008	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,4-dimethylheptane	2213-23-2
2120	98144	0.0016	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3,5-dimethylheptane	926-82-9
2120	98146	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2-methyloctane	3221-61-2
2120	98149	0.0003	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,4-dimethyloctane	4032-94-4
2120	98152	0.0013	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-methyl-3n-propylbenzene	1074-43-7
2120	98153	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-methyl-3-isopropylbenzene	535-77-3
2120	98156	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	crotonaldehyde	4170-30-3
2120	98157	0.002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,6-dimethylheptane	1072-05-5
2120	98172	0.0034	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3-methyloctane	2216-33-3
2120	98173	0.0026	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	4-methyloctane	2216-34-4
2120	98174	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,2,4-trimethylheptane	14720-74-2
2120	98175	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,2-dimethyloctane	15869-87-1
2120	98176	0.0003	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,5-dimethyloctane	15869-89-3
2120	98177	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,6-dimethyloctane	2051-30-1
2120	98178	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-methyl-2n-propylbenzene	1074-17-5
2120	98180	0.0009	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cis-1,3-dimethylcyclohexane	638-04-0
2120	98181	0.0004	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	trans-1,4-dimethylcyclohexane	2207-04-7
2120	98183	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,3-dimethyloctane	7146-60-3
2120	98184	0.0003	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3,3-dimethyloctane	4110-44-5
2120	99912	0.0067	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-methyl-3-ethylbenzene	620-14-4
2120	99914	0.0028	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-methyl-4-ethylbenzene	622-96-8

**LAX LAMP Addendum Machester Square - Speciation Profiles**
*Volitile Organic Compound toxic air contaminant speciation profiles*

ORG PROFILE NUMBER	SAROAD	WEIGHT FRACTION TOG	ORG PROFILE NAME	SPECIES	CAS
2120	99915	0.0023	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-methyl-2-ethylbenzene	611-14-3
2120	99999	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	unidentified	999-99-9
2120	43221	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,2-butadiene (methylallene)	590-19-2
2120	43223	0.0019	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3-methyl-1-butene	563-45-1
2120	43224	0.0011	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-pentene	109-67-1
2120	43225	0.0024	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2-methyl-1-butene	563-46-2
2120	43226	0.0018	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	trans-2-pentene	646-04-8
2120	43227	0.001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cis-2-pentene	627-20-3
2120	43228	0.0034	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2-methyl-2-butene	513-35-9
2120	43229	0.0318	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2-methylpentane	107-83-5
2120	43230	0.0187	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3-methylpentane	96-14-0
2120	43231	0.0135	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	hexane	110-54-3
2120	43232	0.0042	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	n-heptane	142-82-5
2120	43233	0.0032	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	n-octane	111-65-9
2120	43234	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,3-dimethyl-1-butene	563-78-0
2120	43235	0.0014	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	n-nonane	111-84-2
2120	43238	0.0013	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	n-decane	124-18-5
2120	43241	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	n-undecane	1120-21-4
2120	43242	0.003	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cyclopentane	287-92-3
2120	43243	0.0012	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	isoprene, except from vegetative emission sources	78-79-5
2120	43245	0.0004	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-hexene	592-41-6
2120	43248	0.0052	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cyclohexane	110-82-7
2120	43252	0.0005	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,2,5-triethylheptane	20291-95-6
2120	43255	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	n-dodecane	112-40-3
2120	43261	0.0069	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	methylcyclohexane	108-87-2
2120	43262	0.0236	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	methylcyclopentane	96-37-7
2120	43271	0.0049	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,4-dimethylpentane	108-08-7
2120	43272	0.0006	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3-methylcyclopentene	1120-62-3
2120	43273	0.0007	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cyclohexene	110-83-8
2120	43274	0.0164	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,3-dimethylpentane	565-59-3
2120	43276	0.0195	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,2,4-trimethylpentane	540-84-1
2120	43277	0.0031	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,4-dimethylhexane	589-43-5
2120	43278	0.0038	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,5-dimethylhexane	592-13-2
2120	43279	0.0068	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,3,4-trimethylpentane	565-75-3
2120	43291	0.0054	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,2-dimethylbutane	75-83-2
2120	43292	0.0016	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cyclopentene	142-29-0
2120	43293	0.0005	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	4-methyl-trans-2-pentene	674-76-0
2120	43295	0.0087	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3-methylhexane	589-34-4
2120	43297	0.0018	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	4-methylheptane	589-53-7
2120	43298	0.0068	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3-methylheptane	589-81-1
2120	43300	0.003	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3-ethylpentane	617-78-7
2120	43301	0.001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	methanol	67-56-1
2120	43302	0.0099	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	ethyl alcohol	64-17-5
2120	43400	0.0014	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,2,4-trimethylcyclopentene	2815-58-9
2120	43502	0.0134	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	formaldehyde	50-00-0
2120	43503	0.0024	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	acetaldehyde	75-07-0

**LAX LAMP Addendum Machester Square - Speciation Profiles**

Volatile Organic Compound toxic air contaminant speciation profiles

ORG PROFILE NUMBER	SAROAD	WEIGHT FRACTION TOG	ORG PROFILE NAME	SPECIES	CAS
2120	43504	0.0003	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	propionaldehyde	123-38-6
2120	43505	0.0011	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	acrolein	107-02-8
2120	43506	0.0007	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2-methyl-2-propenal	78-85-3
2120	43510	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	butyraldehyde	123-72-8
2120	43551	0.0014	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	[d] acetone [deleted/obsolete emittent id]	67-64-1
2120	43552	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	methyl ethyl ketone {2-butanone}	78-93-3
2120	45113	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,3-diethylbenzene (meta)	141-93-5
2120	45114	0.0006	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,4-diethylbenzene (para)	105-05-5
2120	45201	0.0209	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	benzene	71-43-2
2120	45202	0.0487	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	toluene	108-88-3
2120	45203	0.0089	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	ethyl benzene	100-41-4
2120	45204	0.0105	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	o-xylene	95-47-6
2120	45205	0.0302	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	m-xylene	108-38-3
2120	45207	0.0033	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,3,5-trimethylbenzene	108-67-8
2120	45208	0.0082	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,2,4-trimethylbenzene	95-63-6
2120	45209	0.0019	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	n-propylbenzene	103-65-1
2120	45220	0.001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	styrene	100-42-5
2120	45222	0.0009	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,2,4-trimethylhexane	16747-26-5
2120	45225	0.0014	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,2,3-trimethylbenzene	526-73-8
2120	45237	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,3-dipropylbenzene	17171-72-1
2120	45243	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-methyl-2-n-butylbenzene	1595-11-5
2120	45250	0.0004	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,4-dimethyl-2-ethylbenzene	1758-88-9
2120	45251	0.0004	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,3-dimethyl-4-ethylbenzene	874-41-9
2120	45252	0.0009	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,2-dimethyl-4-ethylbenzene	934-80-5
2120	45254	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,2-dimethyl-3-ethylbenzene	933-98-2
2120	45255	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	n-pentylbenzene	538-68-1
2120	45256	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-(1,1-dimethylethyl)-3,5-dimethylbenzene	98-19-1
2120	45257	0.001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,3-dimethyl-5-ethylbenzene	934-74-7
2120	45501	0.0014	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	benzaldehyde	100-52-7
2120	45502	0.0018	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	m-tolualdehyde	620-23-5
2120	90029	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3-methyl-cis-2-hexene	10574-36-4
2120	90040	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3,3-dimethylpentane	562-49-2
2120	90047	0.0007	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2-methylnonane	871-83-0
2120	90062	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,4-dimethyl-2-pentene	625-65-0
2120	90080	0.0008	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cis-1-methyl-3-ethylcyclopentane	2613-66-3
2120	91006	0.0003	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2-methyl-trans-3-hexene	692-24-0
2120	91018	0.0026	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cis-1,3-dimethylcyclopentane	2532-58-3
2120	91019	0.003	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	trans-1,3-dimethylcyclopentane	1759-58-6
2120	91026	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	trans-2-heptene	14686-13-6
2120	91028	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cis-2-heptene	6443-92-1
2120	91038	0.0007	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cis-1,trans-2,3-trimethylcyclopentane	15890-40-1
2120	91044	0.0012	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	trans-1-methyl-3-ethylcyclopentane	2613-65-2
2120	91055	0.0003	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	cis-1,2-dimethylcyclohexane	2207-01-4
2120	91069	0.0004	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	3,4-dimethylheptane	922-28-1
2120	91096	0.0004	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-methyl-2-isopropylbenzene	527-84-4
2120	91103	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,2,4,5-tetramethylbenzene	95-93-2

**LAX LAMP Addendum Manchester Square - Speciation Profiles***Volitile Organic Compound toxic air contaminant speciation profiles*

<b>ORG PROFILE NUMBER</b>	<b>SAROAD</b>	<b>WEIGHT FRACTION TOG</b>	<b>ORG PROFILE NAME</b>	<b>SPECIES</b>	<b>CAS</b>
2120	91104	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,2,3,5-tetramethylbenzene	527-53-7
2120	91106	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	5-methylindan	874-35-1
2120	91107	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	4-methylindan	824-22-6
2120	91108	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2-methylindan	824-63-5
2120	91109	0.0002	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1,2,3,4-tetramethylbenzene	488-23-3
2120	92001	0.0001	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	1-methyl-4-ethylcyclohexane	6236-88-0
2120	98001	0.009	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2,3-dimethylbutane	79-29-8
2120	98004	0.0006	Cat stabilized exhaust 2020 SSD etoh 2% O (MTBE phaseout)	2-methyl-2-pentene	625-27-4

**ATTACHMENT C:**  
**Manchester Square Health Risk Technical Report**

# Table of Contents

<b>Section 1 Introduction</b> .....	<b>1-1</b>
1.1 Purpose.....	1-1
1.2 General Approach .....	1-3
<b>Section 2 Methodology</b> .....	<b>2-1</b>
2.1 Selection of TACs of Concern .....	2-2
2.2 Exposure Assessment .....	2-2
2.2.1 Exposed Populations .....	2-2
2.2.2 Exposure Pathways .....	2-2
2.2.3 Exposure Concentrations.....	2-3
2.3 Toxicity Assessment .....	2-4
2.4 Risk Characterization .....	2-4
<b>Section 3 TAC Emissions and Dispersion</b> .....	<b>3-1</b>
3.1 TAC Emissions .....	3-1
3.2 Exposure Concentrations (Dispersion).....	3-2
3.2.1 Source Areas.....	3-2
3.2.2 Receptors .....	3-2
3.2.3 Meteorology.....	3-2
<b>Section 4 Human Health Risk Assessment</b> .....	<b>4-1</b>
4.1 Cancer Risks and Non-Cancer Health Hazards Associated with the Proposed Project .....	4-1
4.1.1 Cancer Risks and Chronic Non-Cancer Health Hazards for Maximally Exposed Individuals (MEI) .....	4-1
4.1.1.1 Adult and Child Residents.....	4-3
4.1.1.2 School Children.....	4-6
4.1.1.3 Adult School Workers.....	4-6
4.1.2 Acute Non-Cancer Health Hazards .....	4-8
<b>Section 5 Uncertainties</b> .....	<b>5-1</b>
<b>Section 6 Summary</b> .....	<b>6-1</b>

## List of Figures

Figure 4-1 Grid Point Locations in the Manchester Square Area.....	4-2
Figure 4-2A Construction Mitigated – Adult Residential Cancer Risk in the Manchester Square Area.....	4-4
Figure 4-2B Construction Mitigated – Child Residential Cancer Risk in the Manchester Square Area.....	4-5
Figure 4-2C Construction Mitigated – School Receptors Cancer Risks in the Manchester Square Area .....	4-7
Figure 4-3 Construction Peak Acute Non-Cancer Hazard Locations in the Manchester Square Area.....	4-9



## List of Tables

Table 2-1 Exposure Parameters.....	2-4
Table 2-2 Exposure Parameters by Age Group .....	2-4
Table 3-1 On-site Construction TOG and PM <sub>10</sub> Emissions for the Proposed Project .....	3-1
Table 3-2 Speciation Profiles.....	3-2
Table 4-1 Incremental Cancer Risks and Chronic Non-Cancer Human Health Hazards for Maximally Exposed Individuals from Proposed Project Construction in 2017-2019 in the Manchester Square Area .....	4-3
Table 4-2 Range of Incremental Acute Non-Cancer Hazard Indices for Mitigated Project Construction for April 2018 / January 2019 in Manchester Square Area .....	4-10

## Attachments

- Attachment 1 Cancer Risk and Chronic Non-Cancer Health Hazard Calculations by 2015 OEHHA Methodology
- Attachment 2 Acute Non-Cancer Health Hazard Calculations

# Section 1

## Introduction

The human health risk assessment (HHRA) presented in this memorandum estimates cancer risks, chronic non-cancer health hazards, and acute non-cancer health hazards associated with exposure to toxic air contaminants (TAC) that would be emitted during construction of the LAX Landside Access Modernization Program (proposed Project) at select locations previously not analyzed in the certified LAMP Final EIR.

The analysis conducted for this HHRA was based on the assumption that several persons living, working, or attending school in the vicinity of Manchester Square may be exposed to TACs during the first two years of construction – but would be relocated to areas beyond the impact of LAMP project construction after that period. The additional locations assessed in this memo were supposed to be vacant at the start of construction; however, relocation of the schools and all residents will not be completed until mid-2019. For this analysis, the project construction was assumed to start in late 2017 and extend into 2027, with 2017 through 2019 representing the two-year period of exposure by Manchester Square residents, teachers, workers, and school children. As of this writing (July 2018), extensive project construction has not started in Manchester Square. It is still anticipated that all residents will be relocated by July 2019 and the schools will be relocated by Fall 2019. Therefore, the actual duration of exposure to TACs will be substantially less than the analyzed duration of exposure in this HHRA. The HHRA results presented herein represent conservative (high) risk impact estimates; actual impacts would be lower.

### 1.1 Purpose

The objective of this amendment HHRA for the proposed Project is to assess incremental changes to health impacts for people living, working, or attending school in the vicinity of Manchester Square that previously were not analyzed in the certified LAMP Final EIR and who would be exposed to TACs resulting from the portion of construction associated with the proposed Project from 2017 to 2019. Although these locations are within the study area for the HHRA analysis conducted for the certified LAMP Final EIR, it was previously assumed that no receptors would be located at these locations. Existing charter schools located at 5431 West 98<sup>th</sup> Street in Los Angeles, California [Bright Star Secondary Charter Academy (grades 9-12) and Stella Middle Charter Academy (grades (7-8))] were slated for closure prior to commencement of construction of the proposed project in 2017 and, thus, were not assessed. Similarly, a few residences near Manchester Square were slated for acquisition and relocation prior to the start of construction and were not assessed. However, schools remain in their current location, and will stay there during the portion of construction for the proposed Project from 2017 to 2019. By Fall 2019, the schools will move out of the study area. In addition, some residents have remained at their properties in Manchester Square during the acquisition process and are expected to continue living in the study area up to July 2019. The purpose of this amendment HHRA is therefore to determine whether the proposed Project would cause a significant<sup>1</sup> impact to children

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<sup>1</sup> Here and throughout this report the terms “significant” and “significance” are used as defined by CEQA to identify impacts that exceed some threshold. Thresholds identified in the certified LAMP Final EIR included, but were not limited to, noise, traffic, toxic air contaminants, utility services (e.g. sewer and water

attending school, teaching staff and/or residents within Manchester Square during their exposure to the portion of construction of the proposed Project from 2017 to 2019.

The proposed Project would help optimize existing operations by relieving traffic congestion within the Central Terminal Area (CTA) and on the surrounding street network, improving access options and the travel experience for passengers, and providing connection to the Metro rail system. Construction of the proposed Project was projected to start in 2017 and take approximately 11 years. Receptors in this HHRA analysis are only assessed for exposure to the portion of construction of the proposed Project from 2017 to 2019. Construction of the proposed Project would result in temporary emissions of various TACs from on-site and off-site construction equipment, and from fugitive dust, fugitive volatile organic compounds (VOCs), and worker vehicle trips. A full description of the LAX Landside Access Modernization Program is provided in the certified LAMP Final EIR.

The proposed Project would not increase passenger or gate capacity to LAX and would not increase the numbers of flights or basic operations at LAX. Thus, emissions from airport operations are not considered in the analysis.

This amendment HHRA provides additional data and analysis in support of the Addendum to the certified LAMP Final EIR for the LAX Landside Access Modernization Program prepared pursuant to the California Environmental Quality Act (CEQA). This technical report is a supplement to the technical report developed to support the certified LAMP Final EIR for the proposed Project (Appendix F.2, Human Health Risk Assessment). This latter report provides information on the basic methods and data used in developing the HHRA. Since the basic methods used did not change between the certified LAMP Final EIR and the Addendum to the certified LAMP Final EIR, methods previously described in detail are not repeated in this report. Some summary information taken from Appendix F.2, Human Health Risk Assessment Technical Report of the certified LAMP Final EIR, is included, however, to provide appropriate context for the analysis.

Emissions evaluated in this amendment HHRA include only construction sources. Therefore, human health risks associated with these activities are the only risks evaluated in this HHRA. Construction emissions form the basis for estimating impacts from TAC. Emissions were calculated for 2017, 2018, and 2019 conditions for construction of the LAX Landside Access Modernization Program during this period.

Construction TAC emissions associated with the proposed Project were estimated and then used as input for air dispersion modeling. The resulting downwind concentrations of TAC were used to estimate human health risks. TAC concentrations in air were estimated using standard methods developed by California Environmental Protection Agency (CalEPA) and U.S. Environmental Protection Agency (USEPA). Health impacts were evaluated for cancer risks and chronic and acute non-cancer health hazards. An impact was considered significant under CEQA if cancer risks or non-cancer health hazards exceeded accepted regulatory thresholds.

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supply capacity), among others. Exceeding a threshold triggers consideration of mitigation measures to reduce project impacts.

## 1.2 General Approach

Generally, methods used in preparation of the assessment provided in the certified LAMP Final EIR were used in this amendment analysis. These methods are described in detail in the certified LAMP Final EIR and are not repeated in this report.

Impacts to human health were estimated using modeled TAC concentrations in air and methods developed by the CalEPA and the USEPA, as described below. Results of the analysis were then interpreted by comparing incremental cancer risks and chronic non-cancer health hazards to regulatory thresholds. For purposes of assessing the significance of any health impacts, these comparisons were made for maximally exposed individuals (MEI) at locations where TAC concentrations are predicted by air dispersion modeling to be highest. An impact was considered significant if cancer risks and/or chronic non-cancer health hazards for MEI exceeded accepted regulatory thresholds. In addition, the range of possible risks and hazards was addressed by evaluating risks for all modeled locations at identified residences and in the charter school campus area.

Human health risks were evaluated using the *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*<sup>2</sup> methodology. Significance determinations were made from results of the analysis using CalEPA methodology.

Methods for conducting this HHRA are briefly described in Section 2; TAC emission calculation approach and results and a discussion of the dispersion analysis are presented in Section 3; associated health risks are presented in Section 4; and uncertainties are discussed in Section 5.

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<sup>2</sup> California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*, February 2015.

## Section 2

# Methodology

This amendment HHRA is based on estimates for construction TAC emissions associated with the proposed Project from September 2017 through July 2019. Baseline construction emissions are assumed to be zero, and incremental health impacts are, therefore, simply impacts associated with project-related emissions during the construction period.

Emissions sources during construction were analyzed for each construction year from September 2017 through July 2019. Between 2017 and 2019, operations are not anticipated to vary from a without project scenario, and incremental impacts from operations during this period are therefore assumed to be zero. Only the mitigated construction scenario was evaluated.

The amendment HHRA was developed as required under State of California statutes and regulations<sup>3</sup>, and was conducted in four steps as defined in South Coast Air Quality Management District (SCAQMD), CalEPA, and USEPA guidance<sup>4,5,6</sup>. This amendment HHRA analysis for the proposed Project addresses the following issues and provides additional information on human health impacts within Manchester Square:

- Quantitative assessment of cancer risks and chronic non-cancer health hazards due to release of TAC associated with construction activities from September 2017 through July 2019 for the proposed Project.
- Quantitative evaluation of possible acute non-cancer health hazards due to release of TAC during construction from September 2017 through July 2019 associated with the proposed Project.

Protective<sup>7</sup> methods that are likely to overestimate rather than underestimate possible health risks were used to estimate cancer risks and chronic non-cancer health hazards. Receptors were assumed

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<sup>3</sup> California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Information and Assessment Act of 1987*, Section 44300; California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*, February 2015.

<sup>4</sup> South Coast Air Quality Management District, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics Hot Spots Information and Assessment Act* (AB 2588), July 2005.

<sup>5</sup> California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Risk Assessment Guidelines, Part I: Technical Support Document for the Determination of Acute Reference Exposure Levels for Airborne Toxicants*, March 1999. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxic Hot Spots Program Risk Assessment Guidelines, Part IV: Technical Support Document for Exposure Assessment and Stochastic Analysis*, September 2000. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Risk Assessment Guidelines, Part III: The Determination of Chronic Reference Exposure Levels for Airborne Toxicants*, February 23, 2000. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Risk Assessment Guidelines, Part II: Technical Support Document for Describing Available Cancer Potency Factors*, updated August 2003. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, August 2003.

<sup>6</sup> U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final*, EPA/540/1-89/002, December 1989.

<sup>7</sup> The terms "protective" and "conservative" are often used interchangeably to indicate that risk assessment methods were designed to err on the side of over-estimating risk. "Protective" is used in this HHRA to avoid confusion over what

to be exposed to TAC for the entire period from September 2017 to July 2019 to maximize estimates of possible exposure. No attempt is made to account for such issues as individuals moving in and out of the Manchester Square study area, workers that change jobs and locations or have jobs that require movement outside the Manchester Square study area.

The amendment HHRA for the proposed Project also evaluates short-term (1-hour) exposures and associated immediate, or acute, non-cancer health impacts, if any. These estimates are also intentionally conservative; they use, for example, the highest 1-hour concentrations for assessing acute impacts regardless of whether individuals might have access to locations where maximum concentrations occur.

This amendment HHRA for the proposed Project does not evaluate cumulative impacts for the receptors in Manchester Square because these receptors are scheduled to be relocated by Fall 2019. At that time, the school and residences in Manchester Square will be demolished as the construction of the proposed Project proceeds.

## 2.1 Selection of TACs of Concern

TACs of concern for LAX construction activities were selected as described previously in Appendix F.2 of the certified LAMP Final EIR. No supplemental information is available to indicate that the previous selection process is no longer valid. Thus, TACs of concern used to evaluate health risks in this supplement are the same as those used to assess health risks for the certified LAMP Final EIR.

## 2.2 Exposure Assessment

### 2.2.1 Exposed Populations

For this amendment HHRA of the proposed Project, the following receptors were selected for quantitative evaluation: off-airport residents (adult and child), off-airport school workers, and off-airport school children. Receptors for which exposure scenarios are prepared were selected to provide protective risks and hazards estimates for MEI. As previously noted, by providing estimates for most exposed individuals for determination of significance, the general population is protected.

### 2.2.2 Exposure Pathways

For this amendment HHRA, inhalation of TAC is the dominant source of exposure, contributing almost all risk associated with the proposed Project. This pathway is responsible for almost all health risks, and was therefore quantitatively evaluated for all receptors. Other exposure pathways are probably sources of exposure, but result in little or negligible exposure. Such pathways were addressed quantitatively in the programmatic HHRA developed for the LAX Master Plan EIR<sup>8</sup> (see LAX Master Plan Final EIR Technical Report 14a and Technical Report S-9a). No pathway other than inhalation was found to be an important contributor to exposure and thus to risk/hazard. Based on this previous analysis, pathways other than inhalation were not assessed in this amendment HHRA.

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<sup>8</sup> “conservative” means in different situations. For example, a “conservative” estimate of the time that someone might live in a given residence could imply to some readers that a minimum time was identified.

<sup>8</sup> City of Los Angeles, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements*, (SCH 1997061047), April 2004.

### 2.2.3 Exposure Point Concentrations

For this amendment HHRA, equations and calculations from the Hot Spots Analysis and Reporting Program Version 2 (HARP2) developed by the California Air Resources Board (CARB), for calculating and presenting HRA results for the Hot Spots Program, were built into an Excel spreadsheet to allow for customization of calculations to address Project-specific criteria and for ease of conducting multiple iterations of calculations.

The construction analysis for this amendment HHRA analysis focuses on the portion of construction from 2017 to 2019 when the receptors will be in Manchester Square. Construction emissions were modeled separately for each year of construction. Risks for receptors were calculated for each grid point for each year of construction and then added together to determine total risk by grid point.

The locations of grid points were selected to be representative of residences near Manchester Square and the charter school property – the four corners of the school property and a location in the middle of the school property. Evaluating these grid points will capture the range of risks for people working or attending the charter school and for people located in residences within the Manchester Square study area. This conservatism (protection) is built into the risk assessment developed for the proposed Project to help counter any future changes in Project construction.

Exposure parameters used to calculate risks and hazards for all receptors for the inhalation pathway are summarized in **Table 2-1**. Exposure parameters are based on CalEPA Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments<sup>9</sup> and USEPA Exposure Factors Handbook,<sup>10</sup> as well as other pertinent guidance. Some exposure parameters vary according to age groups to be consistent with methodology detailed in CalEPA Air Toxics Hot Spots Program Guidance<sup>11</sup>; these exposure parameters are presented in **Table 2-2**. Since the evaluated charter schools include both a middle school and a high school, two separate school children receptors were evaluated to bracket the risk range. One school child receptor was assumed to be a middle school child, aged 12 to 14 (in the 2<16 age group); and the other school child receptor was assumed to be a high school child, aged 16 to 18 (in the 16<30 age group).

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<sup>9</sup> California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*, February 2015.

<sup>10</sup> U.S. Environmental Protection Agency, *Exposure Factors Handbook*, EPA/600/R-09/052F, September 2011.

<sup>11</sup> California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*, February 2015.



**Table 2-1 Exposure Parameters**

Exposure Pathway Parameters for Inhalation of Particulates and Gases	Off-Airport Receptors			
	Adult Resident	Child Resident	School Child	School Worker
Exposure Frequency (Fraction of Year) (unitless)	0.96 (350 days/365 days) <sup>1</sup>	0.96 <sup>1</sup>	0.685 (250 days/365 days) <sup>2</sup>	0.685 (250 days/365 days) <sup>1</sup>
Exposure Duration (years)	2 <sup>2</sup>	2 <sup>2</sup>	2 <sup>2</sup>	2 <sup>2</sup>
Exposure Time (hrs/day)	24 <sup>4</sup>	24 <sup>4</sup>	8 <sup>1</sup>	8 <sup>1</sup>
Absorption Fraction	1 <sup>1</sup>	1 <sup>1</sup>	1 <sup>1</sup>	1 <sup>1</sup>
Fraction of Time at Home	0.73 <sup>1</sup>	1 <sup>1,5</sup>	1 <sup>1,4</sup>	0.73 <sup>1</sup>
Averaging Time - Non-cancer (days)	730 <sup>3</sup>	730 <sup>3</sup>	730 <sup>3</sup>	730 <sup>3</sup>
Averaging Time - Cancer (days)	25,550 <sup>1,3</sup>	25,550 <sup>1,3</sup>	25,550 <sup>1,3</sup>	25,550 <sup>1,3</sup>

Notes:

<sup>1</sup> California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*, February 2015.<sup>2</sup> Professional judgment.<sup>3</sup> U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A)*, USEPA/540/1-89/002, 1989.<sup>4</sup> It was assumed that children attended school within the study area; thus, the FAH = 1.

Source: CDM Smith 2018.

**Table 2-2 Exposure Parameters by Age Group**

Exposure Pathway Parameters for Inhalation of Particulates and Gases	Age Group					
	3 <sup>rd</sup> Trimester	0<2 years	2<9 years	2<16 years	16<30 years	16<70 years
Residential Daily Breathing Rate (L/kg-d)	361	1,090	861	745	335	290
School Worker 8-hr Daily Breathing Rate (L/kg-d)	NA	NA	NA	NA	240	230
School Child 8-hr Daily Breathing Rate (L/kg-d)	NA	NA	640	520	240	NA
Age-adjustment Sensitivity Factor (unitless)	10	10	3	3	1	1
Fraction of Averaging Time (unitless) <sup>2</sup>	(23/24)/70=0.02738	0.02738	0.02738	0.02738	0.02738	0.02738

Notes:

NA = not applicable

<sup>1</sup> California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*, February 2015.<sup>2</sup> Total exposure period of 23 months is summarized in this table. In calculations, exposure is 4 months in 2017 (September to December), 12 months in 2018, and 7 months (January to July) in 2019.

Source: CDM Smith 2018.

## 2.3 Toxicity Assessment

The certified LAMP Final EIR presents basic toxicity assessment information. This assessment was not changed materially and still forms the basis for analyses in this amendment HHRA included in the Addendum to the certified LAMP Final EIR.

## 2.4 Risk Characterization

Risk characterization combines information developed for exposure and for toxicity to produce quantitative estimates of health impacts to receptors in the Manchester Square study area. Methods



used are similar under CalEPA and USEPA guidance. Methods used for risk characterization provided in the certified LAMP Final EIR were again used in this amendment HHRA analysis. These methods are described in detail in the certified LAMP Final EIR.

## Section 3

# TAC Emissions and Dispersion

### 3.1 TAC Emissions

The first step in the process of establishing concentrations of TAC in air was estimation of emissions of TAC during project construction. During construction, emissions of diesel particulate matter (DPM) are expected to contribute the majority to total incremental cancer risks. Other TAC are evaluated for incremental contributions to total cancer risk, and for contributions to chronic and acute non-cancer health hazards.<sup>12,13</sup> Sources of TAC during construction include off-road heavy duty construction equipment; on-road equipment and vehicles; and construction materials (e.g., VOCs from striping, asphalt paving, and architectural coating), with engine exhaust associated with highest estimates for possible health impact.

The basis for TAC emission estimates are VOC and particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM<sub>10</sub>) emission calculations for construction and operations presented in Section 4.2.1, *Air Quality*, of the certified LAMP Final EIR.

Total organic gases (TOG) and PM<sub>10</sub> emissions used in the dispersion analysis of construction sources are summarized in **Table 3-1**. Once these emissions were determined, estimates of TAC emissions were developed from speciation profiles developed by CARB. Profiles used in this analysis are summarized in **Table 3-2**.

**Table 3-1 On-site Construction TOG and PM<sub>10</sub> Emissions for the Proposed Project**

Averaging Period	PM <sub>10</sub>				TOG			Comments
	Diesel Engine Exhaust	Gasoline Engine Exhaust	Fugitive Dust	Tire & Brake Wear	Diesel Engine Exhaust	Gasoline Engine Exhaust	Paving & Coating	
Peak Daily	14 lbs/day	1 lbs/day	75 lbs/day	17 lbs/day	78 lbs/day	8 lbs/day	81 lbs/day	Used for Acute Non-Cancer Health Hazard
Peak Annual	0.46 tons/yr	0.03 tons/yr	1.94 tons/yr	0.59 tons/yr	2.45 tons/yr	0.33 tons/yr	4.06 tons/yr	Used for Chronic Non-Cancer Health Hazard
Average for 14-year Construction Period	0.10 tons/yr	0.01 tons/yr	0.63 tons/yr	0.17 tons/yr	NA	0.09 tons/yr	0.57 tons/yr	Used for Cancer Risk

Notes:

PM<sub>10</sub> = Particulate matter less than or equal to 10 microns in diameter.

TOG = Total organic gases

Source: CDM Smith, 2018.

<sup>12</sup> City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Bradley West Project*, (SCH 2008121080), September 2009.

<sup>13</sup> City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Central Utility Plant Replacement Project*, (SCH 2009041043), October 2009.

**Table 3-2 Speciation Profiles**

PM Profile No.	PM Profile Source Description	TOG Profile No.	TOG Profile Source Description
400	Gasoline Vehicle Exhaust - Catalyzed	716	Paving
420	Construction Dust	717	Architectural Coatings
425	Diesel Vehicle Exhaust	818	Diesel Equipment Exhaust
471	Pave Road Dust – 1997 and After	2120	Gasoline Vehicle Exhaust - Catalyzed
472	Tire Wear		
473	Brake Wear		

Source: California Air Resources Board

## 3.2 Exposure Concentrations (Dispersion)

Air dispersion modeling was used to estimate TAC concentrations for the proposed Project. TAC concentrations were estimated in two steps: first, dispersion modeling was used to estimate total TOG and PM<sub>10</sub> concentrations, and then individual organic or particulate TAC concentrations were calculated using emissions profiles to speciate total TOG and PM<sub>10</sub> estimates. For example, if total TOG at a given location was 0.1 microgram per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and a given volatile TAC was expected to make up 1 percent of this total, the concentration of that TAC at that location would be 0.001  $\mu\text{g}/\text{m}^3$ .

Project-related concentrations for TAC from proposed Project sources were estimated using the air dispersion model (AERMOD) with model options for 1-hour maximum, 8-hour maximum and annual average concentrations selected. Annual average concentrations for carcinogens were determined for each year of construction.

### 3.2.1 Source Areas

Construction sources were modeled as various area and volume-line sources placed over the proposed Project site and extended along major roadways to approximately three miles from the Project location. Construction equipment and vehicle exhaust emissions were modeled as elevated sources with 5-meter release heights. Fugitive dust was modeled as sources with 0-meter release heights (i.e., released from the ground surface).

### 3.2.2 Receptors

Receptors were modeled at 36 locations in grids and at specific sensitive receptor locations within the Manchester Square study area. Modeled receptors are shown on **Figure 4-1**.

### 3.2.3 Meteorology

One year (2015) of meteorological data was obtained for the LAX National Weather Service ASOS station. These data were processed with upper air data from Miramar, California, through AERMET to generate AERMOD ready hourly meteorological input data.

## Section 4

# Human Health Risk Assessment

This amendment HHRA assesses incremental changes to health impacts for people living, working, or attending school at select locations previously not analyzed in the certified LAMP Final EIR and who would be exposed to TACs resulting from construction associated with the proposed Project from September 2017 to July 2019. Cancer risk and chronic non-cancer health hazard estimates for impacts of the proposed Project are based on estimated project construction emissions and air dispersion modeling as discussed above and are discussed in the following sections. Acute non-cancer health hazard estimates were also addressed using emission estimates and dispersion modeling.

Risk calculations, presented in **Attachment 1** to this memorandum, indicate that estimates of cancer risks to receptors associated with emissions during construction with implementation of the proposed Project during the period from September 2017 to July 2019 would be below the regulatory threshold of significance at evaluated locations representing residences and existing charter schools within Manchester Square. Chronic non-cancer health hazards and acute non-cancer hazard indices were also below regulatory thresholds of significance.

The following subsections discuss incremental cancer risk and chronic and acute non-cancer health hazard estimates for impacts of the proposed Project by receptor.

### 4.1 Cancer Risks and Non-Cancer Health Hazards Associated with the Proposed Project

Cancer risk estimates from exposure to construction sources are presented below for off-airport/ off-site adult and child residents, school workers, and school children at identified grid locations within the Manchester Square study area near LAX. Acute and chronic non-cancer health hazards are also discussed.

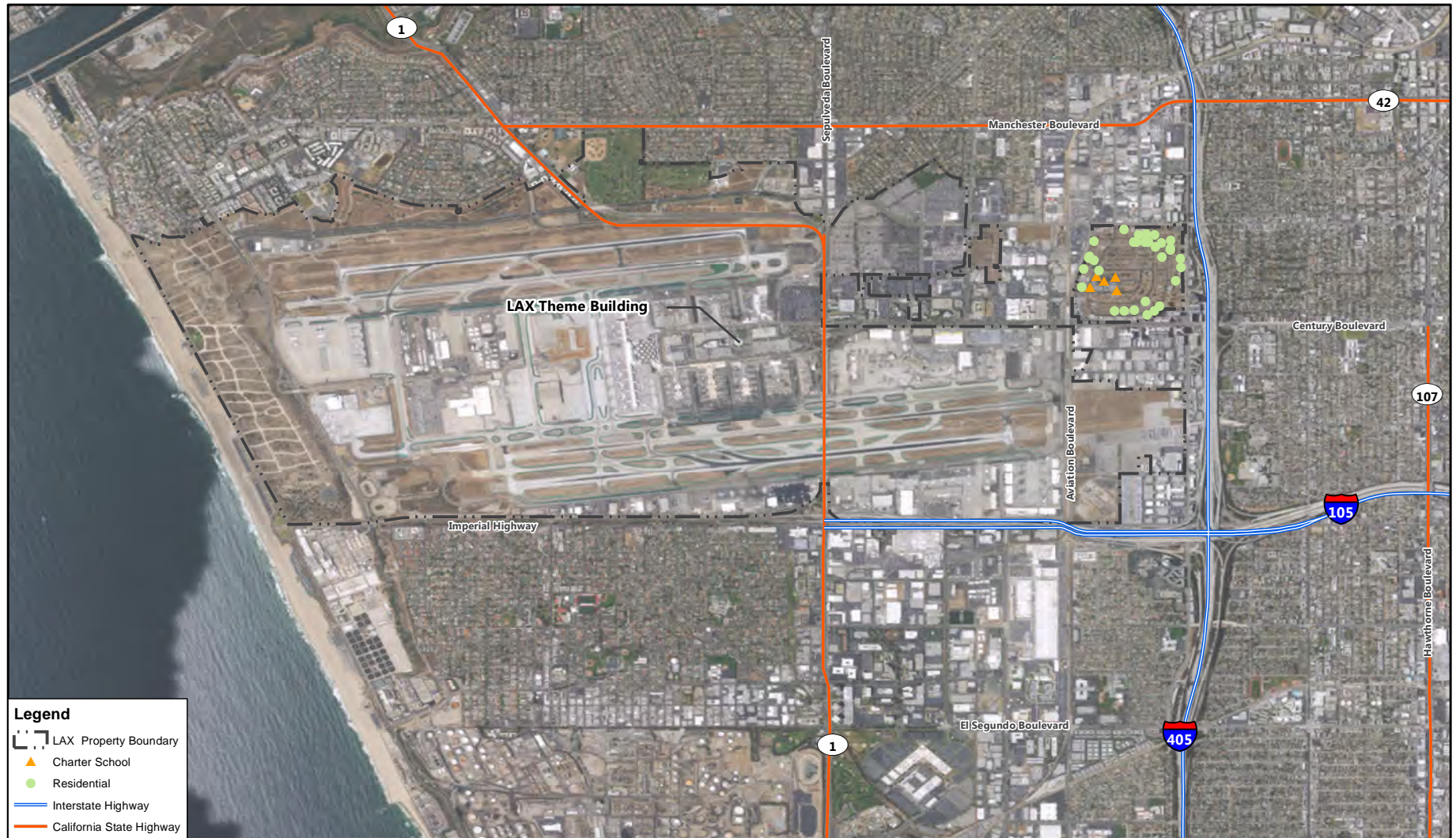
#### 4.1.1 Cancer Risks and Chronic Non-Cancer Health Hazards for Maximally Exposed Individuals (MEI)

Thirty-one grid points were identified to represent residential receptors and 5 grid points were identified to represent existing charter schools. These locations are shown on **Figure 4-1**. For schools, four locations were chosen along school property boundaries and one location was in the center of the property. Concentrations at these grid point locations, representing maximum concentrations of TAC predicted by the air dispersion modeling, were used to evaluate exposure to a MEI, and provide an upper range estimate for risks and hazards for off-airport/ off-site receptors.

Each construction year was modeled separately - four months in 2017 (September to December), 12 months in 2018, and seven months in 2019 (January to July). A weighted average of predicted air concentrations was calculated at each grid point for use as an exposure point concentration.

Air concentrations for TAC for construction sources were developed using emissions estimates and dispersion modeling as described in Sections 3.1 and 3.2. These TAC concentrations, along with exposure parameters for adult and child residents, adult school workers, and for middle and high school-aged school children, and available toxicity values, allowed calculation of cancer risks and





SOURCE: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, July 2016  
PREPARED BY: CDM Smith Inc., December 2017

**FIGURE 4-1**



Grid Point Locations in the Manchester Square Area

chronic non-cancer health hazards by grid point. Peak cancer risks and chronic non-cancer health hazards for MEI were identified from these calculations (**Table 4-1**) and are discussed in the following sections. All calculations are presented in **Attachment 1**.

**Table 4-1 Incremental Cancer Risks and Chronic Non-Cancer Human Health Hazards for Maximally Exposed Individuals from Proposed Project Construction in 2017-2019 in the Manchester Square Area**

Receptor Type	Incremental Cancer Risks (per million people) <sup>1</sup>		
	Mitigated Construction		
Adult Resident	0.1		
Child Resident, Age 0-2	6		
Middle School Child, Age 12-14	0.2		
High School Child, Age 16-18	0.03		
Adult School Worker	0.03		
Receptor Type	Incremental Chronic Non-Cancer Human Health Hazards <sup>2,3</sup>		
	Mitigated Construction		
	2017	2018	2019
Charter School	0.0006	0.002	0.02
Residential	0.0005	0.001	0.07

Notes:

<sup>1</sup> Values provided are changes in the number of cancer cases per million people. No values were greater than the threshold of 10 in a million.

<sup>2</sup> Hazard indices are totals for all TACs that may affect the respiratory system. This incremental HI is essentially equal to the total for all TACs.

<sup>3</sup> Hazard for peak location shown by year. Values rounded to single significant digit. No values were greater than the threshold of 1.

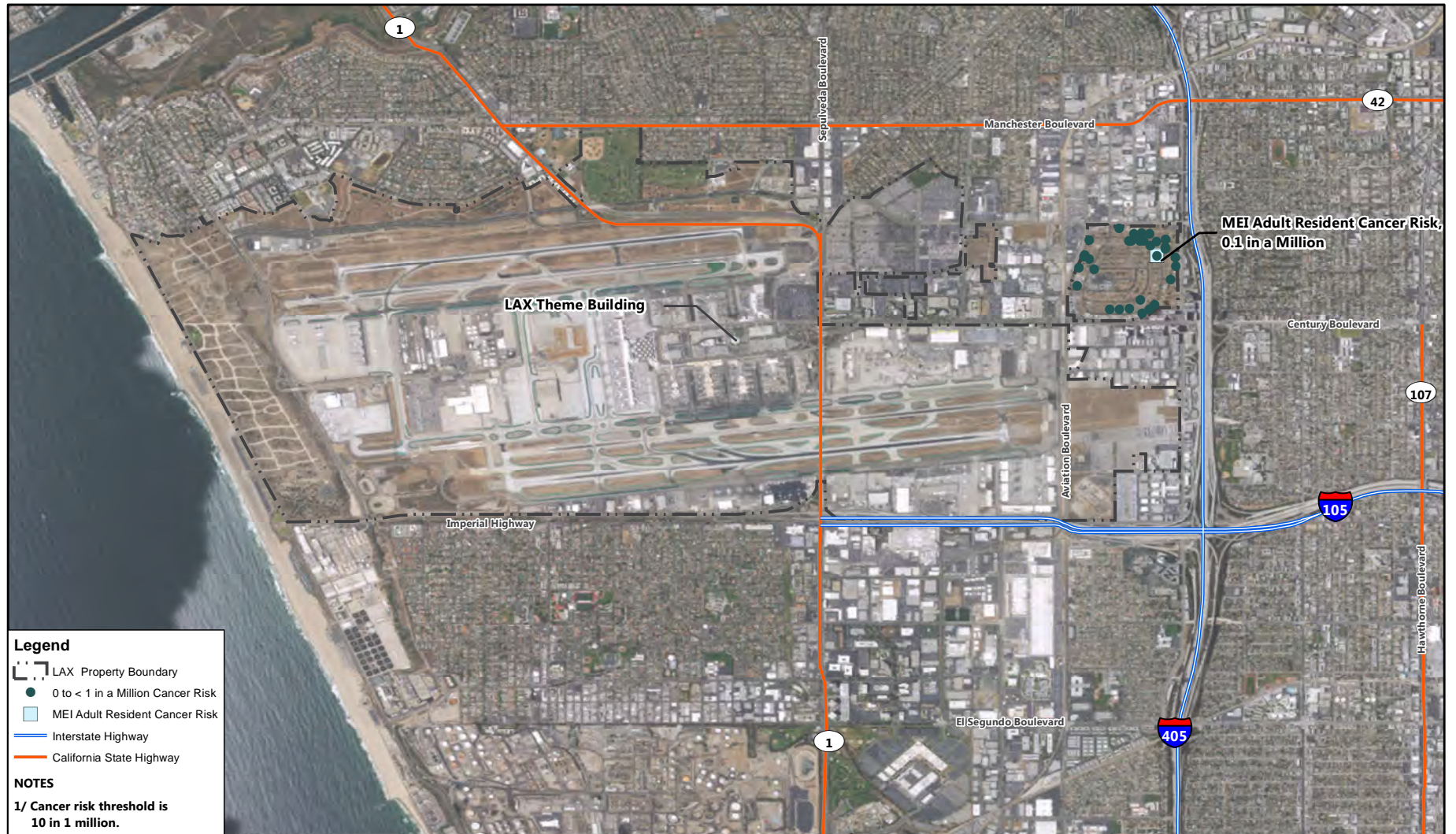
Source: CDM Smith, 2018.

#### 4.1.1.1 Adult and Child Residents

For mitigated construction, adult and child residents were evaluated at 31 grid nodes under an approximate 2-year exposure scenario spanning from September 2017 to July 2019, under the current anticipated acquisition schedule. Incremental cancer risk for residents at the peak location is estimated to be 0.1 in one million for an adult resident and to be 6 in one million for a child resident; both are less than the threshold of significance of 10 in one million. DPM would contribute to the majority of the cancer risk (93 percent), followed by hexavalent chromium (contributing 6 percent). The peak location is shown on **Figures 4-2a and 4-2b**.

As previously discussed, health impacts are estimated on a year-by-year basis to account for varying emission rates and source locations during the construction period. Chronic exposure is typically defined as exposure lasting 7 years or longer, and yearly estimates are not reflections of potential for non-cancer health impacts. In addition, since the 2-year exposure scenario spans from September 2017 to July 2019, the analysis looks at only one full year, along with two partial years. Further, unlike evaluation of cancer risks, non-cancer hazards are based on average daily dose, rather than on cumulative lifetime dose. Thus, the most appropriate way to estimate non-cancer hazards is to develop an average exposure concentration over the period of construction. However, examining yearly hazard index (HI) estimates can provide initial screening. If the highest yearly HI estimates are less than the regulatory threshold of 1, then any average exposure rate encompassing years with





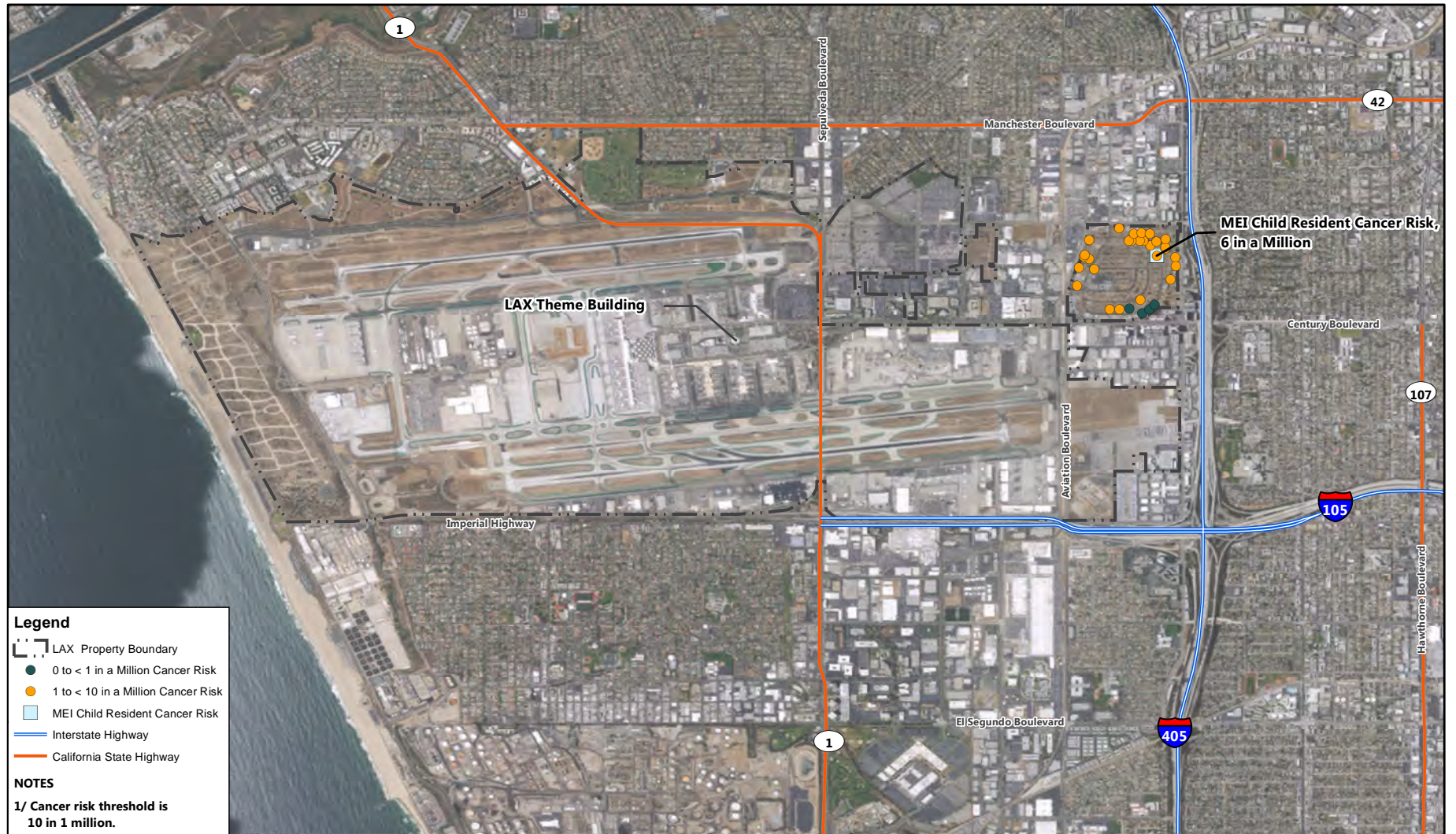
SOURCE: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, July 2016  
 PREPARED BY: CDM Smith Inc., December 2017

**FIGURE 4-2A**



Construction Mitigated – Adult Residential Cancer Risk in the Manchester Square Area





SOURCE: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, July 2016  
 PREPARED BY: CDM Smith Inc., December 2017

**FIGURE 4-2B**



Construction Mitigated – Child Residential Cancer Risk in the Manchester Square Area



lower HI estimates will also be less than 1. This screening approach was used in the discussion of HI estimates.

For the non-cancer hazard analysis, grid points were distinguished by their receptor type to provide perspective on who might be subject to exposure to the highest short-term concentrations of TAC. OEHHA Guidance methodology (2015) for calculating chronic non-cancer HI, would treat all receptors in the same fashion.

Hazard indices shown for each year of construction range from 0.0005 in 2017 to 0.07 in 2019 for residential receptors at the peak TAC concentration location during the evaluated calendar year of mitigated construction. All incremental chronic non-cancer health hazards are predicted to be below the significance threshold of 1. At the peak HI location for 2019, hazard indices are primarily attributable to silicon, chlorine, cobalt, aluminum, manganese, and DPM. Since all hazard indices are equal to or less than 0.5, no figure was generated for chronic non-cancer hazard indices. Since even peak HI estimates are less than 1, HI estimates for any chronic time frame will also be less than 1 and the screening analysis is sufficient to demonstrate lack of significant impact.

#### 4.1.1.2 School Children

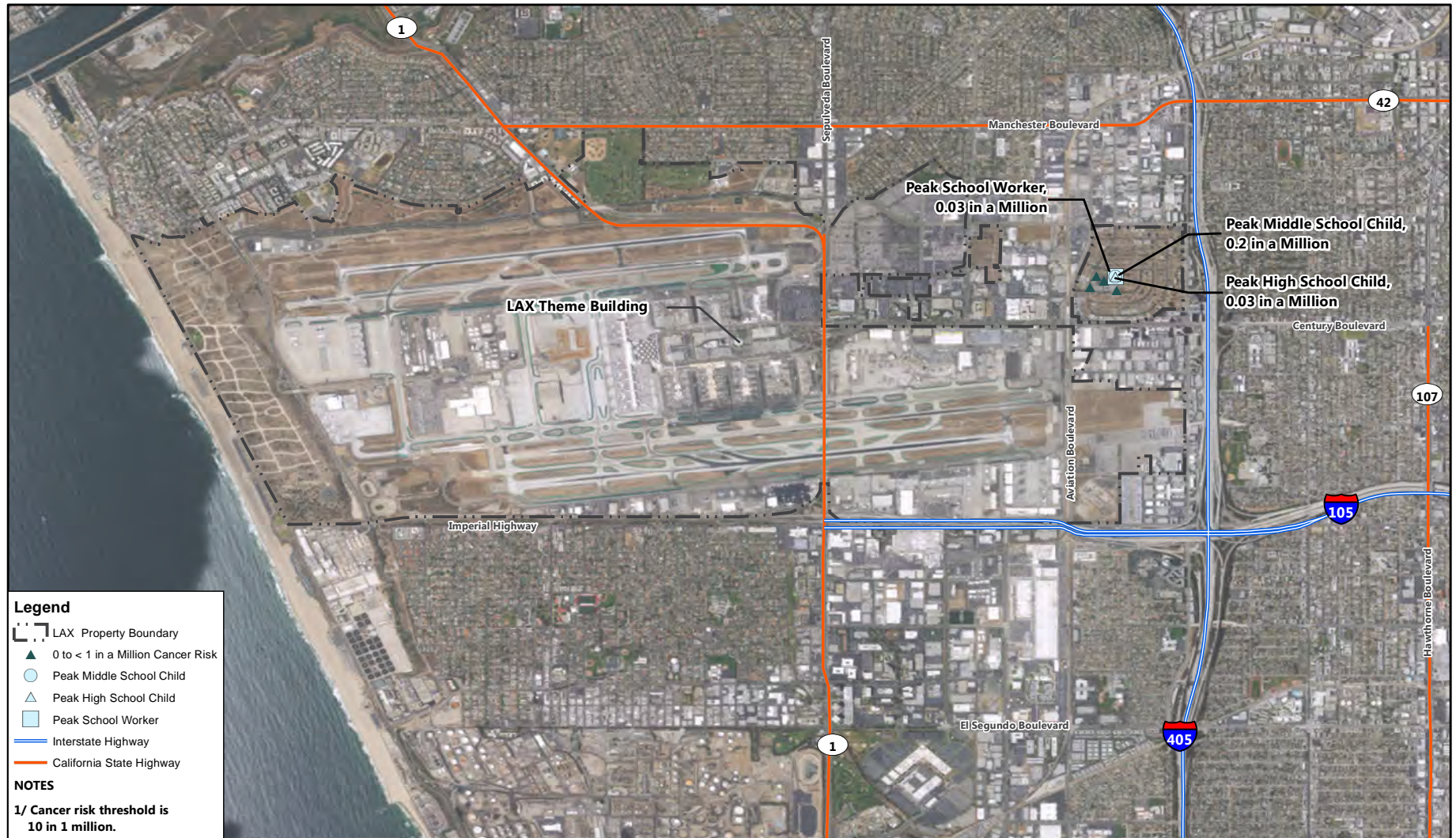
School children were evaluated at 5 grid nodes under an approximate 2-year exposure scenario spanning from September 2017 to July 2019, because the schools plan on relocating in 2019. Incremental cancer risk for school children attending schools at the peak location is estimated to be 0.2 in one million for a middle school child and to be 0.03 in one million for a high school child; both are less than the threshold of significance of 10 in one million. DPM would contribute to most of cancer risk (94 percent), followed by hexavalent chromium (contributing 6 percent). The peak location is shown on **Figure 4-2c**.

Based on 2015 OEHHA Guidance methodology for calculating chronic non-cancer HI, hazards for all school receptors calculated in the same fashion. Hazard indices shown for each year of construction would range from 0.0006 in 2017 to 0.02 in 2019 for school receptors at the peak TAC concentration location during the evaluated calendar year of mitigated construction. All incremental chronic non-cancer health hazards are predicted to be below the significance threshold of 1. At the peak HI location for 2019, hazard indices are primarily attributable to silicon, chlorine, cobalt, DPM, aluminum, and manganese. Since all hazard indices are equal to or less than 0.5, no figure was generated for chronic non-cancer hazard indices. Since even peak HI estimates are less than 1, HI estimates for any chronic time frame will also be less than 1 and the screening analysis is sufficient to demonstrate lack of significant impact.

#### 4.1.1.3 Adult School Workers

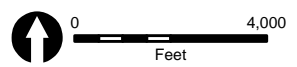
An adult school worker was evaluated at the same 5 grid nodes as school children. Because schools plan on relocating in 2019, the exposure period of the adult school worker was assumed to be approximately two years spanning from September 2017 to July 2019.

Cancer risks for adult workers at the peak location are estimated to be 0.03 in one million. DPM would contribute to the majority of the cancer risk (94 percent) followed by hexavalent chromium (6 percent). Overall, project-related cancer risks for the proposed Project for adult workers are predicted to be below the threshold of significance (10 in one million). Peak location is shown on **Figure 4-2c**.



SOURCE: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, July 2016  
 PREPARED BY: CDM Smith Inc., December 2017

**FIGURE 4-2C**



Construction Mitigated – School Receptors Cancer Risks in the Manchester Square Area

Based on the 2015 OEHHA Guidance methodology for calculating chronic non-cancer HI, hazard calculations for adult school workers would be the same as calculations for school children.

#### 4.1.2 Acute Non-Cancer Health Hazards

As with cancer risks and chronic non-cancer health hazards, acute non-cancer health hazards were analyzed at grid points within the Manchester Square study area. Short-term concentrations of TAC for the proposed Project sources were estimated using AERMOD with the model option for 1-hour maximum concentrations selected. Acute non-cancer health hazards were estimated at each grid point by comparison of the modeled TAC concentration at each grid point with the acute REL. All TAC identified in the proposed Project construction emissions and for which CalEPA has developed acute RELs were evaluated for potential acute non-cancer health hazards. All acute non-cancer health hazard estimates are specific for airport emissions and are independent of county-wide estimates developed by USEPA.

Land use distinctions and different exposure scenarios are irrelevant for assessment of acute non-cancer health hazards. For example, someone visiting a commercial establishment would potentially be subject to the same acute non-cancer health hazards as someone working at the establishment. For the acute non-cancer health hazards analysis, all grid points were distinguished by their receptor type although the calculation for the acute non-cancer health hazard was the same. Retaining land use designations puts some perspective on who might be subject to exposure to the highest short-term concentrations of TAC.

Acute non-cancer health hazards were evaluated for two peak months of construction – April 2018 and January 2019. The two peak dates were identified in the air quality modeling by using the construction schedule developed for the project and full years of meteorological data (i.e., this includes all 365 days of data for each year, not just the data for the projected month of construction, with the intent of capturing the worst-case meteorological data). The January 2019 is estimated to have the peak particulate matter concentrations and April 2018 is estimated to have the peak organic concentrations. All hazard quotients due to acute exposure are below 1 for all evaluated off-site grid nodes for the Manchester Square study area evaluated with mitigation. Hence, no acute non-cancer health impacts are expected from construction of the proposed Project. A HI equal to or greater than 1 would indicate some possibility for acute adverse health effects.

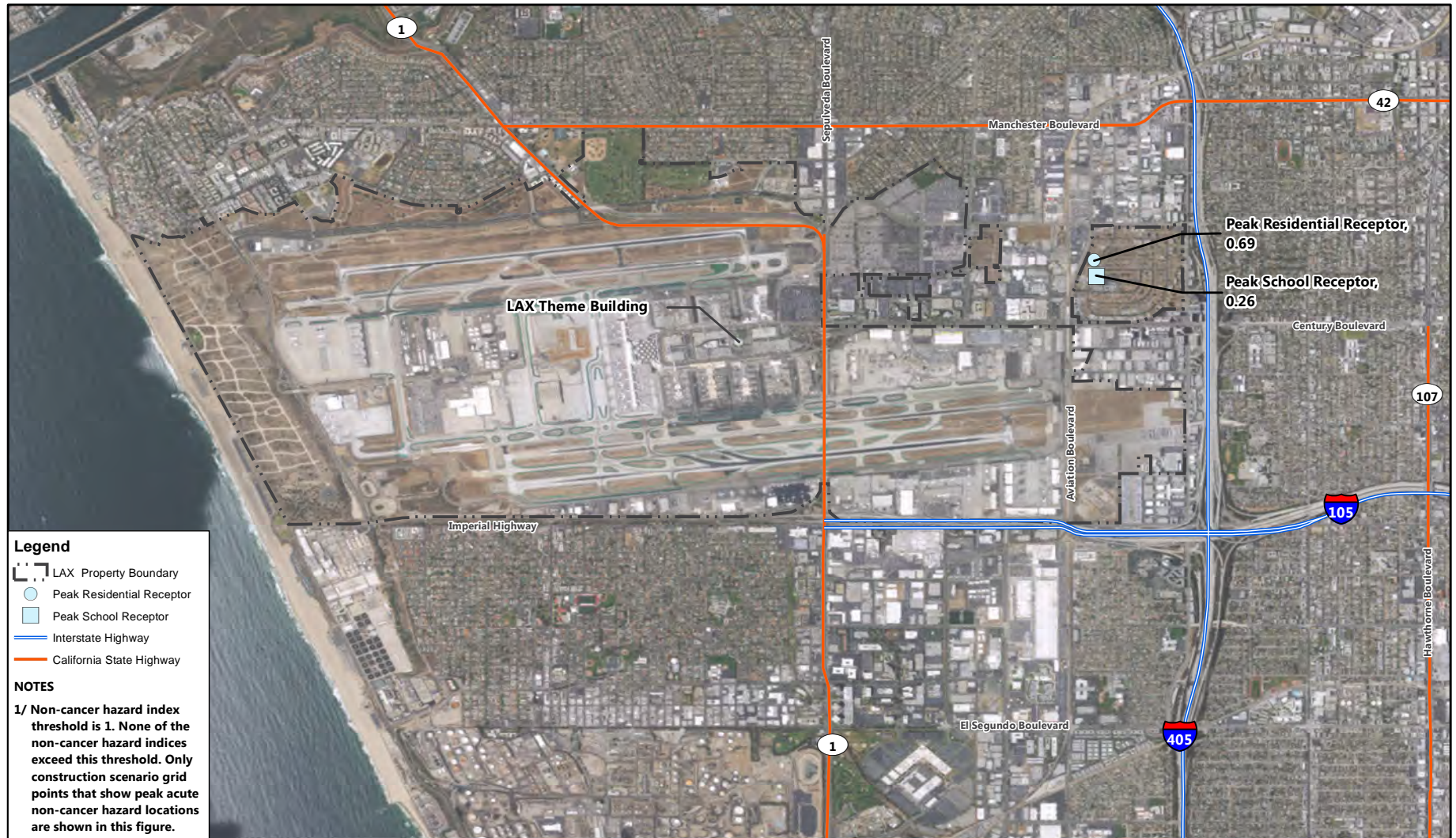
Maximum acute non-cancer health hazards associated with exposure to manganese, nickel, and benzene associated with emissions from the proposed Project construction in April 2018 / January 2019 are summarized in **Table 4-2**. Peak locations are shown in **Figure 4-3**. Calculations are provided in **Attachment 2** to this memorandum.

Manganese and nickel are TACs with the highest acute HI estimates, all less than the threshold of 1. Note that the target organ for acute toxicity of manganese is the nervous system and its actions would not be expected to be additive to effects of nickel which targets the immune system.

Since for the acute 1-hour scenarios, only organics were modeled in April 2018 and only particulates were modeled in January 2019, total acute non-cancer health hazards cannot be summed for each location. However, to provide relative contributions, manganese and nickel contribute 86% and 8%, respectively, of the total of all maximum acute non-cancer health hazards.

Acrolein is only responsible for less than 0.05% of all predicted acute non-cancer health hazards. Acrolein results are mentioned here for informational purposes because it has historically been a TAC





SOURCE: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, July 2016  
 PREPARED BY: CDM Smith Inc., December 2017

**FIGURE 4-3**



Construction Peak Acute Non-Cancer Hazard Locations in the Manchester Square Area

of concern for acute non-cancer health hazards for other LAX projects. Current estimates of emissions and air concentrations are too low for this TAC to be of concern for the proposed Project. Acute exposures to acrolein typically result in mild irritation of eyes and mucous membranes.

**Table 4-2 Range of Incremental Acute Non-Cancer Hazard Indices for Mitigated Project Construction for April 2018 / January 2019 in Manchester Square Area**

Receptor Type	Summary of Incremental Acute Non-Cancer Hazard Indices		
	Manganese	Nickel	Acrolein
	2019 <sup>1</sup>	2019 <sup>1</sup>	2018 <sup>1</sup>
<b>Residential Receptors</b>			
Maximum HI	0.6	0.06	0.0002
Average HI	0.1	0.02	0.0001
Minimum HI	0.02	0.003	0.00004
<b>School Receptors</b>			
Maximum HI	0.2	0.02	0.0001
Average HI	0.2	0.02	0.0001
Minimum HI	0.1	0.01	0.0001

Notes:

<sup>1</sup> Only organics (e.g., acrolein) was modeled in April 2018 and only particulates (e.g., manganese and nickel) were modeled in January 2019 for the acute 1-hour scenarios.

<sup>2</sup> HI = Hazard Index

Source: CDM Smith, 2018.

## Section 5

# Uncertainties

Uncertainties are present in all facets of human health risk assessment. Potential important uncertainties associated with the HHRA for the LAX Master Plan are discussed in detail in Technical Report 14a and Technical Report S-9a of the LAX Master Plan Final EIR and in Appendix F.2 of the certified LAMP Final EIR. These same uncertainty considerations apply to the analyses presented in this amendment HHRA for the certified LAMP Final EIR. No new uncertainties were identified for the analysis in this amendment HHRA.

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## Section 6

### Summary

This amendment HHRA addressed possible incremental health impacts for receptors in Manchester Square associated with mitigated construction of the proposed Project during the period from September 2017 to July 2019. The evaluation assessed cancer risks, chronic non-cancer health hazards, and acute non-cancer health hazards. The text below summarizes conclusions regarding significant human health impacts.

- Incremental cancer risks associated with construction of the proposed Project are below the threshold of significance of 10 in one million for all receptors (i.e., adult and child residents, school children, and adult school workers) in Manchester Square under the mitigated scenario.
- Incremental chronic non-cancer hazard indices associated with mitigated construction of the proposed Project are below the threshold of significance of 1 for all receptor types (i.e., child resident, school child, adult resident, and adult worker) in Manchester Square. Incremental chronic non-cancer hazard indices indicate that impacts from construction would be less than significant.
- Incremental acute non-cancer hazard indices are below the threshold of significance of 1 at all modeled peak TAC concentrations locations for mitigated construction of the proposed Project. Incremental acute non-cancer hazard indices indicate that impacts would not be significant.



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## Attachment 1

# Cancer Risk and Chronic Non-Cancer Health Hazard Calculations by 2015 OEHHA Methodology

**Table 1-1A**  
**Cancer Risk Calculation for LAX Landside Access Modernization Program Amendment for Manchester Square Area, 2017-2019 Mitigated Construction - 2-Year Exposure**  
**Middle School Child Scenario**  
**(Based on Peak Location of School Cancer Risks<sup>1</sup>)**

Exposure Parameters	Ages 2<16			Equation					
				Risk = Cair*DBR*EF*CF*A*ASF*ED*FAH*CPF					
School Child 8-hr Daily Breathing Rate (DBR)	520 L/kg-d								
Fraction of Year (EF)	0.685 unitless								
Absorption Fraction (A)	1 unitless			Where:					
Conversion Factor (CF)	0.000001 m <sup>3</sup> /L			Cair = Exposure Concentration		ASF = Age sensitivity factor			
Age-adjustment (ASF)	3 unitless			DBR = Daily Breathing Rate		ED = Fraction of Averaging time			
School Child Fraction of Time at Home (FAH)	1 unitless			EF = Fraction of Year		FAH = Fraction of Time at Home			
2017 Fraction of Averaging Time (ED)	0.00476 unitless (4 months)			A = Absorption Fraction		CPF = Cancer Potency Factor			
2018 Fraction of Averaging Time (ED)	0.01429 unitless			CF = Conversion Factor					
2019 Fraction of Averaging Time (ED)	0.00833 unitless (7 months)								
<b>2017-2019</b>									
<b>Concentration at Location</b>									
TAC	w/Maximum Risk (ug/m <sup>3</sup> )			Toxicity Criteria		Cancer Risk to School Child			TOTAL Cancer Risk Middle School Child for Max Location
	Construction			EPA	CalEPA	Construction			
	2017	2018	2019	Inhalation CPF (mg/kg-day) <sup>-1</sup>	Inhalation CPF (mg/kg-day) <sup>-1</sup>	2017 Age 12	2018 Age 13	2019 Age 14	
1,2,4-trimethylbenzene	1.97E-06	1.19E-05	1.02E-04	NA	NA	NC	NC	NC	NC
1,3-butadiene	1.10E-06	6.67E-06	5.73E-05	1.05E-01	6.00E-01	3.37E-12	6.11E-11	3.06E-10	3.70E-10
2,2,4-trimethylpentane	4.68E-06	2.83E-05	2.43E-04	NA	NA	NC	NC	NC	NC
acetaldehyde	5.76E-07	3.48E-06	2.99E-05	7.70E-03	1.00E-02	2.93E-14	5.31E-13	2.66E-12	3.22E-12
acrolein	2.64E-07	1.60E-06	1.37E-05	NA	NA	NC	NC	NC	NC
benzene	2.35E-05	1.03E-04	3.26E-04	2.73E-02	1.00E-01	1.19E-11	1.57E-10	2.91E-10	4.59E-10
cumene	2.40E-08	1.45E-07	1.25E-06	NA	NA	NC	NC	NC	NC
cyclohexane	1.25E-06	7.54E-06	6.47E-05	NA	NA	NC	NC	NC	NC
ethylbenzene	3.76E-06	1.73E-05	1.14E-04	8.75E-03	8.70E-03	1.66E-13	2.30E-12	8.85E-12	1.13E-11
ethylene	1.29E-05	7.82E-05	6.71E-04	NA	NA	NC	NC	NC	NC
formaldehyde	3.22E-06	1.94E-05	1.67E-04	4.55E-02	2.10E-02	3.44E-13	6.23E-12	3.12E-11	3.78E-11
hexane, n-	3.24E-06	1.96E-05	1.68E-04	NA	NA	NC	NC	NC	NC
isoprene, except from vegetative emission sources	2.88E-07	1.74E-06	1.49E-05	NA	NA	NC	NC	NC	NC
methyl alcohol	2.40E-07	1.45E-06	1.25E-05	NA	NA	NC	NC	NC	NC
methyl ethyl ketone	4.80E-08	2.90E-07	2.49E-06	NA	NA	NC	NC	NC	NC
naphthalene	9.60E-08	5.80E-07	4.98E-06	1.19E-01	1.20E-01	5.86E-14	1.06E-12	5.32E-12	6.44E-12
propionaldehyde	7.20E-08	4.35E-07	3.74E-06	NA	NA	NC	NC	NC	NC
propylene	6.22E-06	3.76E-05	3.22E-04	NA	NA	NC	NC	NC	NC
styrene	2.40E-07	1.45E-06	1.25E-05	NA	NA	NC	NC	NC	NC
toluene	1.62E-05	8.29E-05	6.16E-04	NA	NA	NC	NC	NC	NC
xylene (total)	1.24E-05	6.61E-05	4.25E-04	NA	NA	NC	NC	NC	NC
aluminum	2.51E-04	1.25E-03	6.73E-03	NA	NA	NC	NC	NC	NC
ammonium Ion	4.23E-07	2.19E-06	1.29E-05	NA	NA	NC	NC	NC	NC
antimony	5.02E-08	2.50E-07	1.34E-06	NA	NA	NC	NC	NC	NC
arsenic	6.42E-08	3.30E-07	1.90E-06	1.51E+01	1.20E+01	3.92E-12	6.04E-11	2.03E-10	2.68E-10
barium	6.87E-06	9.15E-05	1.18E-03	NA	NA	NC	NC	NC	NC
bromine	9.59E-08	5.79E-07	3.99E-06	NA	NA	NC	NC	NC	NC
cadmium	1.03E-07	5.12E-07	2.76E-06	6.30E+00	1.50E+01	7.86E-12	1.17E-10	3.69E-10	4.94E-10
chlorine	1.15E-05	6.88E-05	4.62E-04	NA	NA	NC	NC	NC	NC
chromium (VI)	3.94E-08	2.62E-07	2.19E-06	4.20E+01	5.10E+02	1.02E-10	2.04E-09	9.96E-09	1.21E-08
cobalt	3.56E-07	1.83E-06	1.02E-05	NA	NA	NC	NC	NC	NC
copper	1.29E-06	1.87E-05	2.48E-04	NA	NA	NC	NC	NC	NC
lead	1.86E-06	9.35E-06	5.16E-05	NA	4.20E-02	3.97E-13	5.99E-12	1.93E-11	2.57E-11
manganese	3.17E-06	1.77E-05	1.17E-04	NA	NA	NC	NC	NC	NC
mercury	5.28E-08	2.63E-07	1.42E-06	NA	NA	NC	NC	NC	NC
nickel	2.54E-07	2.03E-06	1.98E-05	8.40E-01	9.10E-01	1.18E-12	2.82E-11	1.60E-10	1.90E-10
non-phosphate phosphorous	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	NC
phosphorus	5.25E-06	2.65E-05	1.47E-04	NA	NA	NC	NC	NC	NC
selenium	9.92E-09	7.62E-08	7.38E-07	NA	NA	NC	NC	NC	NC
silicon	6.50E-04	3.31E-03	1.87E-02	NA	NA	NC	NC	NC	NC
silver	2.64E-08	1.31E-07	7.08E-07	NA	NA	NC	NC	NC	NC
sulfates	1.83E-05	1.76E-04	1.66E-03	NA	NA	NC	NC	NC	NC
thallium	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	NC
vanadium	9.27E-07	5.31E-06	3.69E-05	NA	NA	NC	NC	NC	NC
zinc	1.88E-06	1.12E-05	8.40E-05	NA	NA	NC	NC	NC	NC
Diesel PM	1.70E-04	1.52E-03	1.78E-02	1.05E+00	1.10E+00	9.51E-10	2.55E-08	1.74E-07	2.01E-07
<sup>1</sup> Residential Maximum Grid No.	4			TOTAL		1.08E-09	2.80E-08	1.86E-07	2.15E-07
NA = Not Available	ug/m <sup>3</sup> = micrograms per cubic meter								
NC = Not Calculated	mg/kg-d = milligrams per kilogram day								

Source: CDM Smith, 2017

**Table 1-1B**  
**Cancer Risk Calculation for LAX Landside Access Modernization Program Amendment for Manchester Square Area, 2017-2019 Mitigated Construction - 2-Year Exposure**  
**High School Child Scenario**  
**(Based on Peak Location of School Cancer Risks<sup>1</sup>)**

Exposure Parameters	Ages 16<30			Equation					
	School Child 8-hr Daily Breathing Rate (DBR) 240 L/kg-d			Risk = Cair*DBR*EF*CF*A*ASF*ED*FAH*CPF					
Fraction of Year (EF)	0.685 unitless			Where:					
Absorption Fraction (A)	1 unitless			Cair = Exposure Concentration ASF = Age sensitivity factor					
Conversion Factor (CF)	0.000001 m <sup>3</sup> /L			DBR = Daily Breathing Rate ED = Fraction of Averaging time					
Age-adjustment (ASF)	1 unitless			EF = Fraction of Year FAH = Fraction of Time at Home					
School Child Fraction of Time at Home (FAH)	1 unitless			A = Absorption Fraction CPF = Cancer Potency Factor					
2017 Fraction of Averaging Time (ED)	0.00476 unitless (4 months)								
Fraction of Averaging Time (ED)	0.01429 unitless								
2019 Fraction of Averaging Time (ED)	0.00833 unitless (7 months)								
<b>2017-2019</b>									
<b>Concentration at Location</b>									
TAC	w/Maximum Risk (ug/m <sup>3</sup> )			Toxicity Criteria		Cancer Risk to School Child			TOTAL Cancer Risk High School Child for Max Location
	Construction			EPA	CalEPA	Construction			
	2017	2018	2019	Inhalation CPF (mg/kg-day) <sup>-1</sup>	Inhalation CPF (mg/kg-day) <sup>-1</sup>	2017 Age 16	2018 Age 17	2019 Age 18	
1,2,4-trimethylbenzene	1.97E-06	1.19E-05	1.02E-04	NA	NA	NC	NC	NC	NC
1,3-butadiene	1.10E-06	6.67E-06	5.73E-05	1.05E-01	6.00E-01	5.19E-13	9.40E-12	4.71E-11	5.70E-11
2,2,4-trimethylpentane	4.68E-06	2.83E-05	2.43E-04	NA	NA	NC	NC	NC	NC
acetaldehyde	5.76E-07	3.48E-06	2.99E-05	7.70E-03	1.00E-02	4.51E-15	8.17E-14	4.09E-13	4.96E-13
acrolein	2.64E-07	1.60E-06	1.37E-05	NA	NA	NC	NC	NC	NC
benzene	2.35E-05	1.03E-04	3.26E-04	2.73E-02	1.00E-01	1.84E-12	2.41E-11	4.47E-11	7.06E-11
cumene	2.40E-08	1.45E-07	1.25E-06	NA	NA	NC	NC	NC	NC
cyclohexane	1.25E-06	7.54E-06	6.47E-05	NA	NA	NC	NC	NC	NC
ethylbenzene	3.76E-06	1.73E-05	1.14E-04	8.75E-03	8.70E-03	2.56E-14	3.54E-13	1.36E-12	1.74E-12
ethylene	1.29E-05	7.82E-05	6.71E-04	NA	NA	NC	NC	NC	NC
formaldehyde	3.22E-06	1.94E-05	1.67E-04	4.55E-02	2.10E-02	5.29E-14	9.58E-13	4.80E-12	5.81E-12
hexane, n-	3.24E-06	1.96E-05	1.68E-04	NA	NA	NC	NC	NC	NC
isoprene, except from vegetative emission sources	2.88E-07	1.74E-06	1.49E-05	NA	NA	NC	NC	NC	NC
methyl alcohol	2.40E-07	1.45E-06	1.25E-05	NA	NA	NC	NC	NC	NC
methyl ethyl ketone	4.80E-08	2.90E-07	2.49E-06	NA	NA	NC	NC	NC	NC
naphthalene	9.60E-08	5.80E-07	4.98E-06	1.19E-01	1.20E-01	9.02E-15	1.63E-13	8.19E-13	9.91E-13
propionaldehyde	7.20E-08	4.35E-07	3.74E-06	NA	NA	NC	NC	NC	NC
propylene	6.22E-06	3.76E-05	3.22E-04	NA	NA	NC	NC	NC	NC
styrene	2.40E-07	1.45E-06	1.25E-05	NA	NA	NC	NC	NC	NC
toluene	1.62E-05	8.29E-05	6.16E-04	NA	NA	NC	NC	NC	NC
xylene (total)	1.24E-05	6.61E-05	4.25E-04	NA	NA	NC	NC	NC	NC
aluminum	2.51E-04	1.25E-03	6.73E-03	NA	NA	NC	NC	NC	NC
ammonium Ion	4.23E-07	2.19E-06	1.29E-05	NA	NA	NC	NC	NC	NC
antimony	5.02E-08	2.50E-07	1.34E-06	NA	NA	NC	NC	NC	NC
arsenic	6.42E-08	3.30E-07	1.90E-06	1.51E+01	1.20E+01	6.03E-13	9.30E-12	3.13E-11	4.12E-11
barium	6.87E-06	9.15E-05	1.18E-03	NA	NA	NC	NC	NC	NC
bromine	9.59E-08	5.79E-07	3.99E-06	NA	NA	NC	NC	NC	NC
cadmium	1.03E-07	5.12E-07	2.76E-06	6.30E+00	1.50E+01	1.21E-12	1.81E-11	5.67E-11	7.60E-11
chlorine	1.15E-05	6.88E-05	4.62E-04	NA	NA	NC	NC	NC	NC
chromium (VI)	3.94E-08	2.62E-07	2.19E-06	4.20E+01	5.10E+02	1.57E-11	3.14E-10	1.53E-09	1.86E-09
cobalt	3.56E-07	1.83E-06	1.02E-05	NA	NA	NC	NC	NC	NC
copper	1.29E-06	1.87E-05	2.48E-04	NA	NA	NC	NC	NC	NC
lead	1.86E-06	9.35E-06	5.16E-05	NA	4.20E-02	6.11E-14	9.22E-13	2.97E-12	3.95E-12
manganese	3.17E-06	1.77E-05	1.17E-04	NA	NA	NC	NC	NC	NC
mercury	5.28E-08	2.63E-07	1.42E-06	NA	NA	NC	NC	NC	NC
nickel	2.54E-07	2.03E-06	1.98E-05	8.40E-01	9.10E-01	1.81E-13	4.34E-12	2.46E-11	2.92E-11
non-phosphate phosphorous	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	NC
phosphorus	5.25E-06	2.65E-05	1.47E-04	NA	NA	NC	NC	NC	NC
selenium	9.92E-09	7.62E-08	7.38E-07	NA	NA	NC	NC	NC	NC
silicon	6.50E-04	3.31E-03	1.87E-02	NA	NA	NC	NC	NC	NC
silver	2.64E-08	1.31E-07	7.08E-07	NA	NA	NC	NC	NC	NC
sulfates	1.83E-05	1.76E-04	1.66E-03	NA	NA	NC	NC	NC	NC
thallium	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	NC
vanadium	9.27E-07	5.31E-06	3.69E-05	NA	NA	NC	NC	NC	NC
zinc	1.88E-06	1.12E-05	8.40E-05	NA	NA	NC	NC	NC	NC
Diesel PM	1.70E-04	1.52E-03	1.78E-02	1.05E+00	1.10E+00	1.46E-10	3.93E-09	2.68E-08	3.09E-08
<sup>1</sup> Residential Maximum Grid No.	4			TOTAL		1.67E-10	4.31E-09	2.86E-08	3.30E-08

NA = Not Available  
NC = Not Calculated

ug/m<sup>3</sup> = micrograms per cubic meter  
mg/kg-d = milligrams per kilogram day

Source: CDM Smith, 2017

**Table 1-2  
Cancer Risk Calculation for LAX Landside Access Modernization Program Amendment for Manchester Square Area, 2017-2019 Mitigated Construction - 2-Year Exposure  
School Worker Scenario  
(Based on Peak Location of School Cancer Risks<sup>1</sup>)**

Exposure Parameters			Ages 16-70			Equation		
Worker 8-hr Daily Breathing Rate (DBR)			230 L/kg-d			Risk = Cair*DBR*EF*CF*A*ASF*ED*WAH*CPF		
Fraction of Year (EF)			0.685 unitless			Where: Cair = Exposure Concentration		
Absorption Fraction (A)			1 unitless			ASF = Age sensitivity factor		
Conversion Factor (CF)			0.000001 m <sup>3</sup> /L			DBR = Daily Breathing Rate		
Age-adjustment (ASF)			1 unitless			ED = Fraction of Averaging time		
Worker Adjustment Factor (WAH)			1 unitless			EF = Fraction of Year		
2017 Fraction of Averaging Time (ED)			0.00476 unitless (4 months)			A = Absorption Fraction		
2018 Fraction of Averaging Time (ED)			0.01429 unitless			CPF = Cancer Potency Factor		
2019 Fraction of Averaging Time (ED)			0.00833 unitless (7 months)					

Toxicity Criteria										
Concentration at Location										
TAC	w/Maximum Risk (ug/m <sup>3</sup> )			EPA Inhalation CPF (mg/kg-day) <sup>-1</sup>	CalEPA Inhalation CPF (mg/kg-day) <sup>-1</sup>	Cancer Risk to School Worker			TOTAL Cancer Risk to Worker for Max Location	
	Construction					Construction				
	2017	2018	2019			2017	2018	2019		
1,2,4-trimethylbenzene	1.97E-06	1.19E-05	1.02E-04	NA	NA	NC	NC	NC	NC	
1,3-butadiene	1.10E-06	6.67E-06	5.73E-05	1.05E-01	6.00E-01	4.97E-13	9.01E-12	4.51E-11	5.46E-11	
2,2,4-trimethylpentane	4.68E-06	2.83E-05	2.43E-04	NA	NA	NC	NC	NC	NC	
acetaldehyde	5.76E-07	3.48E-06	2.99E-05	7.70E-03	1.00E-02	4.32E-15	7.83E-14	3.92E-13	4.75E-13	
acrolein	2.64E-07	1.60E-06	1.37E-05	NA	NA	NC	NC	NC	NC	
benzene	2.35E-05	1.03E-04	3.26E-04	2.73E-02	1.00E-01	1.76E-12	2.31E-11	4.28E-11	6.77E-11	
cumene	2.40E-08	1.45E-07	1.25E-06	NA	NA	NC	NC	NC	NC	
cyclohexane	1.25E-06	7.54E-06	6.47E-05	NA	NA	NC	NC	NC	NC	
ethylbenzene	3.76E-06	1.73E-05	1.14E-04	8.75E-03	8.70E-03	2.45E-14	3.39E-13	1.31E-12	1.67E-12	
ethylene	1.29E-05	7.82E-05	6.71E-04	NA	NA	NC	NC	NC	NC	
formaldehyde	3.22E-06	1.94E-05	1.67E-04	4.55E-02	2.10E-02	5.07E-14	9.18E-13	4.60E-12	5.57E-12	
hexane, n-	3.24E-06	1.96E-05	1.68E-04	NA	NA	NC	NC	NC	NC	
isoprene, except from vegetative emission sources	2.88E-07	1.74E-06	1.49E-05	NA	NA	NC	NC	NC	NC	
methyl alcohol	2.40E-07	1.45E-06	1.25E-05	NA	NA	NC	NC	NC	NC	
methyl ethyl ketone	4.80E-08	2.90E-07	2.49E-06	NA	NA	NC	NC	NC	NC	
naphthalene	9.60E-08	5.80E-07	4.98E-06	1.19E-01	1.20E-01	8.64E-15	1.57E-13	7.85E-13	9.50E-13	
propionaldehyde	7.20E-08	4.35E-07	3.74E-06	NA	NA	NC	NC	NC	NC	
propylene	6.22E-06	3.76E-05	3.22E-04	NA	NA	NC	NC	NC	NC	
styrene	2.40E-07	1.45E-06	1.25E-05	NA	NA	NC	NC	NC	NC	
toluene	1.62E-05	8.29E-05	6.16E-04	NA	NA	NC	NC	NC	NC	
xylene (total)	1.24E-05	6.61E-05	4.25E-04	NA	NA	NC	NC	NC	NC	
aluminum	2.51E-04	1.25E-03	6.73E-03	NA	NA	NC	NC	NC	NC	
ammonium Ion	4.23E-07	2.19E-06	1.29E-05	NA	NA	NC	NC	NC	NC	
antimony	5.02E-08	2.50E-07	1.34E-06	NA	NA	NC	NC	NC	NC	
arsenic	6.42E-08	3.30E-07	1.90E-06	1.51E+01	1.20E+01	5.78E-13	8.91E-12	3.00E-11	3.95E-11	
barium	6.87E-06	9.15E-05	1.18E-03	NA	NA	NC	NC	NC	NC	
bromine	9.59E-08	5.79E-07	3.99E-06	NA	NA	NC	NC	NC	NC	
cadmium	1.03E-07	5.12E-07	2.76E-06	6.30E+00	1.50E+01	1.16E-12	1.73E-11	5.43E-11	7.28E-11	
chlorine	1.15E-05	6.88E-05	4.62E-04	NA	NA	NC	NC	NC	NC	
chromium (VI)	3.94E-08	2.62E-07	2.19E-06	4.20E+01	5.10E+02	1.51E-11	3.01E-10	1.47E-09	1.78E-09	
cobalt	3.56E-07	1.83E-06	1.02E-05	NA	NA	NC	NC	NC	NC	
copper	1.29E-06	1.87E-05	2.48E-04	NA	NA	NC	NC	NC	NC	
lead	1.86E-06	9.35E-06	5.16E-05	NA	4.20E-02	5.85E-14	8.83E-13	2.84E-12	3.79E-12	
manganese	3.17E-06	1.77E-05	1.17E-04	NA	NA	NC	NC	NC	NC	
mercury	5.28E-08	2.63E-07	1.42E-06	NA	NA	NC	NC	NC	NC	
nickel	2.54E-07	2.03E-06	1.98E-05	8.40E-01	9.10E-01	1.74E-13	4.16E-12	2.36E-11	2.80E-11	
non-phosphate phosphorous	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	NC	
phosphorus	5.25E-06	2.65E-05	1.47E-04	NA	NA	NC	NC	NC	NC	
selenium	9.92E-09	7.62E-08	7.38E-07	NA	NA	NC	NC	NC	NC	
silicon	6.50E-04	3.31E-03	1.87E-02	NA	NA	NC	NC	NC	NC	
silver	2.64E-08	1.31E-07	7.08E-07	NA	NA	NC	NC	NC	NC	
sulfates	1.83E-05	1.76E-04	1.66E-03	NA	NA	NC	NC	NC	NC	
thallium	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	NC	
vanadium	9.27E-07	5.31E-06	3.69E-05	NA	NA	NC	NC	NC	NC	
zinc	1.88E-06	1.12E-05	8.40E-05	NA	NA	NC	NC	NC	NC	
Diesel PM	1.70E-04	1.52E-03	1.78E-02	1.05E+00	1.10E+00	1.40E-10	3.76E-09	2.57E-08	2.96E-08	
<sup>1</sup> Commercial Maximum Grid No.	4			TOTAL			1.60E-10	4.13E-09	2.74E-08	3.17E-08
NA = Not Available	ug/m <sup>3</sup> = micrograms per cubic meter			ug/m <sup>3</sup> = micrograms per cubic meter						
NC = Not Calculated	mg/kg-d = milligrams per kilogram day			mg/kg-d = milligrams per kilogram day						

Source: CDM Smith, 2017

**Table 1-3  
Cancer Risk Calculation for LAX Landside Access Modernization Program Amendment for Manchester Square Area, 2017-2019 Mitigated Construction - 2-Year Exposure  
Adult Resident Scenario  
(Based on Peak Location of School Cancer Risks<sup>1</sup>)**

Exposure Parameters	Ages 16<70			Equation		2017-2019			
	w/Maximum Risk (ug/m <sup>3</sup> )			Toxicity Criteria		Cancer Risk to Adult Resident			TOTAL
	Construction			EPA	CalEPA	Construction			Cancer Risk
	2017	2018	2019	Inhalation CPF	Inhalation CPF	2017	2018	2019	Adult Resident
TAC				(mg/kg-day) <sup>-1</sup>	(mg/kg-day) <sup>-1</sup>				for Max Location
Daily Breathing Rate (DBR)	290 L/kg-d			Risk = Cair*DBR*EF*CF*A*ASF*ED*FAH*CPF					
Fraction of Year (EF)	0.959 unitless								
Absorption Fraction (A)	1 unitless			Where:					
Conversion Factor (CF)	0.000001 m <sup>3</sup> /L			Cair = Exposure Concentration		ASF = Age sensitivity factor			
Age-adjustment (ASF)	1 unitless			DBR = Daily Breathing Rate		ED = Fraction of Averaging time			
Fraction of Time at Home (FAH)	0.73 unitless			EF = Fraction of Year		FAH = Fraction of Time at Home			
2017 Fraction of Averaging Time (ED)	0.00476 unitless (4 months)			A = Absorption Fraction		CPF = Cancer Potency Factor			
Fraction of Averaging Time (ED)	0.01429 unitless			CF = Conversion Factor					
2019 Fraction of Averaging Time (ED)	0.00833 unitless (7 months)								
1,2,4-trimethylbenzene	1.39E-06	1.34E-05	2.42E-04	NA	NA	NC	NC	NC	NC
1,3-butadiene	7.82E-07	7.54E-06	1.36E-04	1.05E-01	6.00E-01	4.54E-13	1.31E-11	1.38E-10	1.51E-10
2,2,4-trimethylpentane	3.32E-06	3.20E-05	5.75E-04	NA	NA	NC	NC	NC	NC
acetaldehyde	4.08E-07	3.94E-06	7.08E-05	7.70E-03	1.00E-02	3.94E-15	1.14E-13	1.20E-12	1.32E-12
acrolein	1.87E-07	1.80E-06	3.25E-05	NA	NA	NC	NC	NC	NC
benzene	1.87E-05	8.95E-05	8.38E-04	2.73E-02	1.00E-01	1.81E-12	2.60E-11	1.42E-10	1.70E-10
cumene	1.70E-08	1.64E-07	2.95E-06	NA	NA	NC	NC	NC	NC
cyclohexane	8.84E-07	8.53E-06	1.53E-04	NA	NA	NC	NC	NC	NC
ethylbenzene	2.67E-06	1.85E-05	2.65E-04	8.75E-03	8.70E-03	2.25E-14	4.68E-13	3.91E-12	4.40E-12
ethylene	9.16E-06	8.84E-05	1.59E-03	NA	NA	NC	NC	NC	NC
formaldehyde	2.28E-06	2.20E-05	3.95E-04	4.55E-02	2.10E-02	4.62E-14	1.34E-12	1.40E-11	1.54E-11
hexane, n-	2.30E-06	2.21E-05	3.98E-04	NA	NA	NC	NC	NC	NC
isoprene, except from vegetative emission sources	2.04E-07	1.97E-06	3.54E-05	NA	NA	NC	NC	NC	NC
methyl alcohol	1.70E-07	1.64E-06	2.95E-05	NA	NA	NC	NC	NC	NC
methyl ethyl ketone	3.40E-08	3.28E-07	5.90E-06	NA	NA	NC	NC	NC	NC
naphthalene	6.80E-08	6.56E-07	1.18E-05	1.19E-01	1.20E-01	7.89E-15	2.28E-13	2.40E-12	2.63E-12
propionaldehyde	5.10E-08	4.92E-07	8.85E-06	NA	NA	NC	NC	NC	NC
propylene	4.40E-06	4.25E-05	7.64E-04	NA	NA	NC	NC	NC	NC
styrene	1.70E-07	1.64E-06	2.95E-05	NA	NA	NC	NC	NC	NC
toluene	1.15E-05	9.08E-05	1.44E-03	NA	NA	NC	NC	NC	NC
xylylene (total)	8.78E-06	7.31E-05	6.03E-04	NA	NA	NC	NC	NC	NC
aluminum	1.71E-04	1.63E-03	1.67E-02	NA	NA	NC	NC	NC	NC
ammonium Ion	2.88E-07	2.86E-06	3.49E-05	NA	NA	NC	NC	NC	NC
antimony	3.42E-08	3.27E-07	3.34E-06	NA	NA	NC	NC	NC	NC
arsenic	4.37E-08	4.30E-07	5.08E-06	1.51E+01	1.20E+01	5.07E-13	1.50E-11	1.03E-10	1.19E-10
barium	4.44E-06	1.14E-04	4.87E-03	NA	NA	NC	NC	NC	NC
bromine	6.52E-08	7.40E-07	1.22E-05	NA	NA	NC	NC	NC	NC
cadmium	7.02E-08	6.70E-07	6.86E-06	6.30E+00	1.50E+01	1.02E-12	2.92E-11	1.74E-10	2.04E-10
chlorine	7.80E-06	8.78E-05	1.37E-03	NA	NA	NC	NC	NC	NC
chromium (VI)	2.66E-08	3.36E-07	7.63E-06	4.20E+01	5.10E+02	1.31E-11	4.97E-10	6.58E-09	7.10E-09
cobalt	2.43E-07	2.38E-06	2.60E-05	NA	NA	NC	NC	NC	NC
copper	8.28E-07	2.32E-05	1.03E-03	NA	NA	NC	NC	NC	NC
lead	1.27E-06	1.22E-05	1.31E-04	NA	4.20E-02	5.14E-14	1.49E-12	9.34E-12	1.09E-11
manganese	2.16E-06	2.29E-05	3.54E-04	NA	NA	NC	NC	NC	NC
mercury	3.60E-08	3.44E-07	3.52E-06	NA	NA	NC	NC	NC	NC
nickel	1.70E-07	2.57E-06	7.38E-05	8.40E-01	9.10E-01	1.50E-13	6.79E-12	1.14E-10	1.21E-10
non-phosphatous phosphorous	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	NC
phosphorous	3.57E-06	3.46E-05	3.78E-04	NA	NA	NC	NC	NC	NC
selenium	6.60E-09	9.68E-08	2.73E-06	NA	NA	NC	NC	NC	NC
silicon	4.43E-04	4.32E-03	4.88E-02	NA	NA	NC	NC	NC	NC
silver	1.80E-08	1.72E-07	1.76E-06	NA	NA	NC	NC	NC	NC
sulfates	1.23E-05	2.16E-04	5.98E-03	NA	NA	NC	NC	NC	NC
thallium	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	NC
vanadium	6.29E-07	6.87E-06	1.15E-04	NA	NA	NC	NC	NC	NC
zinc	1.26E-06	1.45E-05	2.68E-04	NA	NA	NC	NC	NC	NC
Diesel PM	1.20E-04	1.56E-03	5.43E-02	1.05E+00	1.10E+00	1.28E-10	4.98E-09	1.01E-07	1.06E-07
<sup>1</sup> Residential Maximum Grid No.	25			TOTAL		1.45E-10	5.57E-09	1.08E-07	1.14E-07
NA = Not Available	ug/m <sup>3</sup> = micrograms per cubic meter								
NC = Not Calculated	mg/kg-d = milligrams per kilogram day								

Source: CDM Smith, 2017

**Table 1-4**  
**Cancer Risk Calculation for LAX Landside Access Modernization Program Amendment for Manchester Square Area, 2017-2019 Mitigated Construction - 2-Year Exposure**  
**Child Resident Scenario**  
**(Based on Peak Location of School Cancer Risks<sup>1</sup>)**

Exposure Parameters	Ages 0-2		Units	Equation					
	Units			Equation					
Daily Breathing Rate (DBR)	1090		L/kg-d	Risk = Cair*DBR*EF*CF*A*ASF*ED*FAH*CPF					
Fraction of Year (EF)	0.959		unitless	Where:					
Absorption Fraction (A)	1		unitless	Cair = Exposure Concentration					
Conversion Factor (CF)	0.000001		m <sup>3</sup> /L	ASF = Age sensitivity factor					
Age-adjustment (ASF)	10		unitless	DBR = Daily Breathing Rate					
Fraction of Time at Home (FAH)	1		unitless	ED = Fraction of Averaging time					
2017 Fraction of Averaging Time (ED)	0.00476		unitless (4 months)	EF = Fraction of Year					
2018 Fraction of Averaging Time (ED)	0.01429		unitless	A = Absorption Fraction					
2019 Fraction of Averaging Time (ED)	0.00833		unitless (7 months)	CPF = Cancer Potency Factor					
<b>2017-2019</b>									
TAC	Concentration at Location			Toxicity Criteria		Cancer Risk to Child Resident			TOTAL Cancer Risk Child Resident for Max Location
	w/Maximum Risk (ug/m <sup>3</sup> )			EPA	CalEPA	Construction			
	2017	2018	2019	Inhalation CPF (mg/kg-day) <sup>-1</sup>	Inhalation CPF (mg/kg-day) <sup>-1</sup>	2017	2018	2019	
						Age 0	Age 1	Age 2	

1,2,4-trimethylbenzene	1.39E-06	1.34E-05	2.42E-04	NA	NA	NC	NC	NC	NC
1,3-butadiene	7.82E-07	7.54E-06	1.36E-04	1.05E-01	6.00E-01	2.34E-11	6.76E-10	7.09E-09	7.79E-09
2,2,4-trimethylpentane	3.32E-06	3.20E-05	5.75E-04	NA	NA	NC	NC	NC	NC
acetaldehyde	4.08E-07	3.94E-06	7.08E-05	7.70E-03	1.00E-02	2.03E-13	5.88E-12	6.17E-11	6.77E-11
acrolein	1.87E-07	1.80E-06	3.25E-05	NA	NA	NC	NC	NC	NC
benzene	1.87E-05	8.95E-05	8.38E-04	2.73E-02	1.00E-01	9.31E-11	1.34E-09	7.30E-09	8.73E-09
cumene	1.70E-08	1.64E-07	2.95E-06	NA	NA	NC	NC	NC	NC
cyclohexane	8.84E-07	8.53E-06	1.53E-04	NA	NA	NC	NC	NC	NC
ethylbenzene	2.67E-06	1.85E-05	2.65E-04	8.75E-03	8.70E-03	1.16E-12	2.41E-11	2.01E-10	2.26E-10
ethylene	9.16E-06	8.84E-05	1.59E-03	NA	NA	NC	NC	NC	NC
formaldehyde	2.28E-06	2.20E-05	3.95E-04	4.55E-02	2.10E-02	2.38E-12	6.89E-11	7.23E-10	7.94E-10
hexane, n-	2.30E-06	2.21E-05	3.98E-04	NA	NA	NC	NC	NC	NC
isoprene, except from vegetative emission sources	2.04E-07	1.97E-06	3.54E-05	NA	NA	NC	NC	NC	NC
methyl alcohol	1.70E-07	1.64E-06	2.95E-05	NA	NA	NC	NC	NC	NC
methyl ethyl ketone	3.40E-08	3.28E-07	5.90E-06	NA	NA	NC	NC	NC	NC
naphthalene	6.80E-08	6.56E-07	1.18E-05	1.19E-01	1.20E-01	4.06E-13	1.18E-11	1.23E-10	1.35E-10
propionaldehyde	5.10E-08	4.92E-07	8.85E-06	NA	NA	NC	NC	NC	NC
propylene	4.40E-06	4.25E-05	7.64E-04	NA	NA	NC	NC	NC	NC
styrene	1.70E-07	1.64E-06	2.95E-05	NA	NA	NC	NC	NC	NC
toluene	1.15E-05	9.08E-05	1.44E-03	NA	NA	NC	NC	NC	NC
xylene (total)	8.78E-06	7.31E-05	6.03E-04	NA	NA	NC	NC	NC	NC
aluminum	1.71E-04	1.63E-03	1.67E-02	NA	NA	NC	NC	NC	NC
ammonium Ion	2.88E-07	2.86E-06	3.49E-05	NA	NA	NC	NC	NC	NC
antimony	3.42E-08	3.27E-07	3.34E-06	NA	NA	NC	NC	NC	NC
arsenic	4.37E-08	4.30E-07	5.08E-06	1.51E+01	1.20E+01	2.61E-11	7.71E-10	5.31E-09	6.11E-09
barium	4.44E-06	1.14E-04	4.87E-03	NA	NA	NC	NC	NC	NC
bromine	6.52E-08	7.40E-07	1.22E-05	NA	NA	NC	NC	NC	NC
cadmium	7.02E-08	6.70E-07	6.86E-06	6.30E+00	1.50E+01	5.24E-11	1.50E-09	8.96E-09	1.05E-08
chlorine	7.80E-06	8.78E-05	1.37E-03	NA	NA	NC	NC	NC	NC
chromium (VI)	2.66E-08	3.36E-07	7.63E-06	4.20E+01	5.10E+02	6.75E-10	2.56E-08	3.39E-07	3.65E-07
cobalt	2.43E-07	2.38E-06	2.60E-05	NA	NA	NC	NC	NC	NC
copper	8.28E-07	2.32E-05	1.03E-03	NA	NA	NC	NC	NC	NC
lead	1.27E-06	1.22E-05	1.31E-04	NA	4.20E-02	2.65E-12	7.66E-11	4.81E-10	5.60E-10
manganese	2.16E-06	2.29E-05	3.54E-04	NA	NA	NC	NC	NC	NC
mercury	3.60E-08	3.44E-07	3.52E-06	NA	NA	NC	NC	NC	NC
nickel	1.70E-07	2.57E-06	7.38E-05	8.40E-01	9.10E-01	7.71E-12	3.49E-10	5.85E-09	6.20E-09
non-phosphate phosphorous	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	NC
phosphorus	3.57E-06	3.46E-05	3.78E-04	NA	NA	NC	NC	NC	NC
selenium	6.60E-09	9.68E-08	2.73E-06	NA	NA	NC	NC	NC	NC
silicon	4.43E-04	4.32E-03	4.88E-02	NA	NA	NC	NC	NC	NC
silver	1.80E-08	1.72E-07	1.76E-06	NA	NA	NC	NC	NC	NC
sulfates	1.23E-05	2.16E-04	5.98E-03	NA	NA	NC	NC	NC	NC
thallium	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	NC
vanadium	6.29E-07	6.87E-06	1.15E-04	NA	NA	NC	NC	NC	NC
zinc	1.26E-06	1.45E-05	2.68E-04	NA	NA	NC	NC	NC	NC
Diesel PM	1.20E-04	1.56E-03	5.43E-02	1.05E+00	1.10E+00	6.57E-09	2.56E-07	5.20E-06	5.46E-06
<sup>1</sup> Residential Maximum Grid No.	25			TOTAL		7.45E-09	2.87E-07	5.57E-06	5.87E-06
NA = Not Available	ug/m <sup>3</sup> = micrograms per cubic meter								
NC = Not Calculated	mg/kg-d = milligrams per kilogram day								

Source: CDM Smith, 2017

**Table 1-5  
Hazard Calculation for LAX Landside Access Modernization Program Amendment for Manchester Square Area, 2017-2019 Mitigated Construction  
Charter School Locations  
(Based on Peak Location of Hazards<sup>1</sup>)**

<b>Equation</b>									
HQ = Cair / REL Where: HQ = Hazard Quotient Cair = Exposure Concentration REL = Reference Exposure Level									
TAC	Concentration at Location w/Maximum						Hazard Quotient to School Receptors		
	Hazard (ug/m <sup>3</sup> )			Toxicity Criteria		Construction			
	Construction	2017	2018	2019	EPA RfC	CalEPA REL	2017	2018	2019
				(ug/m <sup>3</sup> )	(ug/m <sup>3</sup> )				
1,2,4-trimethylbenzene	2.05E-06	7.79E-06	4.05E-05	7.00E+00	NA	2.93E-07	1.11E-06	5.79E-06	
1,3-butadiene	1.15E-06	4.37E-06	2.27E-05	2.00E+00	2.00E+00	5.75E-07	2.19E-06	1.14E-05	
2,2,4-trimethylpentane	4.88E-06	1.85E-05	9.63E-05	NA	NA	NC	NC	NC	
acetaldehyde	6.00E-07	2.28E-06	1.19E-05	9.00E+00	1.40E+02	4.29E-09	1.63E-08	8.47E-08	
acrolein	2.75E-07	1.05E-06	5.43E-06	2.00E-02	3.50E-01	7.86E-07	2.99E-06	1.55E-05	
benzene	2.38E-05	9.91E-05	1.25E-04	3.00E+01	3.00E+00	7.92E-06	3.30E-05	4.16E-05	
cumene	2.50E-08	9.50E-08	4.94E-07	4.00E+02	NA	6.25E-11	2.38E-10	1.24E-09	
cyclohexane	1.30E-06	4.94E-06	2.57E-05	6.00E+03	NA	2.17E-10	8.23E-10	4.28E-09	
ethylbenzene	4.08E-06	1.17E-05	4.68E-05	1.00E+03	2.00E+03	2.04E-09	5.85E-09	2.34E-08	
ethylene	1.35E-05	5.12E-05	2.66E-04	NA	NA	NC	NC	NC	
formaldehyde	3.35E-06	1.27E-05	6.62E-05	9.80E+00	9.00E+00	3.72E-07	1.41E-06	7.36E-06	
hexane, n-	3.38E-06	1.28E-05	6.67E-05	7.00E+02	7.00E+03	4.82E-10	1.83E-09	9.53E-09	
isoprene, except from vegetative emission sources	3.00E-07	1.14E-06	5.93E-06	NA	NA	NC	NC	NC	
methyl alcohol	2.50E-07	9.50E-07	4.94E-06	2.00E+04	4.00E+03	6.25E-11	2.38E-10	1.24E-09	
methyl ethyl ketone	5.00E-08	1.90E-07	9.88E-07	5.00E+03	NA	1.00E-11	3.80E-11	1.98E-10	
naphthalene	1.00E-07	3.80E-07	1.98E-06	3.00E+00	9.00E+00	1.11E-08	4.22E-08	2.20E-07	
propionaldehyde	7.50E-08	2.85E-07	1.48E-06	8.00E+00	NA	9.38E-09	3.56E-08	1.85E-07	
propylene	6.48E-06	2.46E-05	1.28E-04	3.00E+03	3.00E+03	2.16E-09	8.20E-09	4.26E-08	
styrene	2.50E-07	9.50E-07	4.94E-06	1.00E+03	9.00E+02	2.78E-10	1.06E-09	5.49E-09	
toluene	1.73E-05	5.53E-05	2.48E-04	5.00E+03	3.00E+02	5.78E-08	1.84E-07	8.28E-07	
xylene (total)	1.32E-05	4.39E-05	1.74E-04	1.00E+02	7.00E+02	1.88E-08	6.27E-08	2.49E-07	
aluminum	2.89E-04	6.83E-04	9.33E-03	5.00E+00	NA	5.77E-05	1.37E-04	1.87E-03	
ammonium Ion	4.87E-07	1.22E-06	1.63E-05	1.00E+02	2.00E+02	2.43E-09	6.08E-09	8.16E-08	
antimony	5.78E-08	1.37E-07	1.87E-06	NA	NA	NC	NC	NC	
arsenic	7.39E-08	1.82E-07	2.45E-06	1.50E-02	1.50E-02	4.92E-06	1.21E-05	1.63E-04	
barium	7.80E-06	5.92E-05	6.00E-04	5.00E-01	NA	1.56E-05	1.18E-04	1.20E-03	
bromine	1.15E-07	3.29E-07	4.13E-06	NA	NA	NC	NC	NC	
cadmium	1.19E-07	2.80E-07	3.83E-06	1.00E-02	2.00E-02	5.93E-06	1.40E-05	1.92E-04	
chlorine	1.39E-05	3.90E-05	4.91E-04	1.50E-01	2.00E-01	6.96E-05	1.95E-04	2.46E-03	
chromium (VI)	4.55E-08	1.54E-07	1.86E-06	1.00E-01	2.00E-01	2.28E-07	7.70E-07	9.31E-06	
cobalt	4.15E-07	1.01E-06	1.35E-05	6.00E-03	NA	6.92E-05	1.68E-04	2.26E-03	
copper	1.47E-06	1.22E-05	1.22E-04	NA	NA	NC	NC	NC	
lead	2.14E-06	5.13E-06	6.98E-05	NA	NA	NC	NC	NC	
manganese	3.66E-06	9.96E-06	1.29E-04	5.00E-02	9.00E-02	4.06E-05	1.11E-04	1.44E-03	
mercury	6.08E-08	1.44E-07	1.97E-06	3.00E-01	3.00E-02	2.03E-06	4.79E-06	6.55E-05	
nickel	2.96E-07	1.23E-06	1.40E-05	9.00E-02	1.40E-02	2.12E-05	8.78E-05	1.00E-03	
non-phosphate phosphorous	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	
phosphorus	6.04E-06	1.46E-05	1.98E-04	NA	NA	NC	NC	NC	
selenium	1.13E-08	4.62E-08	5.34E-07	2.00E+01	2.00E+01	5.66E-10	2.31E-09	2.67E-08	
silicon	7.48E-04	1.82E-03	2.46E-02	3.00E+00	3.00E+00	2.49E-04	6.07E-04	8.21E-03	
silver	3.04E-08	7.19E-08	9.83E-07	NA	NA	NC	NC	NC	
sulfates	2.55E-05	1.07E-04	1.14E-03	NA	NA	NC	NC	NC	
thallium	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	
vanadium	1.07E-06	3.01E-06	3.87E-05	1.00E-01	NA	1.07E-05	3.01E-05	3.87E-04	
zinc	2.15E-06	6.50E-06	8.23E-05	NA	NA	NC	NC	NC	
Diesel PM	1.80E-04	1.01E-03	1.05E-02	5.00E+00	5.00E+00	3.60E-05	2.02E-04	2.10E-03	
<sup>1</sup> Commercial Maximum Grid No.	3			<b>TOTAL</b>		<b>0.0006</b>	<b>0.002</b>	<b>0.02</b>	
NA = Not Available	ug/m <sup>3</sup> = micrograms per cubic meter			ug/m <sup>3</sup> = micrograms per cubic meter					
NC = Not Calculated	mg/kg-d = milligrams per kilogram day			mg/kg-d = milligrams per kilogram day					

Source: CDM Smith, 2017



**Table 1-6  
Hazard Calculation for LAX Landside Access Modernization Program Amendment for Manchester Square Area, 2017-2019 Mitigated Construction  
Residential Receptor Locations  
(Based on Peak Location of Hazards<sup>1</sup>)**

TAC	Equation								
	HQ = Cair / REL Where: HQ = Hazard Quotient Cair = Exposure Concentration REL = Reference Exposure Level								
	Concentration at Location w/Maximum						Hazard Quotient to Residents		
	Hazard (ug/m <sup>3</sup> )			Toxicity Criteria		Construction			
Construction			EPA	CalEPA	Construction				
2017	2018	2019	RfC	REL	2017	2018	2019		
			(ug/m <sup>3</sup> )	(ug/m <sup>3</sup> )					
1,2,4-trimethylbenzene	1.80E-06	5.17E-06	4.73E-05	7.00E+00	NA	2.58E-07	7.38E-07	6.76E-06	
1,3-butadiene	1.01E-06	2.90E-06	2.65E-05	2.00E+00	2.00E+00	5.06E-07	1.45E-06	1.33E-05	
2,2,4-trimethylpentane	4.29E-06	1.23E-05	1.13E-04	NA	NA	NC	NC	NC	
acetaldehyde	5.28E-07	1.51E-06	1.38E-05	9.00E+00	1.40E+02	3.77E-09	1.08E-08	9.89E-08	
acrolein	2.42E-07	6.93E-07	6.35E-06	2.00E-02	3.50E-01	6.91E-07	1.98E-06	1.81E-05	
benzene	2.09E-05	7.65E-05	1.30E-04	3.00E+01	3.00E+00	6.98E-06	2.55E-05	4.34E-05	
cumene	2.20E-08	6.30E-08	5.77E-07	4.00E+02	NA	5.50E-11	1.58E-10	1.44E-09	
cyclohexane	1.14E-06	3.28E-06	3.00E-05	6.00E+03	NA	1.91E-10	5.46E-10	5.00E-09	
ethylbenzene	4.05E-06	7.70E-06	5.30E-05	1.00E+03	2.00E+03	2.02E-09	3.85E-09	2.65E-08	
ethylene	1.19E-05	3.40E-05	3.11E-04	NA	NA	NC	NC	NC	
formaldehyde	2.95E-06	8.44E-06	7.73E-05	9.80E+00	9.00E+00	3.28E-07	9.38E-07	8.59E-06	
hexane, n-	2.97E-06	8.51E-06	7.79E-05	7.00E+02	7.00E+03	4.24E-10	1.22E-09	1.11E-08	
isoprene, except from vegetative emission sources	2.64E-07	7.56E-07	6.92E-06	NA	NA	NC	NC	NC	
methyl alcohol	2.20E-07	6.30E-07	5.77E-06	2.00E+04	4.00E+03	5.50E-11	1.58E-10	1.44E-09	
methyl ethyl ketone	4.40E-08	1.26E-07	1.15E-06	5.00E+03	NA	8.80E-12	2.52E-11	2.31E-10	
naphthalene	8.80E-08	2.52E-07	2.31E-06	3.00E+00	9.00E+00	9.78E-09	2.80E-08	2.56E-07	
propionaldehyde	6.60E-08	1.89E-07	1.73E-06	8.00E+00	NA	8.25E-09	2.36E-08	2.16E-07	
propylene	5.70E-06	1.63E-05	1.49E-04	3.00E+03	3.00E+03	1.90E-09	5.44E-09	4.98E-08	
styrene	2.20E-07	6.30E-07	5.77E-06	1.00E+03	9.00E+02	2.44E-10	7.00E-10	6.41E-09	
toluene	1.65E-05	3.65E-05	2.86E-04	5.00E+03	3.00E+02	5.51E-08	1.22E-07	9.52E-07	
xylene (total)	1.23E-05	2.90E-05	2.36E-04	1.00E+02	7.00E+02	1.76E-08	4.14E-08	3.37E-07	
aluminum	2.53E-04	4.34E-04	3.50E-02	5.00E+00	NA	5.07E-05	8.68E-05	6.99E-03	
ammonium Ion	4.28E-07	7.78E-07	5.93E-05	1.00E+02	2.00E+02	2.14E-09	3.89E-09	2.97E-07	
antimony	5.07E-08	8.68E-08	7.00E-06	NA	NA	NC	NC	NC	
arsenic	6.49E-08	1.16E-07	8.98E-06	1.50E-02	1.50E-02	4.33E-06	7.76E-06	5.99E-04	
barium	6.90E-06	4.09E-05	1.10E-03	5.00E-01	NA	1.38E-05	8.17E-05	2.19E-03	
bromine	9.70E-08	2.15E-07	1.38E-05	NA	NA	NC	NC	NC	
cadmium	1.04E-07	1.78E-07	1.44E-05	1.00E-02	2.00E-02	5.21E-06	8.91E-06	7.18E-04	
chlorine	1.16E-05	2.54E-05	1.66E-03	1.50E-01	2.00E-01	5.81E-05	1.27E-04	8.29E-03	
chromium (VI)	3.98E-08	1.02E-07	5.67E-06	1.00E-01	2.00E-01	1.99E-07	5.08E-07	2.83E-05	
cobalt	3.60E-07	6.42E-07	5.00E-05	6.00E-03	NA	6.01E-05	1.07E-04	8.34E-03	
copper	1.30E-06	8.44E-06	2.10E-04	NA	NA	NC	NC	NC	
lead	1.88E-06	3.27E-06	2.60E-04	NA	NA	NC	NC	NC	
manganese	3.21E-06	6.44E-06	4.48E-04	5.00E-02	9.00E-02	3.57E-05	7.15E-05	4.97E-03	
mercury	5.34E-08	9.14E-08	7.37E-06	3.00E-01	3.00E-02	1.78E-06	3.05E-06	2.46E-04	
nickel	2.57E-07	8.24E-07	3.75E-05	9.00E-02	1.40E-02	1.83E-05	5.89E-05	2.68E-03	
non-phosphate phosphorous	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	
phosphorus	5.31E-06	9.28E-06	7.34E-04	NA	NA	NC	NC	NC	
selenium	1.00E-08	3.09E-08	1.45E-06	2.00E+01	2.00E+01	5.01E-10	1.55E-09	7.26E-08	
silicon	6.57E-04	1.16E-03	9.08E-02	3.00E+00	3.00E+00	2.19E-04	3.87E-04	3.03E-02	
silver	2.67E-08	4.57E-08	3.68E-06	NA	NA	NC	NC	NC	
sulfates	1.85E-05	7.23E-05	2.91E-03	NA	NA	NC	NC	NC	
thallium	0.00E+00	0.00E+00	0.00E+00	NA	NA	NC	NC	NC	
vanadium	9.37E-07	1.95E-06	1.31E-04	1.00E-01	NA	9.37E-06	1.95E-05	1.31E-03	
zinc	1.90E-06	4.25E-06	2.68E-04	NA	NA	NC	NC	NC	
Diesel PM	1.60E-04	6.90E-04	1.59E-02	5.00E+00	5.00E+00	3.20E-05	1.38E-04	3.18E-03	
<sup>1</sup> Commercial Maximum Grid No.	16			TOTAL		0.0005	0.001	0.07	
NA = Not Available	ug/m <sup>3</sup> = micrograms per cubic meter			ug/m <sup>3</sup> = micrograms per cubic meter					
NC = Not Calculated	mg/kg-d = milligrams per kilogram day			mg/kg-d = milligrams per kilogram day					

Source: CDM Smith, 2017

## Attachment 2

# Acute Non-Cancer Health Hazard Calculations

**Table 2-1  
Summary of Incremental Acute Hazard Indices for Manchester Square Area Receptors - LAX Landside Access Modernization Program Amendment, 2017-2019 Peak  
Mitigated Construction TAC Concentrations**

Receptor Location	acetaldehyde ( $\mu\text{g}/\text{m}^3$ )	acrolein ( $\mu\text{g}/\text{m}^3$ )	benzene ( $\mu\text{g}/\text{m}^3$ )	formaldehyde ( $\mu\text{g}/\text{m}^3$ )	methyl alcohol ( $\mu\text{g}/\text{m}^3$ )	methyl ethyl ketone ( $\mu\text{g}/\text{m}^3$ )	styrene ( $\mu\text{g}/\text{m}^3$ )	toluene ( $\mu\text{g}/\text{m}^3$ )	xylene, total ( $\mu\text{g}/\text{m}^3$ )	1,3-Butadiene ( $\mu\text{g}/\text{m}^3$ )	ethyl benzene ( $\mu\text{g}/\text{m}^3$ )	ammonium ( $\mu\text{g}/\text{m}^3$ )	arsenic ( $\mu\text{g}/\text{m}^3$ )	chlorine ( $\mu\text{g}/\text{m}^3$ )	copper ( $\mu\text{g}/\text{m}^3$ )	manganese ( $\mu\text{g}/\text{m}^3$ )	mercury ( $\mu\text{g}/\text{m}^3$ )	nickel ( $\mu\text{g}/\text{m}^3$ )	vanadium ( $\mu\text{g}/\text{m}^3$ )	sulfates ( $\mu\text{g}/\text{m}^3$ )
Charter School	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>5</b>
Maximum Offsite Concentration-->	6.81E-02	3.21E-04	1.34E-01	1.39E-01	5.67E-04	1.36E-02	8.42E-04	2.77E-02	2.15E-02	3.08E-03	5.44E-03	1.01E-02	7.40E-04	1.43E-01	3.40E-02	3.81E-02	6.32E-04	3.99E-03	1.13E-02	3.41E-01
Average Offsite Concentration-->	5.88E-02	2.89E-04	1.20E-01	1.20E-01	5.00E-04	1.18E-02	7.37E-04	2.44E-02	1.90E-02	2.71E-03	4.79E-03	8.21E-03	5.87E-04	1.15E-01	2.74E-02	3.05E-02	5.05E-04	3.25E-03	9.13E-03	2.77E-01
Minimum Offsite Concentration-->	5.01E-02	2.38E-04	1.10E-01	1.02E-01	4.44E-04	1.00E-02	6.47E-04	2.17E-02	1.69E-02	2.39E-03	4.25E-03	5.69E-03	3.97E-04	7.83E-02	1.92E-02	2.07E-02	3.42E-04	2.24E-03	6.20E-03	1.95E-01
Residential	<b>12</b>	<b>12</b>	<b>8</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>8</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>
Maximum Offsite Concentration-->	1.71E-01	4.25E-04	1.41E-01	3.45E-01	1.08E-03	3.42E-02	1.77E-03	5.27E-02	4.00E-02	6.16E-03	1.06E-02	3.06E-02	1.93E-03	3.81E-01	1.43E-01	1.02E-01	1.68E-03	1.15E-02	3.07E-02	9.85E-01
Average Offsite Concentration-->	9.45E-02	2.49E-04	1.08E-01	1.91E-01	6.09E-04	1.90E-02	9.93E-04	2.98E-02	2.26E-02	3.47E-03	5.97E-03	9.02E-03	4.53E-04	9.26E-02	3.15E-02	2.45E-02	4.03E-04	3.10E-03	7.48E-03	2.75E-01
Minimum Offsite Concentration-->	4.32E-02	9.91E-05	8.25E-02	8.72E-02	2.66E-04	8.67E-03	4.41E-04	1.30E-02	9.81E-03	1.53E-03	2.61E-03	1.99E-03	7.14E-05	1.68E-02	7.35E-03	4.10E-03	6.63E-05	6.35E-04	1.28E-03	6.49E-02
CalEPA Acute REL	470	2.5	27	55	28000	13000	21000	37000	22000	660	2000	3200	0.2	210	100	0.17	0.6	0.2	30	120
Charter School																				
Offsite Maximum Acute Hazard-->	1.45E-04	1.28E-04	4.96E-03	2.52E-03	2.02E-08	1.05E-06	4.01E-08	7.48E-07	9.77E-07	4.67E-06	2.72E-06	3.14E-06	3.70E-03	6.82E-04	3.40E-04	2.24E-01	1.05E-03	1.99E-02	3.78E-04	2.84E-03
Offsite Average Acute Hazard-->	1.25E-04	1.16E-04	4.46E-03	2.18E-03	1.79E-08	9.05E-07	3.51E-08	6.60E-07	8.64E-07	4.11E-06	2.40E-06	2.57E-06	2.93E-03	5.46E-04	2.74E-04	1.79E-01	8.42E-04	1.62E-02	3.04E-04	2.31E-03
Offsite Minimum Acute Hazard-->	1.07E-04	9.54E-05	4.06E-03	1.86E-03	1.59E-08	7.70E-07	3.08E-08	5.87E-07	7.67E-07	3.63E-06	2.12E-06	1.78E-06	1.99E-03	3.73E-04	1.92E-04	1.22E-01	5.71E-04	1.12E-02	2.07E-04	1.63E-03
Residential																				
Offsite Maximum Acute Hazard-->	3.63E-04	1.70E-04	5.23E-03	6.27E-03	3.85E-08	2.63E-06	8.43E-08	1.43E-06	1.82E-06	9.34E-06	5.30E-06	9.55E-06	9.65E-03	1.81E-03	1.43E-03	5.99E-01	2.80E-03	5.76E-02	1.02E-03	8.20E-03
Offsite Average Acute Hazard-->	2.01E-04	9.94E-05	3.99E-03	3.47E-03	2.18E-08	1.46E-06	4.73E-08	8.05E-07	1.03E-06	5.25E-06	2.99E-06	2.82E-06	2.27E-03	4.41E-04	3.15E-04	1.44E-01	6.72E-04	1.55E-02	2.49E-04	2.29E-03
Offsite Minimum Acute Hazard-->	9.19E-05	3.96E-05	3.05E-03	1.59E-03	9.48E-09	6.67E-07	2.10E-08	3.51E-07	4.46E-07	2.31E-06	1.31E-06	6.23E-07	3.57E-04	8.01E-05	7.35E-05	2.41E-02	1.10E-04	3.18E-03	4.26E-05	5.41E-04

**Table 2-1**  
**Summary of Incremental Acute Hazard Indices for Manchester Square Area Receptors - LAX Landside Access Modernization Program Amendment, 2017-2019 Peak**  
**Mitigated Construction TAC Concentrations**

Receptor Number	X	Y	Receptor Type	acetaldehyde ( $\mu\text{g}/\text{m}^3$ )	acrolein ( $\mu\text{g}/\text{m}^3$ )	benzene ( $\mu\text{g}/\text{m}^3$ )	formaldehyde ( $\mu\text{g}/\text{m}^3$ )	methyl alcohol ( $\mu\text{g}/\text{m}^3$ )	methyl ethyl ketone ( $\mu\text{g}/\text{m}^3$ )	styrene ( $\mu\text{g}/\text{m}^3$ )	toluene ( $\mu\text{g}/\text{m}^3$ )	xylene, total ( $\mu\text{g}/\text{m}^3$ )	1,3-Butadiene ( $\mu\text{g}/\text{m}^3$ )	ethyl benzene ( $\mu\text{g}/\text{m}^3$ )	ammonium ( $\mu\text{g}/\text{m}^3$ )	arsenic ( $\mu\text{g}/\text{m}^3$ )	chlorine ( $\mu\text{g}/\text{m}^3$ )	copper ( $\mu\text{g}/\text{m}^3$ )	manganese ( $\mu\text{g}/\text{m}^3$ )	mercury ( $\mu\text{g}/\text{m}^3$ )	nickel ( $\mu\text{g}/\text{m}^3$ )	vanadium ( $\mu\text{g}/\text{m}^3$ )	sulfates ( $\mu\text{g}/\text{m}^3$ )
1	372796	3757341	Charter School	6.19E-02	<b>3.21E-04</b>	<b>1.34E-01</b>	1.26E-01	5.41E-04	1.24E-02	7.91E-04	2.64E-02	2.06E-02	2.92E-03	5.18E-03	9.41E-03	<b>7.40E-04</b>	<b>1.43E-01</b>	3.06E-02	<b>3.81E-02</b>	<b>6.32E-04</b>	3.87E-03	<b>1.13E-02</b>	3.27E-01
2	372752	3757257	Charter School	<b>6.81E-02</b>	3.20E-04	1.29E-01	<b>1.39E-01</b>	<b>5.67E-04</b>	<b>1.36E-02</b>	<b>8.42E-04</b>	<b>2.77E-02</b>	<b>2.15E-02</b>	<b>3.08E-03</b>	<b>5.44E-03</b>	6.59E-03	4.06E-04	7.99E-02	2.01E-02	2.12E-02	3.56E-04	2.32E-03	6.36E-03	2.03E-01
3	372928	3757228	Charter School	5.01E-02	2.67E-04	1.16E-01	1.02E-01	4.44E-04	1.00E-02	6.47E-04	2.17E-02	1.69E-02	2.39E-03	4.25E-03	5.69E-03	3.97E-04	7.83E-02	1.92E-02	2.07E-02	3.42E-04	2.24E-03	6.20E-03	1.95E-01
4	372922	3757337	Charter School	5.68E-02	2.38E-04	1.10E-01	1.16E-01	4.47E-04	1.14E-02	6.77E-04	2.18E-02	1.69E-02	2.45E-03	4.30E-03	9.30E-03	6.78E-04	1.32E-01	3.32E-02	3.54E-02	5.81E-04	3.83E-03	1.06E-02	3.21E-01
5	372847	3757304	Charter School	5.70E-02	2.98E-04	1.13E-01	1.16E-01	5.01E-04	1.14E-02	7.31E-04	2.45E-02	1.91E-02	2.70E-03	4.79E-03	<b>1.01E-02</b>	7.14E-04	1.40E-01	<b>3.40E-02</b>	3.72E-02	6.15E-04	<b>3.99E-03</b>	1.11E-02	<b>3.41E-01</b>
6	372814	3757386	Residential	7.14E-02	2.82E-04	1.36E-01	1.45E-01	5.45E-04	1.43E-02	8.34E-04	2.66E-02	2.05E-02	3.01E-03	5.27E-03	1.80E-02	1.27E-03	2.47E-01	6.42E-02	6.63E-02	1.09E-03	7.28E-03	1.99E-02	6.10E-01
7	372698	3757257	Residential	7.69E-02	3.23E-04	1.32E-01	1.56E-01	6.04E-04	1.54E-02	9.15E-04	2.95E-02	2.28E-02	3.32E-03	5.82E-03	9.34E-03	4.21E-04	8.87E-02	3.72E-02	2.36E-02	3.76E-04	3.34E-03	7.29E-03	2.91E-01
8	372714	3757405	Residential	8.31E-02	3.60E-04	<b>1.41E-01</b>	1.69E-01	6.63E-04	1.66E-02	9.99E-04	3.24E-02	2.51E-02	3.63E-03	6.39E-03	2.99E-02	8.04E-04	1.98E-01	<b>1.43E-01</b>	5.22E-02	7.59E-04	1.05E-02	1.70E-02	9.33E-01
9	372783	3757472	Residential	1.06E-01	2.16E-04	1.22E-01	2.13E-01	6.26E-04	2.12E-02	1.06E-03	3.06E-02	2.30E-02	3.62E-03	6.19E-03	<b>3.06E-02</b>	<b>1.93E-03</b>	<b>3.81E-01</b>	1.05E-01	<b>1.02E-01</b>	<b>1.68E-03</b>	<b>1.15E-02</b>	<b>3.07E-02</b>	<b>9.85E-01</b>
10	372746	3757487	Residential	1.18E-01	2.37E-04	1.15E-01	2.37E-01	6.93E-04	2.36E-02	1.17E-03	3.39E-02	2.55E-02	4.01E-03	6.85E-03	2.90E-02	1.14E-03	2.49E-01	1.24E-01	6.64E-02	1.03E-03	1.04E-02	2.08E-02	9.03E-01
11	372752	3757504	Residential	1.25E-01	2.55E-04	1.13E-01	2.52E-01	7.40E-04	2.51E-02	1.25E-03	3.62E-02	2.72E-02	4.28E-03	7.31E-03	2.57E-02	1.30E-03	2.68E-01	1.00E-01	7.14E-02	1.15E-03	9.45E-03	2.19E-02	8.14E-01
12	372784	3757620	Residential	<b>1.71E-01</b>	<b>4.25E-04</b>	1.14E-01	<b>3.45E-01</b>	<b>1.08E-03</b>	<b>3.42E-02</b>	<b>1.77E-03</b>	<b>5.27E-02</b>	<b>4.00E-02</b>	<b>6.16E-03</b>	<b>1.06E-02</b>	7.83E-03	6.23E-04	1.19E-01	2.22E-02	3.17E-02	5.34E-04	3.05E-03	9.38E-03	2.60E-01
13	372913	3757062	Residential	8.75E-02	2.17E-04	1.39E-01	1.77E-01	5.53E-04	1.76E-02	9.08E-04	2.70E-02	2.05E-02	3.16E-03	5.43E-03	2.91E-03	1.97E-04	3.90E-02	9.89E-03	1.03E-02	1.70E-04	1.13E-03	3.09E-03	9.92E-02
14	372980	3757062	Residential	7.73E-02	2.19E-04	1.28E-01	1.57E-01	5.13E-04	1.55E-02	8.26E-04	2.51E-02	1.91E-02	2.90E-03	5.01E-03	2.67E-03	1.68E-04	3.38E-02	8.44E-03	8.79E-03	1.47E-04	9.70E-04	2.64E-03	8.90E-02
15	373046	3757066	Residential	6.73E-02	2.17E-04	1.19E-01	1.36E-01	4.71E-04	1.35E-02	7.43E-04	2.30E-02	1.76E-02	2.64E-03	4.58E-03	1.99E-03	7.14E-05	1.68E-02	7.35E-03	4.10E-03	6.63E-05	6.35E-04	1.28E-03	6.49E-02
16	373119	3757140	Residential	4.55E-02	2.12E-04	1.18E-01	9.26E-02	3.77E-04	9.10E-03	5.60E-04	1.84E-02	1.43E-02	2.05E-03	3.62E-03	3.23E-03	1.51E-04	3.26E-02	1.40E-02	8.54E-03	1.33E-04	1.24E-03	2.65E-03	1.11E-01
17	373132	3757029	Residential	6.33E-02	2.03E-04	9.77E-02	1.28E-01	4.41E-04	1.27E-02	6.97E-04	2.15E-02	1.65E-02	2.47E-03	4.29E-03	2.10E-03	8.93E-05	1.99E-02	7.63E-03	4.98E-03	8.10E-05	7.01E-04	1.53E-03	6.91E-02
18	373179	3757059	Residential	5.30E-02	2.00E-04	1.00E-01	1.08E-01	3.96E-04	1.06E-02	6.11E-04	1.94E-02	1.49E-02	2.20E-03	3.84E-03	2.50E-03	1.14E-04	2.50E-02	1.03E-02	6.43E-03	1.02E-04	9.21E-04	1.99E-03	8.50E-02
19	373216	3757096	Residential	4.33E-02	1.92E-04	1.03E-01	8.82E-02	3.50E-04	8.67E-03	5.25E-04	1.71E-02	1.32E-02	1.91E-03	3.36E-03	2.68E-03	1.04E-04	2.36E-02	1.23E-02	6.13E-03	9.32E-05	1.01E-03	1.93E-03	9.07E-02
20	373326	3757298	Residential	4.32E-02	9.91E-05	8.59E-02	8.72E-02	2.66E-04	8.67E-03	4.41E-04	1.30E-02	9.81E-03	1.53E-03	2.61E-03	2.80E-03	1.64E-04	3.22E-02	8.88E-03	8.61E-03	1.44E-04	9.76E-04	2.59E-03	8.49E-02
21	373362	3757405	Residential	5.65E-02	1.23E-04	8.25E-02	1.14E-01	3.42E-04	1.14E-02	5.71E-04	1.67E-02	1.26E-02	1.97E-03	3.37E-03	3.58E-03	1.18E-04	2.54E-02	9.58E-03	6.49E-03	1.14E-04	8.95E-04	2.00E-03	8.97E-02
22	373361	3757474	Residential	6.86E-02	1.49E-04	8.77E-02	1.38E-01	4.14E-04	1.38E-02	6.93E-04	2.02E-02	1.53E-02	2.39E-03	4.08E-03	5.02E-03	1.87E-04	3.95E-02	1.48E-02	1.02E-02	1.75E-04	1.39E-03	3.15E-03	1.32E-01
23	373293	3757545	Residential	8.70E-02	1.93E-04	1.04E-01	1.76E-01	5.29E-04	1.75E-02	8.82E-04	2.59E-02	1.95E-02	3.04E-03	5.21E-03	7.28E-03	3.68E-04	7.39E-02	2.31E-02	1.97E-02	3.29E-04	2.38E-03	5.96E-03	2.11E-01
24	373292	3757561	Residential	9.05E-02	2.03E-04	1.05E-01	1.83E-01	5.52E-04	1.82E-02	9.20E-04	2.70E-02	2.04E-02	3.18E-03	5.44E-03	7.13E-03	3.55E-04	7.15E-02	2.26E-02	1.90E-02	3.18E-04	2.31E-03	5.76E-03	2.07E-01
25	373237	3757491	Residential	7.83E-02	1.68E-04	1.04E-01	1.58E-01	4.71E-04	1.57E-02	7.90E-04	2.31E-02	1.74E-02	2.72E-03	4.65E-03	7.32E-03	3.30E-04	6.71E-02	2.21E-02	1.77E-02	3.00E-04	2.22E-03	5.40E-03	2.02E-01
26	373195	3757573	Residential	1.01E-01	2.28E-04	1.07E-01	2.03E-01	6.16E-04	2.02E-02	1.03E-03	3.01E-02	2.28E-02	3.54E-03	6.07E-03	8.17E-03	4.10E-04	8.22E-02	2.36E-02	2.17E-02	3.69E-04	2.53E-03	6.55E-03	2.31E-01
27	373235	3757607	Residential	1.05E-01	2.44E-04	1.03E-01	2.12E-01	6.47E-04	2.10E-02	1.07E-03	3.16E-02	2.39E-02	3.71E-03	6.37E-03	6.91E-03	3.63E-04	7.25E-02	1.93E-02	1.90E-02	3.25E-04	2.15E-03	5.73E-03	1.98E-01
28	373295	3757621	Residential	1.02E-01	2.40E-04	1.01E-01	2.06E-01	6.32E-04	2.05E-02	1.05E-03	3.09E-02	2.34E-02	3.63E-03	6.22E-03	6.11E-03	3.08E-04	6.22E-02	1.80E-02	1.63E-02	2.76E-04	1.92E-03	4.93E-03	1.77E-01
29	373150	3757614	Residential	1.14E-01	2.69E-04	1.01E-01	2.31E-01	7.09E-04	2.30E-02	1.17E-03	3.47E-02	2.62E-02	4.07E-03	6.98E-03	7.42E-03	3.51E-04	7.09E-02	2.10E-02	1.86E-02	3.18E-04	2.22E-03	5.64E-03	2.05E-01
30	373125	3757612	Residential	1.17E-01	2.75E-04	1.01E-01	2.36E-01	7.23E-04	2.34E-02	1.20E-03	3.54E-02	2.67E-02	4.15E-03	7.12E-03	7.49E-03	3.31E-04	6.75E-02	2.11E-02	1.77E-02	3.03E-04	2.17E-03	5.37E-03	2.02E-01
31	373068	3757616	Residential	1.24E-01	2.94E-04	9.79E-02	2.50E-01	7.71E-04	2.49E-02	1.27E-03	3.77E-02	2.85E-02	4.42E-03	7.58E-03	9.10E-03	5.85E-04	1.12E-01	2.04E-02	2.96E-02	5.15E-04	2.85E-03	8.77E-03	2.58E-01
32	373050	3757616	Residential	1.26E-01	3.00E-04	9.77E-02	2.55E-01	7.85E-04	2.53E-02	1.30E-03	3.84E-02	2.90E-02	4.50E-03	7.72E-03	9.82E-03	6.36E-04	1.21E-01	1.99E-02	3.20E-02	5.62E-04	2.97E-03	9.44E-03	2.69E-01
33	373085	3757673	Residential	1.33E-01	3.37E-04	9.79E-02	2.68E-01	8.45E-04	2.67E-02	1.38E-03	4.13E-02	3.13E-02	4.82E-03	8.30E-03	6.89E-03	3.74E-04	7.31E-02	1.66E-02	1.93E-02	3.36E-04	2.03E-03	5.76E-03	1.87E-01
34	373134	3757673	Residential	1.27E-01	3.18E-04	9.45E-02	2.56E-01	8.04E-04	2.54E-02	1.32E-03	3.93E-02	2.98E-02	4.59E-03	7.89E-03	6.32E-03	3.89E-04	7.57E-02	1.60E-02	1.99E-02	3.43E-04	2.04E-03	5.94E-03	1.86E-01
35	373190	3757671	Residential	1.20E-01	2.98E-04	9.02E-02	2.43E-01	7.58E-04	2.41E-02	1.25E-03	3.71E-02	2.81E-02	4.33E-03	7.44E-03	5.71E-03	2.70E-04	5.48E-02	1.51E-02	1.42E-02	2.46E-04	1.65E-03	4.30E-03	1.57E-01
36	372985	3757713	Residential	1.50E-01	4.08E-04	9.96E-02	3.03E-01	9.79E-04	3.01E-02	1.59E-03	4.78E-02	3.64E-02	5.56E-03	9.58E-03	4.09E-03	1.24E-04	2.91E-02	1.71E-02	7.54E-03	1.17E-04	1.34E-03	2.41E-03	1.25E-01

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter

Note: Shaded cells indicate locations where concentrations were highest by land use type.

Table 2-2

Summary of Incremental Acute Hazard Indices for Manchester Square Area Receptors - LAX Landside Access Modernization Program Amendment, 2017-2019 Peak Mitigated Construction TAC Concentrations

Receptor Number	X	Y	Receptor Type	acetaldehyde	acetaldehyde	acrolein	acrolein	benzene	benzene	formaldehyde	formaldehyde	methyl alcohol	methyl alcohol	methyl ethyl ketone	methyl ethyl ketone	styrene	styrene
				( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard
			CalEPA Acute REL		470		2.5		27		55		28000		13000		21000
1	372796	3757341	Charter School	6.19E-02	1.32E-04	3.21E-04	1.28E-04	1.34E-01	4.96E-03	1.26E-01	2.30E-03	5.41E-04	1.93E-08	1.24E-02	9.52E-07	7.91E-04	3.77E-08
2	372752	3757257	Charter School	6.81E-02	1.45E-04	3.20E-04	1.28E-04	1.29E-01	4.78E-03	1.39E-01	2.52E-03	5.67E-04	2.02E-08	1.36E-02	1.05E-06	8.42E-04	4.01E-08
3	372928	3757228	Charter School	5.01E-02	1.07E-04	2.67E-04	1.07E-04	1.16E-01	4.31E-03	1.02E-01	1.86E-03	4.44E-04	1.59E-08	1.00E-02	7.70E-07	6.47E-04	3.08E-08
4	372922	3757337	Charter School	5.68E-02	1.21E-04	2.38E-04	9.54E-05	1.10E-01	4.06E-03	1.16E-01	2.10E-03	4.47E-04	1.60E-08	1.14E-02	8.76E-07	6.77E-04	3.22E-08
5	372847	3757304	Charter School	5.70E-02	1.21E-04	2.98E-04	1.19E-04	1.13E-01	4.17E-03	1.16E-01	2.12E-03	5.01E-04	1.79E-08	1.14E-02	8.77E-07	7.31E-04	3.48E-08
6	372814	3757386	Residential	7.14E-02	1.52E-04	2.82E-04	1.13E-04	1.36E-01	5.05E-03	1.45E-01	2.64E-03	5.45E-04	1.95E-08	1.43E-02	1.10E-06	8.34E-04	3.97E-08
7	372698	3757257	Residential	7.69E-02	1.64E-04	3.23E-04	1.29E-04	1.32E-01	4.89E-03	1.56E-01	2.84E-03	6.04E-04	2.16E-08	1.54E-02	1.18E-06	9.15E-04	4.36E-08
8	372714	3757405	Residential	8.31E-02	1.77E-04	3.60E-04	1.44E-04	1.41E-01	5.23E-03	1.69E-01	3.07E-03	6.63E-04	2.37E-08	1.66E-02	1.28E-06	9.99E-04	4.76E-08
9	372783	3757472	Residential	1.06E-01	2.25E-04	2.16E-04	8.63E-05	1.22E-01	4.52E-03	2.13E-01	3.88E-03	6.26E-04	2.24E-08	2.12E-02	1.63E-06	1.06E-03	5.03E-08
10	372746	3757487	Residential	1.18E-01	2.50E-04	2.37E-04	9.46E-05	1.15E-01	4.25E-03	2.37E-01	4.31E-03	6.93E-04	2.47E-08	2.36E-02	1.82E-06	1.17E-03	5.57E-08
11	372752	3757504	Residential	1.25E-01	2.66E-04	2.55E-04	1.02E-04	1.13E-01	4.19E-03	2.52E-01	4.58E-03	7.40E-04	2.64E-08	2.51E-02	1.93E-06	1.25E-03	5.94E-08
12	372784	3757620	Residential	1.71E-01	3.63E-04	4.25E-04	1.70E-04	1.14E-01	4.23E-03	3.45E-01	6.27E-03	1.08E-03	3.85E-08	3.42E-02	2.63E-06	1.77E-03	8.43E-08
13	372913	3757062	Residential	8.75E-02	1.86E-04	2.17E-04	8.69E-05	1.39E-01	5.16E-03	1.77E-01	3.21E-03	5.53E-04	1.97E-08	1.76E-02	1.35E-06	9.08E-04	4.32E-08
14	372980	3757062	Residential	7.73E-02	1.65E-04	2.19E-04	8.75E-05	1.28E-01	4.75E-03	1.57E-01	2.85E-03	5.13E-04	1.83E-08	1.55E-02	1.19E-06	8.26E-04	3.93E-08
15	373046	3757066	Residential	6.73E-02	1.43E-04	2.17E-04	8.70E-05	1.19E-01	4.43E-03	1.68E-01	2.48E-03	4.71E-04	1.68E-08	1.35E-02	1.04E-06	7.43E-04	3.54E-08
16	373119	3757140	Residential	4.55E-02	9.67E-05	2.12E-04	8.50E-05	1.18E-01	4.37E-03	9.26E-02	1.68E-03	3.77E-04	1.35E-08	9.10E-03	7.00E-07	5.60E-04	2.67E-08
17	373132	3757029	Residential	6.33E-02	1.35E-04	2.03E-04	8.11E-05	9.77E-02	3.62E-03	1.28E-01	2.33E-03	4.41E-04	1.57E-08	1.27E-02	9.76E-07	6.97E-04	3.32E-08
18	373179	3757059	Residential	5.30E-02	1.13E-04	2.00E-04	8.01E-05	1.00E-01	3.71E-03	1.08E-01	1.96E-03	3.96E-04	1.42E-08	1.06E-02	8.16E-07	6.11E-04	2.91E-08
19	373216	3757096	Residential	4.33E-02	9.22E-05	1.92E-04	7.69E-05	1.03E-01	3.83E-03	8.82E-02	1.60E-03	3.50E-04	1.25E-08	8.67E-03	6.67E-07	5.25E-04	2.50E-08
20	373326	3757298	Residential	4.32E-02	9.19E-05	9.91E-05	3.96E-05	8.59E-02	3.18E-03	8.72E-02	1.59E-03	2.66E-04	9.48E-09	8.67E-03	6.67E-07	4.41E-04	2.10E-08
21	373362	3757405	Residential	5.65E-02	1.20E-04	1.23E-04	4.93E-05	8.25E-02	3.05E-03	1.14E-01	2.07E-03	3.42E-04	1.22E-08	1.14E-02	8.73E-07	5.71E-04	2.72E-08
22	373361	3757474	Residential	6.86E-02	1.46E-04	1.49E-04	5.95E-05	8.77E-02	3.25E-03	1.38E-01	2.52E-03	4.14E-04	1.48E-08	1.38E-02	1.06E-06	6.93E-04	3.30E-08
23	373293	3757545	Residential	8.70E-02	1.85E-04	1.93E-04	7.72E-05	1.04E-01	3.86E-03	1.76E-01	3.19E-03	5.29E-04	1.89E-08	1.75E-02	1.34E-06	8.82E-04	4.20E-08
24	373292	3757561	Residential	9.05E-02	1.93E-04	2.03E-04	8.11E-05	1.05E-01	3.88E-03	1.83E-01	3.32E-03	5.52E-04	1.97E-08	1.82E-02	1.40E-06	9.20E-04	4.38E-08
25	373237	3757491	Residential	7.83E-02	1.67E-04	1.68E-04	6.74E-05	1.04E-01	3.85E-03	1.58E-01	2.87E-03	4.71E-04	1.68E-08	1.57E-02	1.21E-06	7.90E-04	3.76E-08
26	373195	3757573	Residential	1.01E-01	2.14E-04	2.28E-04	9.12E-05	1.07E-01	3.98E-03	2.03E-01	3.70E-03	6.16E-04	2.20E-08	2.02E-02	1.56E-06	1.03E-03	4.88E-08
27	373235	3757607	Residential	1.05E-01	2.23E-04	2.44E-04	9.75E-05	1.03E-01	3.81E-03	2.12E-01	3.85E-03	6.47E-04	2.31E-08	2.10E-02	1.62E-06	1.07E-03	5.11E-08
28	373295	3757621	Residential	1.02E-01	2.17E-04	2.40E-04	9.58E-05	1.01E-01	3.73E-03	2.06E-01	3.75E-03	6.32E-04	2.26E-08	2.05E-02	1.58E-06	1.05E-03	4.98E-08
29	373150	3757614	Residential	1.14E-01	2.43E-04	2.69E-04	1.08E-04	1.01E-01	3.73E-03	2.31E-01	4.20E-03	7.09E-04	2.53E-08	2.30E-02	1.77E-06	1.17E-03	5.59E-08
30	373125	3757612	Residential	1.17E-01	2.48E-04	2.75E-04	1.10E-04	1.01E-01	3.72E-03	2.36E-01	4.28E-03	7.23E-04	2.58E-08	2.34E-02	1.80E-06	1.20E-03	5.70E-08
31	373068	3757616	Residential	1.24E-01	2.64E-04	2.94E-04	1.18E-04	9.79E-02	3.62E-03	2.50E-01	4.55E-03	7.71E-04	2.75E-08	2.49E-02	1.91E-06	1.27E-03	6.07E-08
32	373050	3757616	Residential	1.26E-01	2.68E-04	3.00E-04	1.20E-04	9.77E-02	3.62E-03	2.55E-01	4.63E-03	7.85E-04	2.80E-08	2.53E-02	1.95E-06	1.30E-03	6.18E-08
33	373085	3757673	Residential	1.33E-01	2.83E-04	3.37E-04	1.35E-04	9.79E-02	3.62E-03	2.68E-01	4.88E-03	8.45E-04	3.02E-08	2.67E-02	2.05E-06	1.38E-03	6.59E-08
34	373134	3757673	Residential	1.27E-01	2.70E-04	3.18E-04	1.27E-04	9.45E-02	3.50E-03	2.56E-01	4.66E-03	8.04E-04	2.87E-08	2.54E-02	1.96E-06	1.32E-03	6.28E-08
35	373190	3757671	Residential	1.20E-01	2.55E-04	2.98E-04	1.19E-04	9.02E-02	3.34E-03	2.43E-01	4.41E-03	7.58E-04	2.71E-08	2.41E-02	1.85E-06	1.25E-03	5.93E-08
36	372985	3757713	Residential	1.50E-01	3.19E-04	4.08E-04	1.63E-04	9.96E-02	3.69E-03	3.03E-01	5.51E-03	9.79E-04	3.49E-08	3.01E-02	2.31E-06	1.59E-03	7.56E-08

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter

Note: Shaded cells indicate locations where concentrations were highest.

Table 2-2

Summary of Incremental Acute Hazard Indices for Manchester Square Area Receptors - LAX Landside Access Modernization Program Amendment, 2017-2019 Peak Mitigated Construction TAC Concentrations

Receptor Number	X	Y	Receptor Type	toluene	toluene	xylene, total	xylene, total	1,3-Butadiene	1,3-Butadiene	ethyl benzene	ethyl benzene	ammonium	ammonium	arsenic	arsenic	chlorine	chlorine
				( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard
			CalEPA Acute REL		37000		22000		660		2000		3200		0.2		210
1	372796	3757341	Charter School	2.64E-02	7.15E-07	2.06E-02	9.37E-07	2.92E-03	4.43E-06	5.18E-03	2.59E-06	9.41E-03	2.94E-06	7.40E-04	3.70E-03	1.43E-01	6.82E-04
2	372752	3757257	Charter School	2.77E-02	7.48E-07	2.15E-02	9.77E-07	3.08E-03	4.67E-06	5.44E-03	2.72E-06	6.59E-03	2.06E-06	4.06E-04	2.03E-03	7.99E-02	3.80E-04
3	372928	3757228	Charter School	2.17E-02	5.87E-07	1.69E-02	7.70E-07	2.39E-03	3.63E-06	4.25E-03	2.12E-06	5.69E-03	1.78E-06	3.97E-04	1.99E-03	7.83E-02	3.73E-04
4	372922	3757337	Charter School	2.18E-02	5.90E-07	1.69E-02	7.67E-07	2.45E-03	3.72E-06	4.30E-03	2.15E-06	9.30E-03	2.91E-06	6.78E-04	3.39E-03	1.32E-01	6.29E-04
5	372847	3757304	Charter School	2.45E-02	6.61E-07	1.91E-02	8.67E-07	2.70E-03	4.10E-06	4.79E-03	2.39E-06	1.01E-02	3.14E-06	7.14E-04	3.57E-03	1.40E-01	6.65E-04
6	372814	3757386	Residential	2.66E-02	7.20E-07	2.05E-02	9.34E-07	3.01E-03	4.56E-06	5.27E-03	2.63E-06	1.80E-02	5.61E-06	1.27E-03	6.33E-03	2.47E-01	1.18E-03
7	372698	3757257	Residential	2.95E-02	7.98E-07	2.28E-02	1.04E-06	3.32E-03	5.03E-06	5.82E-03	2.91E-06	9.34E-03	2.92E-06	4.21E-04	2.10E-03	8.87E-02	4.22E-04
8	372714	3757405	Residential	3.24E-02	8.76E-07	2.51E-02	1.14E-06	3.63E-03	5.51E-06	6.39E-03	3.19E-06	2.99E-02	9.35E-06	8.04E-04	4.02E-03	1.98E-01	9.45E-04
9	372783	3757472	Residential	3.06E-02	8.27E-07	2.30E-02	1.05E-06	3.62E-03	5.49E-06	6.19E-03	3.09E-06	3.06E-02	9.55E-06	1.93E-03	9.65E-03	3.81E-01	1.81E-03
10	372746	3757487	Residential	3.39E-02	9.15E-07	2.55E-02	1.16E-06	4.01E-03	6.08E-06	6.85E-03	3.42E-06	2.90E-02	9.05E-06	1.14E-03	5.71E-03	2.49E-01	1.19E-03
11	372752	3757504	Residential	3.62E-02	9.78E-07	2.72E-02	1.24E-06	4.28E-03	6.49E-06	7.31E-03	3.66E-06	2.57E-02	8.04E-06	1.30E-03	6.50E-03	2.68E-01	1.27E-03
12	372784	3757620	Residential	5.27E-02	1.43E-06	4.00E-02	1.82E-06	6.16E-03	9.34E-06	1.06E-02	5.30E-06	7.83E-03	2.45E-06	6.23E-04	3.11E-03	1.19E-01	5.65E-04
13	372913	3757062	Residential	2.70E-02	7.30E-07	2.05E-02	9.30E-07	3.16E-03	4.78E-06	5.43E-03	2.71E-06	2.91E-03	9.08E-07	1.97E-04	9.84E-04	3.90E-02	1.86E-04
14	372980	3757062	Residential	2.51E-02	6.77E-07	1.91E-02	8.67E-07	2.90E-03	4.40E-06	5.01E-03	2.51E-06	2.67E-03	8.35E-07	1.68E-04	8.41E-04	3.38E-02	1.61E-04
15	373046	3757066	Residential	2.30E-02	6.22E-07	1.76E-02	8.00E-07	2.64E-03	4.00E-06	4.58E-03	2.29E-06	1.99E-03	6.23E-07	7.14E-05	3.57E-04	1.68E-02	8.01E-05
16	373119	3757140	Residential	1.84E-02	4.97E-07	1.43E-02	6.49E-07	2.05E-03	3.11E-06	3.62E-03	1.81E-06	3.23E-03	1.01E-06	1.51E-04	7.53E-04	3.26E-02	1.55E-04
17	373132	3757029	Residential	2.15E-02	5.82E-07	1.65E-02	7.49E-07	2.47E-03	3.75E-06	4.29E-03	2.15E-06	2.10E-03	6.57E-07	8.93E-05	4.47E-04	1.99E-02	9.47E-05
18	373179	3757059	Residential	1.94E-02	5.24E-07	1.49E-02	6.78E-07	2.20E-03	3.33E-06	3.84E-03	1.92E-06	2.50E-03	7.82E-07	1.14E-04	5.71E-04	2.50E-02	1.19E-04
19	373216	3757096	Residential	1.71E-02	4.62E-07	1.32E-02	6.02E-07	1.91E-03	2.90E-06	3.36E-03	1.68E-06	2.68E-03	8.39E-07	1.04E-04	5.18E-04	2.36E-02	1.12E-04
20	373326	3757298	Residential	1.30E-02	3.51E-07	9.81E-03	4.46E-07	1.53E-03	2.31E-06	2.61E-03	1.31E-06	2.80E-03	8.74E-07	1.64E-04	8.18E-04	3.22E-02	1.53E-04
21	373362	3757405	Residential	1.67E-02	4.51E-07	1.26E-02	5.72E-07	1.97E-03	2.98E-06	3.37E-03	1.68E-06	3.58E-03	1.12E-06	1.18E-04	5.92E-04	2.54E-02	1.21E-04
22	373361	3757474	Residential	2.02E-02	5.47E-07	1.53E-02	6.93E-07	2.39E-03	3.62E-06	4.08E-03	2.04E-06	5.02E-03	1.57E-06	1.87E-04	9.35E-04	3.95E-02	1.88E-04
23	373293	3757545	Residential	2.59E-02	6.99E-07	1.95E-02	8.87E-07	3.04E-03	4.61E-06	5.21E-03	2.61E-06	7.28E-03	2.27E-06	3.68E-04	1.84E-03	7.39E-02	3.52E-04
24	373292	3757561	Residential	2.70E-02	7.29E-07	2.04E-02	9.26E-07	3.18E-03	4.81E-06	5.44E-03	2.72E-06	7.13E-03	2.23E-06	3.55E-04	1.77E-03	7.15E-02	3.40E-04
25	373237	3757491	Residential	2.31E-02	6.23E-07	1.74E-02	7.90E-07	2.72E-03	4.12E-06	4.65E-03	2.33E-06	7.32E-03	2.29E-06	3.30E-04	1.65E-03	6.71E-02	3.20E-04
26	373195	3757573	Residential	3.01E-02	8.15E-07	2.28E-02	1.03E-06	3.54E-03	5.37E-06	6.07E-03	3.04E-06	8.17E-03	2.55E-06	4.10E-04	2.05E-03	8.22E-02	3.91E-04
27	373235	3757607	Residential	3.16E-02	8.55E-07	2.39E-02	1.09E-06	3.71E-03	5.63E-06	6.37E-03	3.18E-06	6.91E-03	2.16E-06	3.63E-04	1.82E-03	7.25E-02	3.45E-04
28	373295	3757621	Residential	3.09E-02	8.35E-07	2.34E-02	1.06E-06	3.63E-03	5.49E-06	6.22E-03	3.11E-06	6.11E-03	1.91E-06	3.08E-04	1.54E-03	6.22E-02	2.96E-04
29	373150	3757614	Residential	3.47E-02	9.37E-07	2.62E-02	1.19E-06	4.07E-03	6.16E-06	6.98E-03	3.49E-06	7.42E-03	2.32E-06	3.51E-04	1.75E-03	7.09E-02	3.38E-04
30	373125	3757612	Residential	3.54E-02	9.56E-07	2.67E-02	1.22E-06	4.15E-03	6.29E-06	7.12E-03	3.56E-06	7.49E-03	2.34E-06	3.31E-04	1.66E-03	6.75E-02	3.21E-04
31	373068	3757616	Residential	3.77E-02	1.02E-06	2.85E-02	1.30E-06	4.42E-03	6.69E-06	7.58E-03	3.79E-06	9.10E-03	2.84E-06	5.85E-04	2.92E-03	1.12E-01	5.33E-04
32	373050	3757616	Residential	3.84E-02	1.04E-06	2.90E-02	1.32E-06	4.50E-03	6.82E-06	7.72E-03	3.86E-06	9.82E-03	3.07E-06	6.36E-04	3.18E-03	1.21E-01	5.76E-04
33	373085	3757673	Residential	4.13E-02	1.12E-06	3.13E-02	1.42E-06	4.82E-03	7.31E-06	8.30E-03	4.15E-06	6.89E-03	2.15E-06	3.74E-04	1.87E-03	7.31E-02	3.48E-04
34	373134	3757673	Residential	3.93E-02	1.06E-06	2.98E-02	1.35E-06	4.59E-03	6.95E-06	7.89E-03	3.95E-06	6.32E-03	1.98E-06	3.89E-04	1.94E-03	7.57E-02	3.60E-04
35	373190	3757671	Residential	3.71E-02	1.00E-06	2.81E-02	1.28E-06	4.33E-03	6.56E-06	7.44E-03	3.72E-06	5.71E-03	1.78E-06	2.70E-04	1.35E-03	5.48E-02	2.61E-04
36	372985	3757713	Residential	4.78E-02	1.29E-06	3.64E-02	1.65E-06	5.56E-03	8.42E-06	9.58E-03	4.79E-06	4.09E-03	1.28E-06	1.24E-04	6.19E-04	2.91E-02	1.39E-04

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter

Note: Shaded cells indicate locations where concentrations were highest.

Table 2-2

Summary of Incremental Acute Hazard Indices for Manchester Square Area Receptors - LAX Landside Access Modernization Program Amendment, 2017-2019 Peak Mitigated Construction TAC Concentrations

Receptor Number	X	Y	Receptor Type	copper		manganese		mercury		nickel		vanadium		sulfates	
				( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard	( $\mu\text{g}/\text{m}^3$ )	Acute Hazard
			CalEPA Acute REL		100		0.17		0.6		0.2		30		120
1	372796	3757341	Charter School	3.06E-02	3.06E-04	3.81E-02	2.24E-01	6.32E-04	1.05E-03	3.87E-03	1.93E-02	1.13E-02	3.78E-04	3.27E-01	2.72E-03
2	372752	3757257	Charter School	2.01E-02	2.01E-04	2.12E-02	1.25E-01	3.56E-04	5.93E-04	2.32E-03	1.16E-02	6.36E-03	2.12E-04	2.03E-01	1.69E-03
3	372928	3757228	Charter School	1.92E-02	1.92E-04	2.07E-02	1.22E-01	3.42E-04	5.71E-04	2.24E-03	1.12E-02	6.20E-03	2.07E-04	1.95E-01	1.63E-03
4	372922	3757337	Charter School	3.32E-02	3.32E-04	3.54E-02	2.08E-01	5.81E-04	9.68E-04	3.83E-03	1.91E-02	1.06E-02	3.54E-04	3.21E-01	2.67E-03
5	372847	3757304	Charter School	3.40E-02	3.40E-04	3.72E-02	2.19E-01	6.15E-04	1.02E-03	3.99E-03	1.99E-02	1.11E-02	3.71E-04	3.41E-01	2.84E-03
6	372814	3757386	Residential	6.42E-02	6.42E-04	6.63E-02	3.90E-01	1.09E-03	1.81E-03	7.28E-03	3.64E-02	1.99E-02	6.63E-04	6.10E-01	5.08E-03
7	372698	3757257	Residential	3.72E-02	3.72E-04	2.36E-02	1.39E-01	3.76E-04	6.27E-04	3.34E-03	1.67E-02	7.29E-03	2.43E-04	2.91E-01	2.42E-03
8	372714	3757405	Residential	1.43E-01	1.43E-03	5.22E-02	3.07E-01	7.59E-04	1.27E-03	1.05E-02	5.25E-02	1.70E-02	5.67E-04	9.33E-01	7.78E-03
9	372783	3757472	Residential	1.05E-01	1.05E-03	1.02E-01	5.99E-01	1.68E-03	2.80E-03	1.15E-02	5.76E-02	3.07E-02	1.02E-03	9.85E-01	8.20E-03
10	372746	3757487	Residential	1.24E-01	1.24E-03	6.64E-02	3.90E-01	1.03E-03	1.72E-03	1.04E-02	5.19E-02	2.08E-02	6.93E-04	9.03E-01	7.53E-03
11	372752	3757504	Residential	1.00E-01	1.00E-03	7.14E-02	4.20E-01	1.15E-03	1.91E-03	9.45E-03	4.72E-02	2.19E-02	7.30E-04	8.14E-01	6.78E-03
12	372784	3757620	Residential	2.22E-02	2.22E-04	3.17E-02	1.86E-01	5.34E-04	8.90E-04	3.05E-03	1.52E-02	9.38E-03	3.13E-04	2.60E-01	2.17E-03
13	372913	3757062	Residential	9.89E-03	9.89E-05	1.03E-02	6.06E-02	1.70E-04	2.83E-04	1.13E-03	5.65E-03	3.09E-03	1.03E-04	9.92E-02	8.26E-04
14	372980	3757062	Residential	8.44E-03	8.44E-05	8.79E-03	5.17E-02	1.47E-04	2.45E-04	9.70E-04	4.85E-03	2.64E-03	8.79E-05	8.90E-02	7.42E-04
15	373046	3757066	Residential	7.35E-03	7.35E-05	4.10E-03	2.41E-02	6.63E-05	1.10E-04	6.35E-04	3.18E-03	1.28E-03	6.49E-02	5.41E-04	5.41E-04
16	373119	3757140	Residential	1.40E-02	1.40E-04	8.54E-03	5.02E-02	1.33E-04	2.22E-04	1.24E-03	6.20E-03	2.65E-03	8.82E-05	1.11E-01	9.22E-04
17	373132	3757029	Residential	7.63E-03	7.63E-05	4.98E-03	2.93E-02	8.10E-05	1.35E-04	7.01E-04	3.51E-03	1.53E-03	5.11E-05	6.91E-02	5.76E-04
18	373179	3757059	Residential	1.03E-02	1.03E-04	6.43E-03	3.78E-02	1.02E-04	1.70E-04	9.21E-04	4.61E-03	1.99E-03	6.63E-05	8.50E-02	7.08E-04
19	373216	3757096	Residential	1.23E-02	1.23E-04	6.13E-03	3.61E-02	9.33E-05	1.55E-04	1.01E-03	5.03E-03	1.93E-03	6.44E-05	9.07E-02	7.56E-04
20	373326	3757298	Residential	8.88E-03	8.88E-05	8.61E-03	5.06E-02	1.44E-04	2.40E-04	9.76E-04	4.88E-03	2.59E-03	8.64E-05	8.49E-02	7.07E-04
21	373362	3757405	Residential	9.58E-03	9.58E-05	6.49E-03	3.82E-02	1.14E-04	1.90E-04	8.95E-04	4.48E-03	2.00E-03	6.67E-05	8.97E-02	7.47E-04
22	373361	3757474	Residential	1.48E-02	1.48E-04	1.02E-02	6.02E-02	1.75E-04	2.92E-04	1.39E-03	6.94E-03	3.15E-03	1.05E-04	1.32E-01	1.10E-03
23	373293	3757545	Residential	2.31E-02	2.31E-04	1.97E-02	1.16E-01	3.29E-04	5.48E-04	2.38E-03	1.19E-02	5.96E-03	1.99E-04	2.11E-01	1.76E-03
24	373292	3757561	Residential	2.26E-02	2.26E-04	1.90E-02	1.12E-01	3.18E-04	5.29E-04	2.31E-03	1.16E-02	5.76E-03	1.92E-04	2.07E-01	1.72E-03
25	373237	3757491	Residential	2.21E-02	2.21E-04	1.77E-02	1.04E-01	3.00E-04	5.00E-04	2.22E-03	1.11E-02	5.40E-03	1.80E-04	2.02E-01	1.68E-03
26	373195	3757573	Residential	2.36E-02	2.36E-04	2.17E-02	1.28E-01	3.69E-04	6.15E-04	2.53E-03	1.27E-02	6.55E-03	2.18E-04	2.31E-01	1.92E-03
27	373235	3757607	Residential	1.93E-02	1.93E-04	1.90E-02	1.12E-01	3.25E-04	5.42E-04	2.15E-03	1.08E-02	5.73E-03	1.91E-04	1.98E-01	1.65E-03
28	373295	3757621	Residential	1.80E-02	1.80E-04	1.63E-02	9.59E-02	2.76E-04	4.61E-04	1.92E-03	9.59E-03	4.93E-03	1.64E-04	1.77E-01	1.48E-03
29	373150	3757614	Residential	2.10E-02	2.10E-04	1.86E-02	1.09E-01	3.18E-04	5.30E-04	2.22E-03	1.11E-02	5.64E-03	1.88E-04	2.05E-01	1.71E-03
30	373125	3757612	Residential	2.11E-02	2.11E-04	1.77E-02	1.04E-01	3.03E-04	5.05E-04	2.17E-03	1.08E-02	5.37E-03	1.79E-04	2.02E-01	1.68E-03
31	373068	3757616	Residential	2.04E-02	2.04E-04	2.96E-02	1.74E-01	5.15E-04	8.59E-04	2.85E-03	1.42E-02	8.77E-03	2.92E-04	2.58E-01	2.15E-03
32	373050	3757616	Residential	1.99E-02	1.99E-04	3.20E-02	1.88E-01	5.62E-04	9.37E-04	2.97E-03	1.48E-02	9.44E-03	3.15E-04	2.69E-01	2.25E-03
33	373085	3757673	Residential	1.66E-02	1.66E-04	1.93E-02	1.13E-01	3.36E-04	5.59E-04	2.03E-03	1.01E-02	5.76E-03	1.92E-04	1.87E-01	1.56E-03
34	373134	3757673	Residential	1.60E-02	1.60E-04	1.99E-02	1.17E-01	3.43E-04	5.72E-04	2.04E-03	1.02E-02	5.94E-03	1.98E-04	1.86E-01	1.55E-03
35	373190	3757671	Residential	1.51E-02	1.51E-04	1.42E-02	8.37E-02	2.46E-04	4.10E-04	1.65E-03	8.26E-03	4.30E-03	1.43E-04	1.57E-01	1.31E-03
36	372985	3757713	Residential	1.71E-02	1.71E-04	7.54E-03	4.43E-02	1.17E-04	1.94E-04	1.34E-03	6.69E-03	2.41E-03	8.02E-05	1.25E-01	1.04E-03

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter

Note: Shaded cells indicate locations where concentrations were highest.



## APPENDIX B

# Noise and Vibration

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# Addendum to the Noise Analysis for the Los Angeles International Airport (LAX) Landside Access Modernization Program Final EIR

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## 1.1 Introduction

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The LAX Landside Access Modernization Program (Project) approved in the Final Environmental Impact Report (EIR), which was certified by the Board of Airport Commissioners (BOAC) on March 2, 2017, includes, among other components, construction of a Consolidated Rental Car Center (CONRAC), Automated People Mover (APM), and Intermodal Transportation Facility (ITF) East. The CONRAC, ITF East, and portions of the APM will be constructed in the area known as Manchester Square, which is bounded by S. La Cienega Boulevard on the east, W. Century Boulevard on the south, Aviation Boulevard on the west, and W. Arbor Vitae Street on the north. Los Angeles World Airports (LAWA) has been purchasing residential properties in Manchester Square as part of the *Los Angeles World Airports Relocation Plan: Manchester Square and the Belford Area*—also known as the existing Aircraft Noise Mitigation Program (ANMP) Relocation Plan for the Belford and Manchester Square areas.<sup>1</sup> The certified Final EIR for the LAX Landside Access Modernization Program assumed that all residential properties within Manchester Square, as well as two schools (Stella Middle Charter Academy and the Bright Star Secondary Charter Academy), would be acquired and relocated prior to the start of construction within Manchester Square. Although LAWA is continuing to acquire as many of the remaining parcels through voluntary acquisition as possible, LAWA needs to acquire some parcels through use of eminent domain, which may delay when the entire Manchester Square area would be clear of residences. The eminent domain process is estimated to take up to 18 months, which would result in some residences, and potentially the schools, being occupied through July 2019. However, in order for the APM and CONRAC to be operational by 2024, some construction activities within the Manchester Square area would need to occur prior to July 2019. Additional noise and vibration analyses were undertaken to determine whether construction activities of the proposed LAX

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<sup>1</sup> As of 2016, the timeframe of preparation of the LAX Landside Access Modernization Program EIR, the Belford and Manchester Square areas respectively contained 1 and 37 remaining residential parcels, for a total of 38 residential parcels that had not been acquired as part of the existing ANMP Relocation Plan for the Belford and Manchester Square areas.

Landside Access Modernization Program facilities prior to July 2019 would significantly impact the remaining residences or schools within Manchester Square. The acquisition status of the remaining parcels in Manchester Square are shown on **Figure 1**.<sup>2</sup>

The certified Final EIR for the LAX Landside Access Modernization Program (“certified Final EIR”) analyzed potential construction noise and vibration impacts to sensitive receptors outside of Manchester Square. This addendum evaluates the potential construction noise and vibration impacts to properties that may not be vacant in Manchester Square when construction begins.

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## 1.2 Existing Ambient Noise Environment

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The certified Final EIR includes ambient noise measurements within the Manchester Square area, which are provided in **Table 1**. The Community Noise Exposure Level (CNEL) values ranged from a high of 70.0 dBA<sup>3</sup> CNEL at 9329 Isis Avenue to a low of 62.7 dBA CNEL at 9846 Glasgow Place. In addition, daytime noise levels ranged from a high of 67.6 dBA at 9329 Isis Avenue to a low of 60.2 dBA at 9846 Glasgow Place.

In general, the noise setting at and around LAX is influenced primarily by aircraft operations (takeoffs and landings) and traffic along major roadways, including the San Diego Freeway (Interstate 405 or I-405) and the Century Freeway (Interstate 105 or I-105). The existing aircraft noise levels at and around LAX delineated in the LAX 2nd Quarter 2017 Noise Monitoring Report<sup>4</sup> are representative of existing (baseline) ambient noise levels. As shown in the 2nd Quarter 2017 Noise Monitoring Report Contour Map<sup>5</sup>, the Manchester Square properties are located within the 70 and 75 dB CNEL contours. Noise levels within this community ranged from a low of 74 dB CNEL to a high of 78 dB CNEL during the months of April 2017 through June 2017.

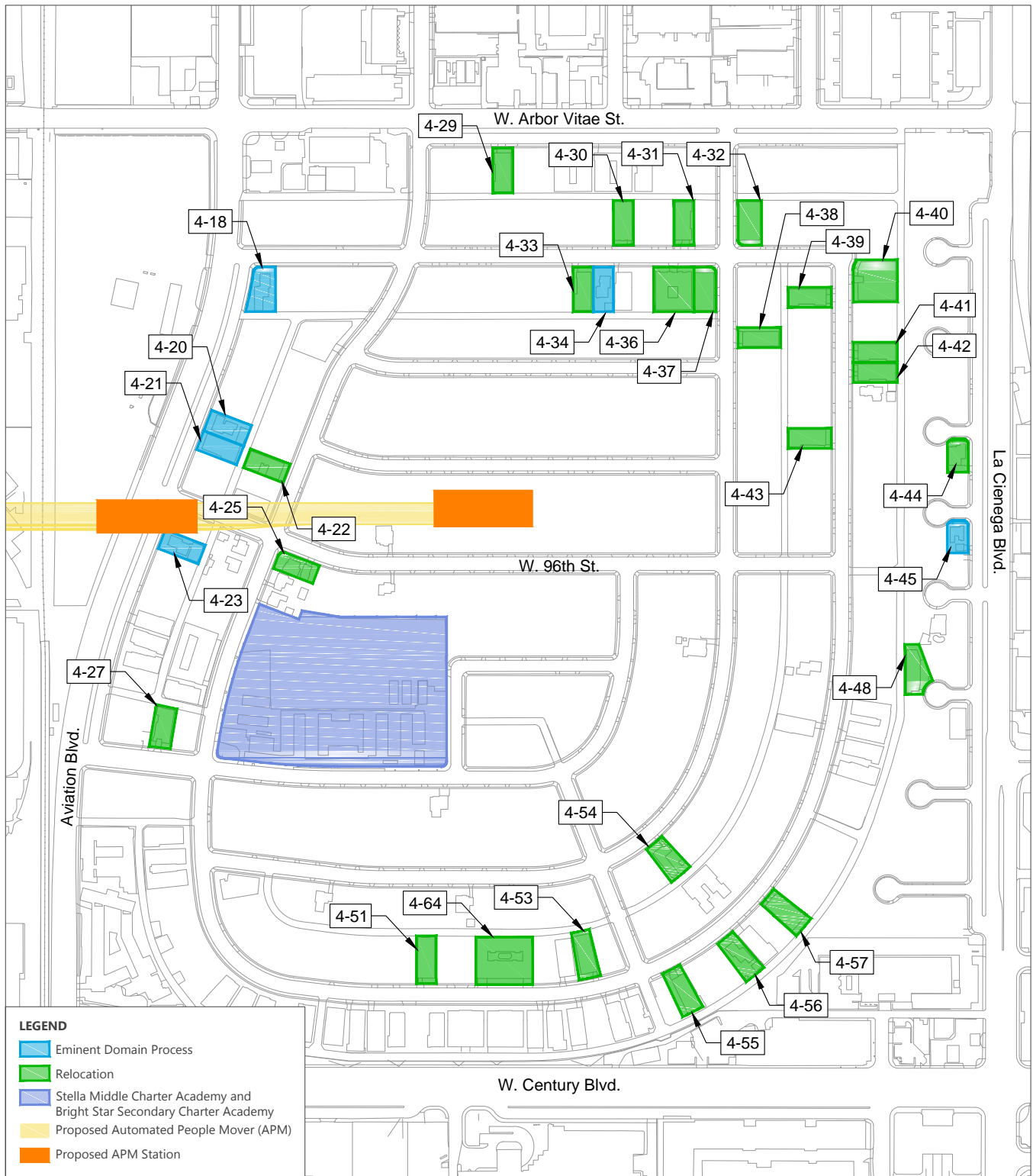
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<sup>2</sup> Parcel acquisition status was based on the best available information at the time of the analysis described in this appendix was conducted.

<sup>3</sup> A-Weighted Sound Pressure Level (dBA): The decibel (dB) is a unit used to describe sound pressure level. When expressed in dBA, the sound has been filtered to reduce the effect of very low and very high frequency sounds, much as the human ear filters sound frequencies.

<sup>4</sup> City of Los Angeles, Los Angeles World Airports, *California State Airport Noise Standards Quarterly Report, Second Quarter 2017, Los Angeles International Airport*, August 23, 2017. Available: [http://www.lawa.org/uploadedFiles/LAX/pdf/2q17\\_20170815\\_Quarterly\\_Report.pdf](http://www.lawa.org/uploadedFiles/LAX/pdf/2q17_20170815_Quarterly_Report.pdf)

<sup>5</sup> City of Los Angeles, Los Angeles World Airports, *California State Airport Noise Standards Quarterly Report, Second Quarter 2017, Los Angeles International Airport*, August 23, 2017. Available: [http://www.lawa.org/uploadedFiles/LAX/pdf/2q17\\_20170815\\_Quarterly\\_Report\\_Map.pdf](http://www.lawa.org/uploadedFiles/LAX/pdf/2q17_20170815_Quarterly_Report_Map.pdf)



SOURCE: HNTB Corp., Los Angeles International Airport Layout Plan, July 2012; MapLAX, July 2016; Ricondo & Associates, Inc., September 2017.  
 PREPARED BY: Ricondo & Associates, Inc., November 2017.

**FIGURE 1**



## Manchester Square Property Acquisition Status

Drawing: P:\LAX\LAMP105 - AutoCAD\Miscellaneous\LAMP\_Fig 1 - Eminent Domain & Relocation.dwg; Layout: Manchester Sq Prop Acq Status Plotted: Nov 16, 2017, 08:44AM

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**Table 1: Ambient Manchester Square Noise Measurements – August 2016**

<b>SURVEY POINTS <sup>1/</sup></b>	<b>24-hr Leq</b>	<b>Leq (Daytime) <sup>2/</sup></b>	<b>Ldn <sup>3/</sup></b>	<b>CNEL <sup>4/</sup></b>
5431 W. 98th Place	62.8	63.8	66.8	67.3
5450 W. 99th Place	60.1	61.3	64.2	64.7
9329 Isis Avenue	66.1	67.6	69.1	70.0
9846 Glasgow Place	58.7	60.2	61.9	62.7
9714 Glasgow Place	60.3	61.8	63.4	64.4
9312 Glasgow Place	66.0	67.5	69.1	69.9

## NOTES:

Measurements were taken in August 2016.

1/ See Figure 4.9.3-1 in the LAX Landside Access Modernization Program Draft EIR for a map showing noise measurement locations.

2/ Leq (daytime): 7:00 AM to 10:00 PM

3/ Ldn: 10 dBA penalty for noise between 10:00 PM and 7:00 AM

4/ CNEL: 5 dBA penalty for noise between 7:00 PM and 10:00 PM, and 10 dBA penalty for noise between 10:00 PM and 7:00 AM.

SOURCE: Los Angeles World Airports, Los Angeles International Airport (LAX) Landside Access Modernization Program Final Environmental Impact Report, March 2017.

PREPARED BY: Meridian Consultants LLC, October 2017.

## 1.3 Significance Thresholds

### 1.3.1 CONSTRUCTION NOISE

A significant construction equipment noise impact would occur if the direct and indirect changes in the environment that may be caused by the Project would result in one or more of the following conditions:

- Construction activities lasting more than 1 day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use;
- Construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use; or,
- Construction activities would exceed the ambient exterior noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday; before 8:00 a.m. or after 6:00 p.m. on Saturday; or any time on Sunday.

These thresholds were utilized because they address physical impacts on the environment and are included in the *L.A. CEQA Thresholds Guide*.<sup>6</sup>

<sup>6</sup> City of Los Angeles, *LA CEQA Thresholds Guide, Your Resource for Preparing CEQA Analysis in Los Angeles*, 2006.

### 1.3.2 CONSTRUCTION VIBRATION

According to Federal Transit Administration (FTA) guidelines, a vibration criterion of 0.20 inches per second PPV,<sup>7</sup> or 106 vibration decibels (VdB), should be considered as the significant impact level for nonengineered timber and masonry buildings.

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## 1.4 Methodology

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### 1.4.1 CONSTRUCTION NOISE

Potential construction noise levels were calculated with the computer noise model SoundPLAN, which generates contour graphics of noise propagation from sources such as construction equipment. The construction noise model is based on construction equipment noise levels established by industry standards and is programmed into the SoundPLAN modeling system. The ambient noise levels utilized to determine potential construction impacts within Manchester Square were the lowest levels of noise measurements from the certified Final EIR as listed in Table 1.

The construction noise levels were calculated for sensitive receptor locations using SoundPLAN. In certain instances, where construction would occur close to nearby residential units, the modeling of construction activities reflects the use of temporary sound curtains to shield residences from noise. Also, the modeling does not account for topography, or the presence of intervening structures or landscaping that would block a direct line of sight between construction activity and nearby sensitive receptors.

### 1.4.2 CONSTRUCTION VIBRATION

Construction-related ground-borne vibration impacts were evaluated using the FTA's *Transit Noise and Vibration Impact Assessment* guidance document.<sup>8</sup> Potential vibration sources at the Project site include construction equipment in operation during Project construction. Ground-borne vibration impacts were evaluated by identifying potential vibration sources and estimating the vibration levels at the affected receptors.

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## 1.5 Results

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### 1.5.1 CONSTRUCTION NOISE

Engine-powered construction equipment includes equipment that is highly mobile (graders, dozers, haul trucks), handling equipment that is partly mobile (forklifts), and stationary equipment (pile drivers, air compressors, generators). Engine sound typically predominates, with exhaust noise normally being the major source, and inlet sound level and structural sound level being of secondary important. The typical operating

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<sup>7</sup> When assessing the potential for building damage, ground-borne vibration is usually expressed in terms of the peak particle velocity (PPV) in units of inches per second. The peak particle velocity is defined as the maximum instantaneous positive or negative peak of the vibration signal. PPV is often used in monitoring of blasting vibration since it is related to the stresses that are experienced by buildings.

<sup>8</sup> U.S. Department of Transportation, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

cycle of this equipment involves several minutes of full-power operation followed by several minutes at lower power.

Construction noise impacts would vary considerably because the construction equipment used, the locations of the equipment, and the sound emissions from each piece of equipment would vary throughout the course of each phase of construction.

Construction noise can increase when multiple pieces of equipment are operating simultaneously close to one another. Because of the logarithmic nature of decibel addition, two equally loud pieces of equipment operating at the same time would be 3 dB louder than either one individually. Three pieces of equipment operating simultaneously would be 5 dB louder.

Construction noise levels were measured at the property line of the affected properties. As shown in **Table 2**, construction noise levels would be above the ambient noise levels by more than 5.0 dBA at properties 4-22, 4-23, and 4-25 (see Figure 1) without mitigation. As indicated above, construction equipment noise impacts within Manchester Square at the surrounding properties would be potentially significant.

**Table 2: Construction Noise Levels at Remaining Occupied Properties**

Remaining Properties within Manchester Square <sup>1/</sup>	Approximate Distance of Construction Activities to Property Line (feet)	Ambient Daytime Noise Leq (dBA) <sup>2/</sup>	Construction Noise Level without Mitigation (dBA)	Construction plus Ambient Noise Level (dBA)	Noise Increase Above Ambient (dBA)	Construction Noise Level with Mitigation (dBA)	Noise Increase Above Ambient with Implementation of Mitigation (dBA)
4-18	530	67.6	42.8	67.6	0.0	N/A	N/A
4-20	55	67.6	56.6	67.9	0.3	N/A	N/A
4-21	50	67.6	70.4	72.2	4.6	N/A	N/A
4-22	45	67.6	84.4	84.5	16.8	62.4	1.1
4-23	25	61.3	71.3	71.7	10.4	49.3	0.3
4-25	85	61.3	67.0	68.0	6.7	46.0	0.1
4-27	515	61.3	53.9	62.0	0.7	N/A	N/A

NOTES:

N/A = Not Applicable

1/ Property numbers correspond to Figure 1.

2/ Ambient noise measurements from August 2016.

SOURCE: Meridian Consultants LLC, October 2017.

PREPARED BY: Meridian Consultants LLC, October 2017.



As stated in the certified Final EIR, Mitigation Measure **MM-N (LAMP)-1** could include installation of temporary and impermeable noise curtains that would be erected adjacent to noise-sensitive receptors when an increase of 5 dBA is projected to occur over the baseline exterior level. Such noise curtains could reduce noise levels by 15 dBA on both sides of the equipment when the barrier is installed. In addition, use of best management practices during construction such as standard exhaust mufflers for all equipment could reduce construction noise levels by approximately 7 dBA. With implementation of these measures, construction noise levels would not increase ambient noise levels by more than 5 dBA.

## 1.5.2 CONSTRUCTION VIBRATION

**Table 3** lists the vibration source levels at varying distances of the construction equipment assumed to be used during construction activities at Manchester Square. Similar to construction noise, vibration levels were measured at the property line of the affected properties. With the use of the equipment in **Table 3**, the potential affected properties (4-20, 4-21, 4-22, 4-23) located anywhere between 25 feet to 55 feet from construction activities would experience some attenuation of ground borne vibration. Based on the calculations for the varying distances, vibration estimates for various types of equipment at these properties would range from a low of 0.003 inches per second PPV for a grader at 50 feet to a high of 1.518 inches per second PPV for a pile driver at 25 feet.

As the remaining properties in Manchester Square are primarily nonengineered timber and masonry constructed residential structures, these properties would be subject to the FTA vibration criterion of 0.20 inches per second PPV, or 106 VdB. All of the anticipated equipment shown on **Table 3**, except for pile drivers, would result in vibrations levels below the FTA vibration criterion of 0.20 inches per second PPV at any given distance. The minimum distance at which pile drivers would not exceed the FTA vibration criterion of 0.20 inches per second PPV would be approximately 97 feet. Vibration sensitive uses would be significantly impacted if the use of pile drivers occurred within a distance of 97 feet or less. These distances do not account for any intervening topography, buildings, or other obstructions that would further reduce vibration.

**Table 3: Construction Vibration Levels Estimates**

EQUIPMENT	INCHES PER SECOND PPV AT ADJUSTED DISTANCE			
	25 FEET	50 FEET	75 FEET	100 FEET
Backhoe	0.040	0.014	0.008	0.005
Concrete Mixer	0.040	0.014	0.008	0.005
Crane	0.057	0.020	0.011	0.007
Grader	0.025	0.003	0.001	0.001
Forklift	0.020	0.007	0.004	0.003
Pile Driver	1.518	0.537	0.292	0.190
Pump	0.014	0.005	0.003	0.002

SOURCE: Office of Planning and Environment, *Federal Transit Administration, Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06 (May 2006), p. 12-9.

PREPARED BY: Meridian Consultants LLC, October 2017.

## 1.6 Mitigation Measures

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The certified Final EIR identified the following Standard Control Measure to reduce significant construction equipment noise:

- **LAX-N-1. Construction-Related Noise Control.** The following measures shall be implemented to reduce construction-related noise impacts:
  - 1a. Construction Noise Control
    - For all projects near noise-sensitive uses, noise control devices shall be used and maintained, such as equipment mufflers, enclosures, and barriers. Natural and artificial barriers, such as ground elevation changes and existing buildings, may be used to shield construction noise from noise-sensitive uses.
    - Stationary source equipment that is flexible with regard to relocation (such as generators and compressors) shall be located at the greatest distance practical from sensitive land uses, and unnecessary idling<sup>9</sup> of equipment shall be prohibited.
  - 1b. Construction Staging
    - Construction operations shall be staged as far from noise-sensitive uses as feasible.
    - Loading and unloading of heavy construction materials shall be located on-site and away from noise-sensitive uses, to the extent feasible.
  - 1c. Equipment Replacement
    - Use “quiet-design” air compressors and other stationary noise sources when such technology/equipment is commercially available.
  - 1d. Construction Scheduling
    - The timing and/or sequence of the noisiest on-site construction activities shall avoid sensitive times of the day, as feasible (9 p.m. to 7 a.m. Monday – Friday; 6 p.m. to 8 a.m. Saturday; anytime on Sunday or holidays).

In addition to Standard Control Measure (Mitigation Measure) LAX-N-1, the following mitigation measure was also identified in the certified Final EIR to reduce significant construction equipment noise:

- **MM-N (LAMP)-1. Noise Curtains.** LAWA shall require construction contractors to use noise curtains, noise blankets, temporary sound walls, or their equivalent during construction to shield nearby sensitive receptors from construction equipment-related noise when an increase of 5 dBA is projected to occur over the baseline exterior level. To verify efficiency of the noise reduction features, LAWA will measure construction noise levels at the closest sensitive receptors in compliance with City of Los Angeles standards. If noise levels exceed the 5 dBA increase, LAWA will implement additional technological

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<sup>9</sup> All nonessential idling of construction equipment shall be restricted to five minutes or less in compliance with California Air Resources Board Rule 2449.

solutions and installation equipment and will repeat measuring construction noise levels, until an increase of 5 dBA does not occur.

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## 1.7 Level of Significance After Mitigation

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Consistent with the certified Final EIR, with implementation of Standard Control Measure LAX-N-1 and Mitigation Measure MM-N (LAMP)-1, significant Project-related construction equipment noise impacts would be reduced to a level that would be less than significant, and the Project's incremental contribution to significant construction equipment noise impacts would be less than cumulatively considerable. Mitigated construction activities would not exceed ambient exterior noise levels by 5 dBA at a noise-sensitive use.

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## 1.8 Glossary

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CNEL	Community Noise Equivalency Level
dBA	A-weighted decibels
FTA	Federal Transit Administration
LAWA	Los Angeles World Airports
LAX	Los Angeles International Airport
Leq	Equivalent Continuous Noise Level, average sound level for peak traffic period
PPV	Peak particle velocity



## APPENDIX C

# Off-Airport Traffic

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## TECHNICAL MEMORANDUM

**TO:** Stephen Culberson, Ricondo & Associates, Inc.

**FROM:** Srinath Raju, P.E.  
Christopher Muñoz

**SUBJECT:** Addendum to Landside Access Modernization Program EIR  
Traffic Study for LAWA Security Badge Office Relocation Project

**DATE:** April 13, 2018 **REF:** RA 533

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This technical memorandum documents the results of a traffic study for the relocation of the LAWA Security Badge Office, in support of an Addendum to the Landside Access Modernization Program (LAMP). The LAWA Security Badge Office is currently located at 7333 World Way West and is proposed to be relocated to a location within the Intermodal Transportation Facility (ITF) West evaluated as part of the LAMP Project. The Proposed Project includes the LAMP Project with the relocation of the Security Badge Office to a location within the ITF West.

This memorandum summarizes and documents the analysis and results of the traffic impact study associated with the LAMP Project including the proposed relocation of the LAWA Security Badge Office. This traffic study has been prepared in accordance with the assumptions, parameters and methodology coordinated with all the relevant jurisdictions as part of the *Appendix O - Transportation Study for the Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016*, (herein referred to as *Transportation Study for the LAMP DEIR*) and as revised in *Chapter 3, Corrections and Additions* to the Draft EIR in Volume 11 of the certified Final EIR.

### STUDY PURPOSE

The purpose of this addendum is to evaluate the traffic effects of relocation of the LAWA Security Badge Office as part of the *Landside Access Modernization Program EIR*. No other changes to the LAMP Project description as detailed in the *Landside Access Modernization Program EIR* are anticipated to affect off-airport traffic.

## **PROJECT DESCRIPTION**

The existing LAWA Security Badge Office (SBO) is currently located at 7333 World Way West, on the north-east corner of the intersection of Maintenance Road/World Way West as shown in Figure 1. It consists of 25,000 square feet of occupied office space and there are currently 46 employees. Figure 1 illustrates the location of the existing SBO, as well as its proposed relocation site, in relation to the surrounding street system.

As proposed, the SBO would be relocated to the ITF West site area, on 'B' Street between 'A' Street and Airport Boulevard. The new SBO facility would consist of approximately 25,000 square feet incorporated into the first and second levels of the ITF West Garage core structure. It would have a total of 63 employees in the Future Years 2024/2035. The facility would contain similar size spaces as the existing SBO, for administrative functions, waiting rooms, and badge processing. The location of the proposed SBO is shown in Figure 2.

### **Access and Circulation**

World Way West via Pershing Drive provides access to the existing SBO site. Site access to the proposed relocated SBO site is shown in Figure 2. As shown in Figure 2, 'B' Street would provide access to the new SBO via 'A' Street and Airport Boulevard

## **STUDY SCOPE**

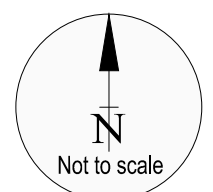
The base assumptions, technical methodologies and geographic coverage of the study are the same as those identified as part of the study approach for the *Transportation Study for the LAMP DEIR*. This addendum study is directed at identifying potential traffic impacts on the street system produced by the LAMP Project including the relocation of SBO and includes an updated analysis (including updated intersection peak hour traffic volumes and intersection level of service traffic impact analysis) of the following scenarios:

- Baseline (2015) with Project (LAMP Buildout and SBO Relocation) Conditions
- Baseline (2015) with Project (LAMP Buildout and SBO Relocation) and Mitigation Measures Conditions



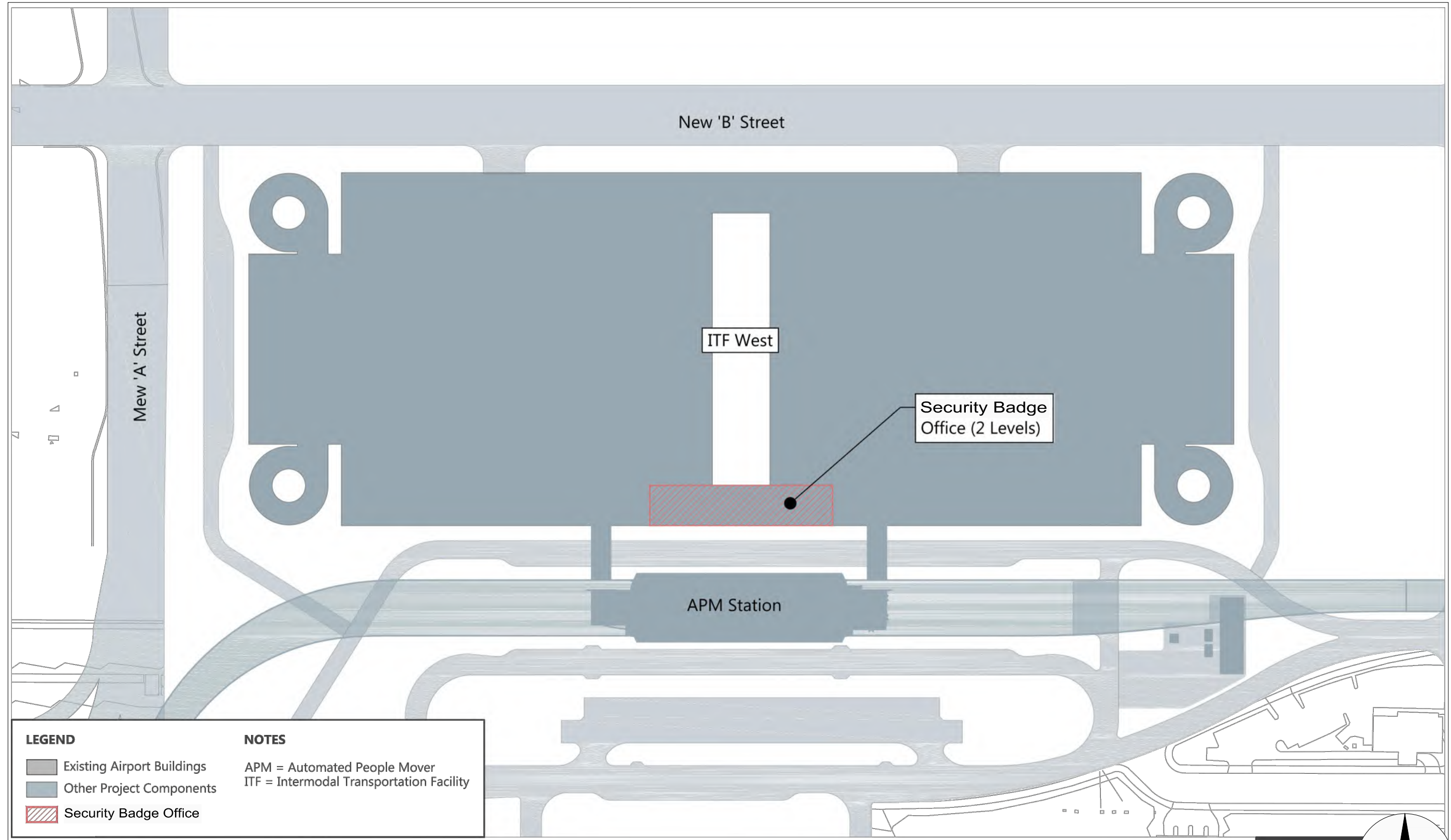
**LEGEND:**

- # - Analyzed Intersection
- A - Existing Security Badge Office Location
- B - Security Badge Office Relocation Site



**FIGURE 1**  
LOCATION OF PROJECT AND ANALYZED INTERSECTIONS





LEGEND	NOTES
Existing Airport Buildings	APM = Automated People Mover
Other Project Components	ITF = Intermodal Transportation Facility
Security Badge Office	

SOURCE: RICONDO AND ASSOCIATES

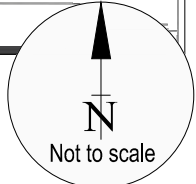


FIGURE 2  
ITF WEST - PROPOSED SECURITY BADGE OFFICE

- Future (2024) with Project (LAMP Phase 1 and SBO Relocation) Conditions
- Future (2024) with Project (LAMP Phase 1 and SBO Relocation) and Mitigation Measures Conditions
- Future (2035) with Project (LAMP Buildout and SBO Relocation) Conditions
- Future (2035) with Project (LAMP Buildout and SBO Relocation) and Mitigation Measures Conditions
- Future (2035) with Project (LAMP Buildout and SBO Relocation) and Potential Future Related Development Conditions
- Future (2035) with Project (LAMP Buildout and SBO Relocation), Potential Future Related Development and Mitigation Measures Conditions

The existing conditions and future base (2024) and (2035) without Project conditions scenarios were not updated since traffic conditions associated with these scenarios do not include changes to the SBO. The analysis and results of study locations for these scenarios are the same as those presented and documented in the *Transportation Study for the LAMP DEIR*.

As part of this addendum, 30 intersections within the Cities of Los Angeles and Inglewood were identified as study intersections during the morning and evening peak hours and 22 intersections were chosen for analysis during the midday peak hour. These locations were selected based on the potential for the Project's effects to be felt on the roadway system. The study intersections are shown in Figure 1 and include the following:

1. Pershing Drive & Westchester Parkway
2. Pershing Drive & Imperial Highway
3. Main Street & Imperial Highway
4. Sepulveda Boulevard & Westchester Parkway\*
5. Sepulveda Boulevard & Lincoln Boulevard\*
6. Sepulveda Boulevard & Century Boulevard\*
7. Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)\*
8. Sepulveda Boulevard & Imperial Highway\*
9. Sepulveda Eastway & Westchester Parkway
10. Jenny Avenue & Westchester Parkway\*
11. Avion Drive & Century Boulevard\*
12. Airport Boulevard & Arbor Vitae Street/Westchester Parkway\*
13. Airport Boulevard & 96<sup>th</sup> Street\*
14. Airport Boulevard & 98<sup>th</sup> Street\*
15. Airport Boulevard & Century Boulevard\*
16. Nash Street/I-105 Westbound Ramps & Imperial Highway
17. Douglas Street & Imperial Highway

18. Bellanca Avenue & Century Boulevard
19. Aviation Boulevard & Arbor Vitae Street\*
20. Aviation Boulevard & Century Boulevard\*
21. Aviation Boulevard & 104<sup>th</sup> Street\*
22. Aviation Boulevard & 111<sup>th</sup> Street\*
23. Aviation Boulevard & Imperial Highway\*
24. Hindry Avenue & Arbor Vitae Street (unsignalized under existing and future without project conditions)\*
25. Concourse Way & Century Boulevard
26. I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway\*
27. La Cienega Boulevard & Arbor Vitae Street\*
28. La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Boulevard)\*
29. La Cienega Boulevard & Century Boulevard\*
30. I-405 Northbound Ramps & Century Boulevard\*

The intersections shown with an asterisk (\*) are locations where mid-day peak hour conditions have been analyzed.

## **LEVEL OF SERVICE METHODOLOGY**

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. LOS D is typically recognized as the minimum acceptable level of service in urban areas.

The Level of Service definitions for signalized intersections based on volume-to-capacity ratios and those for unsignalized intersections based on average total delay are provided in Table 1 and Table 2, respectively.

### **City of Los Angeles - Level of Service Methodology**

For the City of Los Angeles study locations including those shared with other jurisdictions, the "Critical Movement Analysis-Planning", (Transportation Research Board, 1980) method of intersection capacity analysis was used to determine the intersection volume to capacity (V/C) ratio and corresponding level of service at the signalized study intersections. Level of service spreadsheets developed by LADOT were used to implement the CMA (Circular 212 Method)

**TABLE 1  
LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS**

Level of Service	Volume/Capacity Ratio	Definition
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	>0.600 - 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	>0.700 - 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	>0.800 - 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	>0.900 - 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: Transportation Research Board, *Transportation Research Circular No. 212, Interim Materials on Highway Capacity*, 1980.

**TABLE 2**  
**LEVEL OF SERVICE DEFINITIONS FOR**  
**STOP-CONTROLLED INTERSECTIONS**

<b>Level of Service</b>	<b>Average Total Delay (seconds/vehicle)</b>
A	$\leq 10.0$
B	$> 10.0$ and $\leq 15.0$
C	$> 15.0$ and $\leq 25.0$
D	$> 25.0$ and $\leq 35.0$
E	$> 35.0$ and $\leq 50.0$
F	$> 50.0$

Source: Transportation Research Board, *Highway Capacity Manual 2010*.

methodology. Table 1 defines the ranges of V/C ratios and corresponding levels of service for signalized intersections.

All 28 of the signalized study intersections located in the City of Los Angeles (or shared with other jurisdictions) are currently controlled by the City of Los Angeles' Automated Traffic Surveillance and Control (ATSAC) System and Adaptive Traffic Control System (ATCS). In accordance with LADOT procedures, a capacity increase of 10% (0.07 V/C adjustment for ATSAC and 0.03 V/C adjustment for ATCS) was applied to reflect the benefits of ATSAC/ATCS control at these intersections.

### **City of Inglewood - Level of Service Methodology**

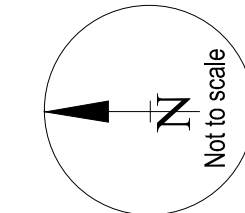
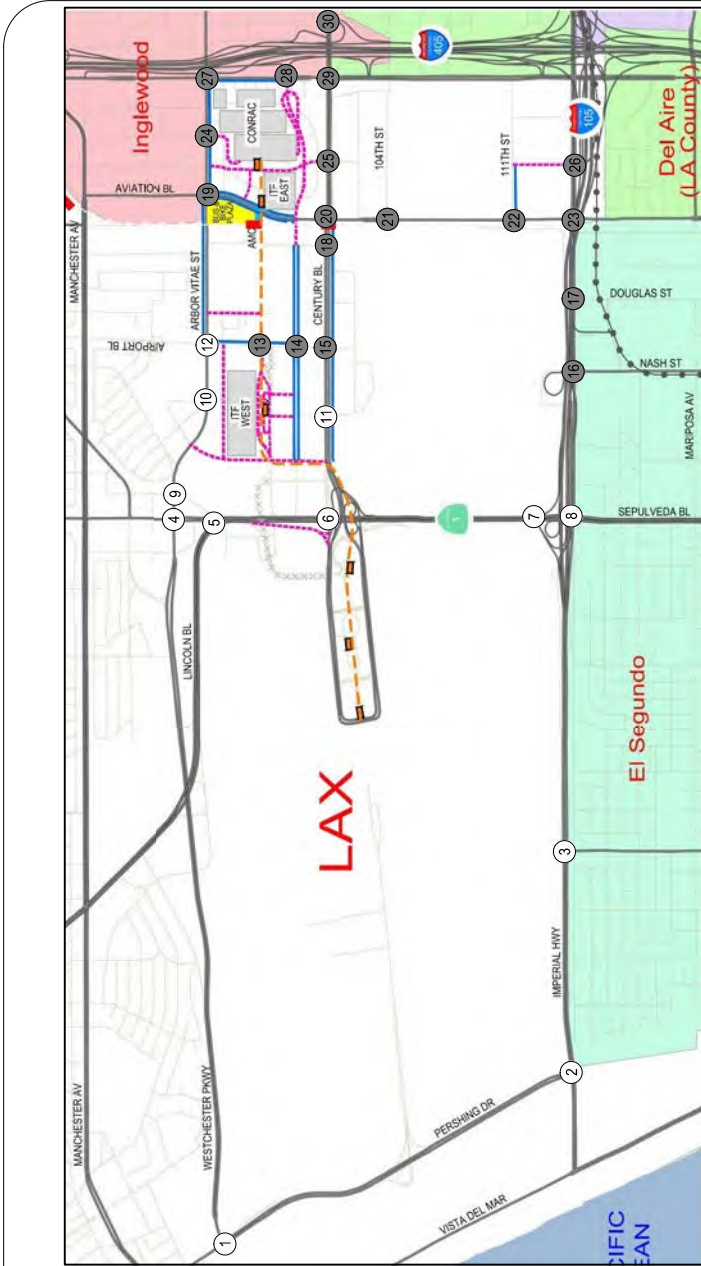
The Intersection Capacity Utilization (ICU) method was used to determine the intersection V/C ratio and corresponding level of service for study intersections within the City of Inglewood per their study requirements. A capacity of 1,600 vehicles per lane per hour was assumed, a total of 2,880 vehicles per hour for dual left-turn lanes, and a 10% calculation factor for the loss time of the yellow signal clearance periods were utilized in the capacity calculations.

The Highway Capacity Manual (HCM) 2010 method of unsignalized intersection analysis was used to determine the delay (in seconds) and corresponding level of service at the stop-controlled intersections. Table 2 defines the ranges of delay and corresponding levels of service for unsignalized intersections.

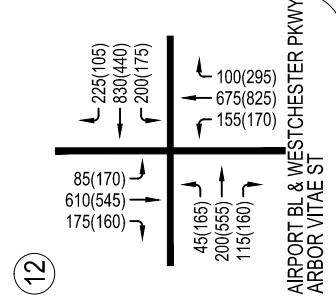
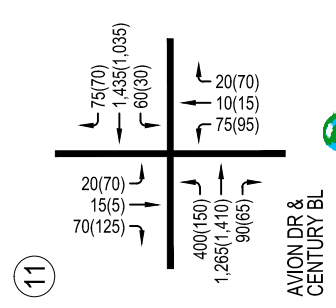
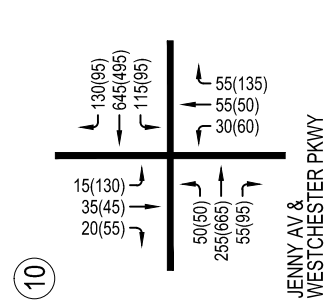
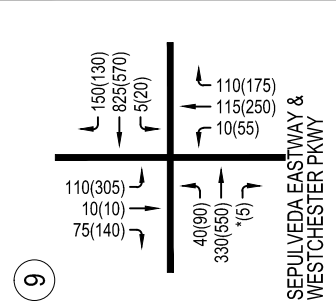
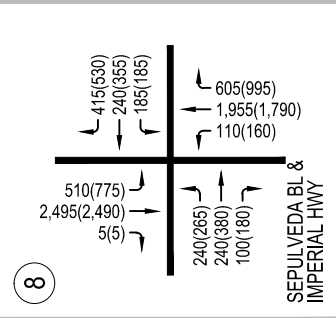
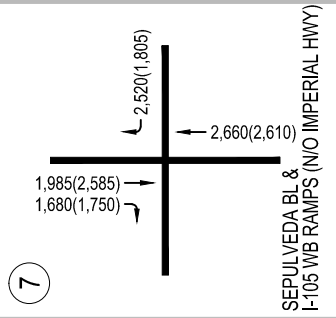
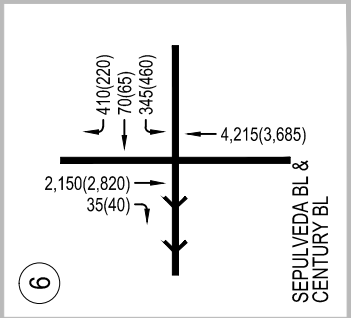
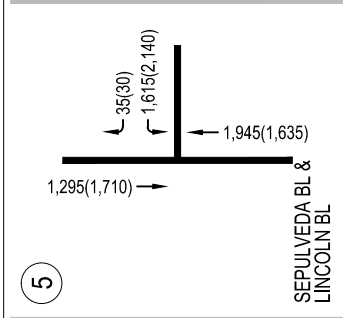
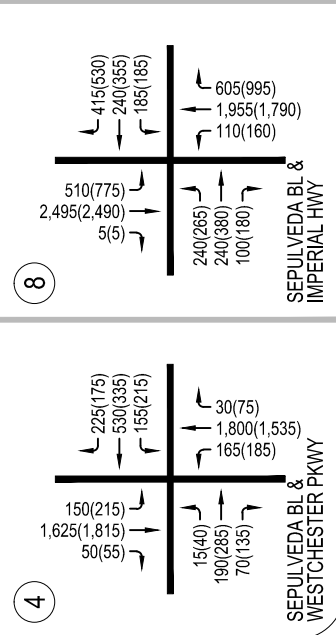
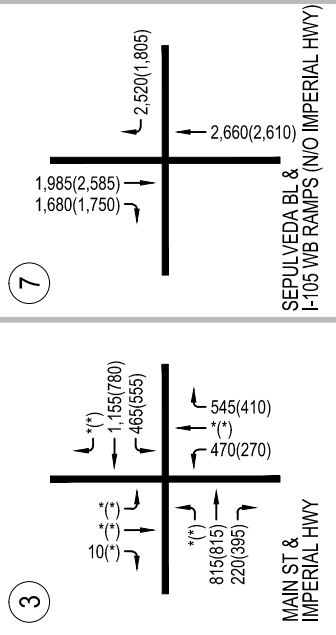
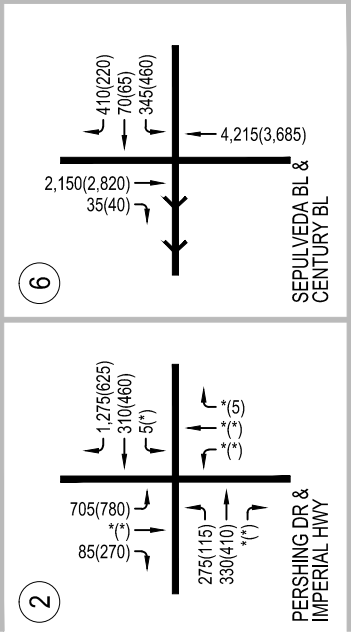
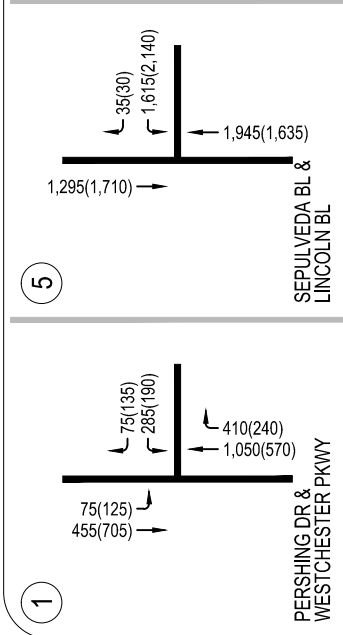
### **EXISTING CONDITIONS/ENVIRONMENTAL SETTING**

This addendum does not change the parameters, data, or results of the Existing Conditions analysis presented in *Chapter II: Environmental Setting of the Transportation Study for the LAMP DEIR*. In other words, update to the LAMP project description to include the relocation of the SBO does not affect existing conditions intersection operations.

The Existing Conditions morning and evening peak hour traffic volumes at the 30 analyzed intersections are presented in Figures 3A-C; while Figures 4A-B illustrate the mid-day peak hour



**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection

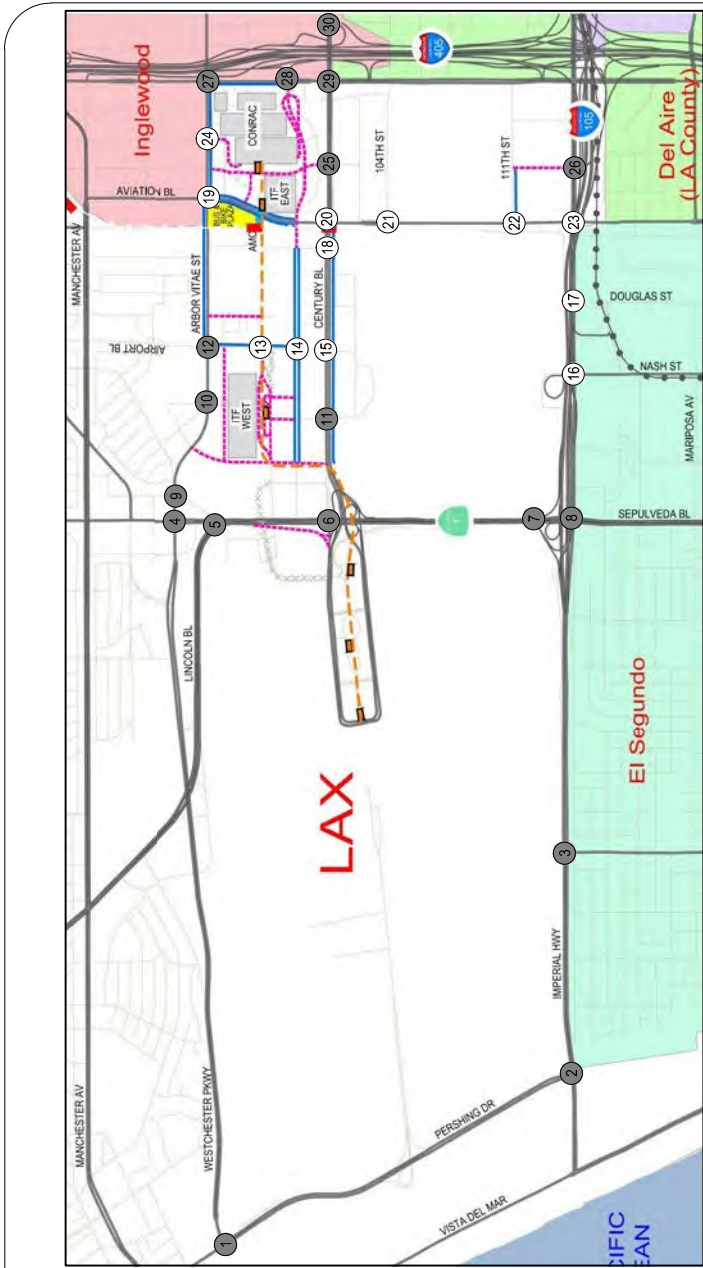


**FIGURE 3A**  
 EXISTING (2015) CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES



**RAJU** Associates, Inc.

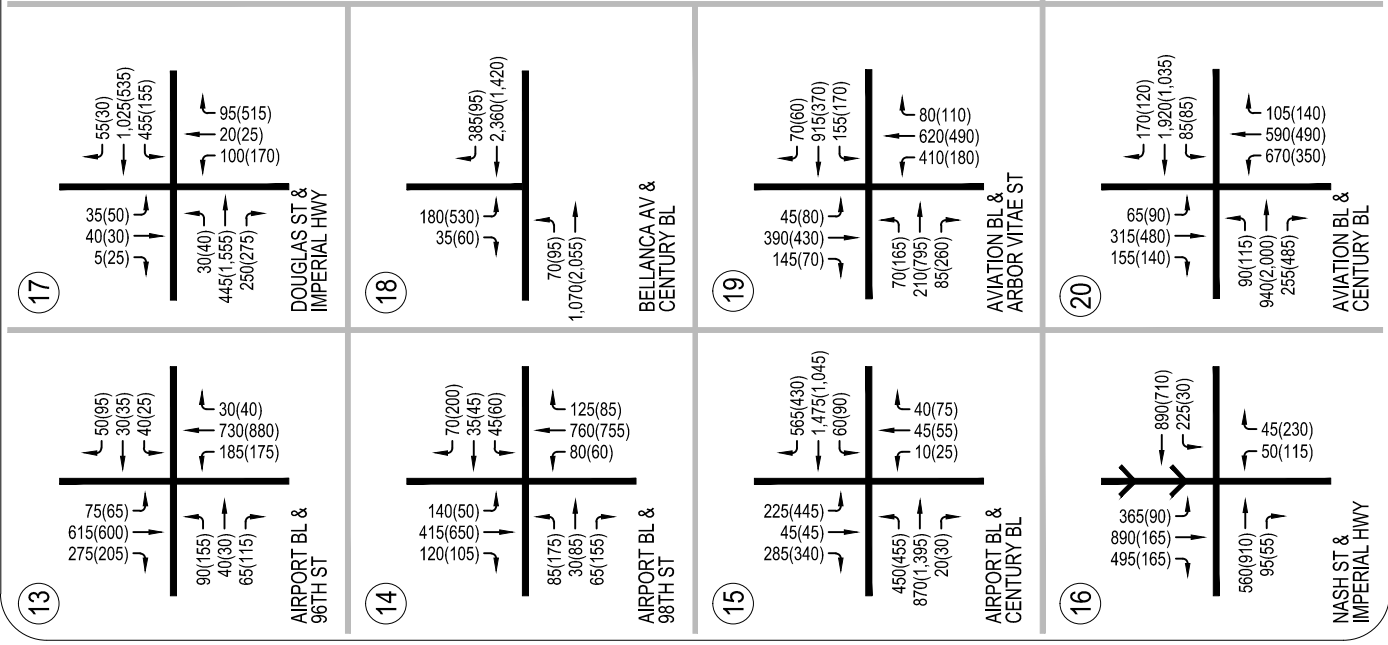
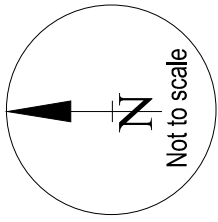




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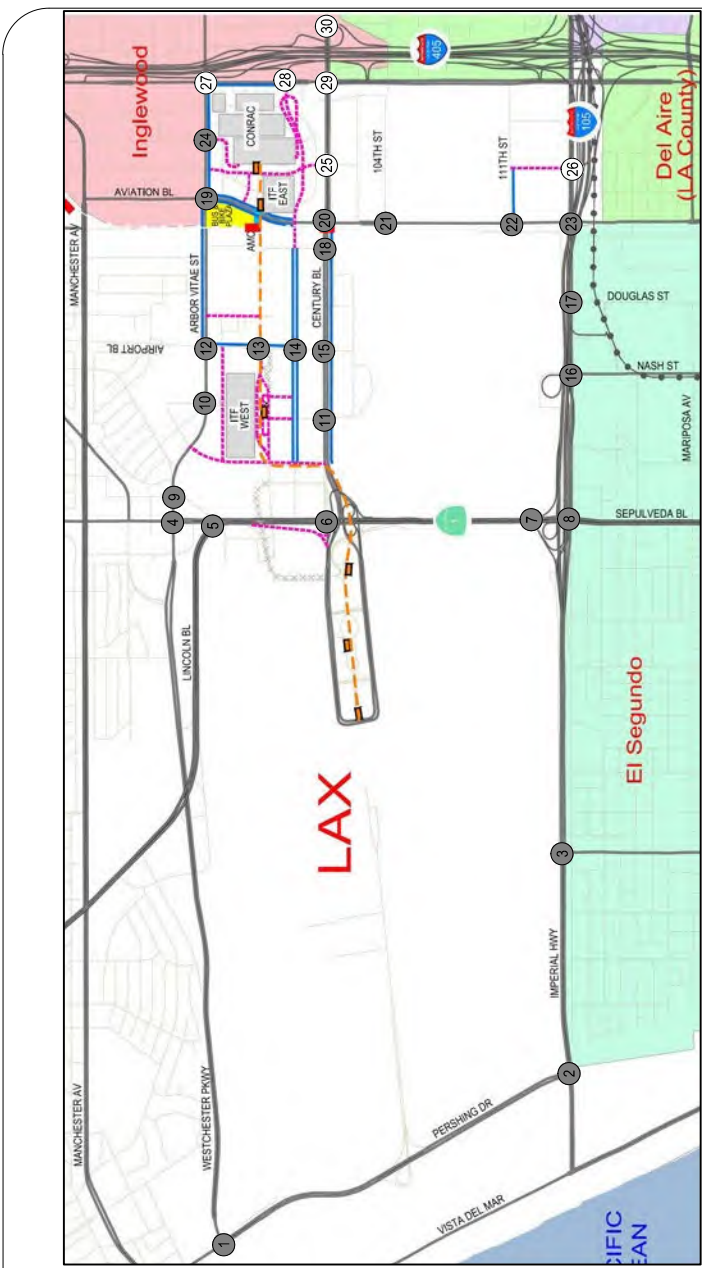
XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection



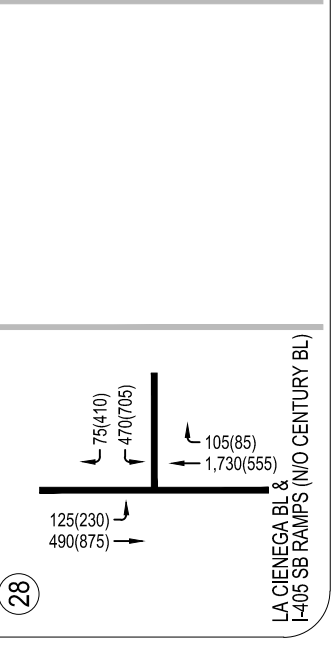
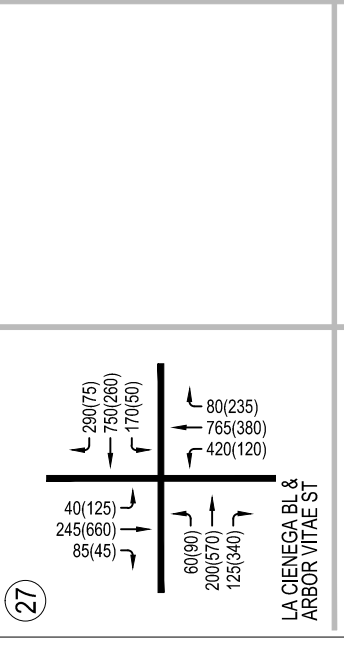
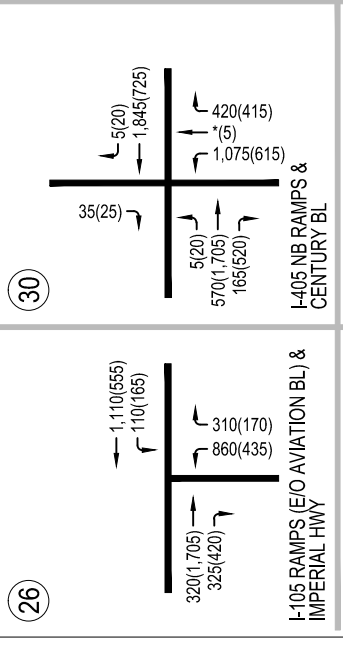
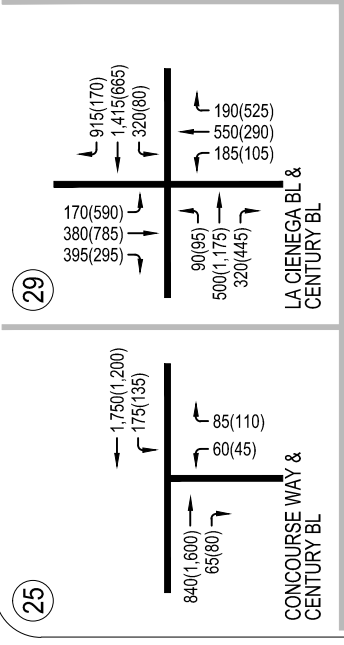
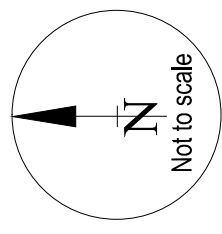
**FIGURE 3B**  
EXISTING (2015) CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES



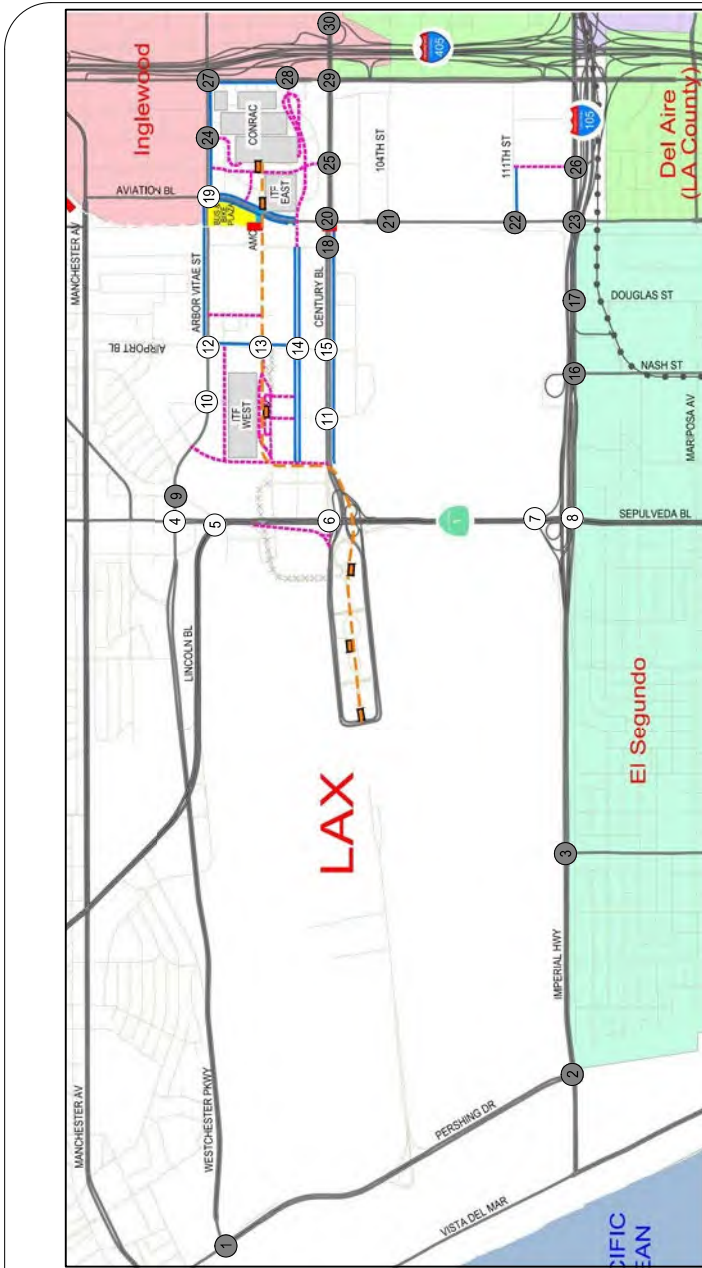


**LEGEND:**

- XXX (XXX) - AM (PM) Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection

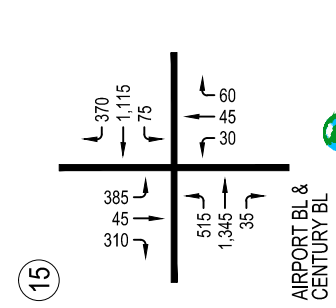
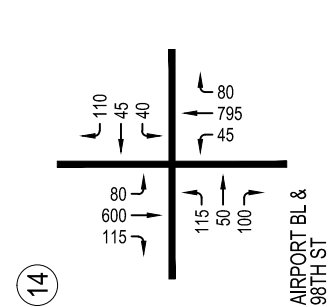
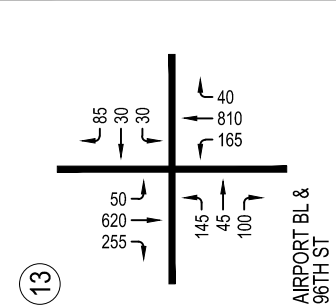
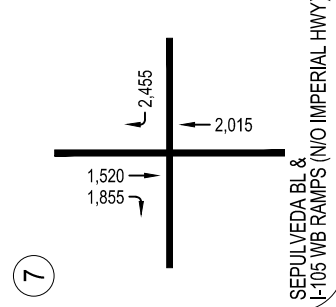
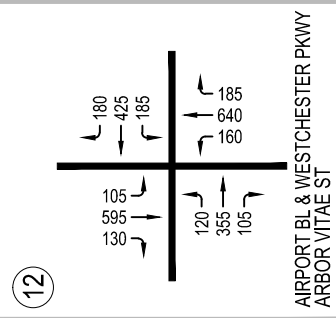
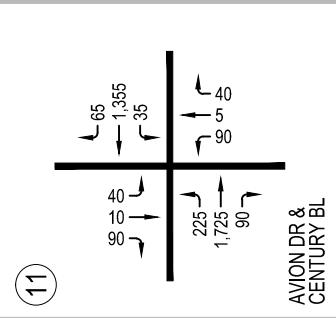
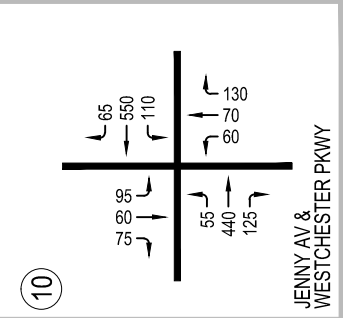
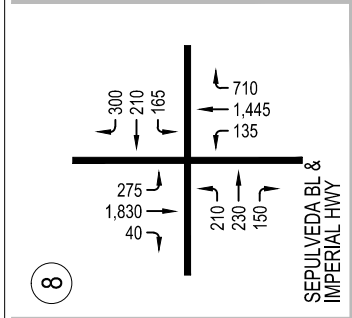
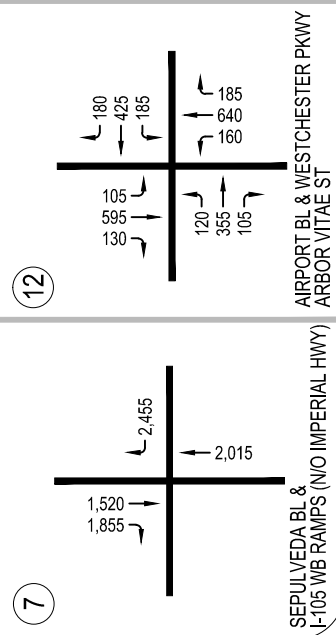
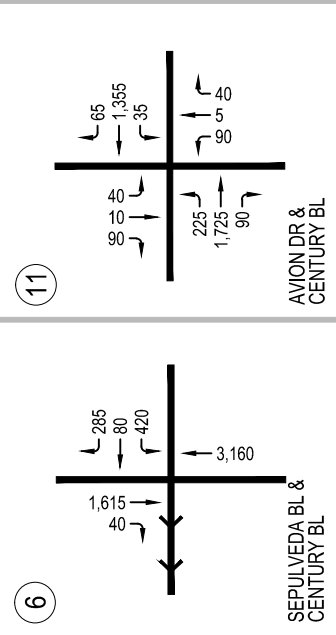
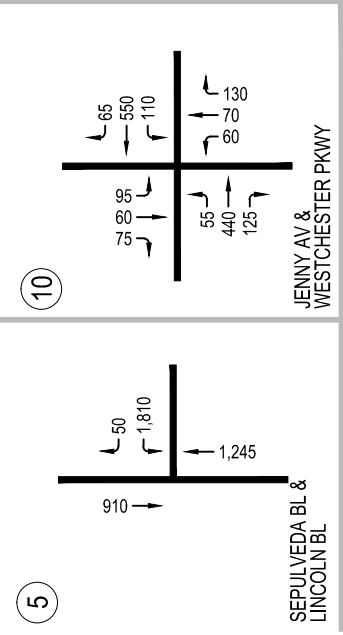
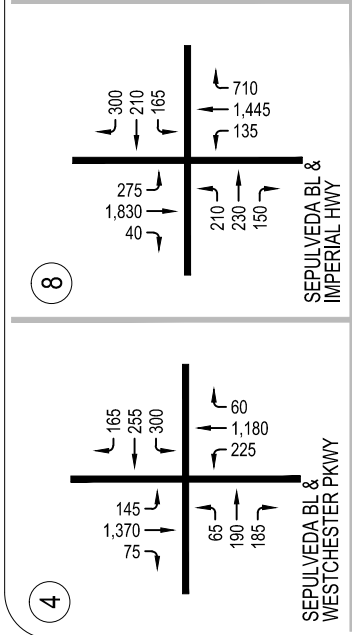
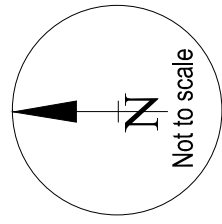


**FIGURE 3C**  
EXISTING (2015) CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES

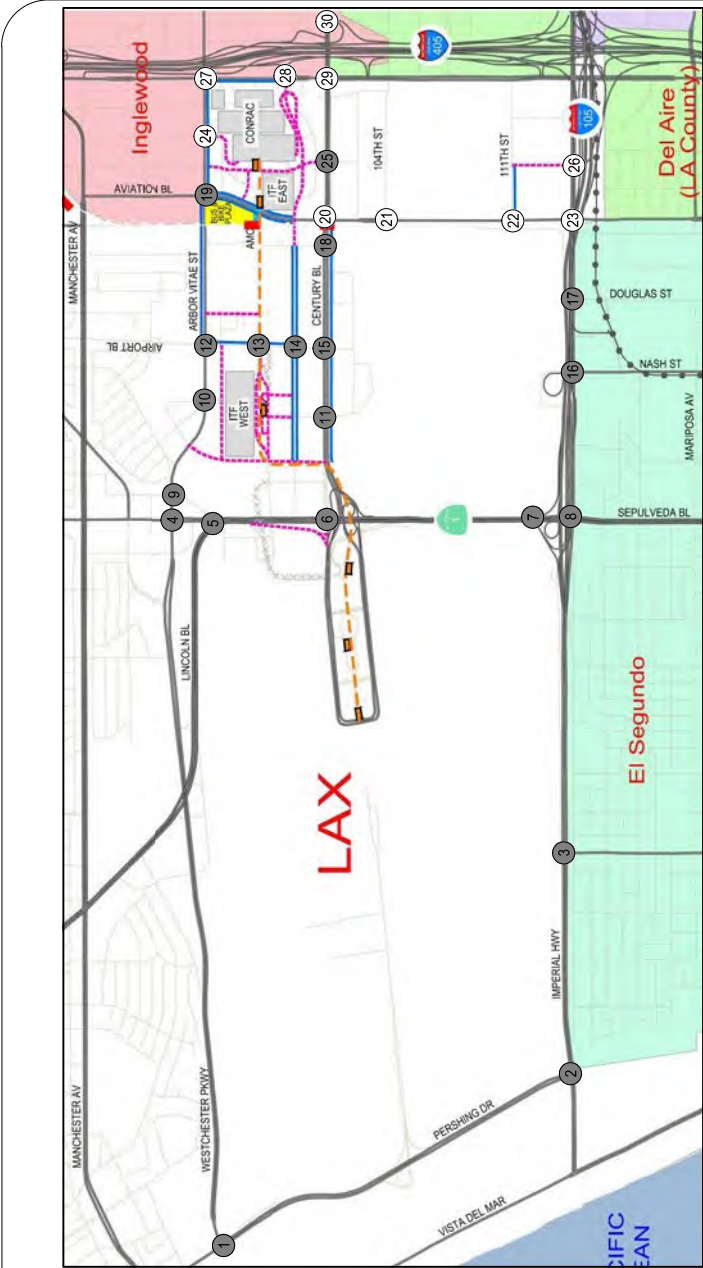


**LEGEND:**

- XXX - Mid-day Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection

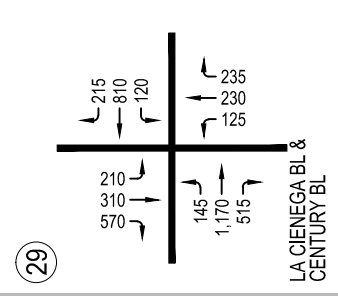
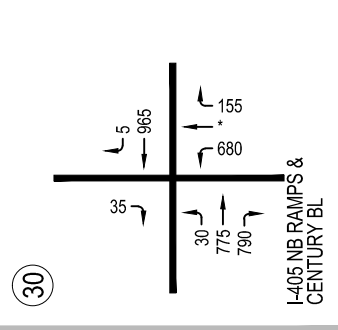
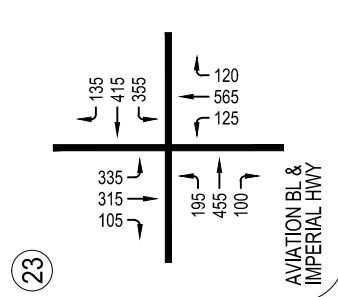
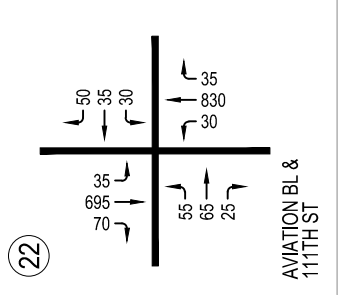
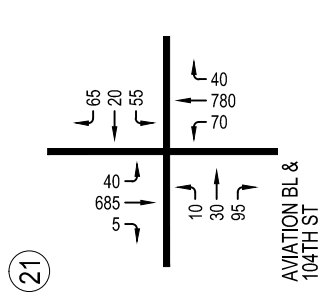
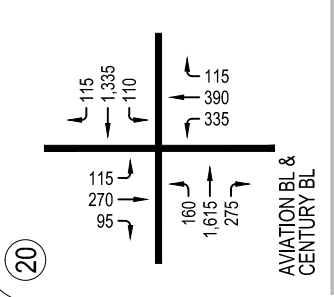
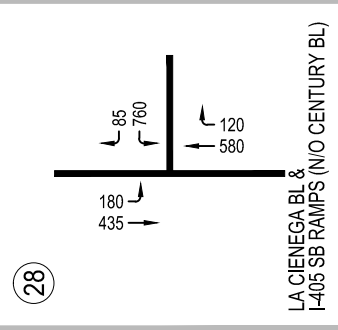
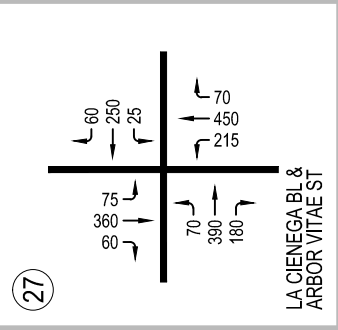
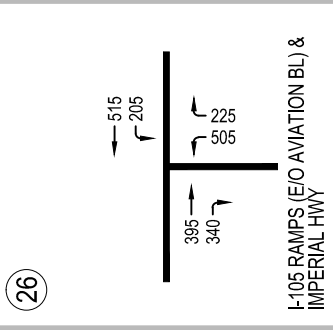
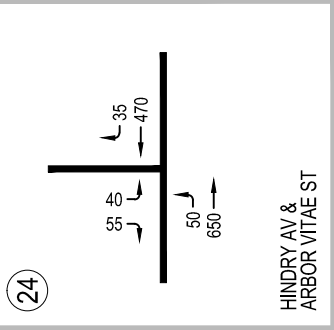
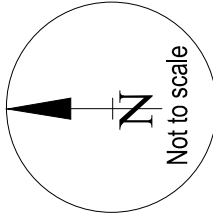


**FIGURE 4A**  
EXISTING (2015) CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES



**LEGEND:**

- XXX - Mid-day Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 4B**  
EXISTING (2015) CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES

traffic volumes at the 22 analyzed intersections. Table 3 summarizes the Existing Conditions morning and evening peak hour intersection capacity analysis results; while Table 4 summarizes the mid-day peak hour intersection capacity analysis results.

## **FUTURE CONDITIONS – WITHOUT PROJECT**

The study parameters, data, or results of the analysis of the Future (2024) without Project and Future (2035) without Project conditions presented in *Chapter IV: Future Conditions – without Project* of the *Transportation Study for the LAMP DEIR* are not affected by the relocation of the SBO.

The Future (2024) without Project morning and evening peak hour traffic volumes at the 30 analyzed intersections are presented in Figures 5A-C; while Figures 6A-B illustrate the mid-day peak hour traffic volumes at the 22 analyzed intersections. Table 5 summarizes the Future (2024) without Project morning and evening peak hour intersection capacity analysis results; while Table 6 summarizes the mid-day peak hour intersection capacity analysis results.

The Future (2035) without Project morning and evening peak hour traffic volumes at the 30 analyzed intersections are presented in Figures 7A-C; while Figures 8A-B illustrate the mid-day peak hour traffic volumes at the 22 analyzed intersections. Table 5 also summarizes the Future (2035) without Project morning and evening peak hour intersection capacity analysis results; while Table 6 summarizes the mid-day peak hour intersection capacity analysis results.

## **SECURITY BADGE OFFICE TRIP GENERATION**

The existing LAWA SBO is located at 7333 World Way West, on the north-east corner of the intersection of Maintenance Road/World Way West. There are currently 46 employees at this location. As proposed, the SBO would be relocated to the ITF West site area, between 'A' Street and Airport Boulevard. The new SBO facility would consist of approximately 25,000 square feet and would have a total of 63 employees in the future similar to the SBO at its current facility evaluated in the LAMP EIR.

**TABLE 3  
SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - EXISTING CONDITIONS\***

MAP #	INTERSECTION	PEAK HOUR	EXISTING CONDITIONS	
			V/C OR DELAY	LOS
1	Pershing Drive & Westchester Parkway	AM	0.429	A
		PM	0.259	A
2	Pershing Drive & Imperial Highway	AM	0.520	A
		PM	0.400	A
3	Main Street & Imperial Highway	AM	0.693	B
		PM	0.608	B
4	Sepulveda Boulevard & Westchester Parkway	AM	0.735	C
		PM	0.784	C
5	Sepulveda Boulevard & Lincoln Boulevard [1]	AM	0.601	B
		PM	0.620	B
6	Sepulveda Boulevard & Century Boulevard	AM	0.754	C
		PM	0.689	B
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	AM	1.078	F
		PM	0.901	E
8	Sepulveda Boulevard & Imperial Highway	AM	0.774	C
		PM	1.089	F
9	Sepulveda Eastway & Westchester Parkway	AM	0.407	A
		PM	0.602	B
10	Jenny Avenue & Westchester Parkway	AM	0.197	A
		PM	0.330	A
11	Avion Drive & Century Boulevard	AM	0.381	A
		PM	0.292	A
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	AM	0.661	B
		PM	0.763	C
13	Airport Boulevard & 96th Street	AM	0.279	A
		PM	0.376	A
14	Airport Boulevard & 98th Street	AM	0.374	A
		PM	0.467	A
15	Airport Boulevard & Century Boulevard	AM	0.565	A
		PM	0.459	A
16	Nash Street /I-105 Westbound Ramps & Imperial Highway	AM	0.414	A
		PM	0.350	A
17	Douglas Street & Imperial Highway	AM	0.346	A
		PM	0.579	A
18	Bellanca Avenue & Century Boulevard	AM	0.471	A
		PM	0.437	A
19	Aviation Boulevard & Arbor Vitae Street	AM	0.802	D
		PM	0.720	C
20	Aviation Boulevard & Century Boulevard	AM	0.730	C
		PM	0.729	C
21	Aviation Boulevard & 104th Street	AM	0.520	A
		PM	0.507	A
22	Aviation Boulevard & 111th Street	AM	0.475	A
		PM	0.459	A
23	Aviation Boulevard & Imperial Highway	AM	0.576	A
		PM	0.736	C
24	Hindry Avenue & Arbor Vitae Street [2]	AM	19.0 s	C
		PM	14.6 s	B
25	Concourse Way & Century Boulevard	AM	0.249	A
		PM	0.323	A
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	AM	0.622	B
		PM	0.531	A
27	La Cienega Boulevard & Arbor Vitae Street	AM	0.740	C
		PM	0.711	C
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Bl)	AM	0.742	C
		PM	0.610	B
29	La Cienega Boulevard & Century Boulevard	AM	0.891	D
		PM	0.823	D
30	I-405 Northbound Ramps & Century Boulevard	AM	0.879	D
		PM	0.715	C

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

**TABLE 4**

**SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - EXISTING (2015) MID-DAY PEAK HOUR\***

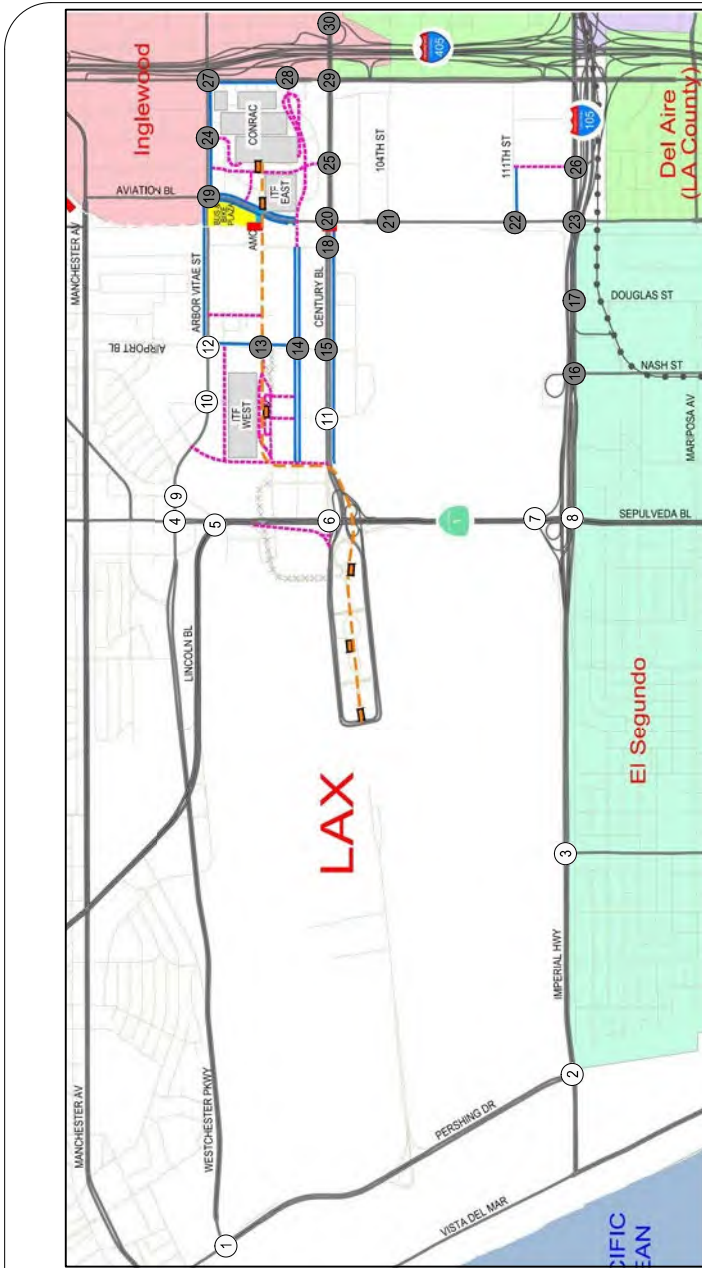
MAP #	INTERSECTION	EXISTING (2015) CONDITIONS	
		MD PEAK HOUR	
		V/C OR DELAY	LOS
4	Sepulveda Boulevard & Westchester Parkway	0.748	C
5	Sepulveda Boulevard & Lincoln Boulevard [1]	0.478	A
6	Sepulveda Boulevard & Century Boulevard	0.594	A
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	0.921	E
8	Sepulveda Boulevard & Imperial Highway	0.684	B
10	Jenny Avenue & Westchester Parkway	0.232	A
11	Avion Drive & Century Boulevard	0.320	A
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	0.587	A
13	Airport Boulevard & 96th Street	0.332	A
14	Airport Boulevard & 98th Street	0.397	A
15	Airport Boulevard & Century Boulevard	0.451	A
19	Aviation Boulevard & Arbor Vitae Street	0.521	A
20	Aviation Boulevard & Century Boulevard	0.554	A
21	Aviation Boulevard & 104th Street	0.388	A
22	Aviation Boulevard & 111th Street	0.327	A
23	Aviation Boulevard & Imperial Highway	0.517	A
24	Hindry Avenue & Arbor Vitae Street [2]	13.2 s	B
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	0.275	A
27	La Cienega Boulevard & Arbor Vitae Street	0.562	A
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Boulevard)	0.494	A
29	La Cienega Boulevard & Century Boulevard	0.511	A
30	I-405 Northbound Ramps & Century Boulevard	0.584	A

\* Source: *Transportation Study for Landside Access Modernization Program DEIR*, Raju Associates, Inc., September 2016.

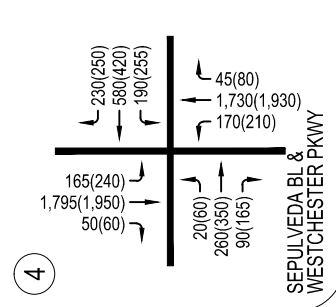
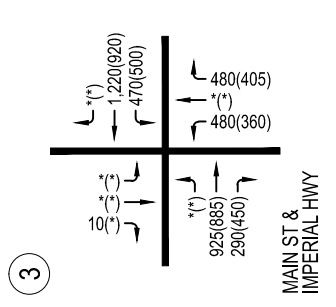
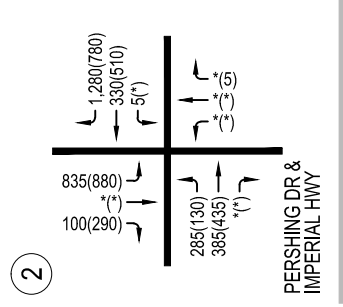
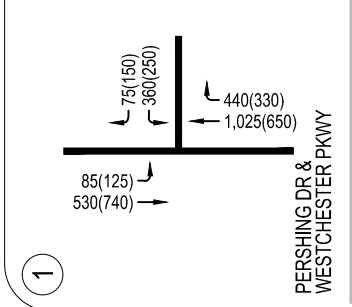
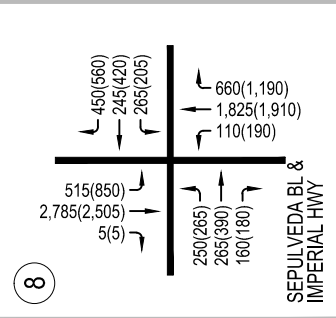
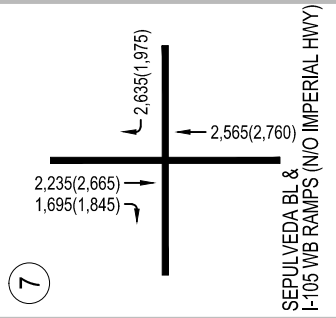
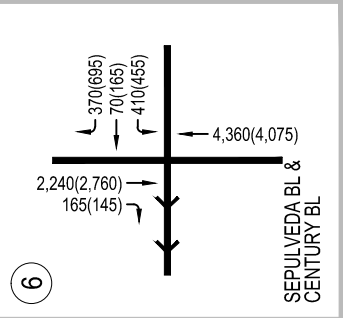
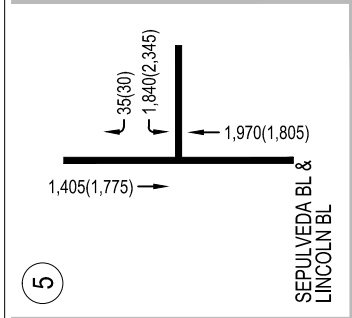
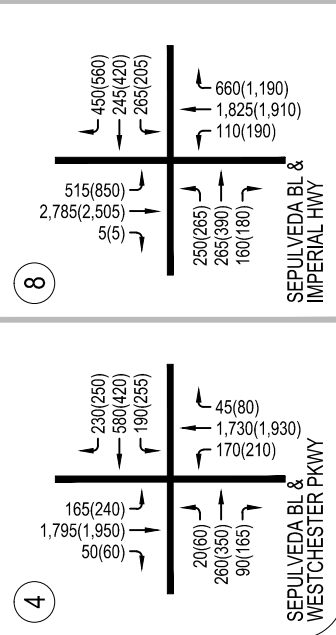
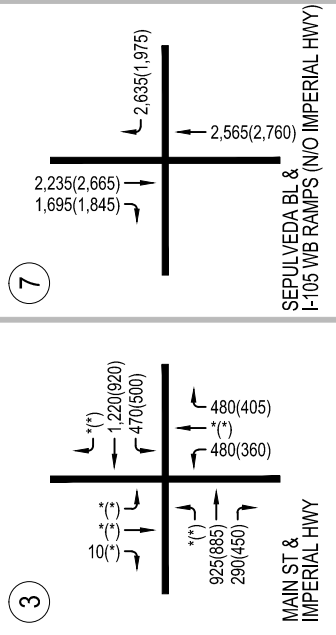
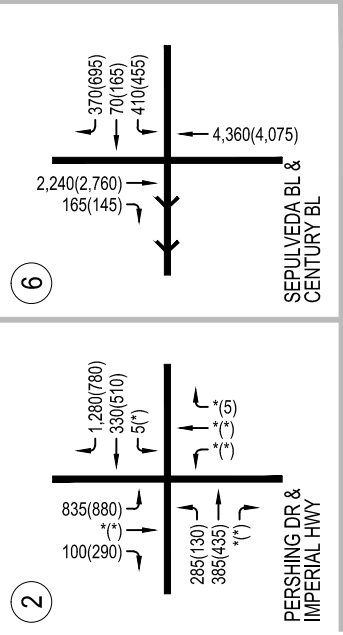
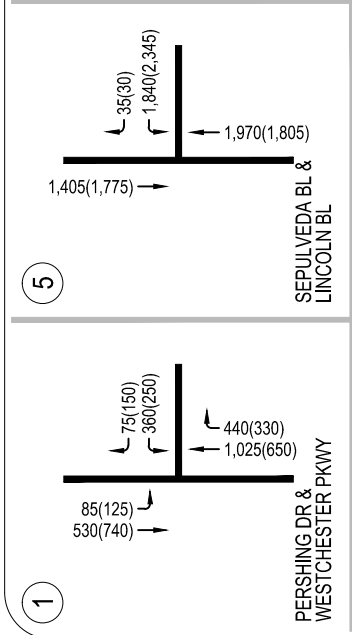
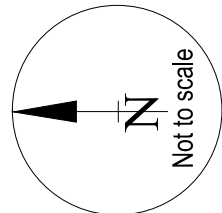
[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

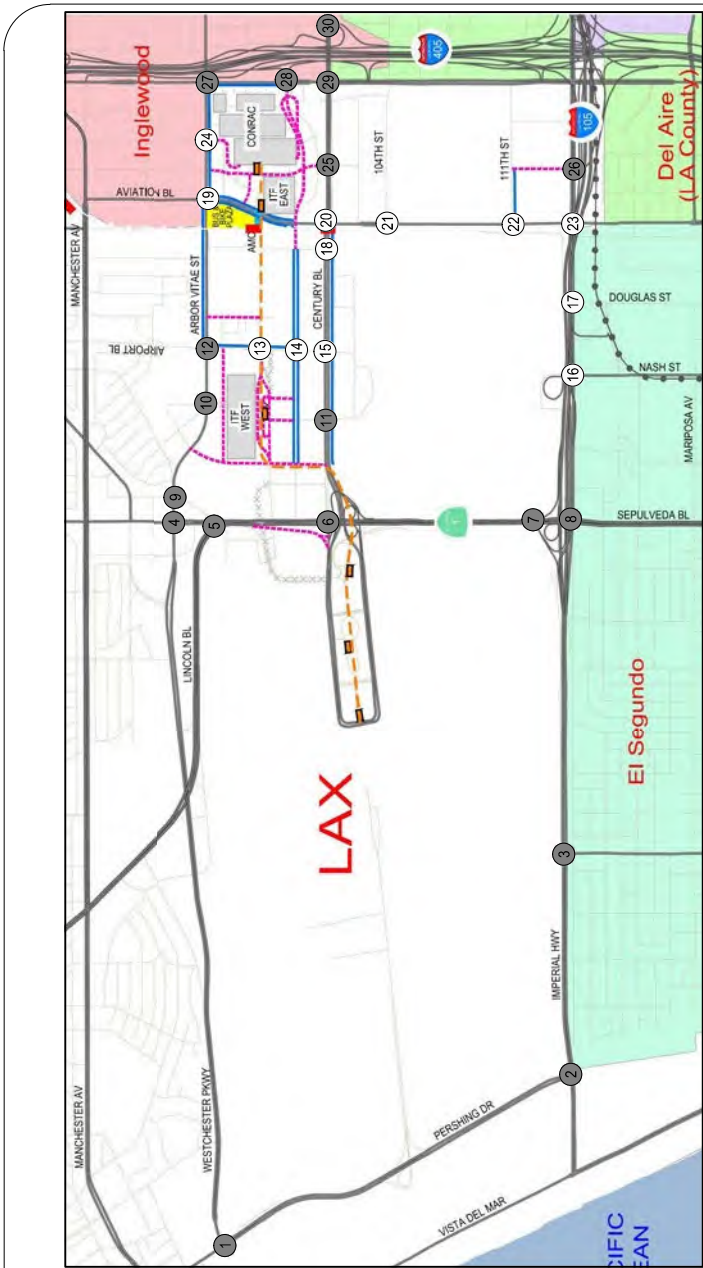




**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection

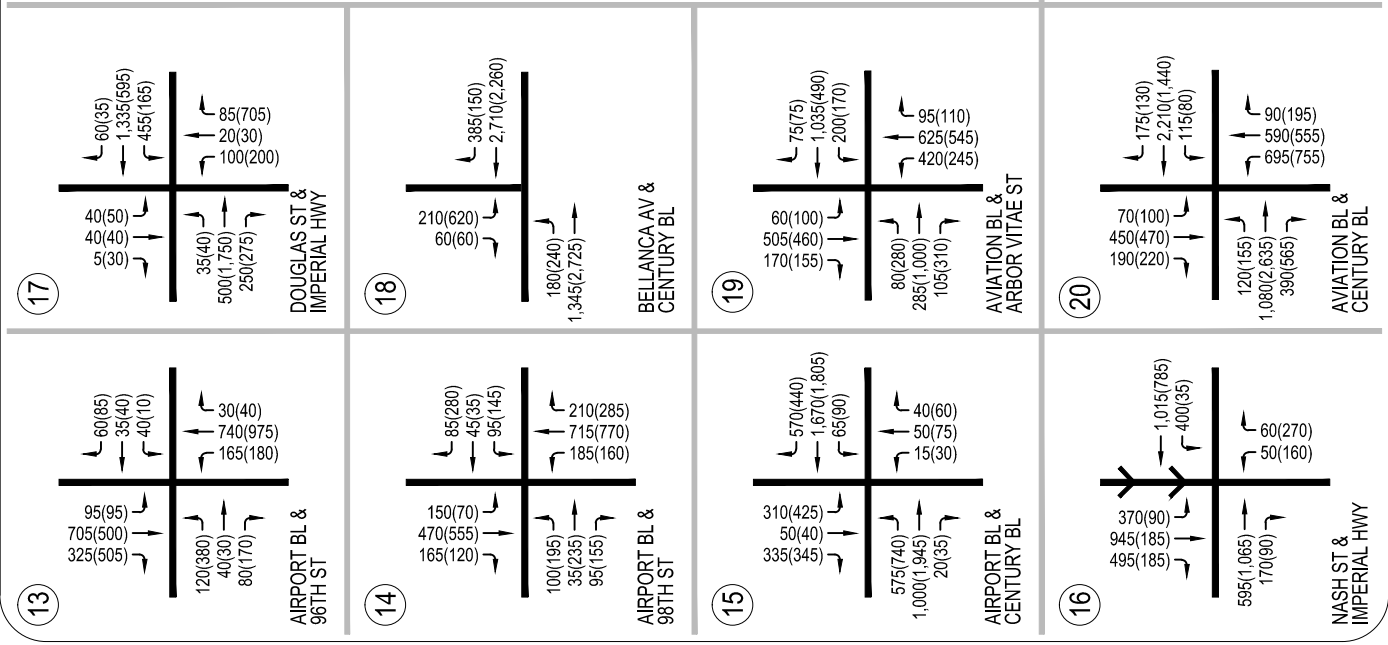
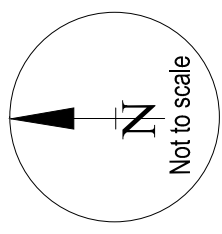


**FIGURE 5A**  
 FUTURE (2024) WITHOUT PROJECT CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES



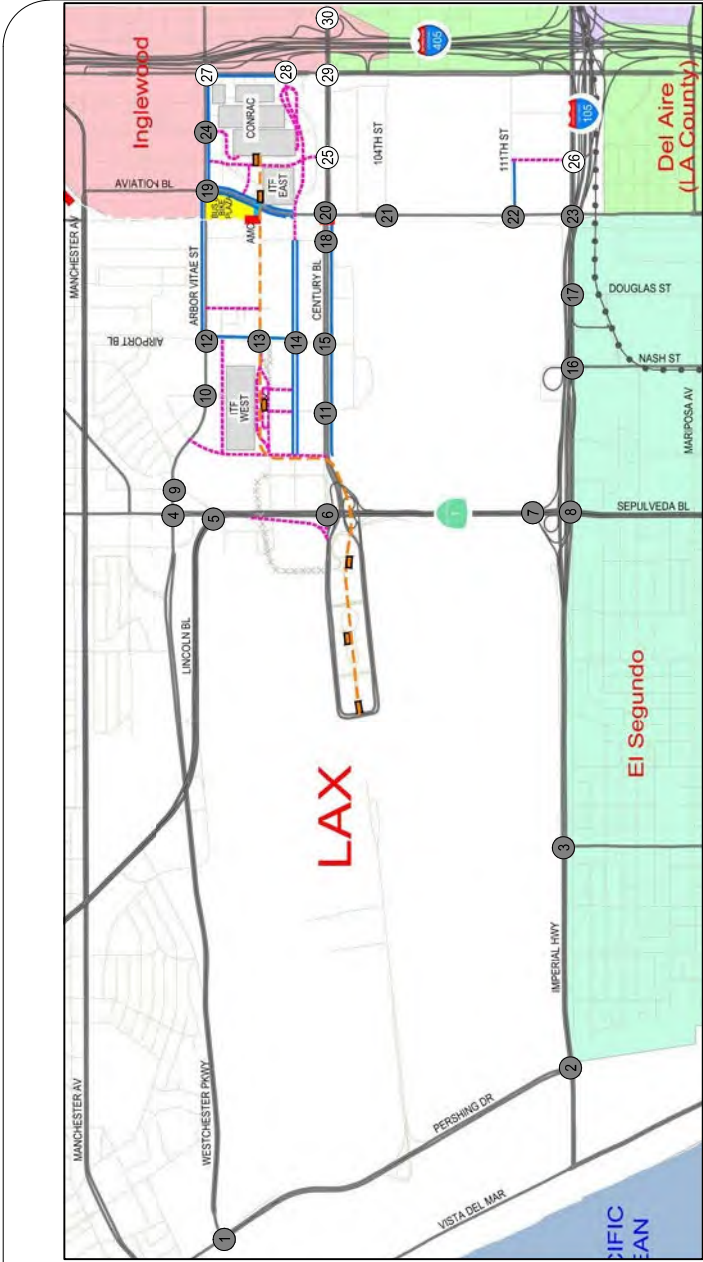
**LEGEND:**

- XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



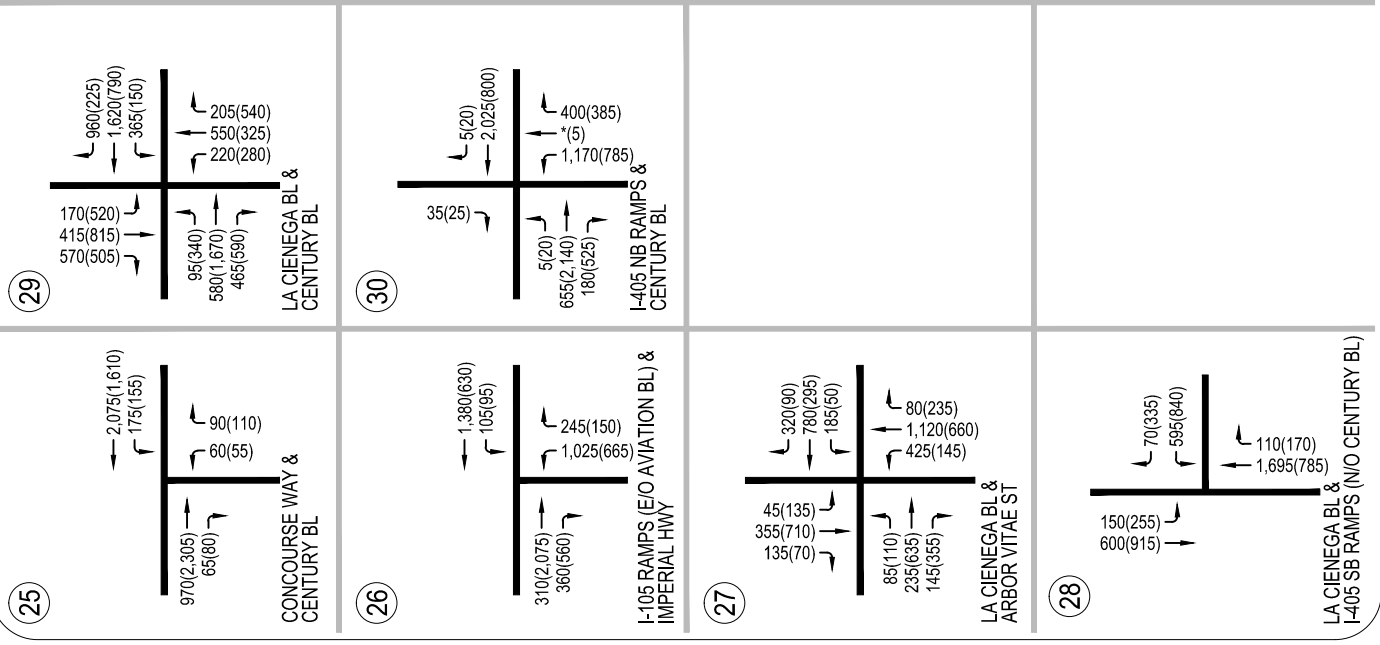
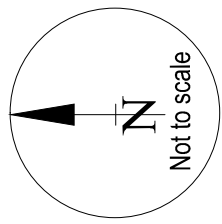
**FIGURE 5B**  
**FUTURE (2024) WITHOUT PROJECT CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES**





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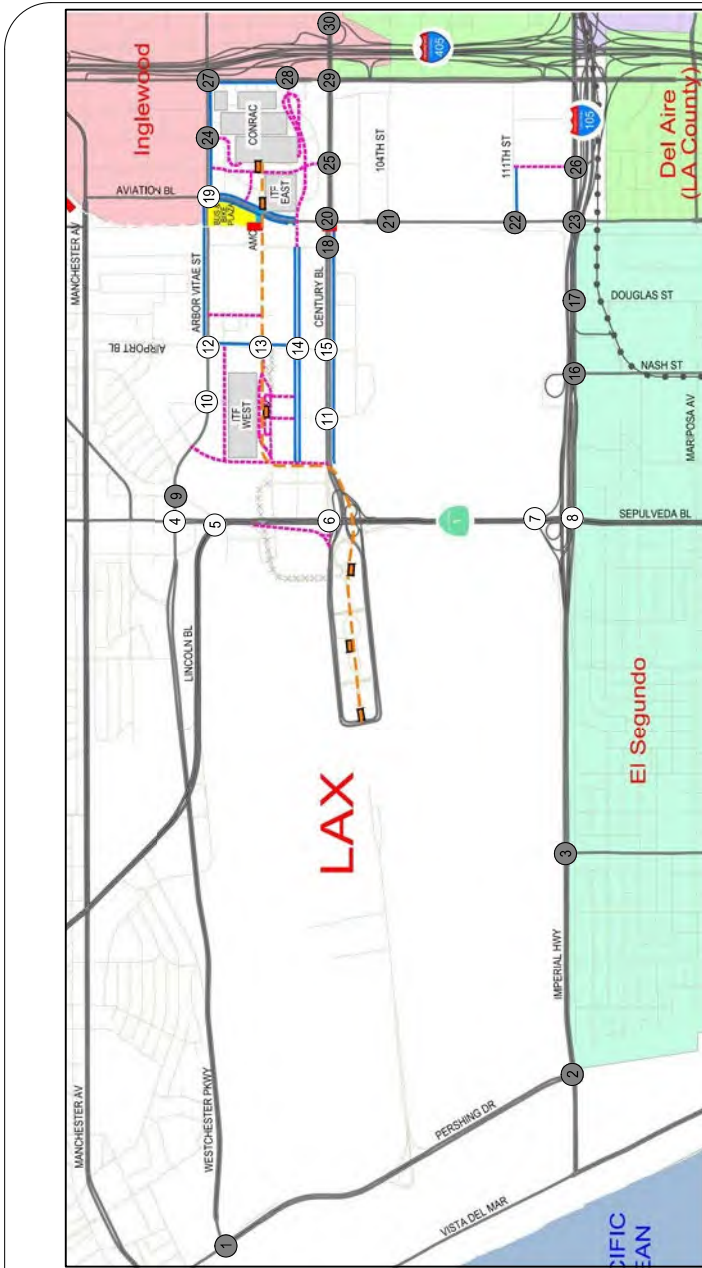
- XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 5C**  
**FUTURE (2024) WITHOUT PROJECT CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES**

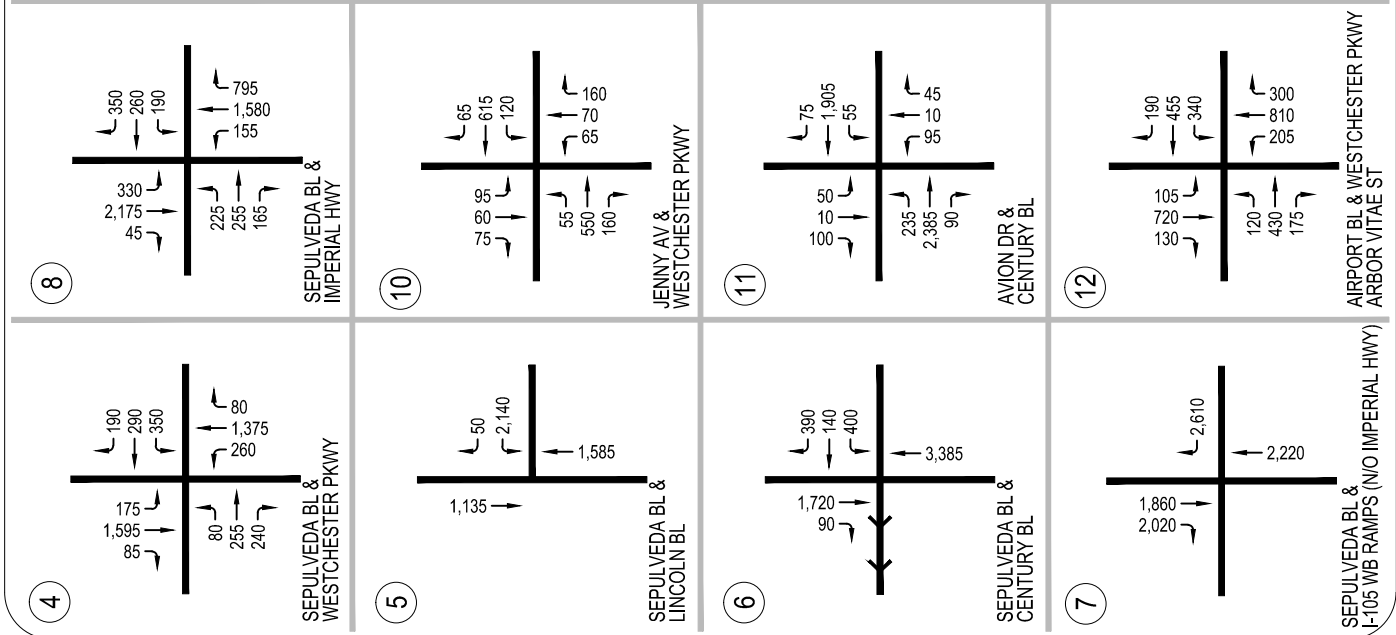
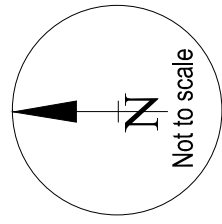


**RAJU** Associates, Inc.

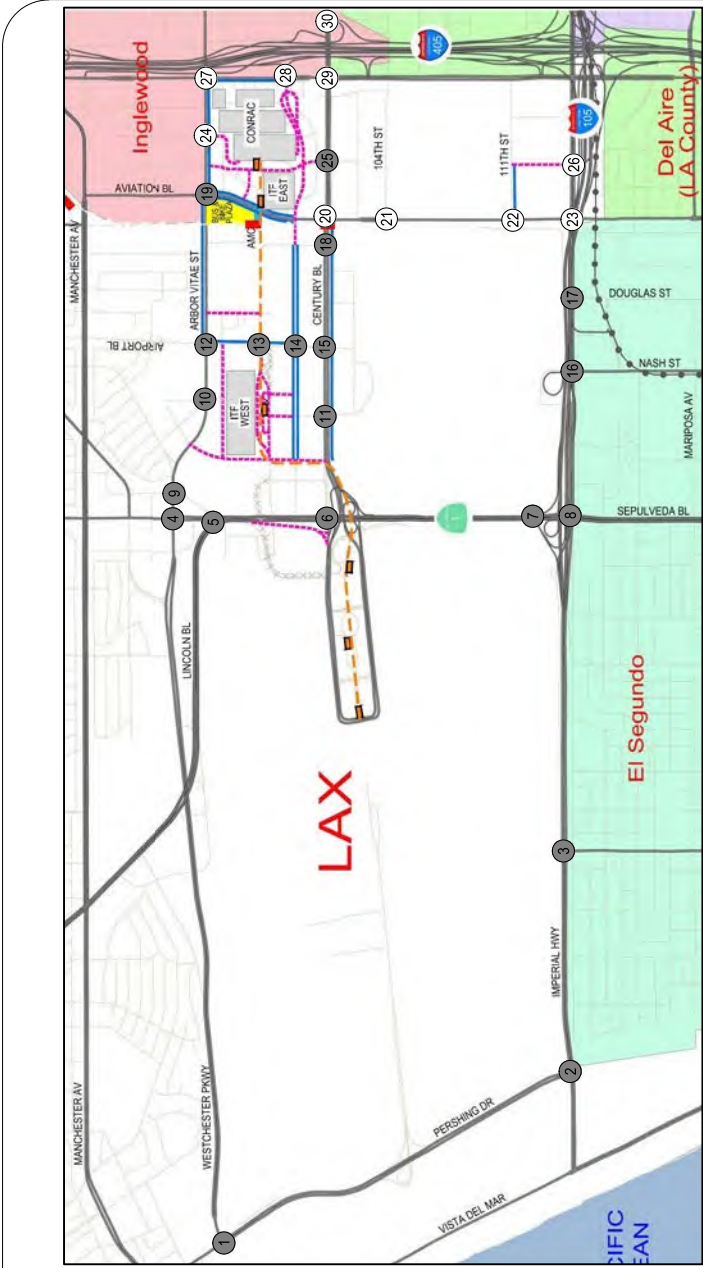


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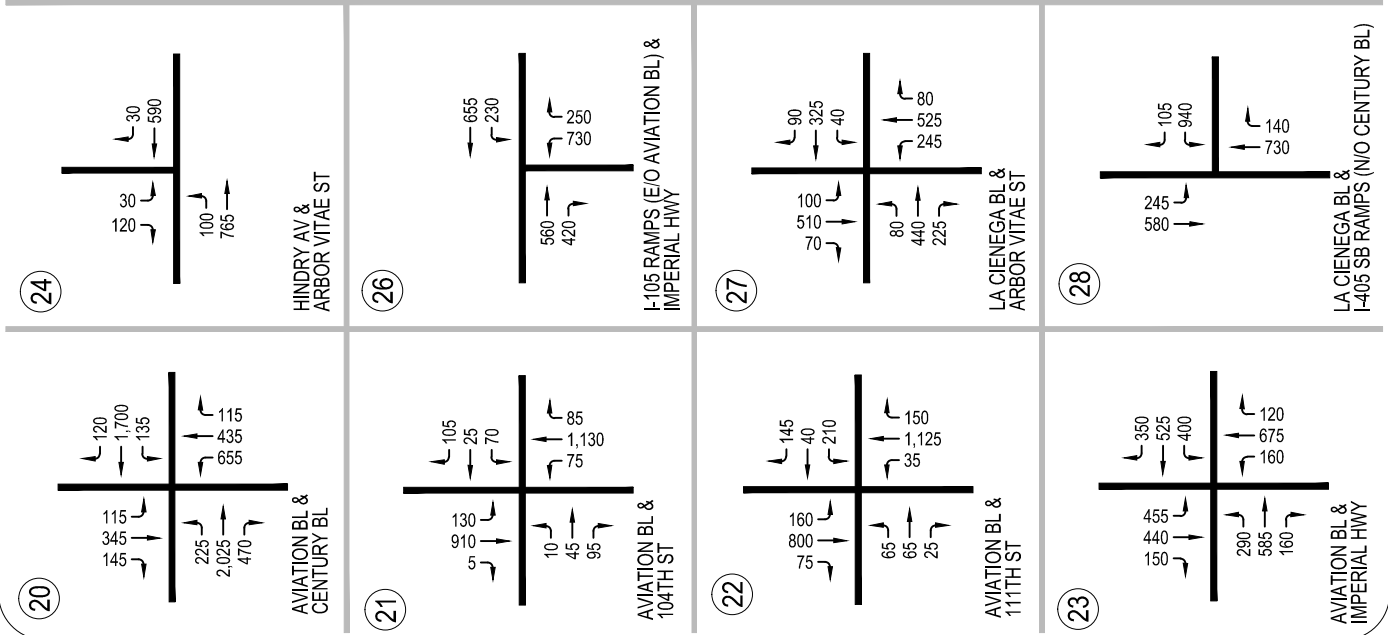
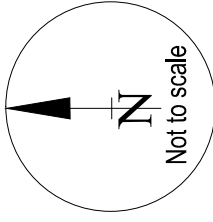
- XXX - Mid-day Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 6A**  
**FUTURE (2024) WITHOUT PROJECT CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES**  
**RAJU Associates, Inc.**



**LEGEND:**  
 XXX - Mid-day Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection



**FIGURE 6B**  
 FUTURE (2024) WITHOUT PROJECT CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES



**TABLE 5  
SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - FUTURE WITHOUT PROJECT CONDITIONS**

MAP #	INTERSECTION	PEAK HOUR	FUTURE (2024) WITHOUT PROJECT CONDITIONS*		FUTURE (2035) WITHOUT PROJECT CONDITIONS*	
			V/C OR DELAY	LOS	V/C or DELAY	LOS
1	Pershing Drive & Westchester Parkway	AM	0.459	A	0.457	A
		PM	0.313	A	0.362	A
2	Pershing Drive & Imperial Highway	AM	0.528	A	0.550	A
		PM	0.460	A	0.501	A
3	Main Street & Imperial Highway	AM	0.685	B	0.694	B
		PM	0.619	B	0.633	B
4	Sepulveda Boulevard & Westchester Parkway	AM	0.768	C	0.812	D
		PM	0.914	E	0.971	E
5	Sepulveda Boulevard & Lincoln Boulevard [1]	AM	0.645	B	0.685	B
		PM	0.692	B	0.715	C
6	Sepulveda Boulevard & Century Boulevard	AM	0.789	C	0.839	D
		PM	0.834	D	0.947	E
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	AM	1.085	F	1.104	F
		PM	0.973	E	1.001	F
8	Sepulveda Boulevard & Imperial Highway	AM	0.769	C	0.792	C
		PM	0.910	E	0.940	E
9	Sepulveda Eastway & Westchester Parkway	AM	0.450	A	0.491	A
		PM	0.727	C	0.787	C
10	Jenny Avenue & Westchester Parkway	AM	0.208	A	0.212	A
		PM	0.432	A	0.457	A
11	Avion Drive & Century Boulevard	AM	0.436	A	0.515	A
		PM	0.555	A	0.640	B
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	AM	0.696	B	0.744	C
		PM	1.032	F	1.153	F
13	Airport Boulevard & 96th Street	AM	0.311	A	0.341	A
		PM	0.504	A	0.580	A
14	Airport Boulevard & 98th Street	AM	0.392	A	0.433	A
		PM	0.561	A	0.625	B
15	Airport Boulevard & Century Boulevard	AM	0.611	B	0.672	B
		PM	0.660	B	0.725	C
16	Nash Street /I-105 Westbound Ramps & Imperial Highway	AM	0.521	A	0.547	A
		PM	0.446	A	0.480	A
17	Douglas Street & Imperial Highway	AM	0.369	A	0.398	A
		PM	0.706	C	0.739	C
18	Bellanca Avenue & Century Boulevard	AM	0.613	B	0.654	B
		PM	0.688	B	0.761	C
19	Aviation Boulevard & Arbor Vitae Street	AM	0.912	E	0.996	E
		PM	0.792	C	0.902	E
20	Aviation Boulevard & Century Boulevard	AM	0.863	D	0.961	E
		PM	1.013	F	1.051	F
21	Aviation Boulevard & 104th Street	AM	0.640	B	0.790	C
		PM	0.784	C	0.875	D
22	Aviation Boulevard & 111th Street	AM	0.739	C	0.957	E
		PM	0.731	C	0.872	D
23	Aviation Boulevard & Imperial Highway	AM	0.724	C	0.878	D
		PM	0.865	D	0.923	E
24	Hindry Avenue & Arbor Vitae Street [2]	AM	23.4 s	C	49.4 s	E
		PM	18.0 s	C	24.1 s	C
25	Concourse Way & Century Boulevard	AM	0.306	A	0.337	A
		PM	0.466	A	0.528	A
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	AM	0.781	C	0.838	D
		PM	0.679	B	0.713	C
27	La Cienega Boulevard & Arbor Vitae Street	AM	0.813	D	0.887	D
		PM	0.806	D	0.852	D
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Bl)	AM	0.783	C	0.809	D
		PM	0.642	B	0.705	C
29	La Cienega Boulevard & Century Boulevard	AM	0.930	E	0.985	E
		PM	0.915	E	1.088	F
30	I-405 Northbound Ramps & Century Boulevard	AM	0.952	E	0.993	E
		PM	0.826	D	0.890	D

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

**TABLE 6  
SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - FUTURE WITHOUT PROJECT CONDITIONS MID-DAY PEAK HOUR**

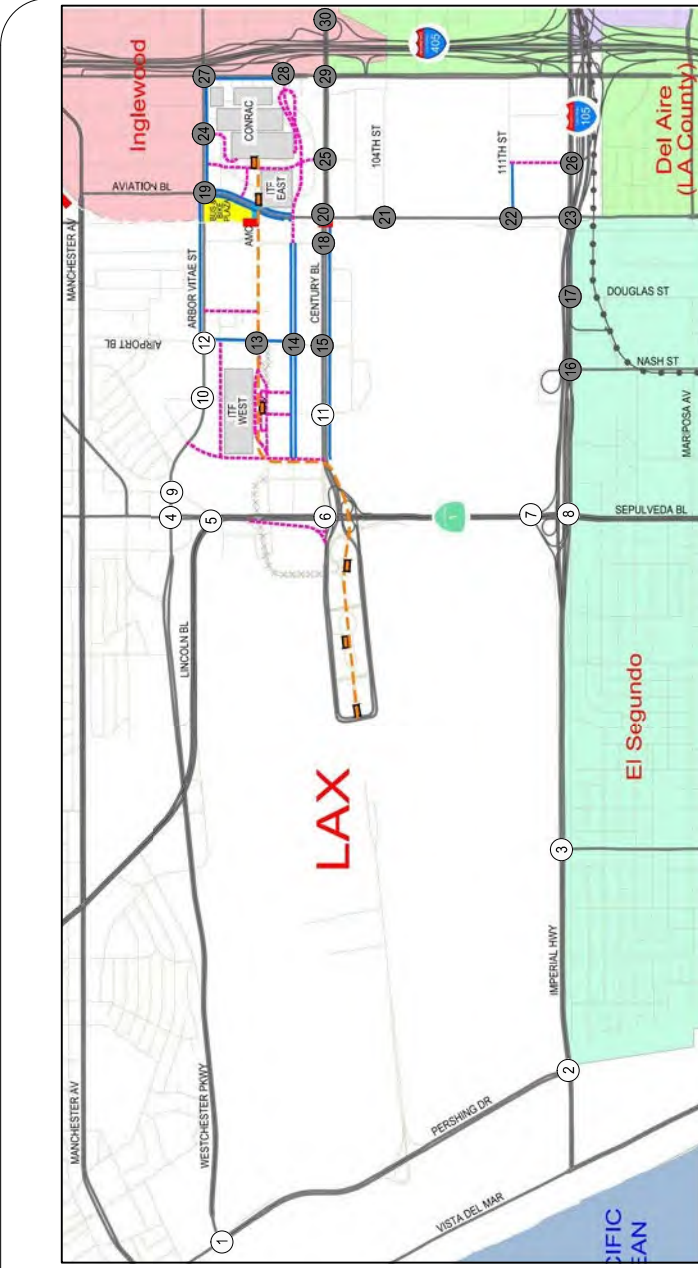
MAP #	INTERSECTION	FUTURE (2024) WITHOUT PROJECT CONDITIONS*		FUTURE (2025) WITHOUT PROJECT CONDITIONS*	
		MD PEAK HOUR	LOS	MD PEAK HOUR	LOS
		V/C OR DELAY		V/C OR DELAY	
4	Sepulveda Boulevard & Westchester Parkway	0.910	E	0.965	E
5	Sepulveda Boulevard & Lincoln Boulevard [1]	0.609	B	0.648	B
6	Sepulveda Boulevard & Century Boulevard	0.643	B	0.777	C
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	1.002	F	1.025	F
8	Sepulveda Boulevard & Imperial Highway	0.632	B	0.647	B
10	Jenny Avenue & Westchester Parkway	0.295	A	0.338	A
11	Avion Drive & Century Boulevard	0.445	A	0.572	A
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	0.787	C	0.858	D
13	Airport Boulevard & 96th Street	0.483	A	0.553	A
14	Airport Boulevard & 98th Street	0.523	A	0.573	A
15	Airport Boulevard & Century Boulevard	0.691	B	0.800	C
19	Aviation Boulevard & Arbor Vitae Street	0.638	B	0.731	C
20	Aviation Boulevard & Century Boulevard	0.838	D	0.900	D
21	Aviation Boulevard & 104th Street	0.640	B	0.752	C
22	Aviation Boulevard & 111th Street	0.696	B	0.867	D
23	Aviation Boulevard & Imperial Highway	0.667	B	0.694	B
24	Hindry Avenue & Arbor Vitae Street [2]	14.7 s	B	16.5 s	C
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	0.412	A	0.440	A
27	La Cienega Boulevard & Arbor Vitae Street	0.667	B	0.724	C
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Boulevard)	0.653	B	0.703	C
29	La Cienega Boulevard & Century Boulevard	0.693	B	0.813	D
30	I-405 Northbound Ramps & Century Boulevard	0.716	C	0.761	C

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

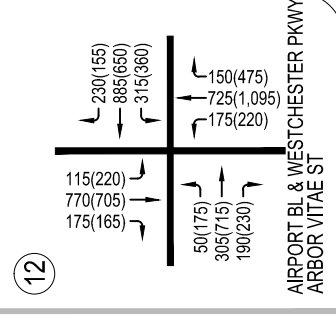
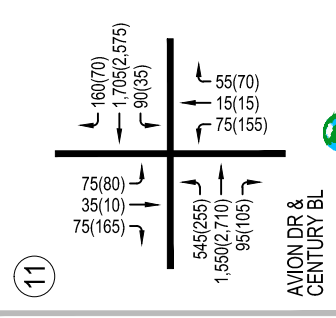
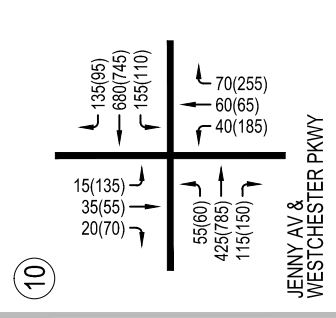
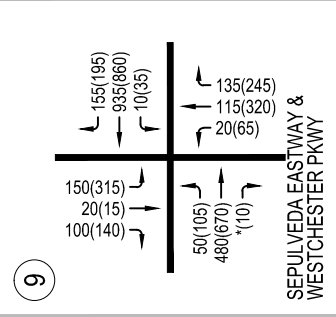
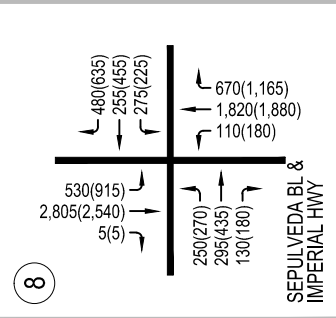
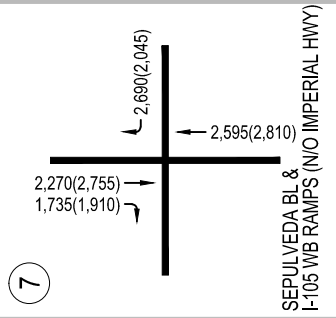
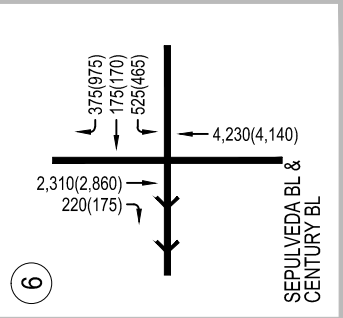
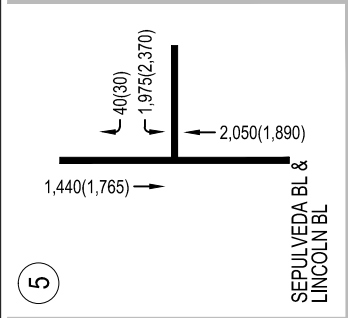
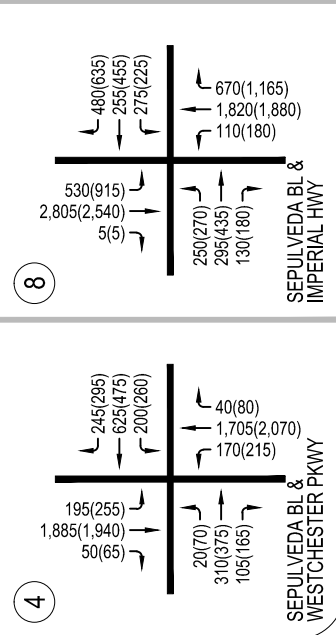
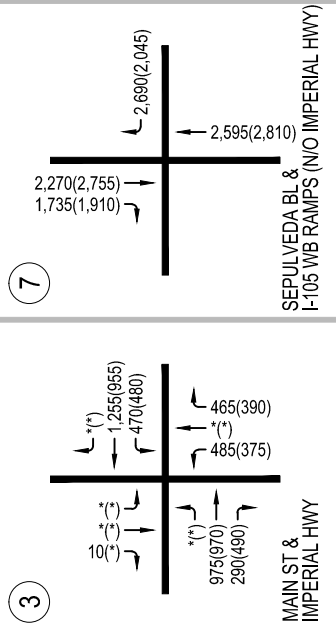
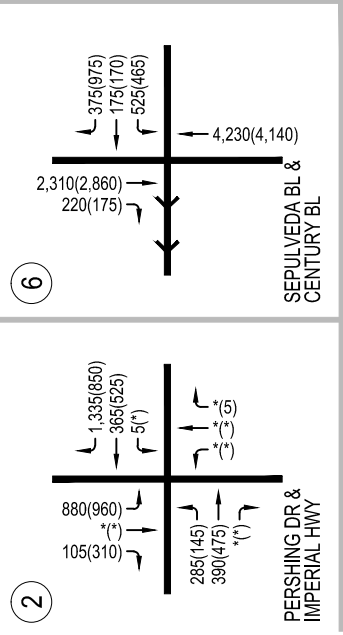
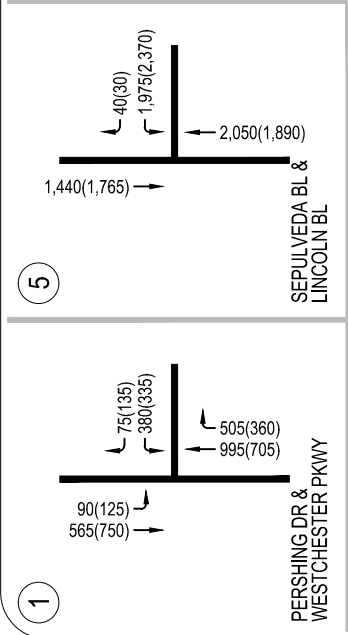
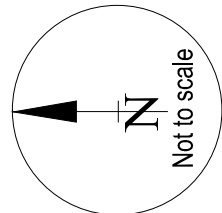
[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.



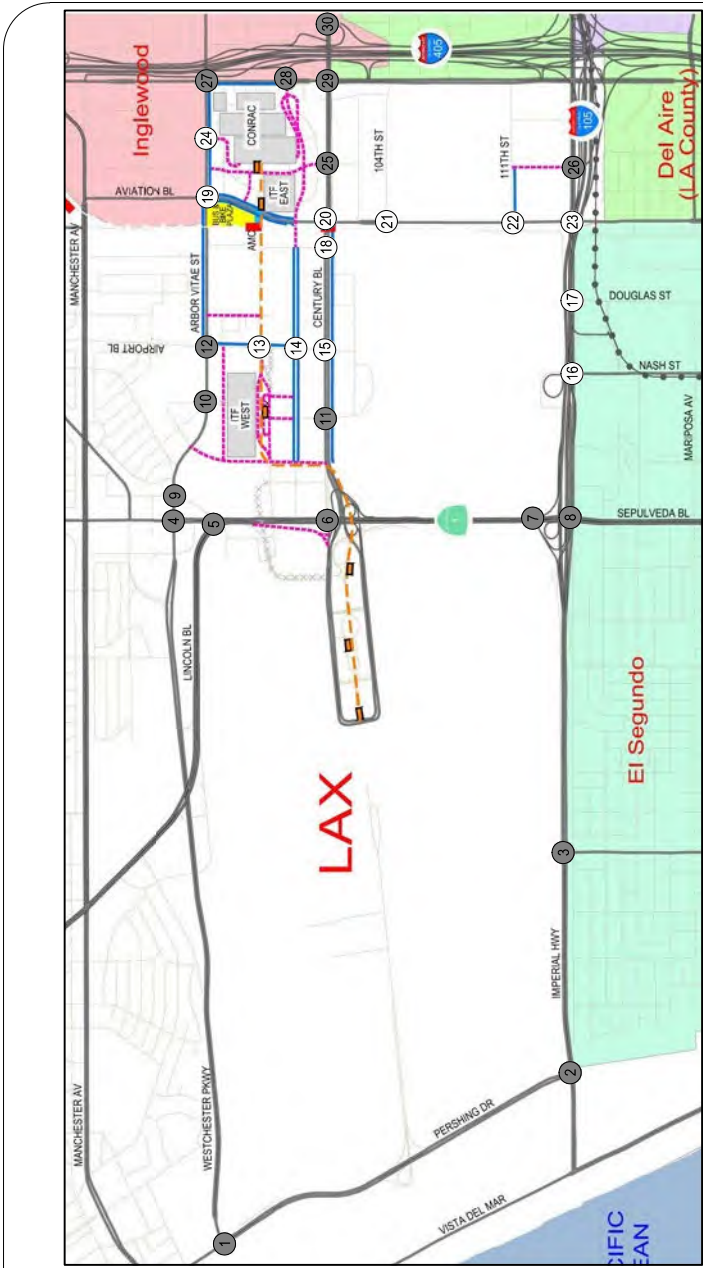


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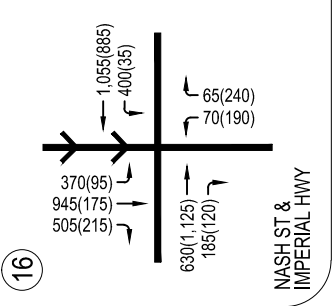
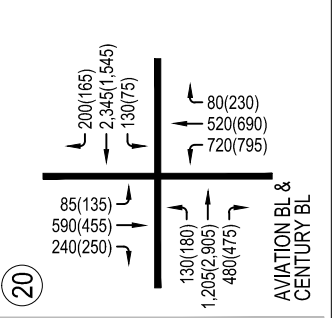
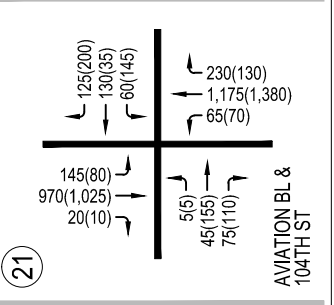
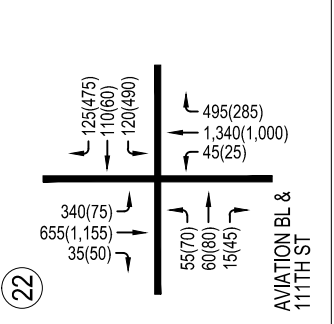
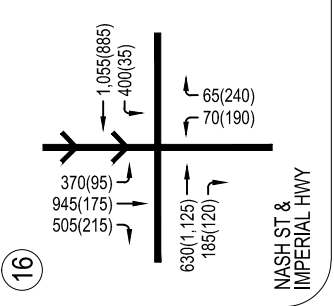
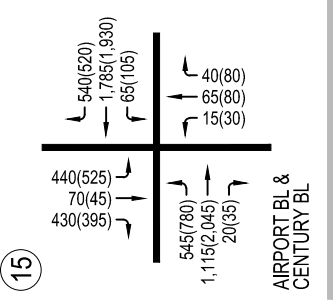
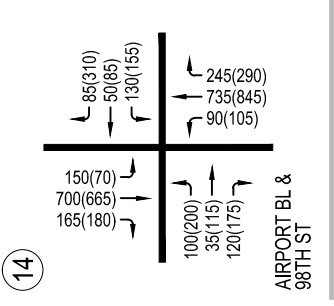
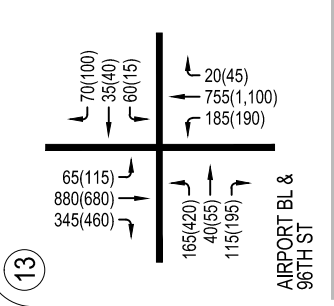
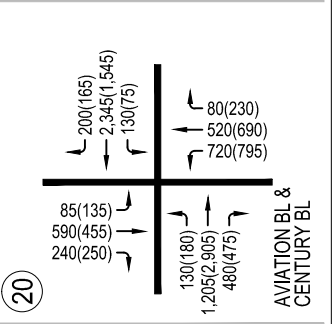
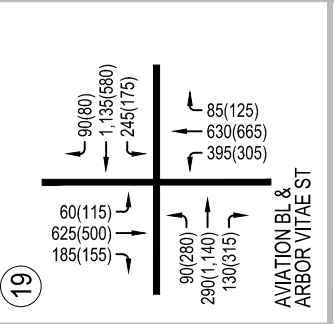
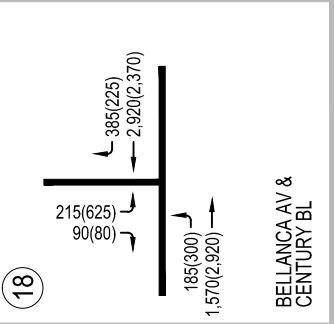
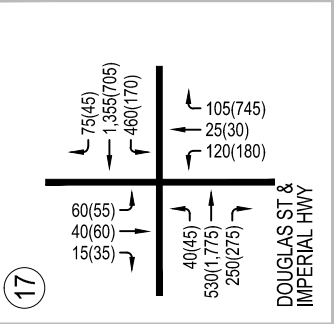
- XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



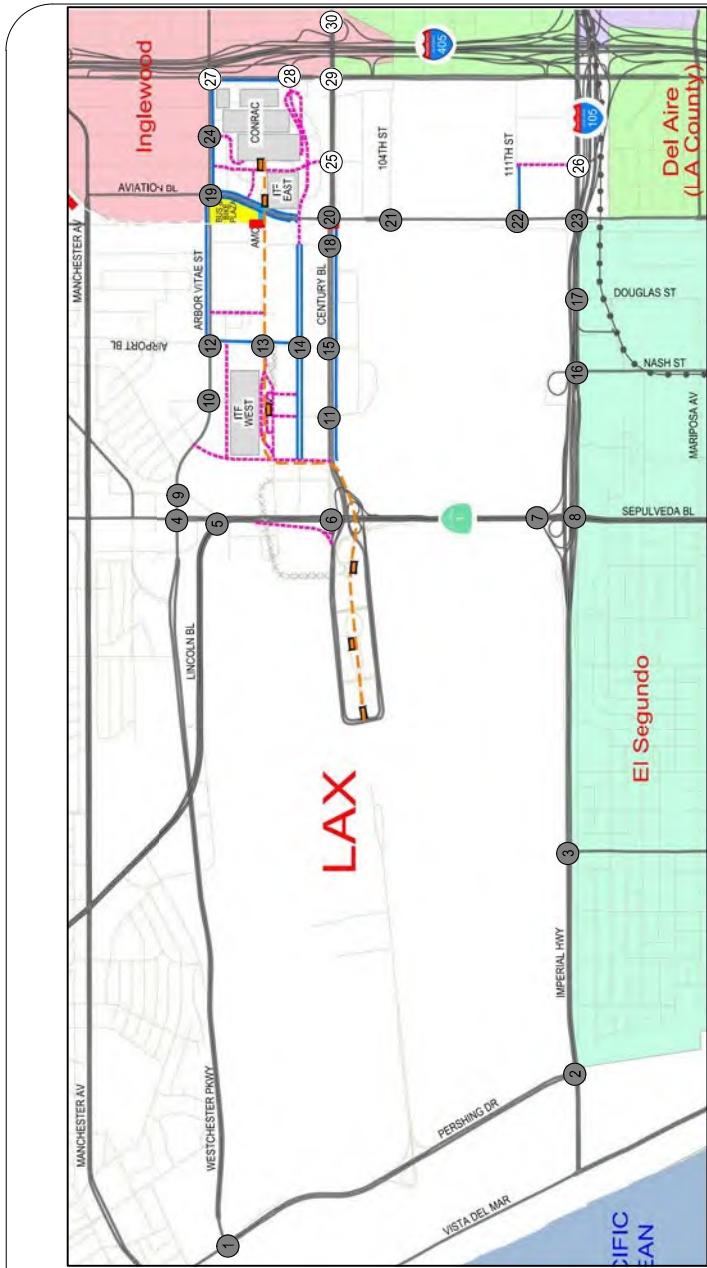
**FIGURE 7A**  
**FUTURE (2035) WITHOUT PROJECT CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES**  
**RAJU Associates, Inc.**



**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection

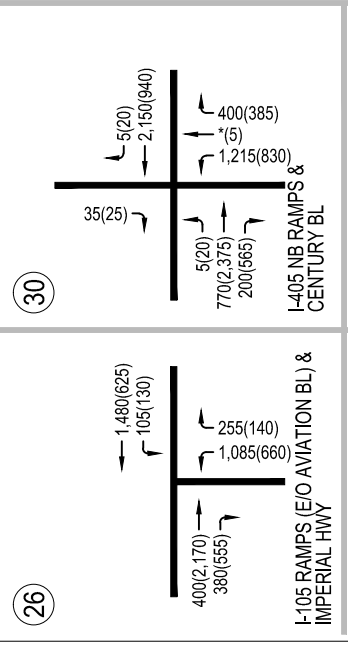
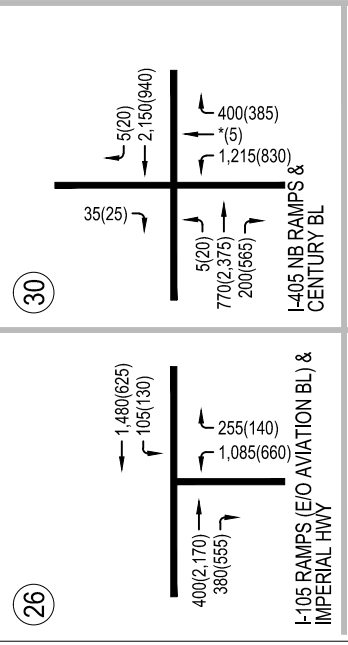
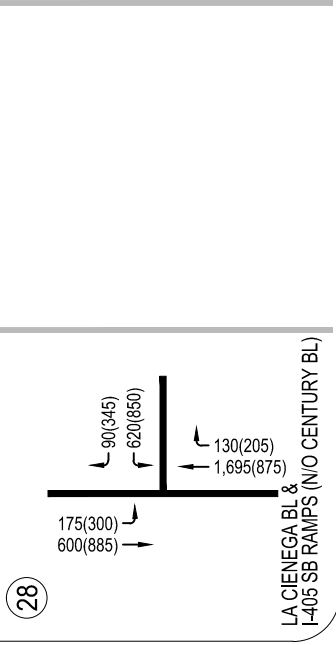
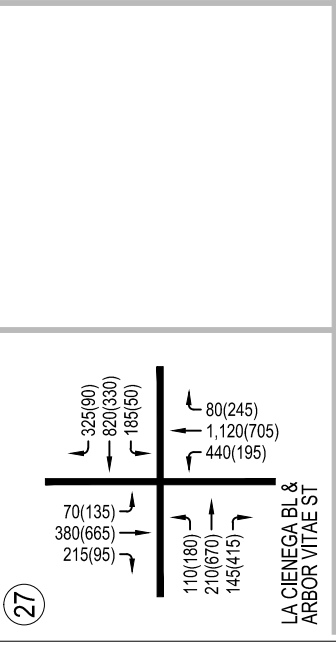
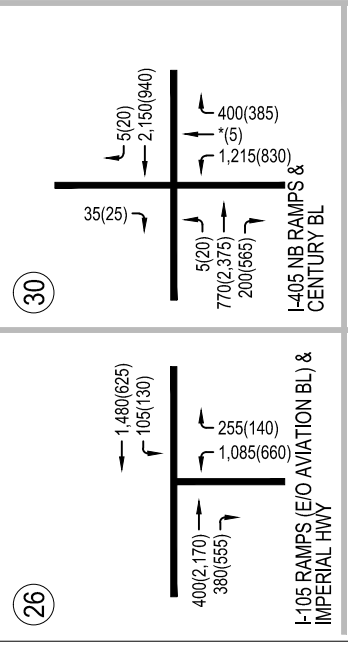
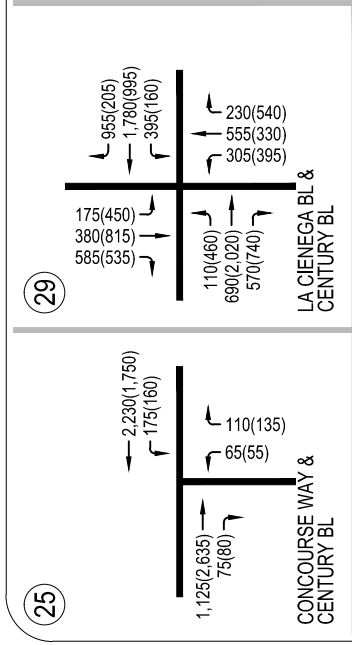
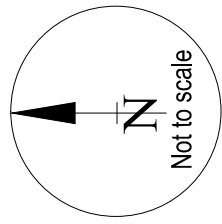


**FIGURE 7B**  
 FUTURE (2035) WITHOUT PROJECT CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES



**LEGEND:**

- XXX (XXX) - AM (PM) Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection

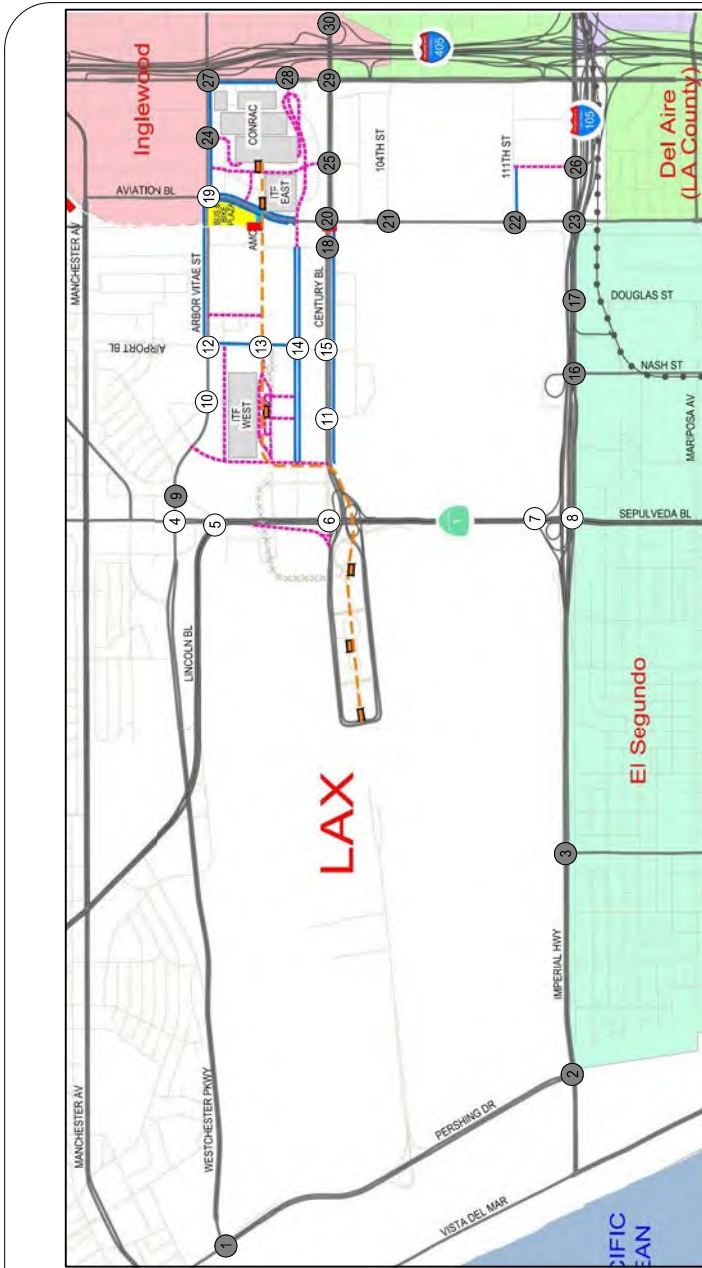


**FIGURE 7C**  
**FUTURE (2035) WITHOUT PROJECT CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES**



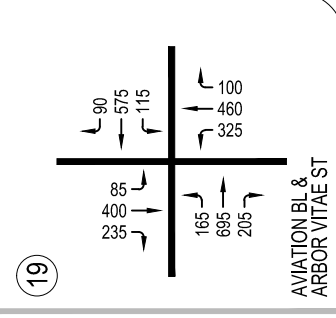
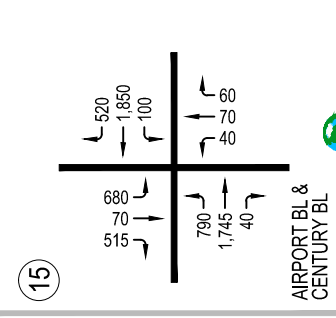
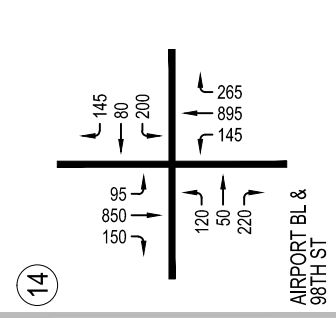
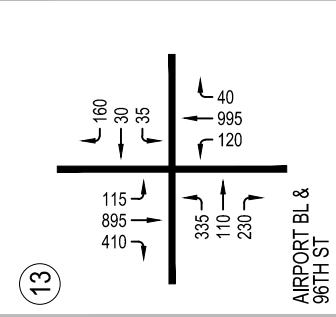
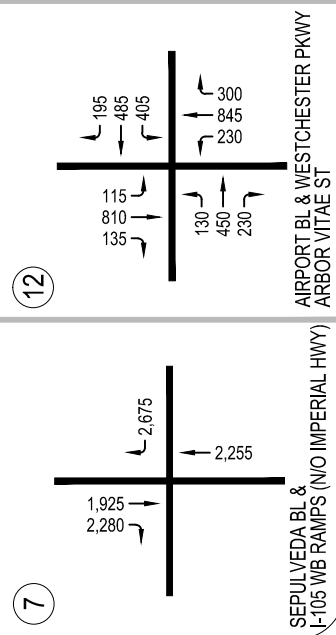
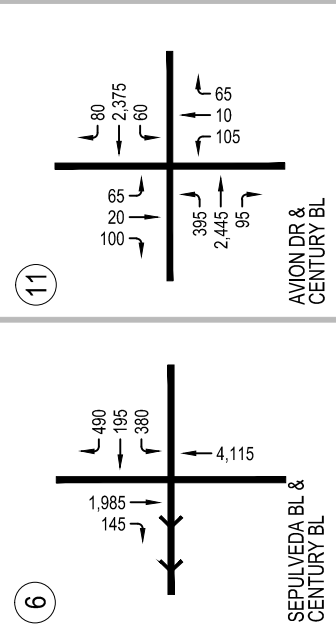
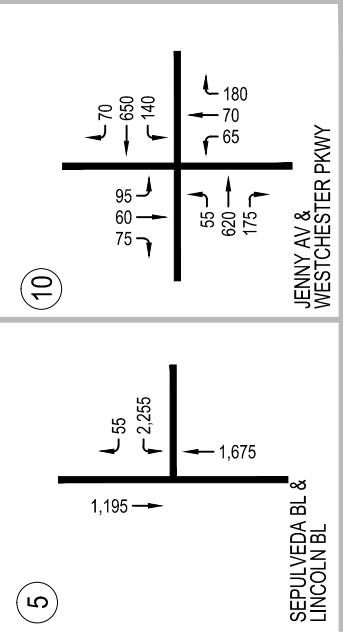
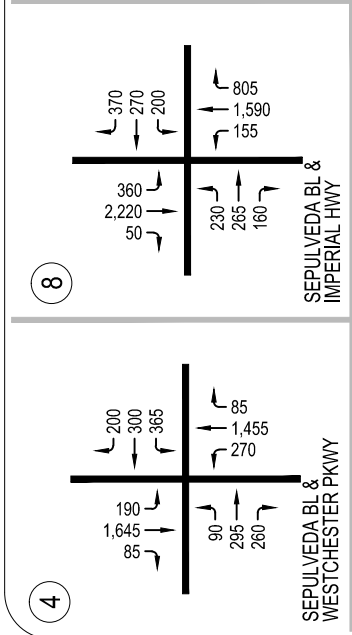
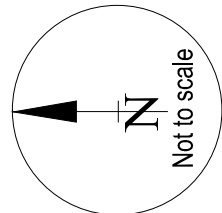
**RAJU** Associates, Inc.



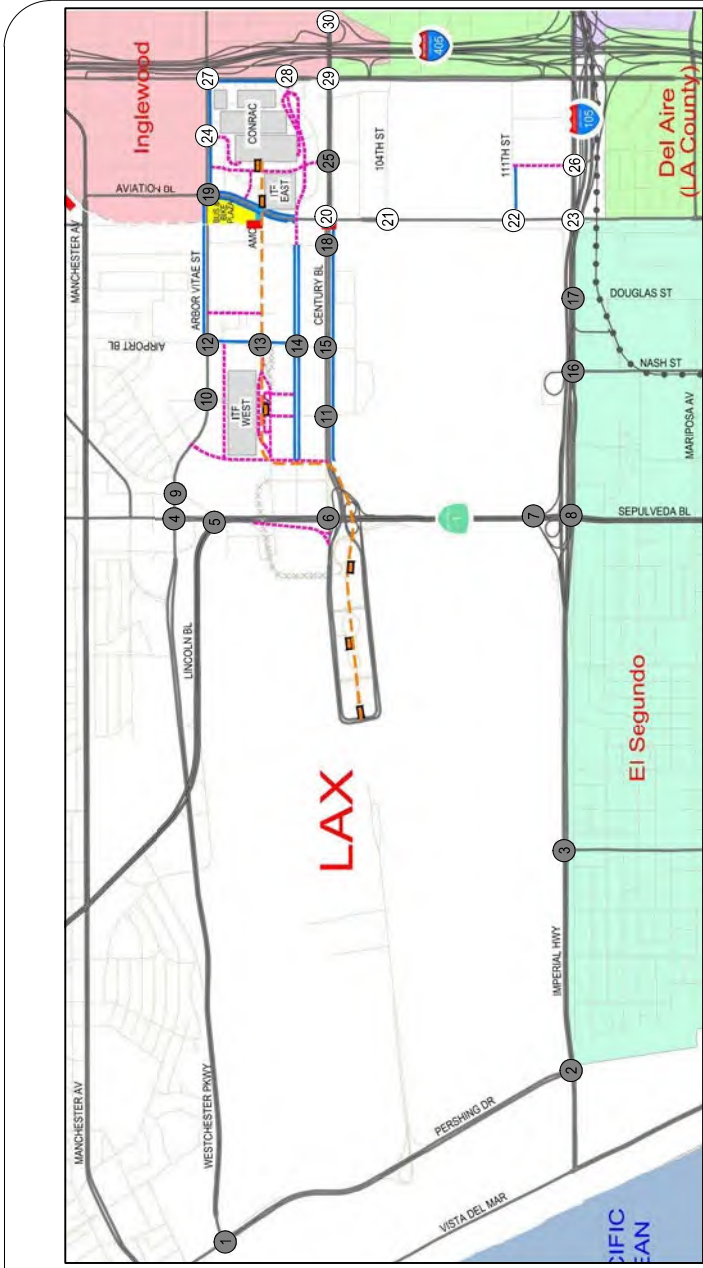


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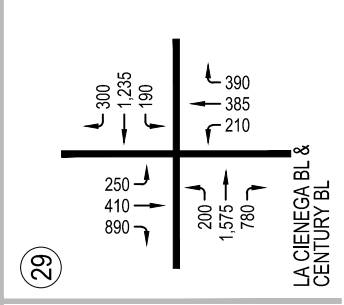
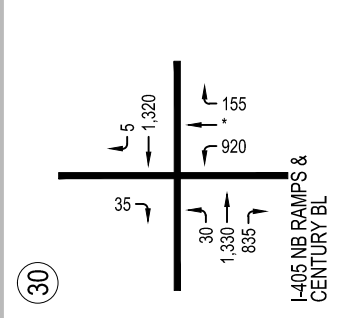
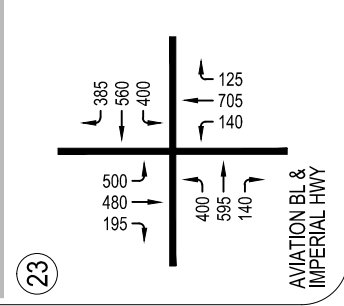
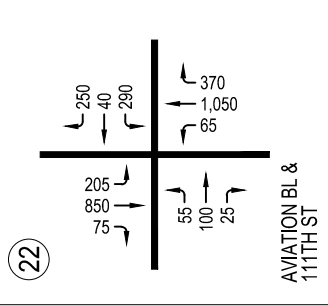
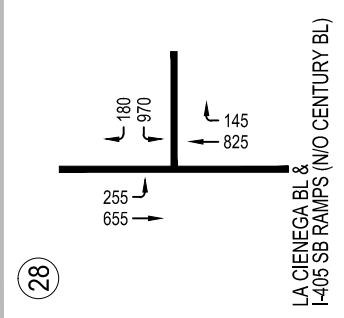
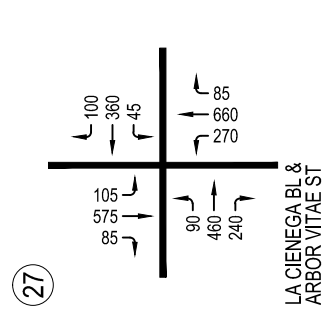
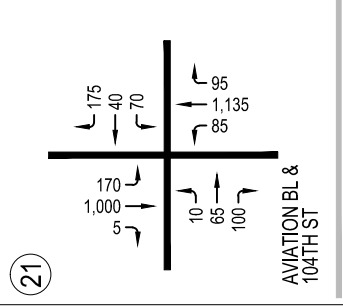
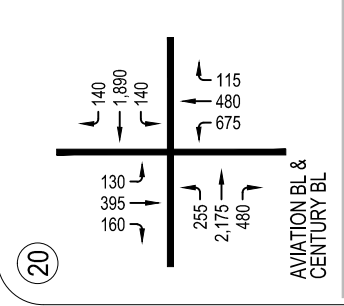
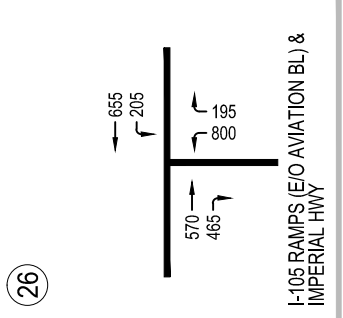
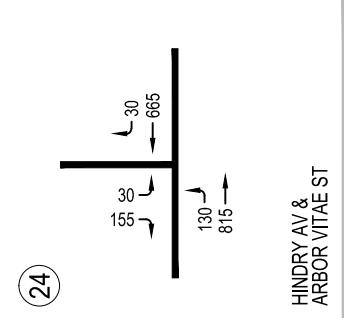
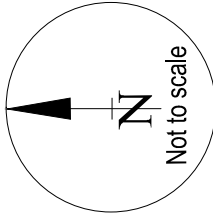
- XXX - Mid-day Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



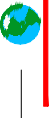
**FIGURE 8A**  
**FUTURE (2035) WITHOUT PROJECT CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES**  
**RAJU Associates, Inc.**



**LEGEND:**  
 XXXX - Mid-day Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection



**FIGURE 8B**  
 FUTURE (2035) WITHOUT PROJECT CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES



**RAJU** Associates, Inc.

The overall trip generation of the SBO is comprised of two traffic components: 1) badge office employees and 2) badge/fingerprinting appointments. For the badge office employees, the ITE Trip Generation Manual, 10<sup>th</sup> Edition was used to determine the existing and future number of trips generated by the SBO based on the number of employees. For estimating the trip generation associated with other employees at the airport, the badge/fingerprinting appointment date was obtained from LAWA.

Based on data provided by LAWA, the existing SBO operates 11 hours a day (7am-6pm), Monday through Friday and has an average of approximately 550 badge/fingerprinting appointments per day. This translates to an average of approximately 50 appointments per hour.

Based on the anticipated increase in employment at the airport facilities in the future estimated in the LAMP EIR, the increase in the number of appointments was estimated. This increase in the number of badge/fingerprinting appointments in the future was utilized to calculate trip generation during the AM/MD/PM peak hours for the SBO as well.

The existing trips associated with the appointments is 1,100 daily trips, of which 100 trips (50 inbound/50 outbound) occur during the morning, mid-day and evening peak hours. The trips associated with the appointments are added to the office trips to determine the overall number of trips for the SBO relocation.

Table 7 summarizes the overall SBO trip generation for existing and future conditions. As shown in the table, the existing SBO generates a total of approximately 1,360 daily trips, 128 trips during the morning peak hour, 127 trips during the mid-day peak hour and 136 trips during the evening peak hour. The Baseline (2015) with Project Conditions, involves shifting these trips from the existing SBO site to the relocated proposed SBO site (at ITF West).

Under Future (2024) conditions, the SBO is estimated to generate a total of approximately 1,590 daily trips of which 149 trips would occur during the morning peak hour, 149 trips would occur during the mid-day peak hour and 155 trips would occur during the evening peak hour. The Future (2024) with Project Conditions, involves diverting/shifting these trips from the existing SBO site to the relocated SBO site (at ITF West).

TABLE 7  
ESTIMATED SECURITY BADGE OFFICE TRIP GENERATION \*

	Size	Daily	AM Peak Hour			Mid-day Peak Hour			PM Peak Hour				
			IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL		
<b>Existing Security Badge Office</b>													
Office	46 employees	263	23	5	28	14	13	27	7	29	36		
Appointments [1]	550 per day	1,100	50	50	100	50	50	100	50	50	100		
	Total Trips	1,363	73	55	128	64	63	127	57	79	136		
<b>Future (2022) Conditions - Security Badge Office</b>													
Office	63 employees	338	29	6	35	18	17	35	8	33	41		
Appointments	608 per day [2]	1,216	55	55	110	55	55	110	55	55	110		
	Total Trips	1,554	84	61	145	73	72	145	63	88	151		
<b>Future (2024) Conditions - Security Badge Office</b>													
Office	63 employees	338	29	6	35	18	17	35	8	33	41		
Appointments	624 per day [2]	1,248	57	57	114	57	57	114	57	57	114		
	Total Trips	1,586	86	63	149	75	74	149	65	90	155		
<b>Future (2035) Conditions - Security Badge Office</b>													
Office	63 employees	338	29	6	35	18	17	35	8	33	41		
Appointments	715 per day [3]	1,430	65	65	130	65	65	130	65	65	130		
	Total Trips	1,768	94	71	165	83	82	165	73	98	171		
<b>Trip Rates [4]</b>													
General Office (ITE Land Use 710)	Trips per 1,000 s.f.	[5]	83%	17%	[5]	50%	50%	[5]	20%	80%	[5]		

\* The Security Badge Office trip generation determined above for all scenarios is included in the trip generation determined for the LAMP Project as summarized in *Tables 19-21 in Chapter V: Future Conditions-with Project and Traffic Impacts of the Transportation Study for the Landside Access Modernization Program DEIR, Raju Associates, September 2016*, and does not result in additional trips added to the street system network but rather a shifting of trips.

[1] Existing trip generation based on existing security badge office appointment data provided by LAWA.

[2] Includes 13.5% growth in employment.

[3] Includes 30% growth in employment.

[4] Trip generation rates from Trip Generation Manual, 10th Edition, ITE 2017, unless noted otherwise.

[5] Trip generation estimates for office was calculated using the following equations:

Where:

Daily:  $\text{Ln}(T) = 0.80 \text{Ln}(X) + 2.51$

AM Peak Hour:  $\text{Ln}(T) = 0.72 \text{Ln}(X) + 0.56$

MD Peak Hour:  $10.4\%$  of Daily Trips (assume 50% in/50% out)

PM Peak Hour:  $T = 0.27 (X) + 23.57$

Ln = Natural logarithm

T = Two-way volume of traffic (total trip-ends)

X = Area in 1,000 gross square feet of leasable area

Under Future (2035) conditions, the SBO would generate a total of approximately 1,770 daily trips of which 165 trips would occur during the morning peak hour, 165 trips would occur during the mid-day peak hour and 171 trips would occur during the evening peak hour. Under Future (2035) with Project Conditions and Future (2035) with Project and Related Development Conditions, these trips would shift from the existing SBO site to the relocated SBO site (at ITF West).

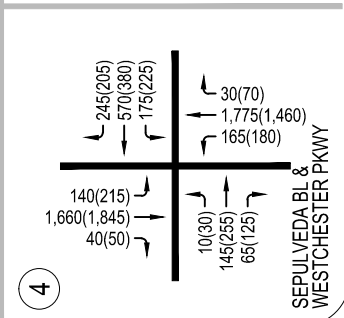
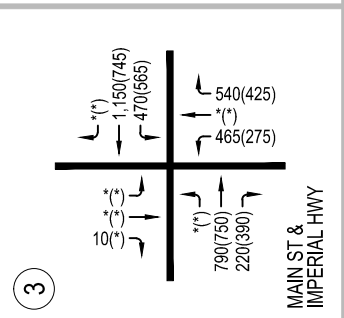
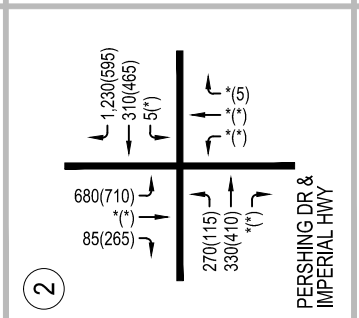
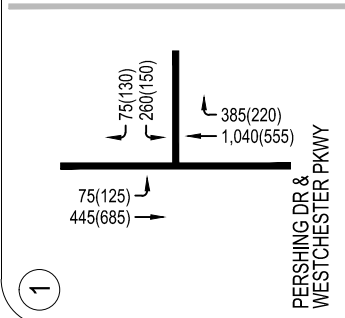
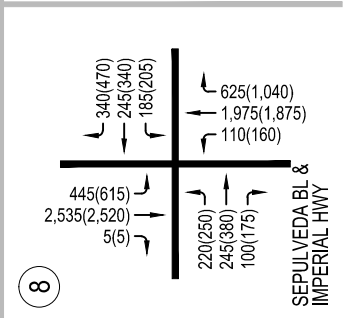
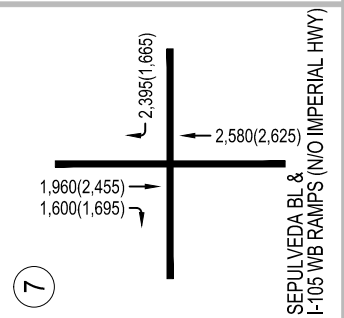
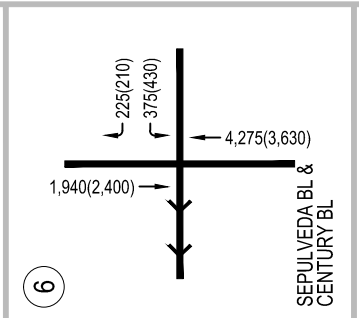
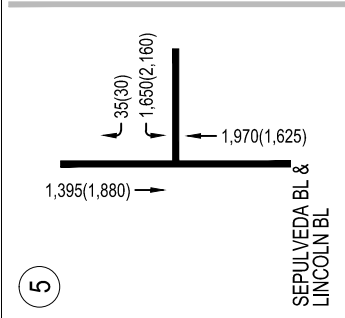
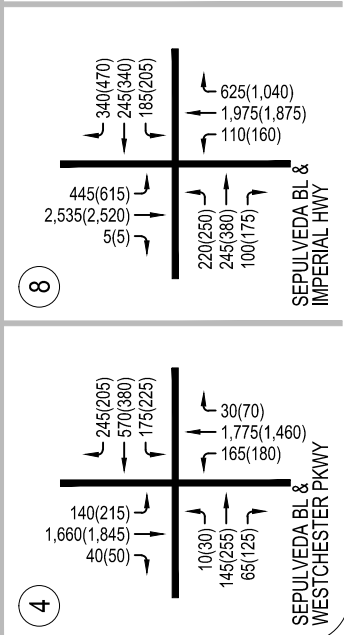
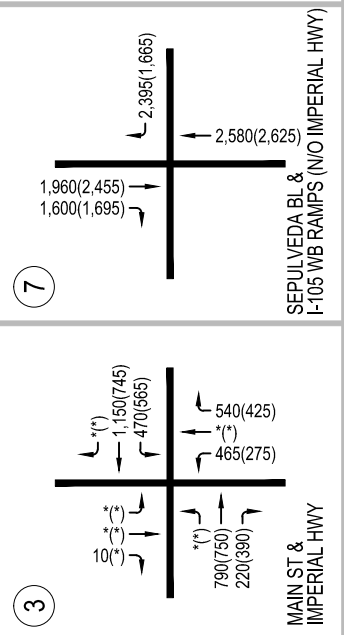
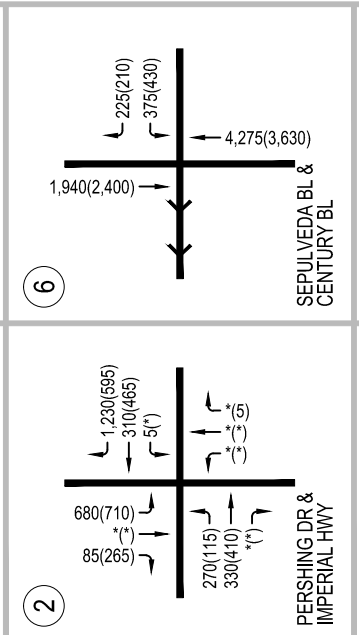
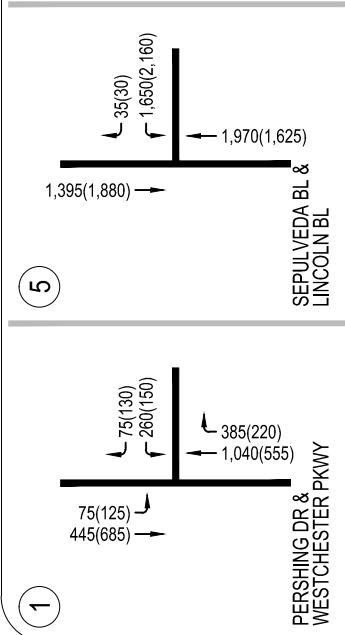
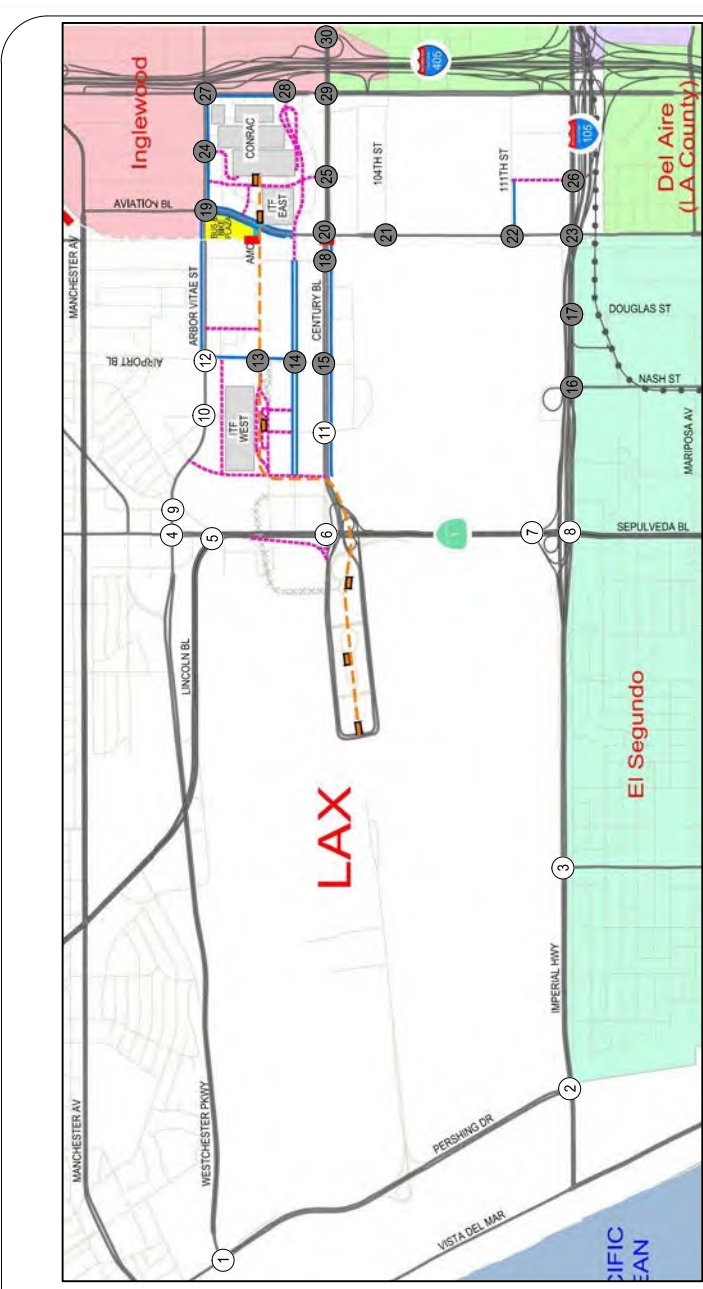
The SBO trip generation estimates determined above for all the scenarios is included in the trip generation determined for the LAMP Project as summarized *Tables 19-21 in Chapter V: Future Conditions – with Project and Traffic Impacts* of the *Transportation Study for the LAMP DEIR*. These relocated SBO trips do not result in additional trips added to the street system network but rather a shifting of trips.

## **RELOCATION OF SECURITY BADGE OFFICE TRIPS**

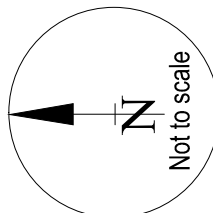
Utilizing the same data and LAX model described in the *Transportation Study for the LAMP DEIR* and applying the changes to traffic patterns as a result of the relocation of the SBO, the updated conditions with Project were developed. The updated Baseline (2015) with Project, Future (2024) with Phase 1 Project and Future (2035) with Project travel forecasts were developed for the LAMP Project including the relocated SBO trips.

## **BASELINE (2015) WITH PROJECT (LAMP BUILDOUT AND SBO RELOCATION) TRAFFIC VOLUMES**

Utilizing the updated City of Los Angeles Travel Demand Model (LAX Model), the Baseline (2015) with Project traffic volume forecasts during the morning and evening peak hours were developed for the LAMP Project including the relocation of the SBO. These traffic volume estimates at the 30 analyzed intersections for the morning and evening peak hours are shown in Figures 9A-C. The mid-day peak hour traffic volumes are shown in Figures 10A-B.



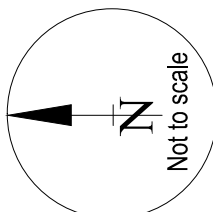
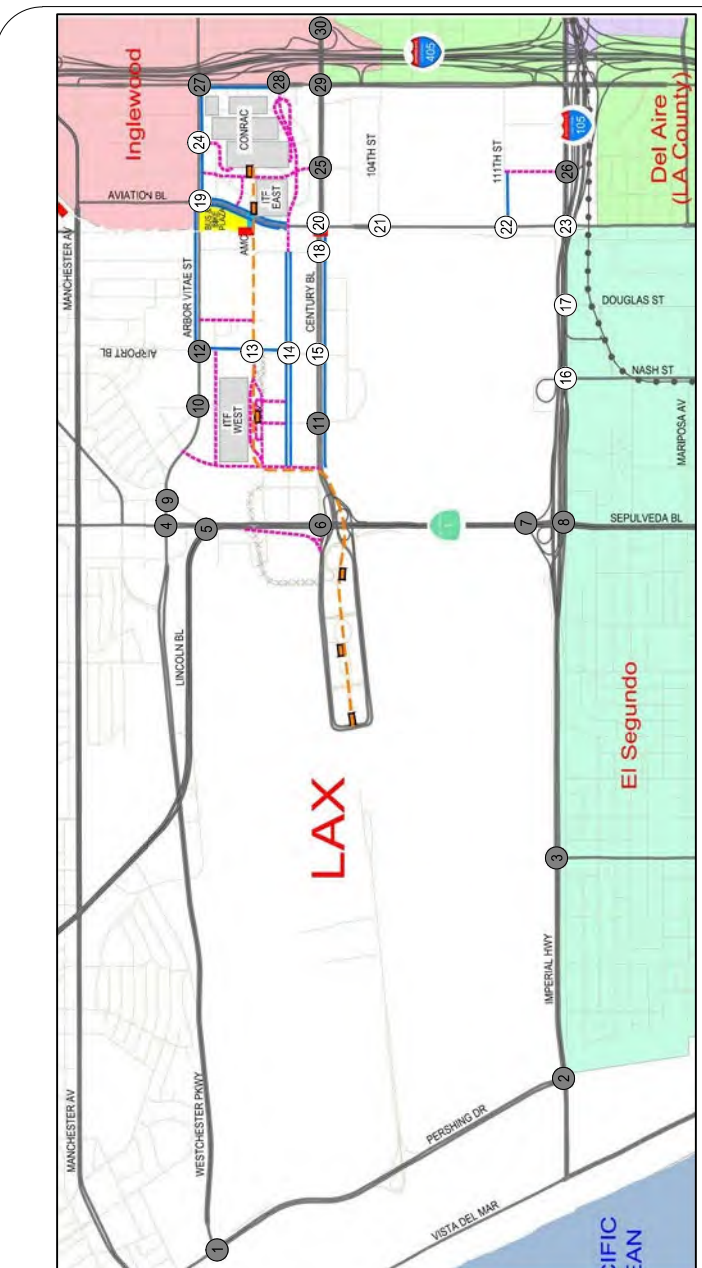
**LEGEND:**  
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 \* - Negligible Volume  
 # - Analyzed Intersection



**FIGURE 9A**  
 BASELINE (2015) WITH PROJECT AND SBO RELOCATION CONDITIONS  
 AM(PM) PEAK HOUR VOLUMES

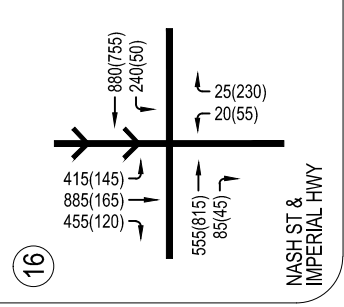
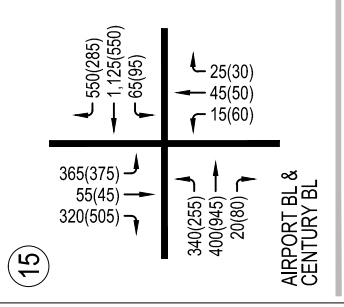
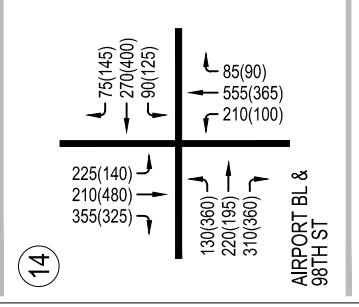
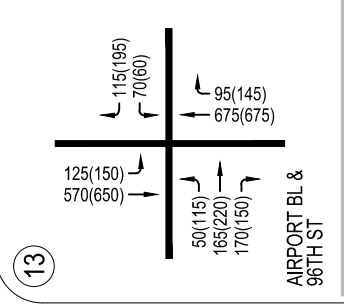
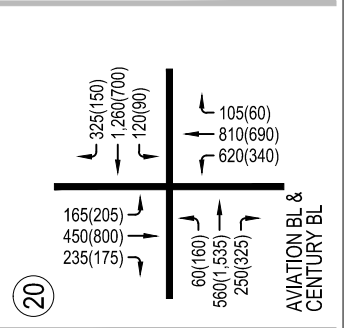
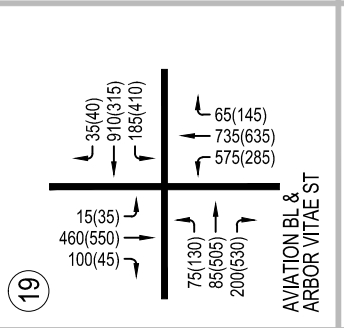
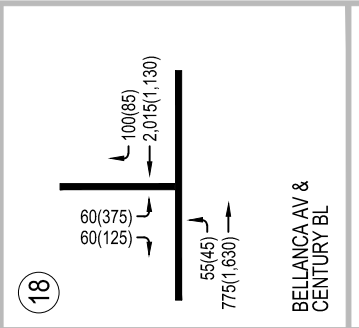
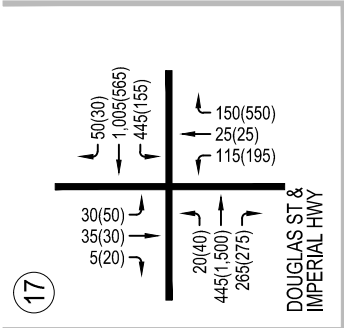
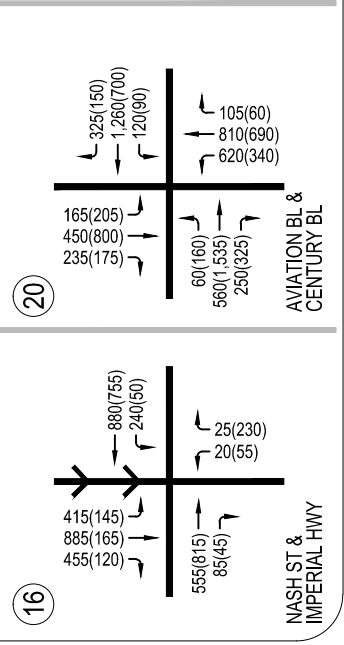
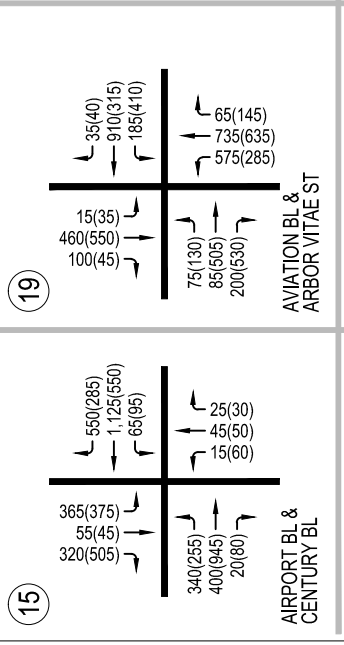
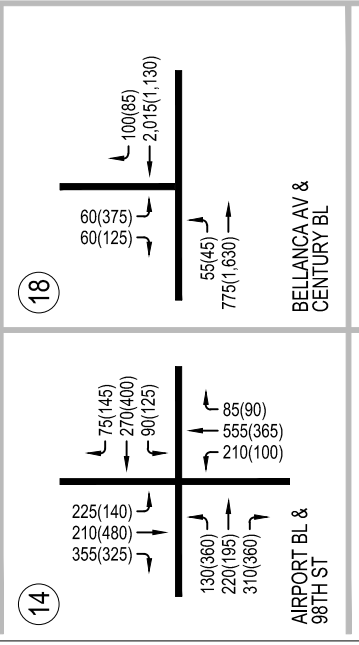
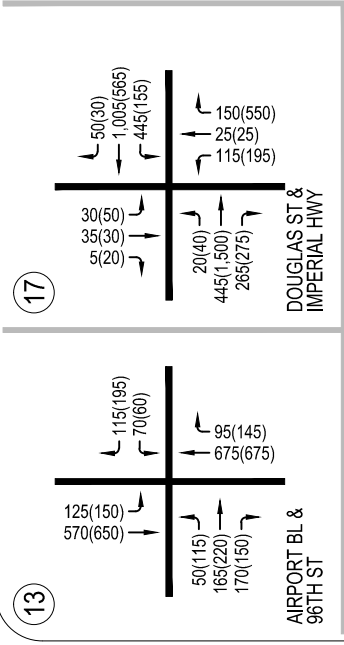
**RAJU Associates, Inc.**





**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection

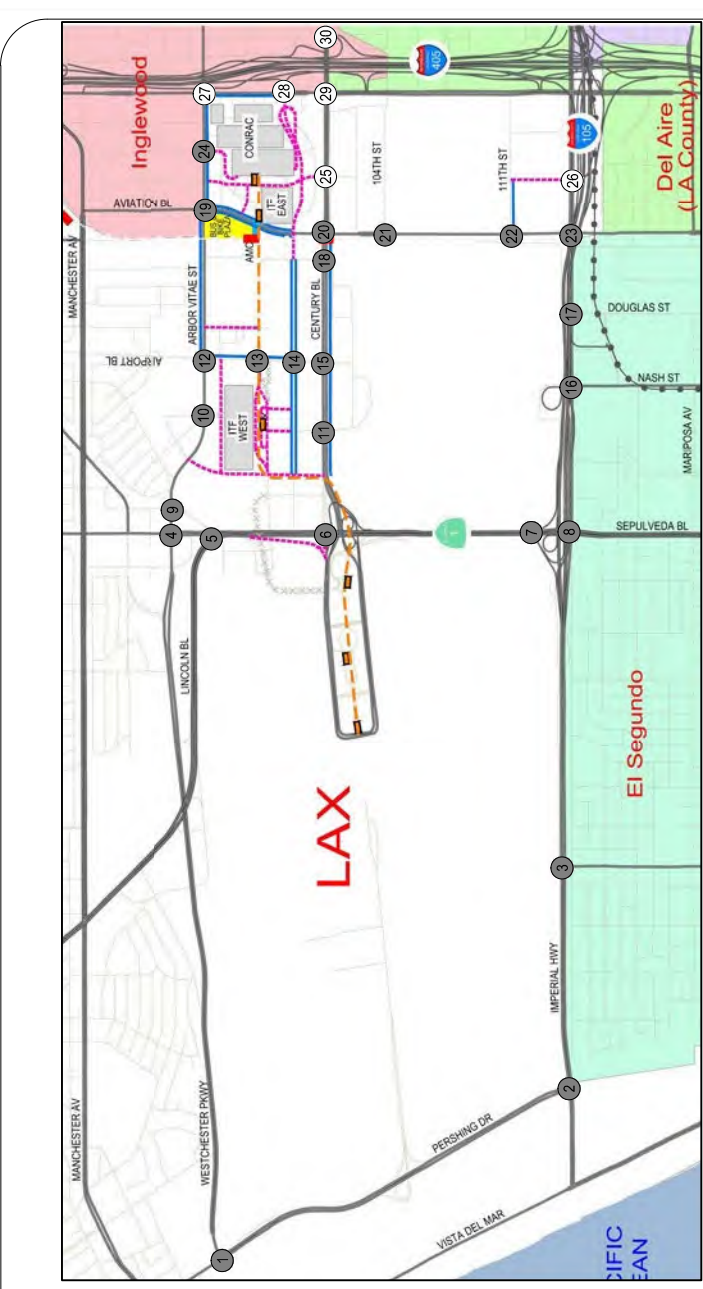


**RAJU** Associates, Inc.



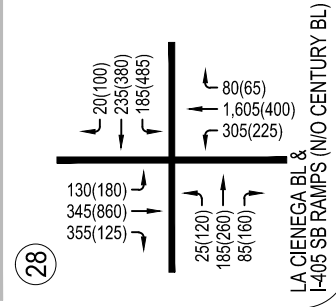
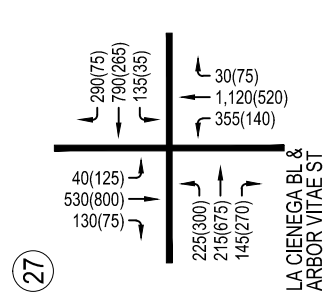
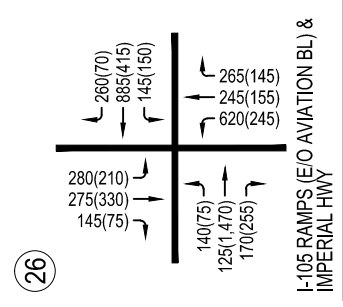
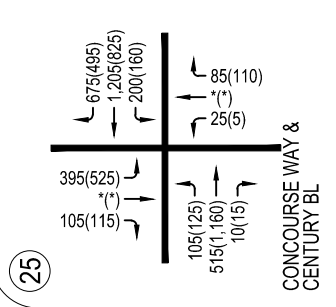
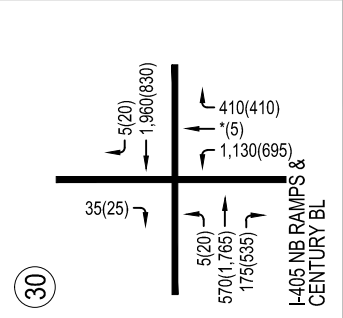
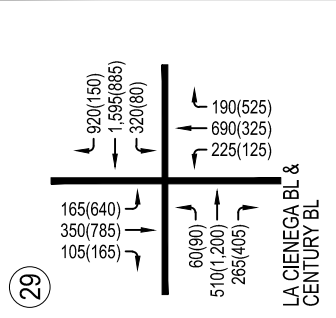
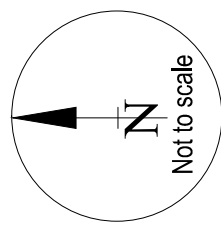
**FIGURE 9B**  
 BASELINE (2015) WITH PROJECT AND SBO RELOCATION CONDITIONS  
 AM(PM) PEAK HOUR VOLUMES



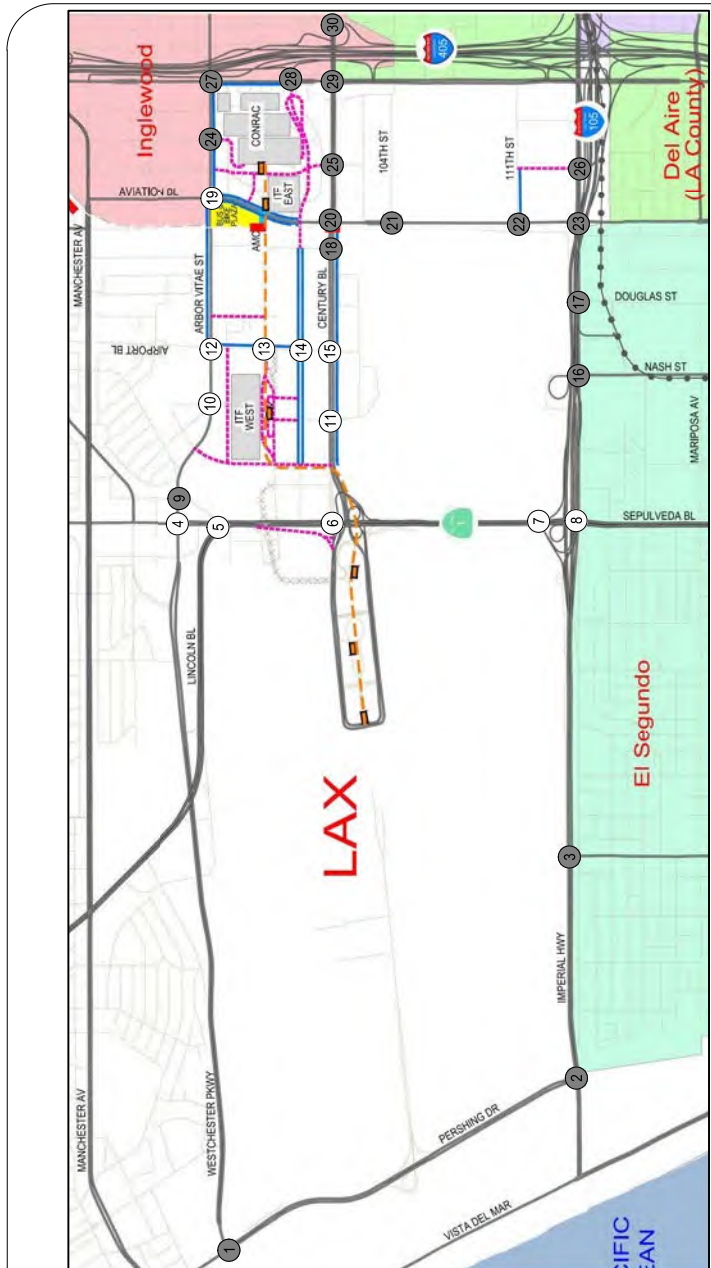


**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection

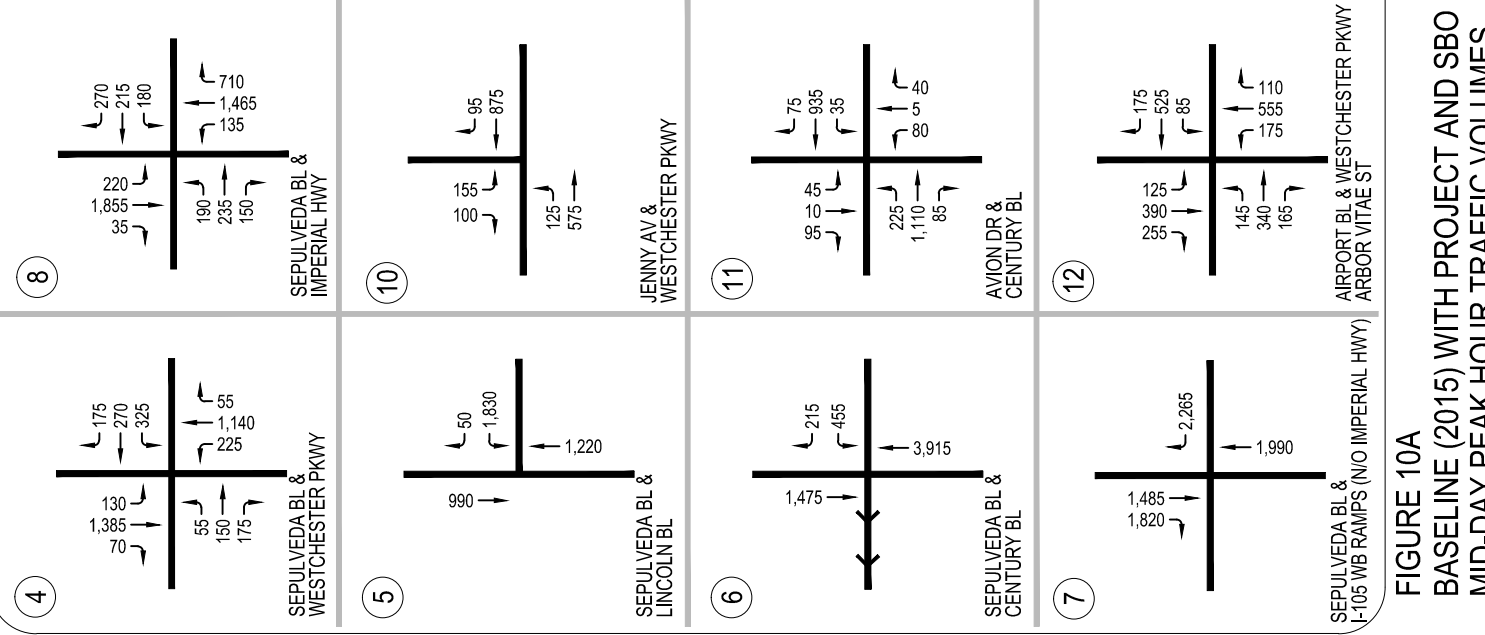
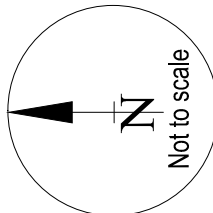


**FIGURE 9C**  
 BASELINE (2015) WITH PROJECT AND SBO RELOCATION CONDITIONS  
 AM(PM) PEAK HOUR VOLUMES

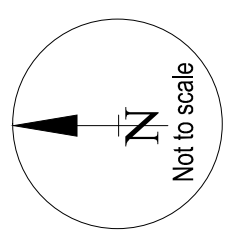
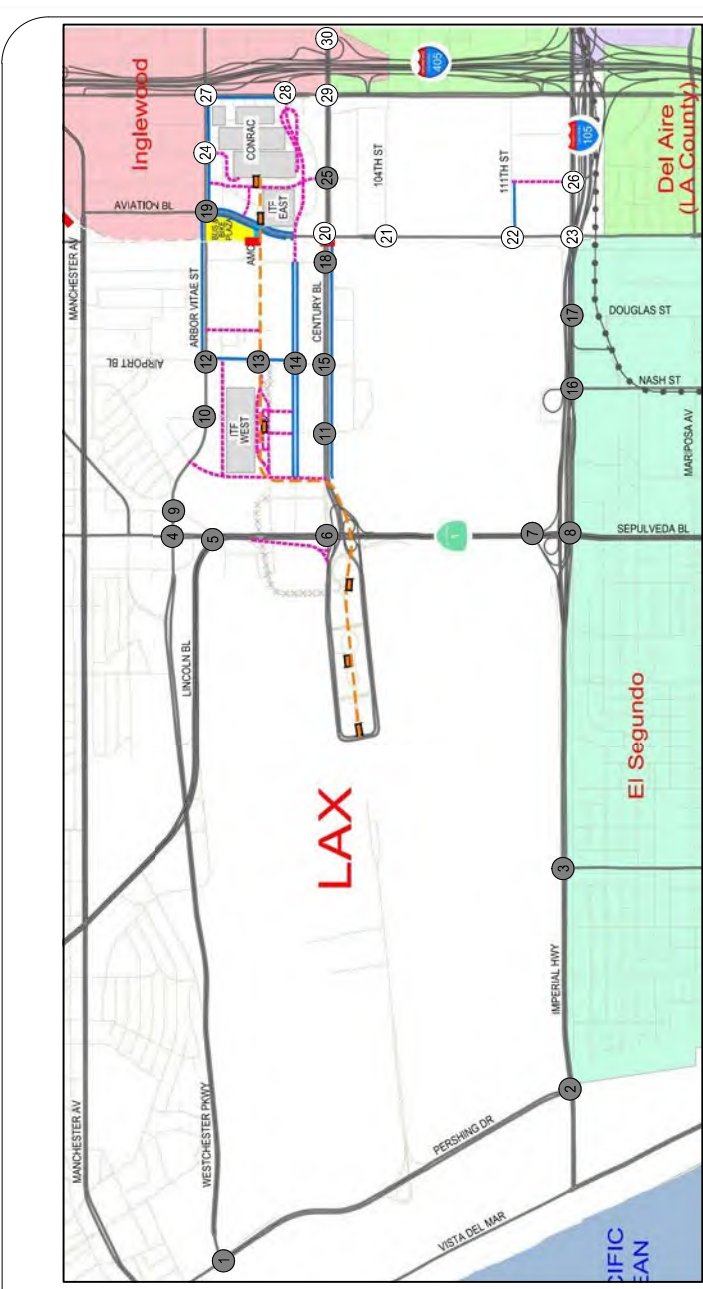


**LEGEND:**

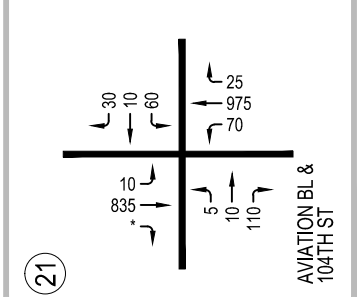
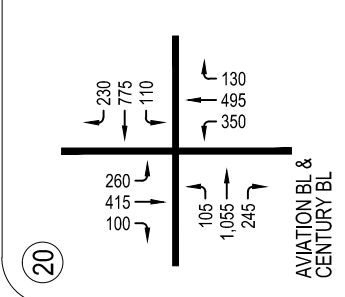
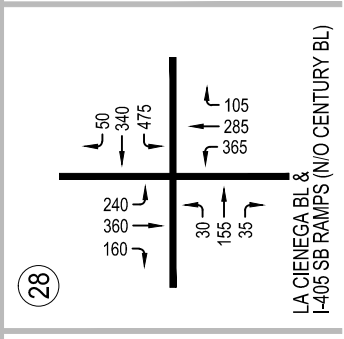
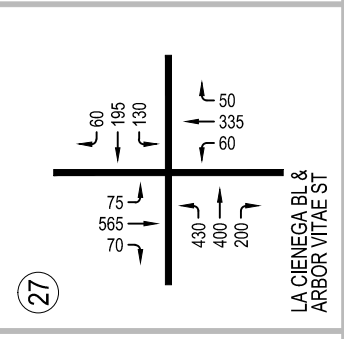
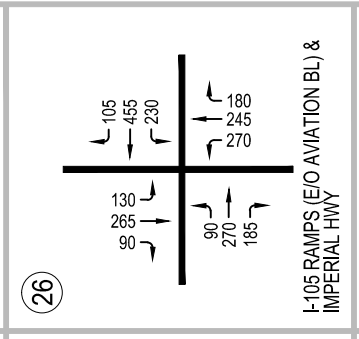
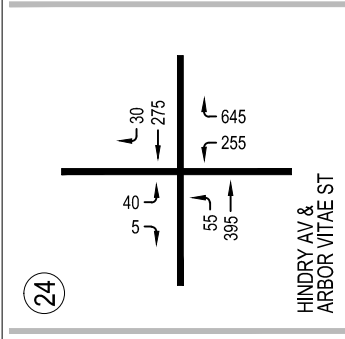
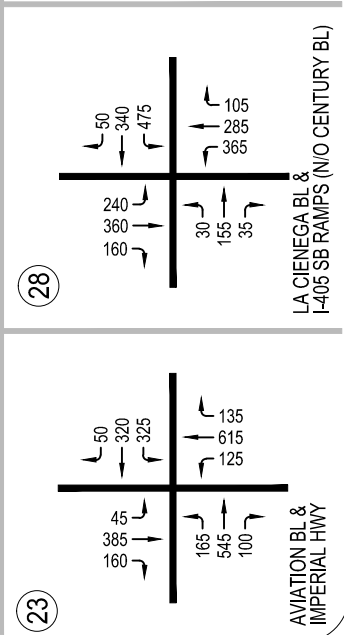
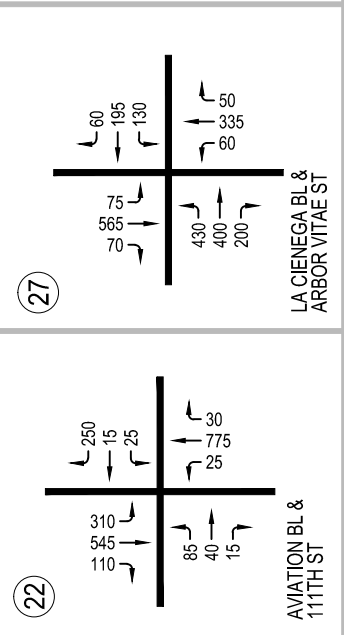
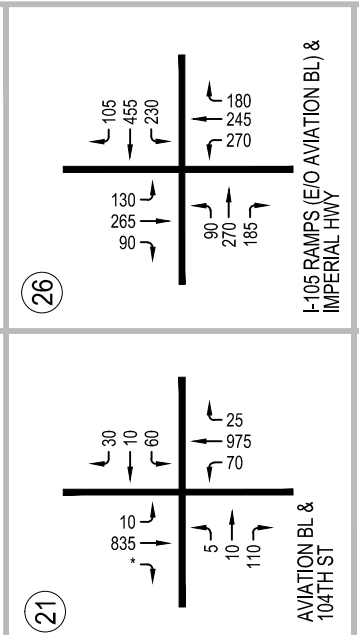
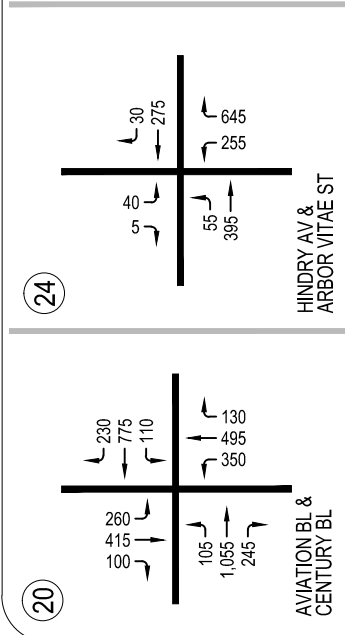
- XXX - Mid-day Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 10A**  
**BASELINE (2015) WITH PROJECT AND SBO RELOCATION CONDITIONS**  
**MID-DAY PEAK HOUR TRAFFIC VOLUMES**



**LEGEND:**  
 XXX - Mid-day Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection



**FIGURE 10B**  
 BASELINE (2015) WITH PROJECT AND SBO RELOCATION CONDITIONS  
 MID-DAY PEAK HOUR TRAFFIC VOLUMES

## **FUTURE (2024) WITH PROJECT (LAMP PHASE 1 AND SBO RELOCATION) TRAFFIC VOLUMES**

The Future (2024) with Project traffic volume forecasts during the morning and evening peak hours were developed for the LAMP Project using the LAX Model including the relocation of the SBO. These traffic volume estimates at the 30 analyzed intersections for the morning and evening peak hours are shown in Figures 11A-C. The mid-day peak hour traffic volumes are shown in Figures 12A-B.

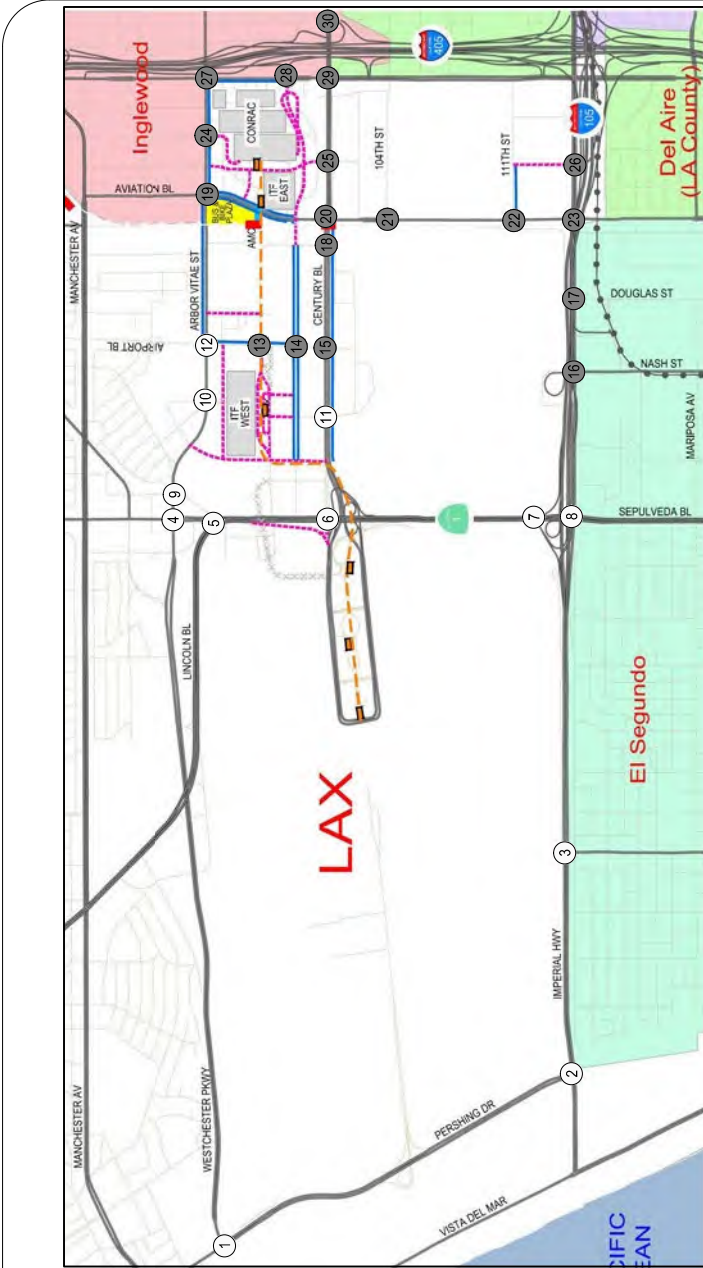
## **FUTURE (2035) WITH PROJECT (LAMP BUILDOUT AND SBO RELOCATION) TRAFFIC VOLUMES**

The Future with Project traffic volume forecasts during the morning and evening peak hours for the Year 2035 were developed for the LAMP Project including relocation of the SBO, using the LAX Model. These traffic volume estimates at the 30 analyzed intersections for the morning and evening peak hours are shown in Figures 13A-C. The mid-day peak hour traffic volumes are shown in Figures 14A-B.

## **FUTURE (2035) WITH PROJECT, RELATED DEVELOPMENT AND SBO RELOCATION TRAFFIC VOLUMES**

The Future with Project and Potential Future Related Development traffic volume forecasts during the morning and evening peak hours for the Year 2035 were developed for the LAMP Project plus related development and the relocation of the SBO, using the LAX Model. These traffic volume estimates at the 30 analyzed intersections for the morning and evening peak hours are shown in Figures 15A-B. The mid-day peak hour traffic volumes are shown in Figures 16A-B.



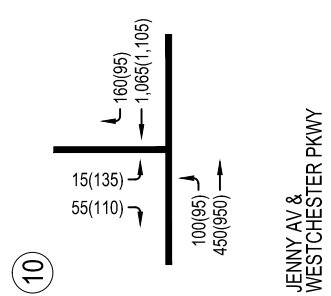
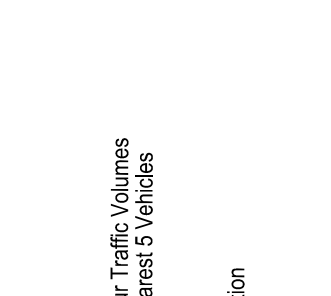
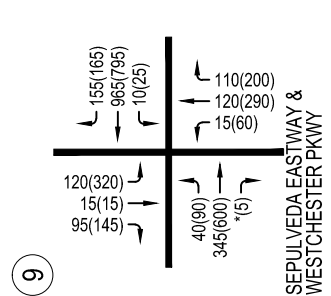
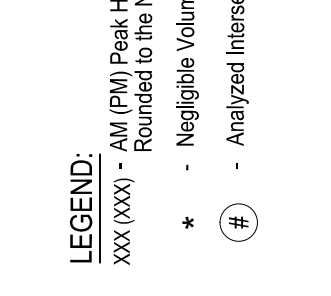
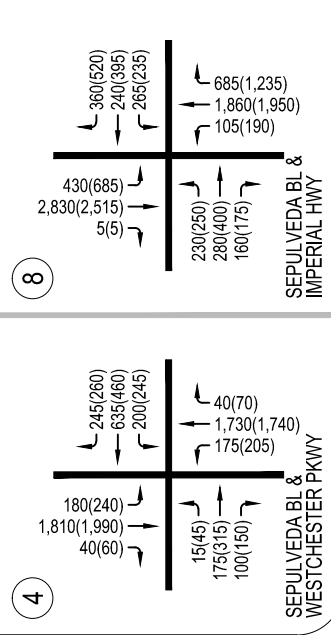
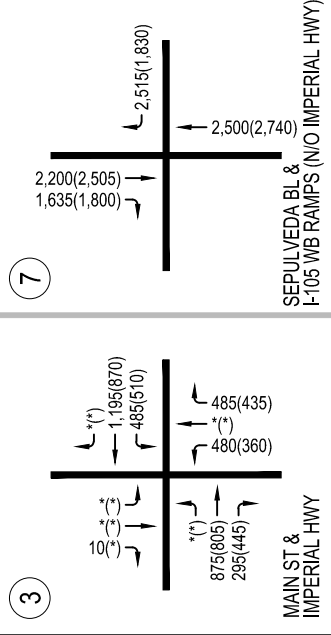
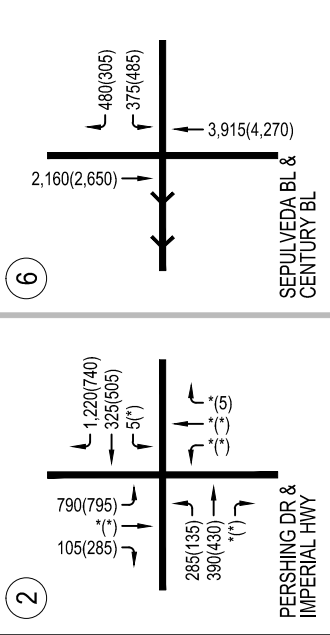
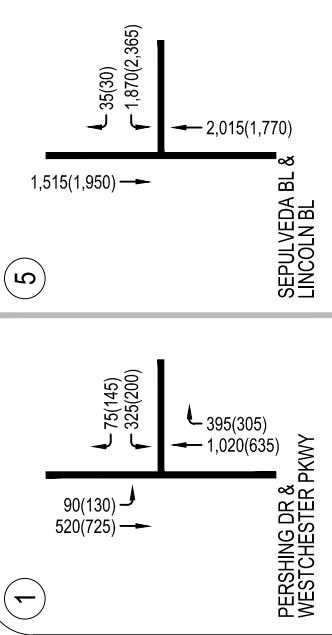
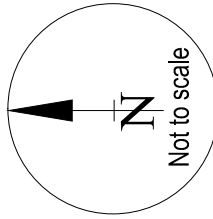


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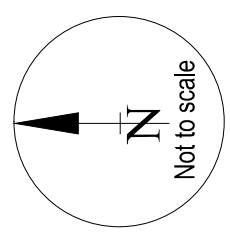
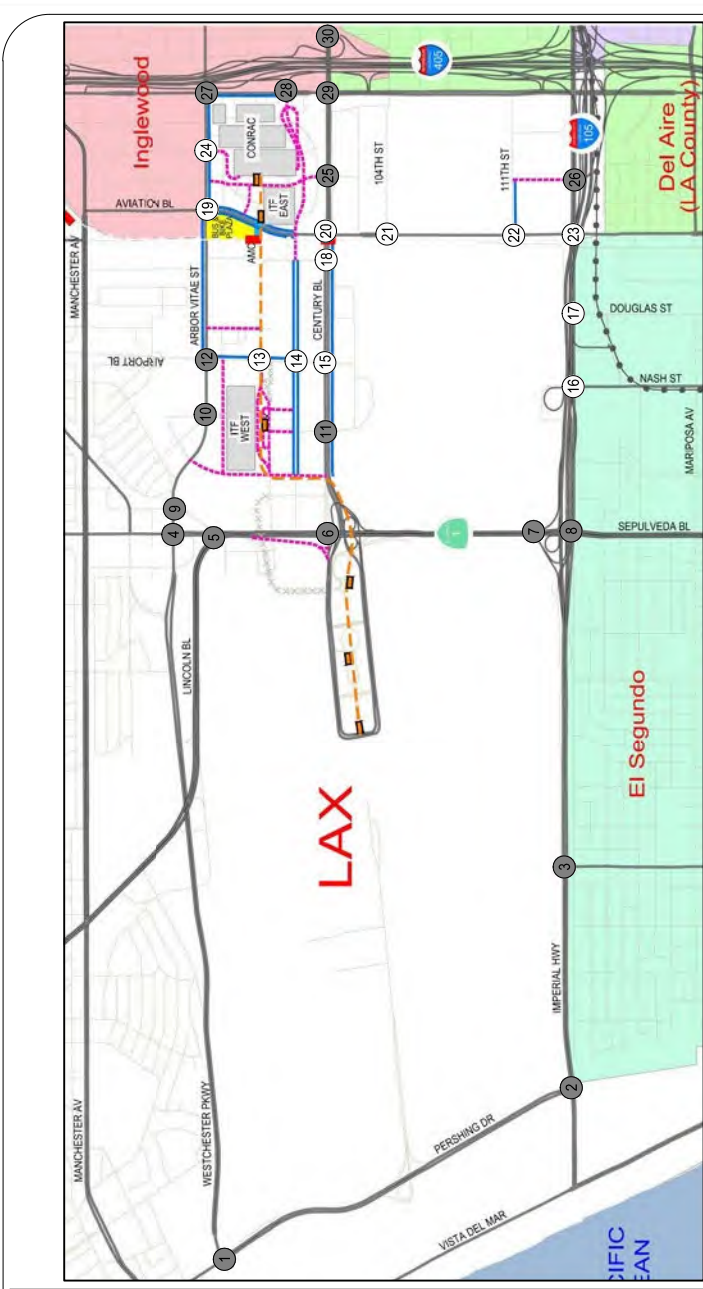
XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

\* - Negligible Volume

# - Analyzed Intersection

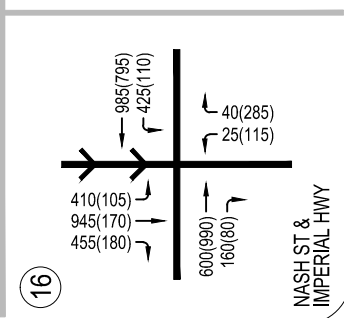
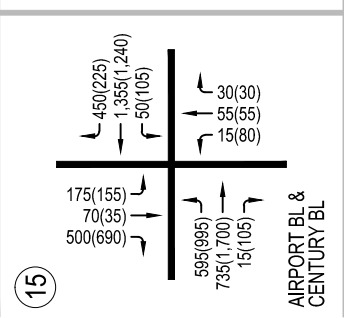
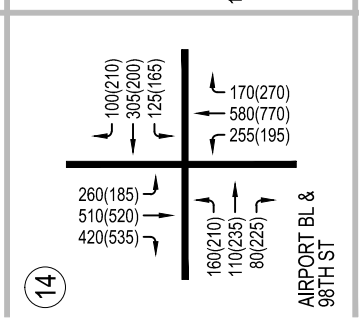
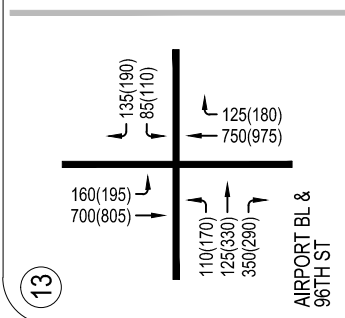
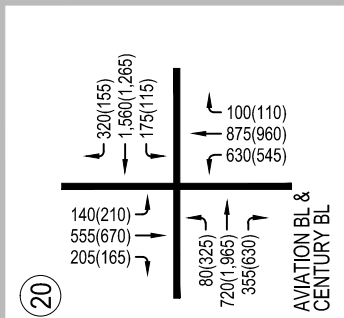
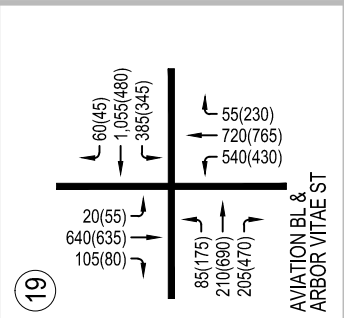
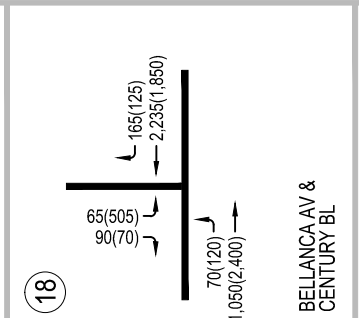
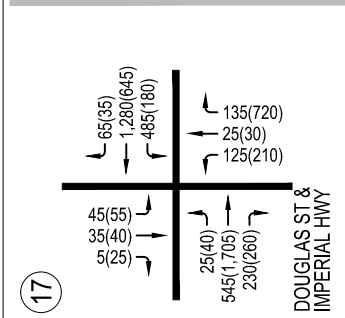
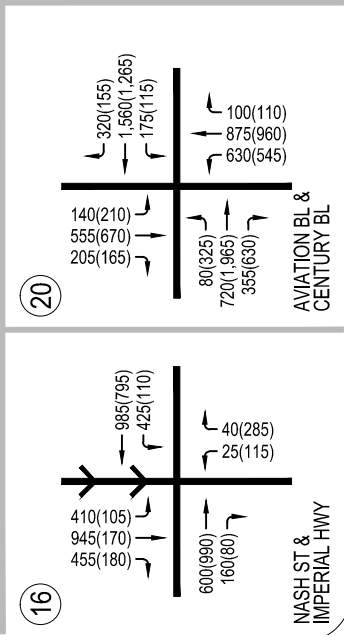
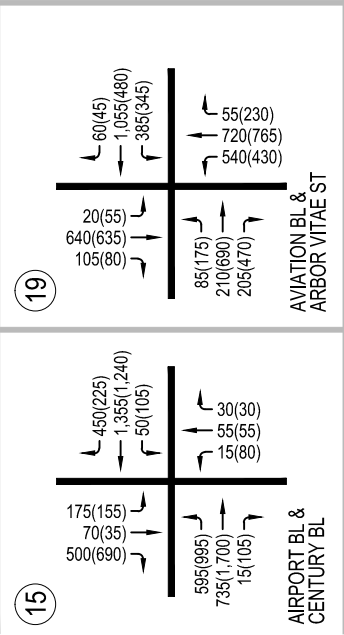
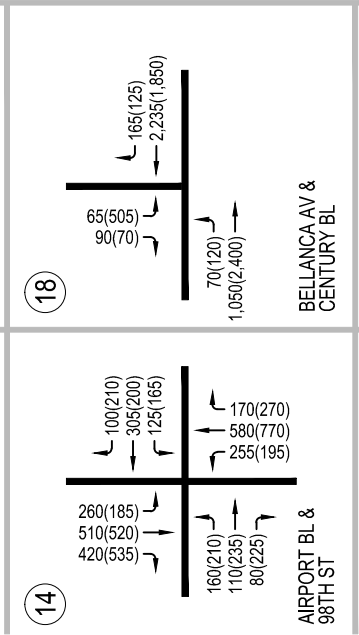
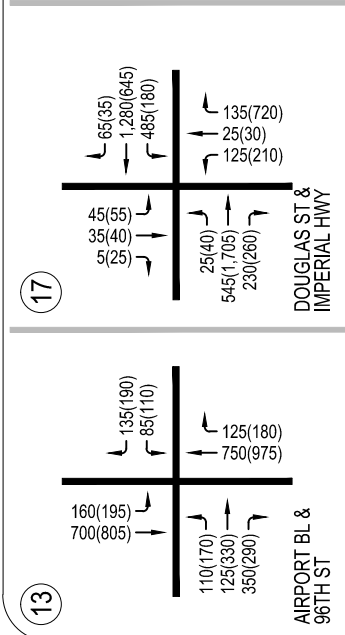


**FIGURE 11A**  
**FUTURE (2024) WITH PHASE 1 PROJECT AND SBO RELOCATION CONDITIONS**  
**AM(PM) PEAK HOUR VOLUMES**

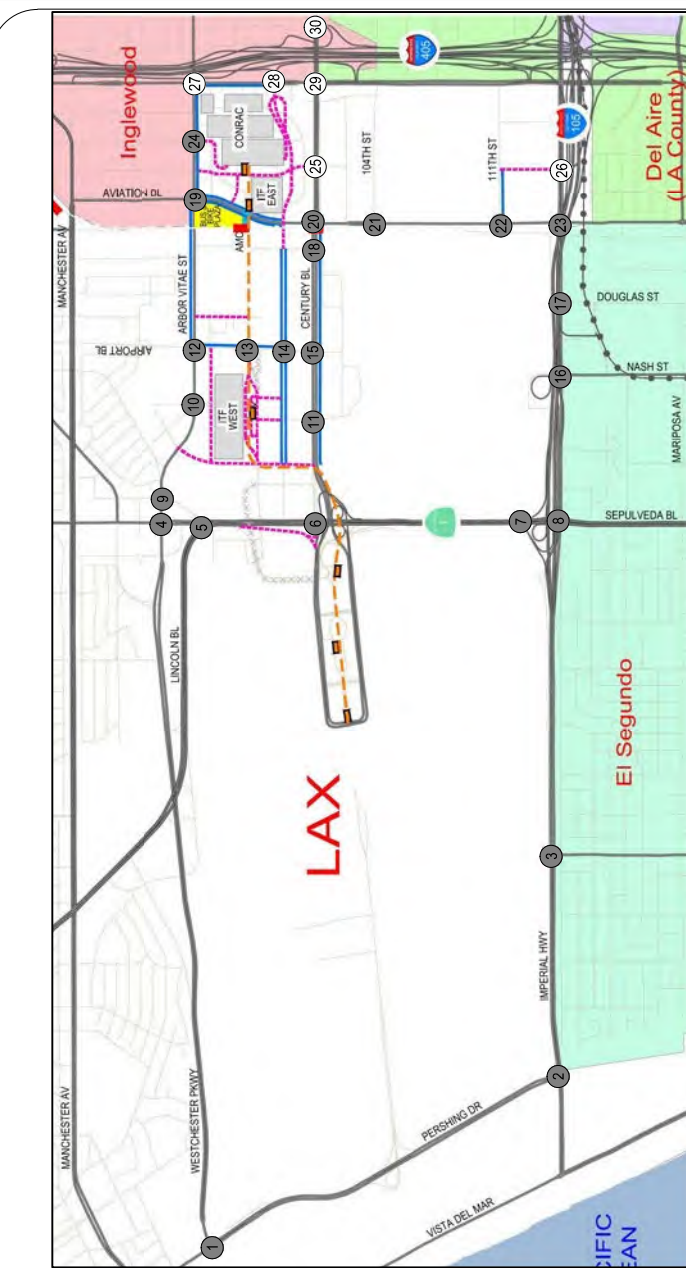


**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles

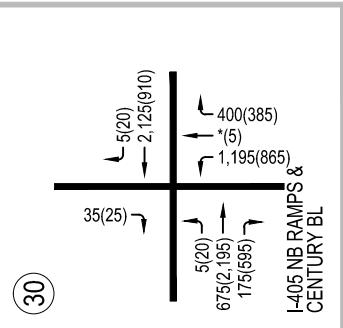
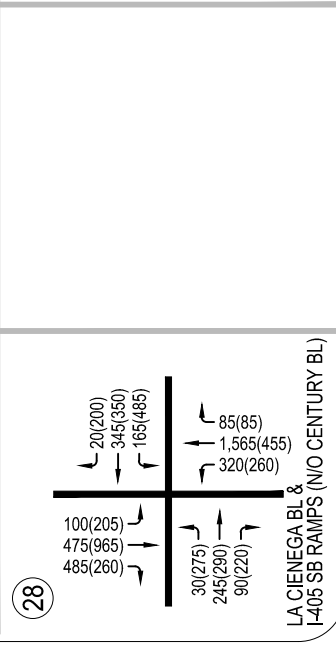
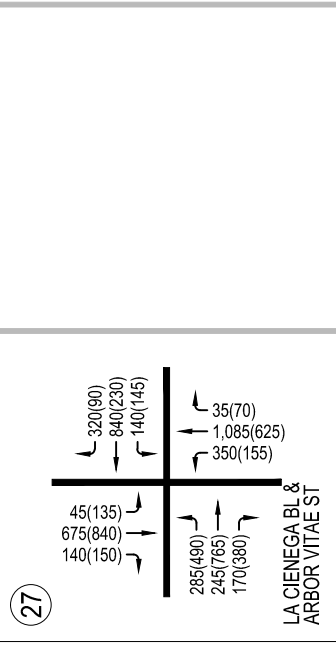
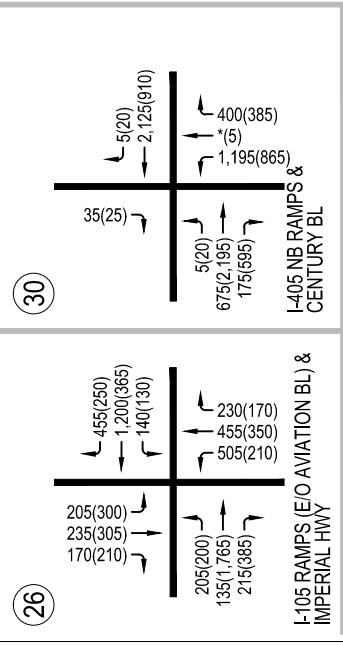
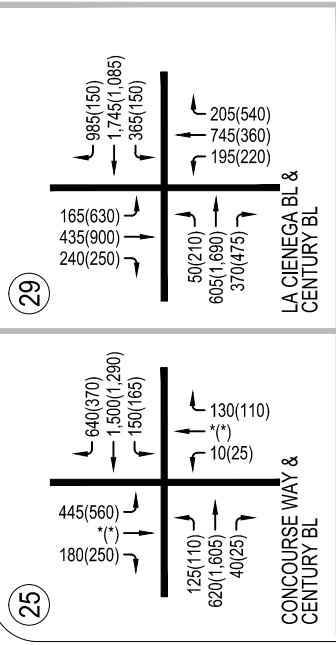
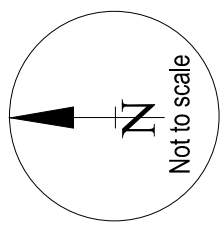
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 11B**  
 FUTURE (2024) WITH PHASE 1 PROJECT AND SBO RELOCATION CONDITIONS  
 AM (PM) PEAK HOUR VOLUMES



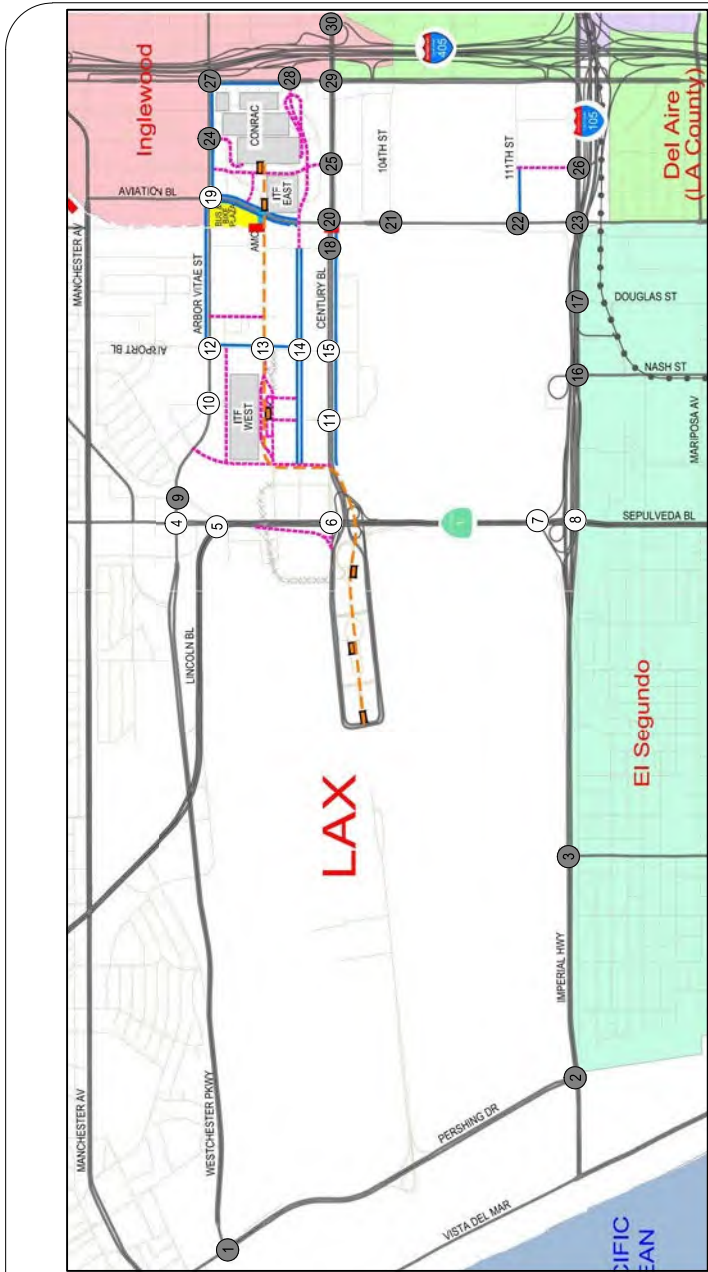
**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection



**FIGURE 11C**  
 FUTURE (2024) WITH PHASE 1 PROJECT AND SBO RELOCATION CONDITIONS  
 AM (PM) PEAK HOUR VOLUMES

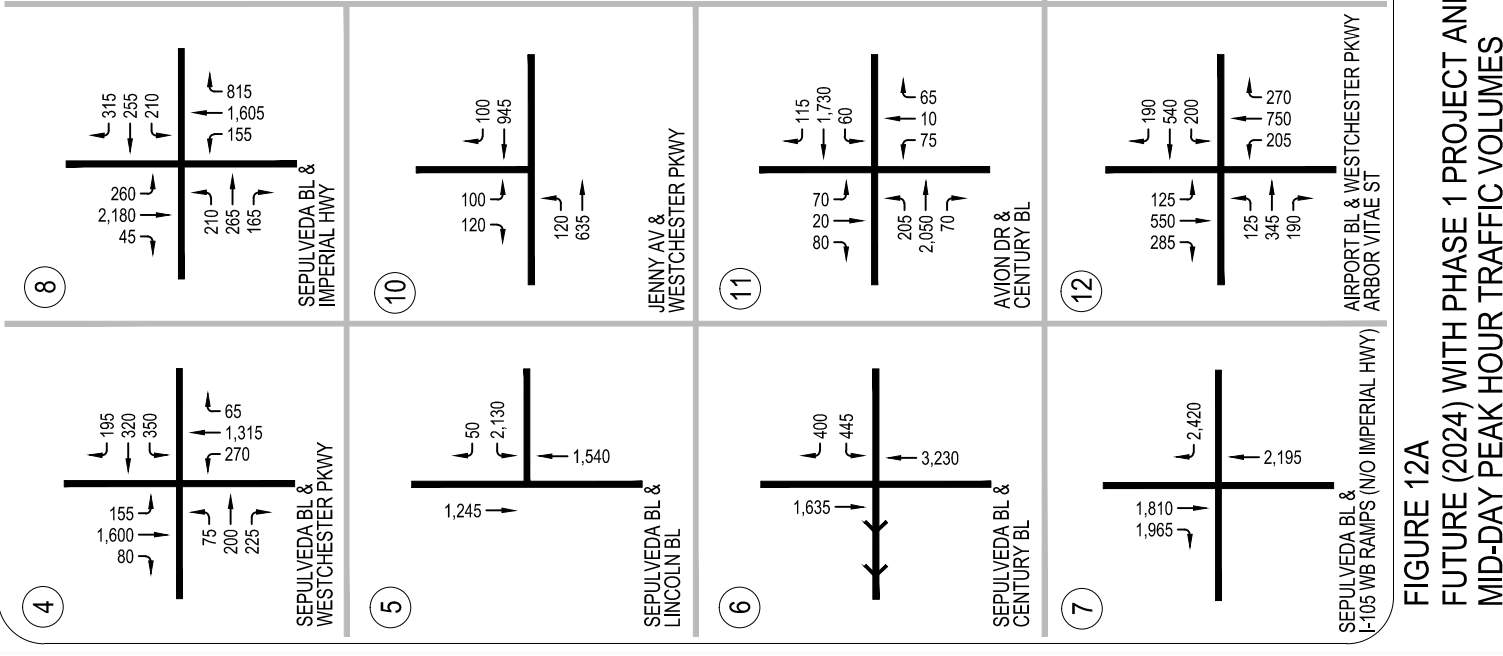
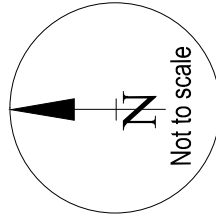




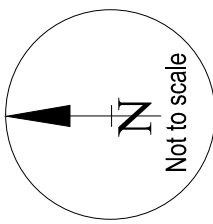
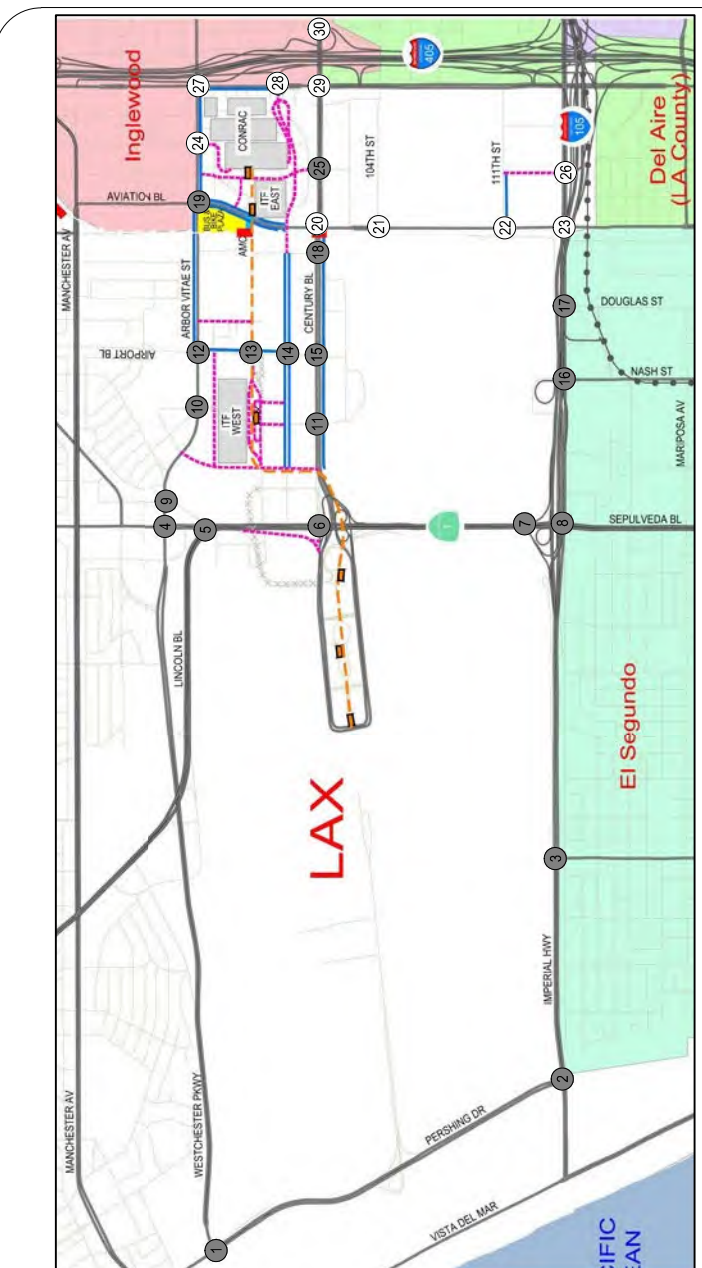


**LEGEND:**

- XXX - Mid-day Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection

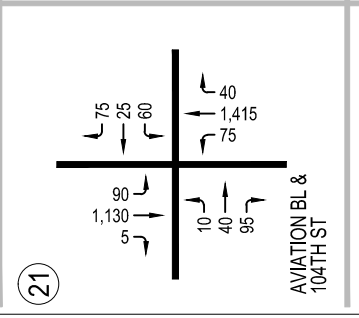
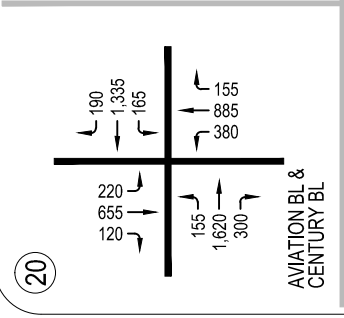
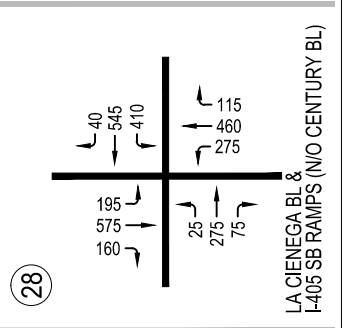
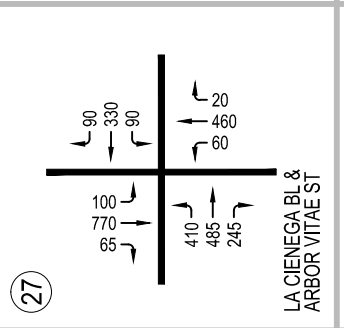
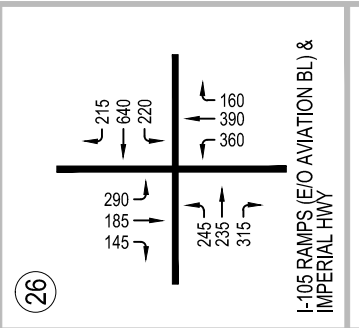
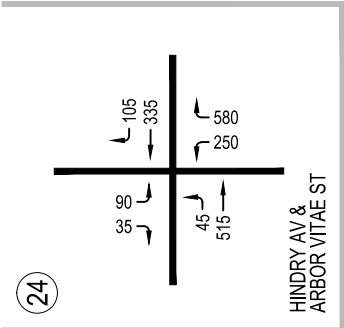
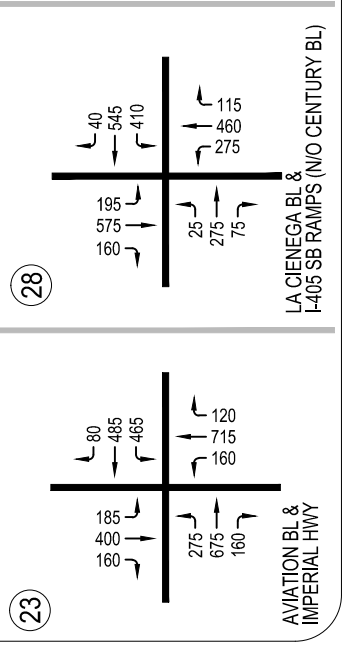
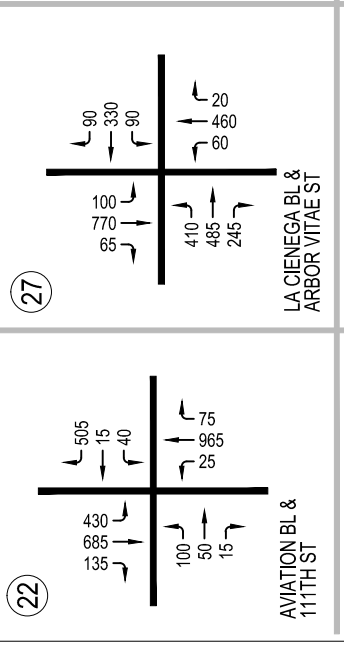
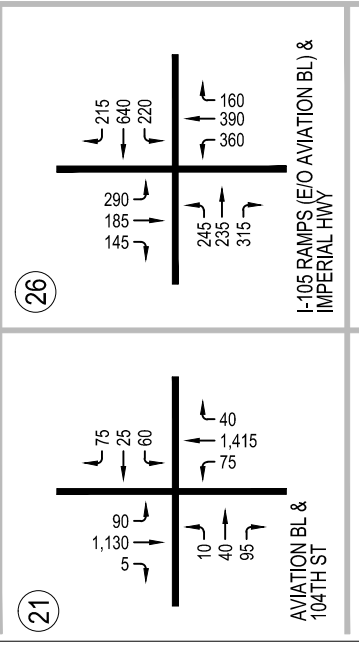
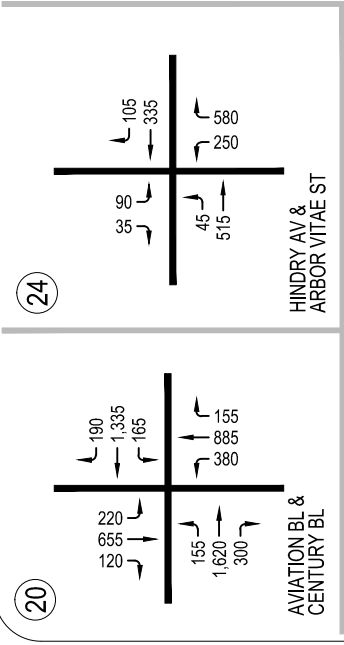


**FIGURE 12A**  
**FUTURE (2024) WITH PHASE 1 PROJECT AND SBO RELOCATION CONDITIONS**  
**MID-DAY PEAK HOUR TRAFFIC VOLUMES**

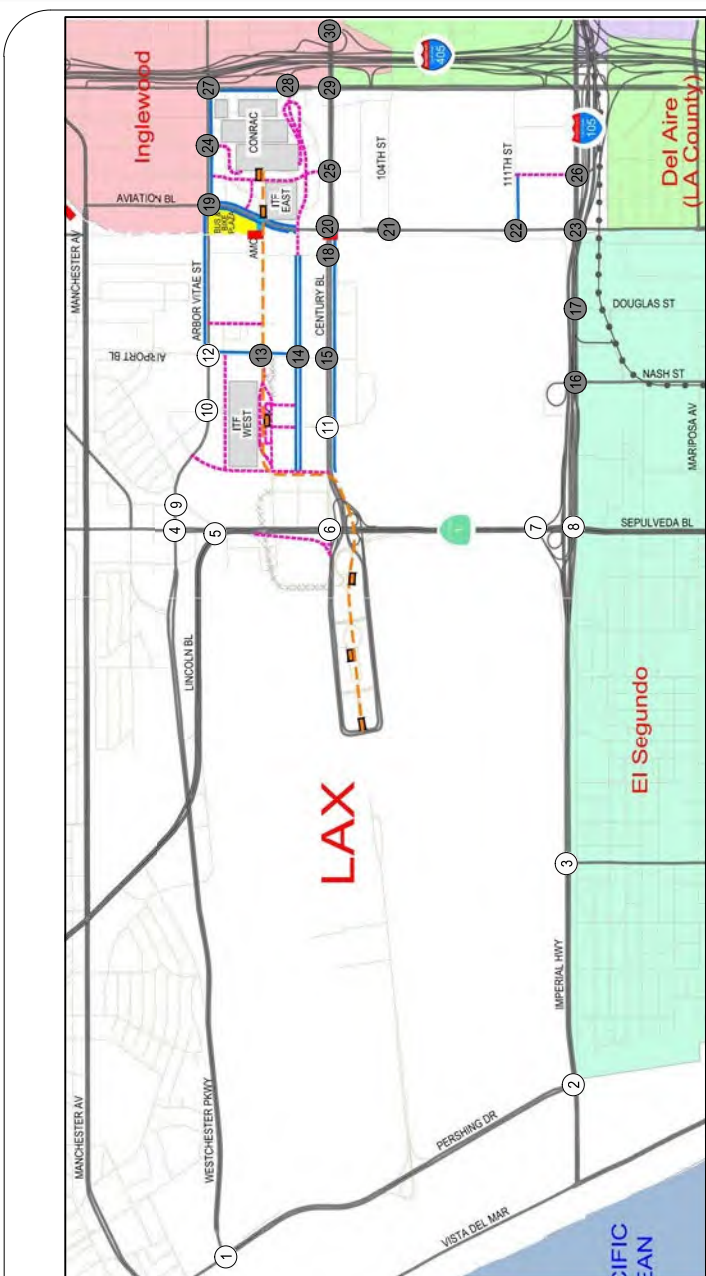


**LEGEND:**

- XXX - Mid-day Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 12B**  
**FUTURE (2024) WITH PHASE 1 PROJECT AND SBO RELOCATION CONDITIONS**  
**MID-DAY PEAK HOUR TRAFFIC VOLUMES**

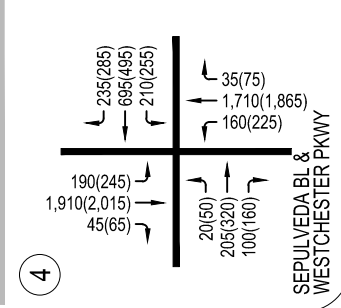
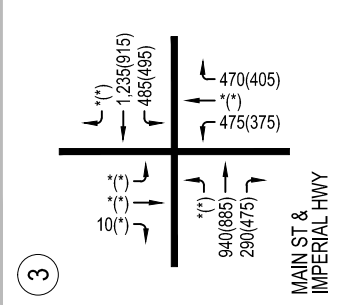
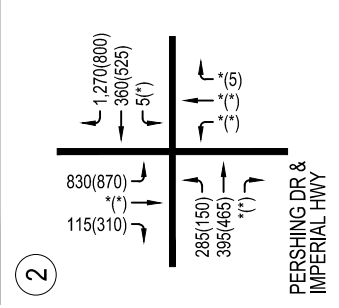
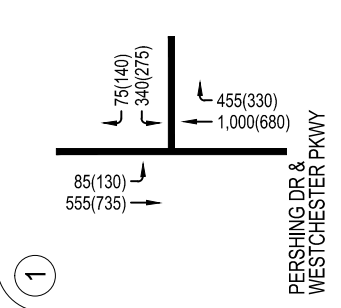
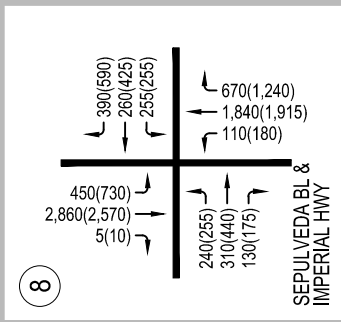
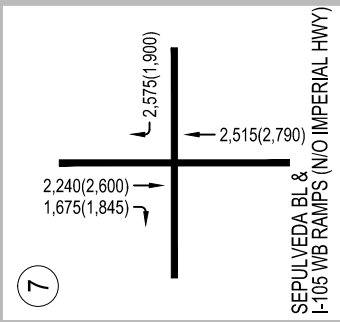
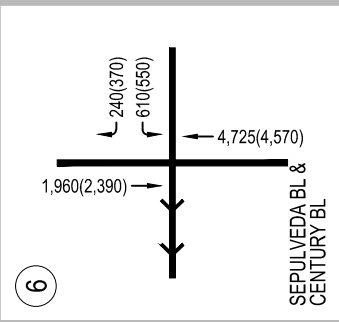
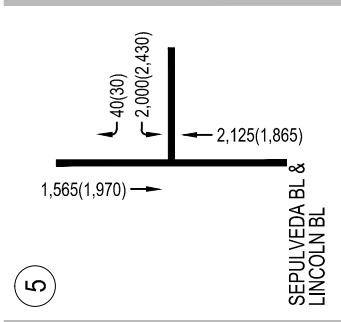
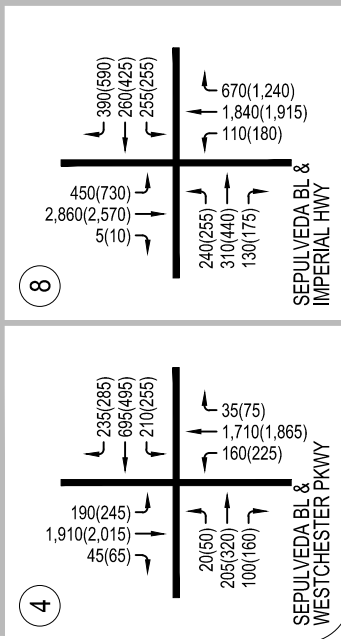
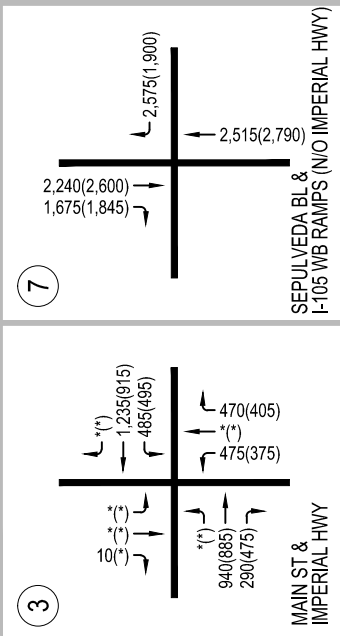
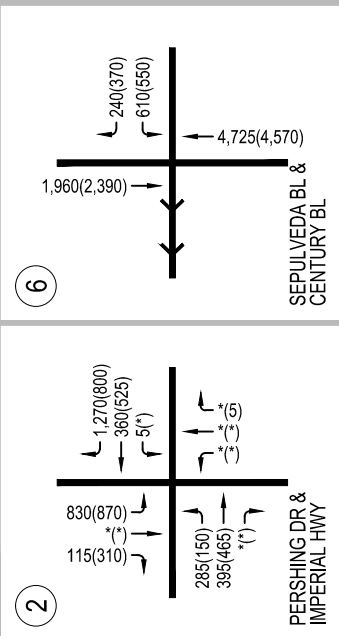
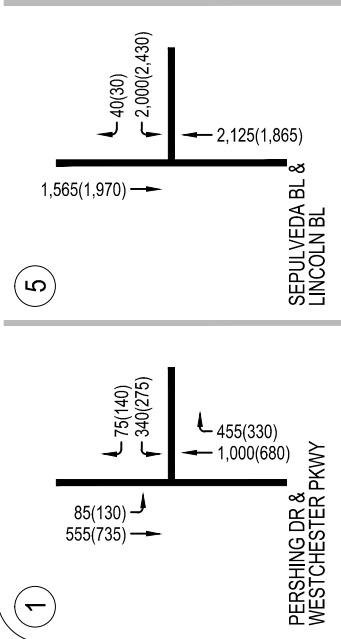
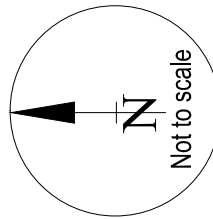


**LEGEND:**

XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

\* - Negligible Volume

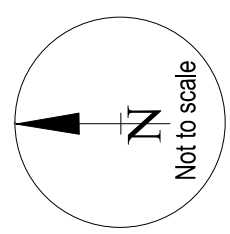
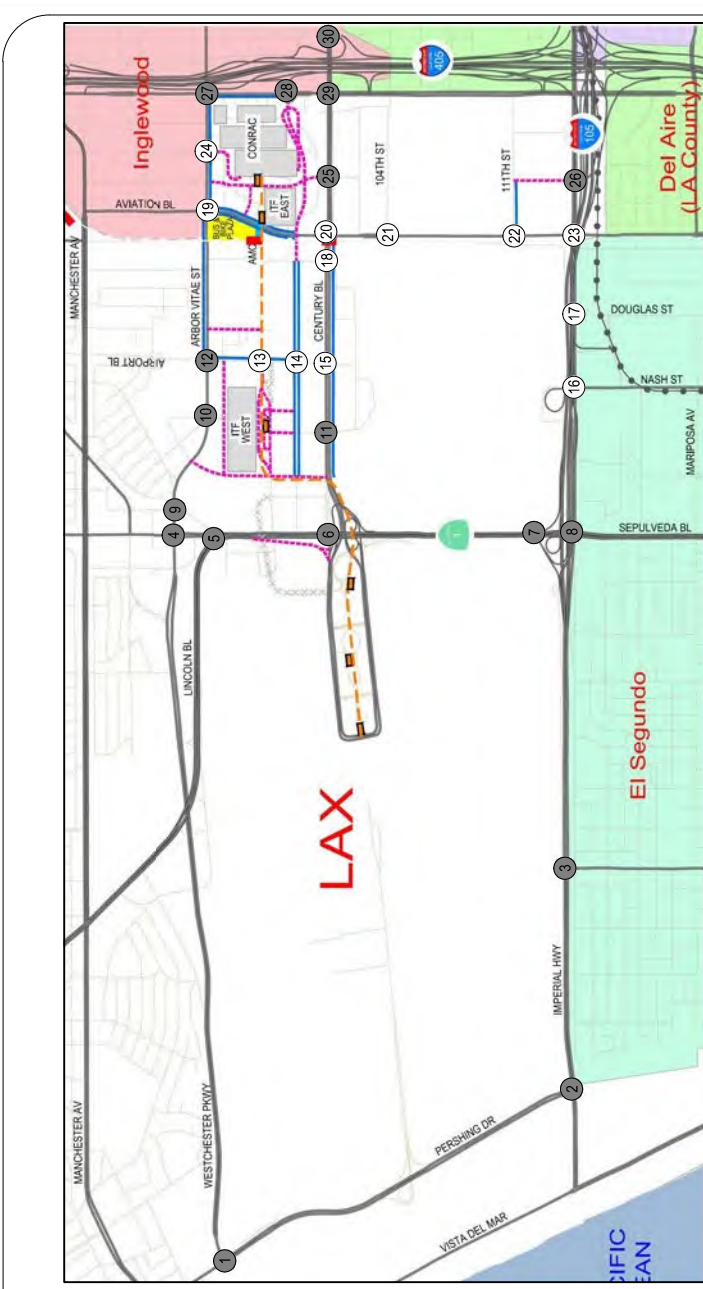
# - Analyzed Intersection



**FIGURE 13A**  
FUTURE (2035) WITH PROJECT AND SBO RELOCATION CONDITIONS  
AM(PM) PEAK HOUR VOLUMES



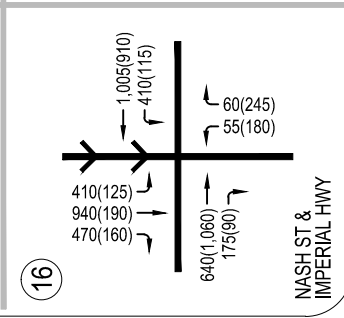
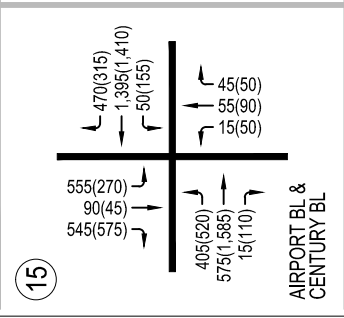
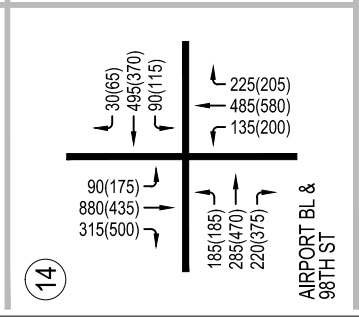
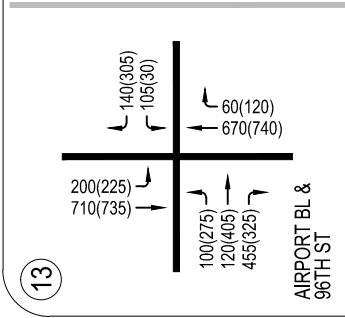
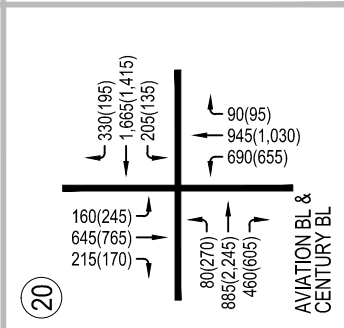
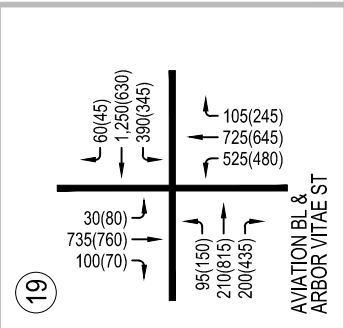
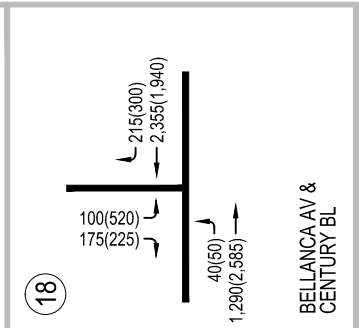
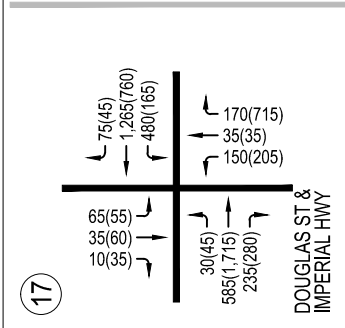
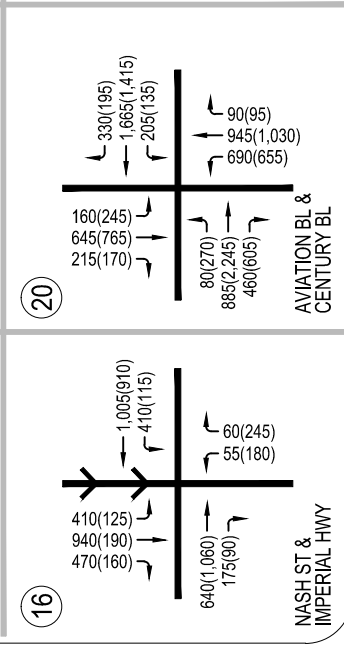
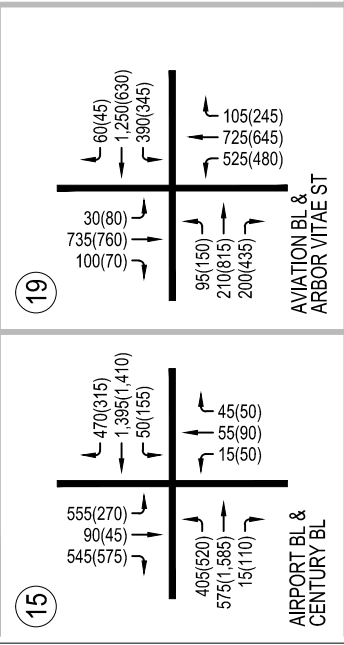
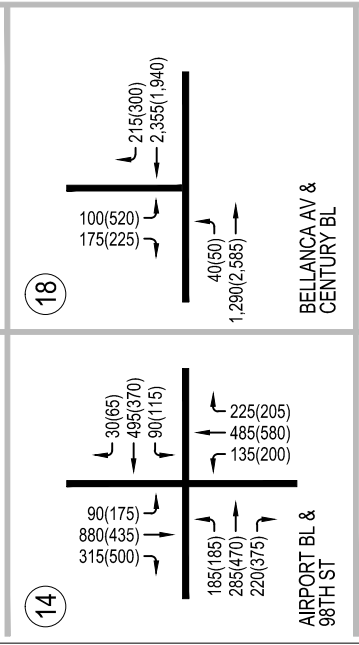
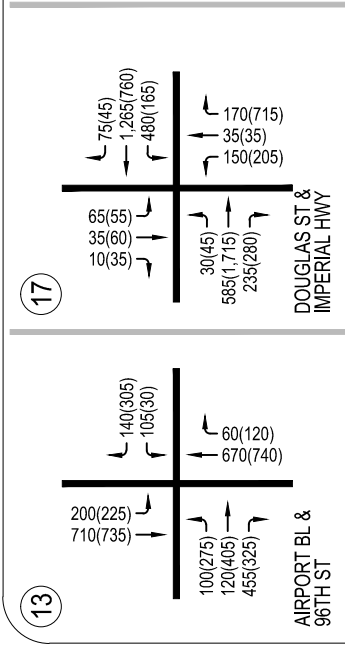




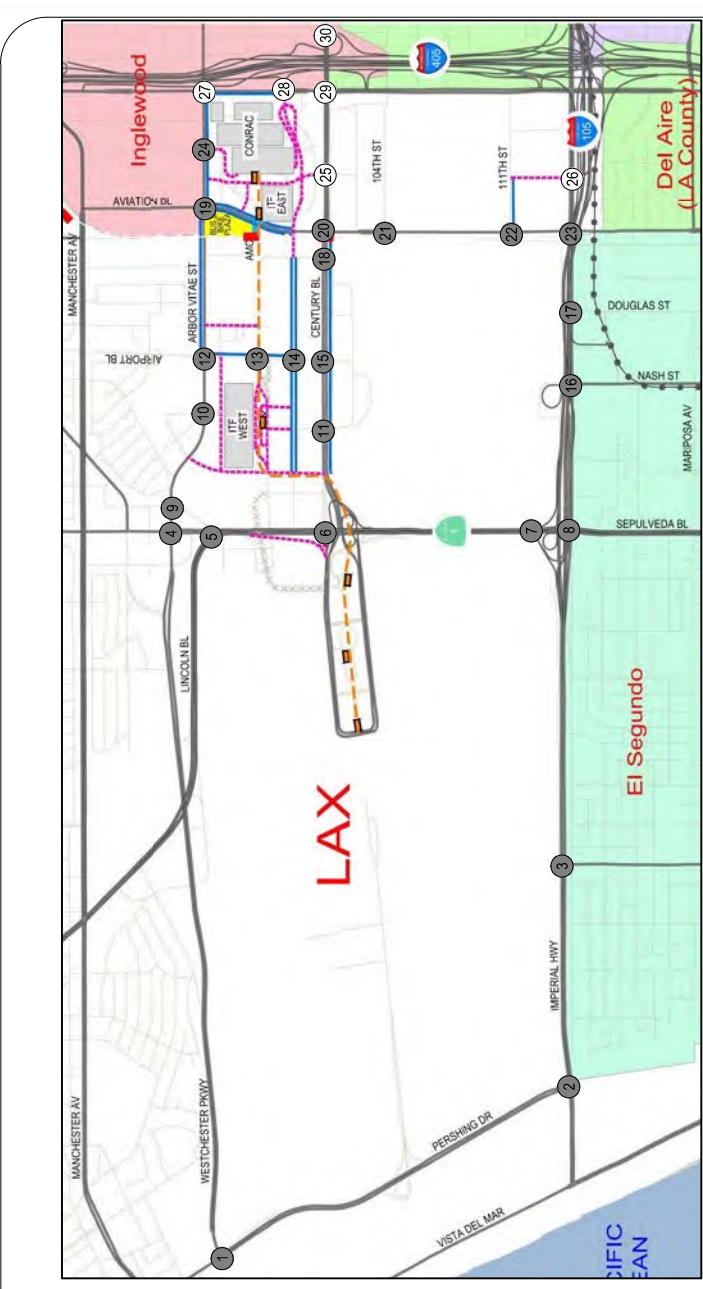
**LEGEND:**

XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection

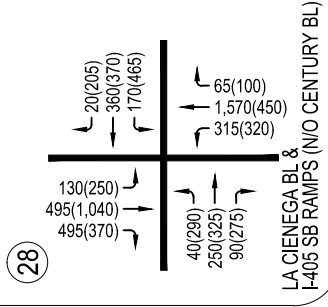
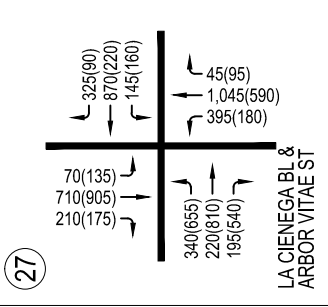
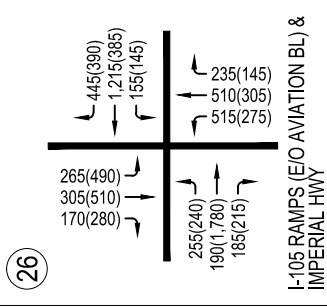
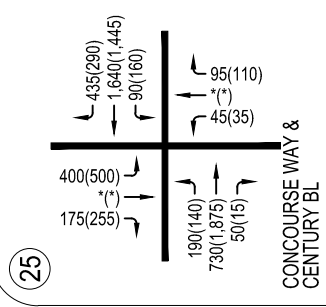
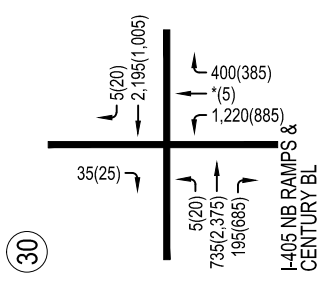
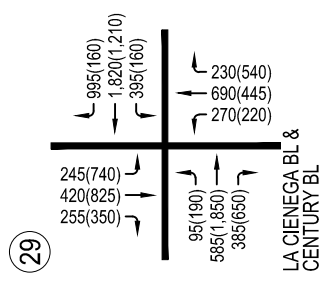
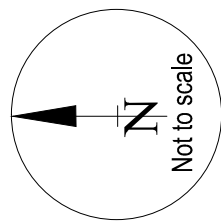


**FIGURE 13B**  
FUTURE (2035) WITH PROJECT AND SBO RELOCATION CONDITIONS  
AM(PM) PEAK HOUR VOLUMES



**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles

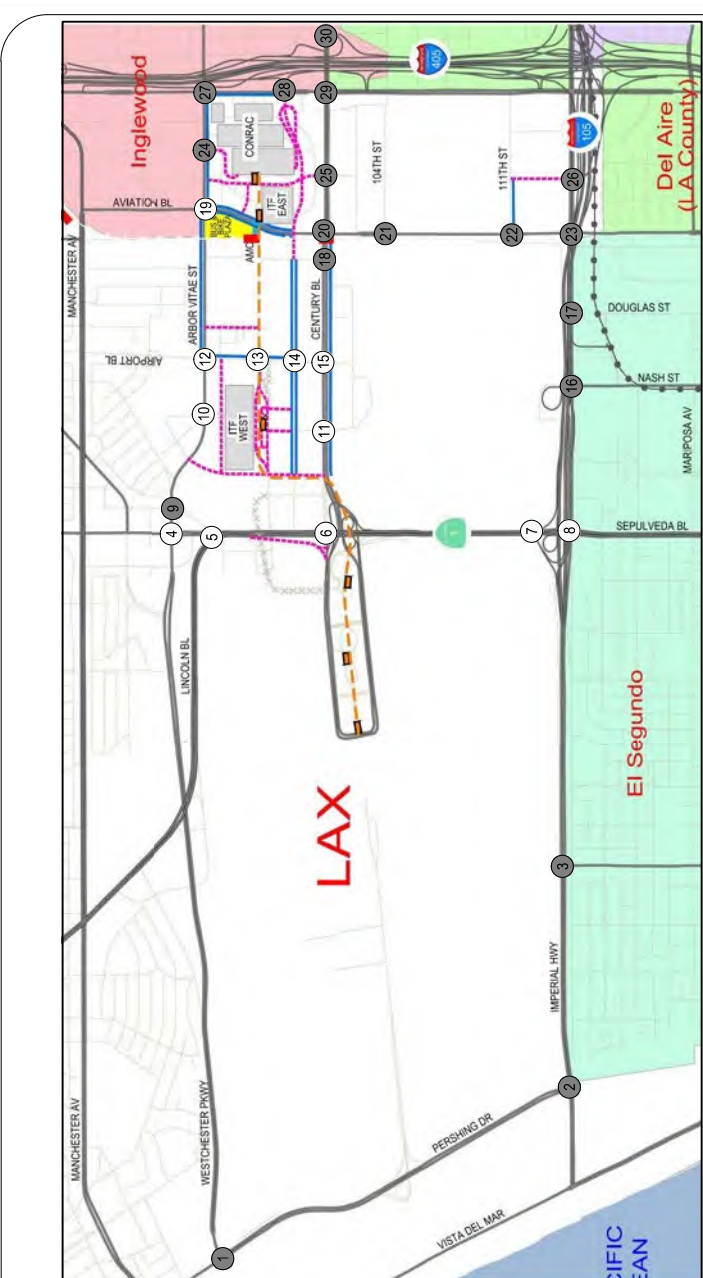
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 13C**  
 FUTURE (2035) WITH PROJECT AND SBO RELOCATION CONDITIONS  
 AM(PM) PEAK HOUR VOLUMES



**RAJU** Associates, Inc.



**LEGEND:**  
 XXX - Mid-day Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection

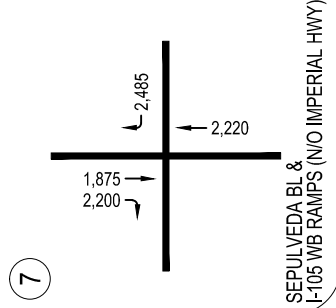
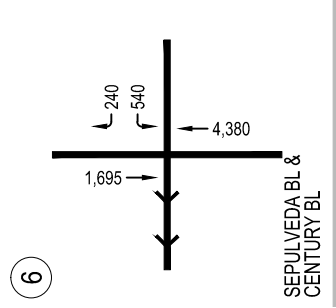
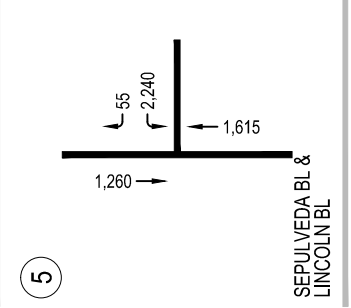
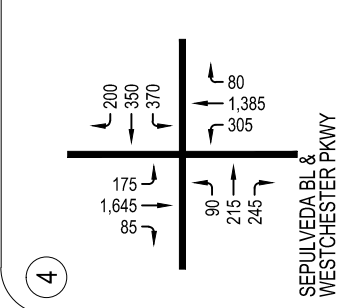
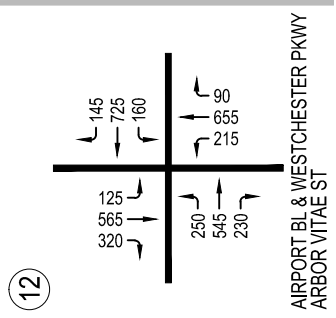
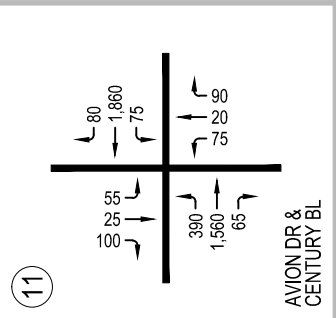
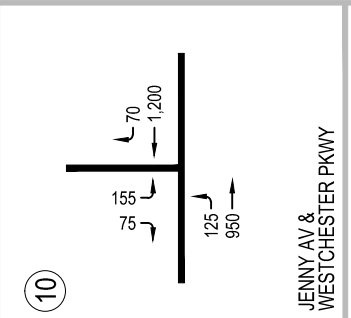
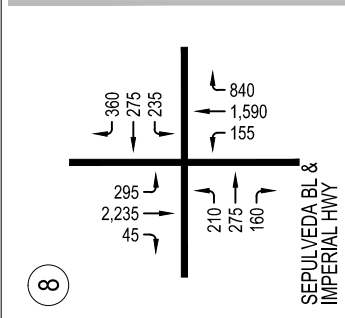
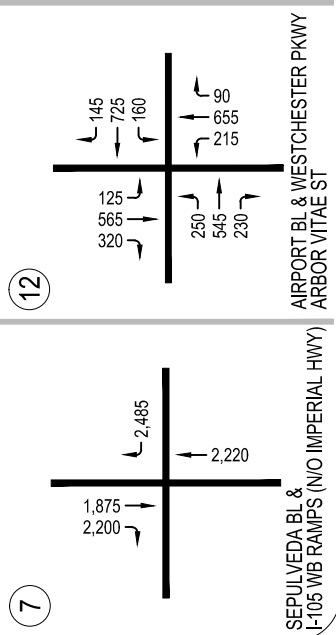
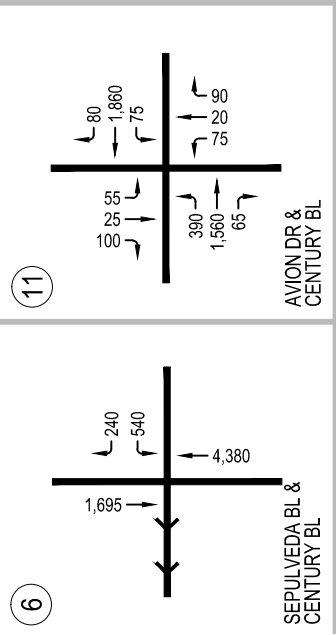
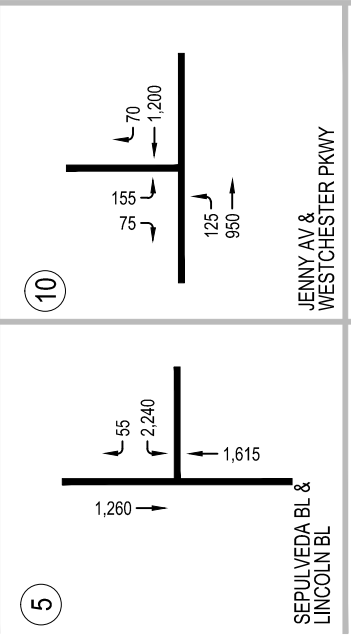
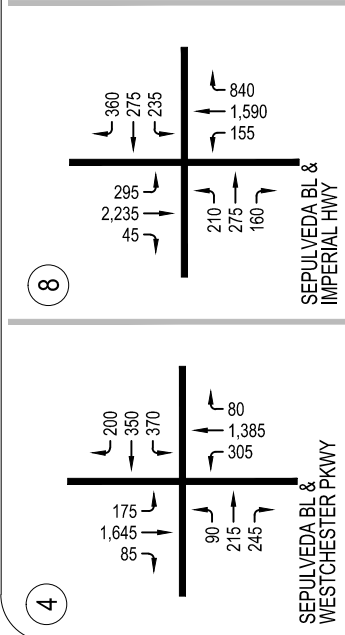
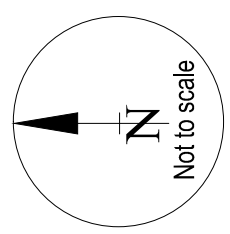
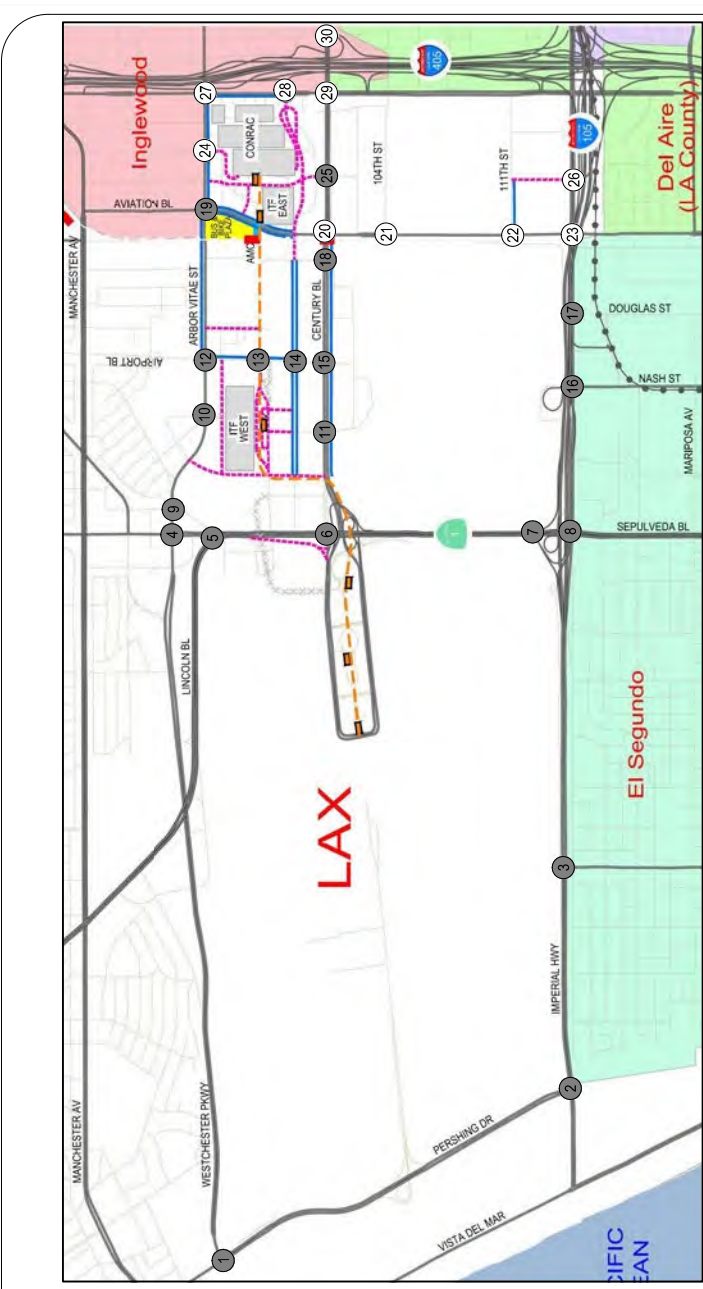
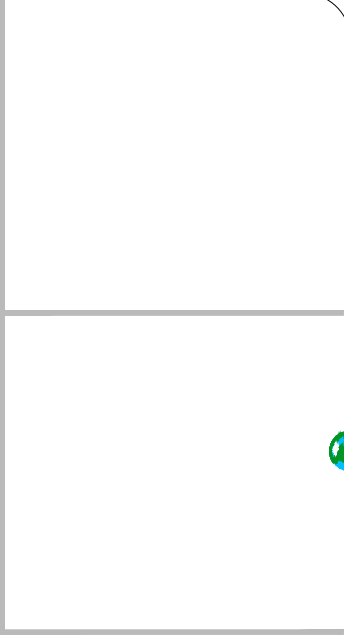
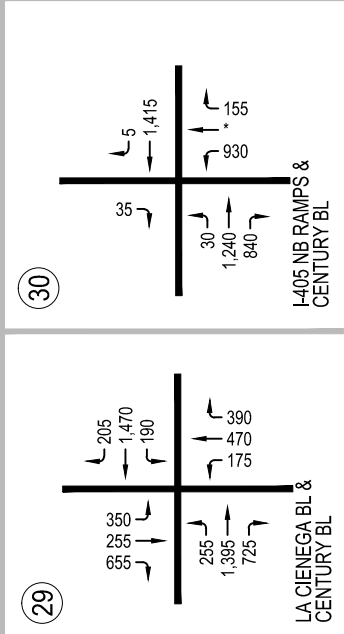
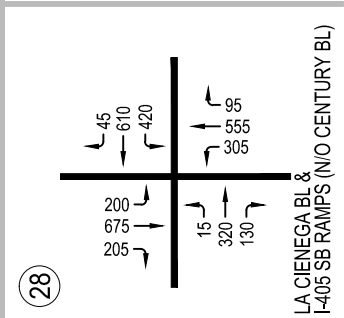
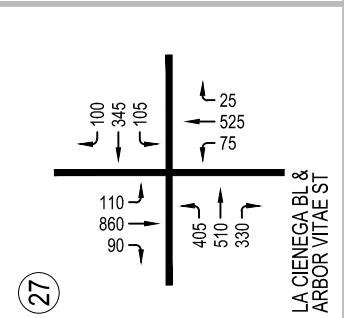
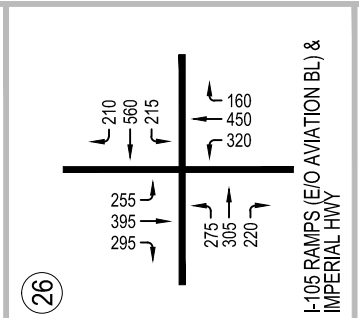
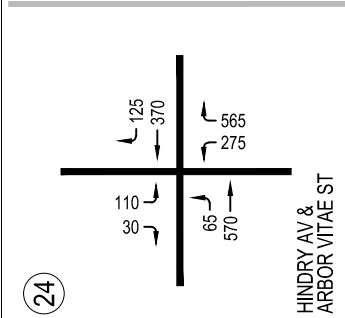
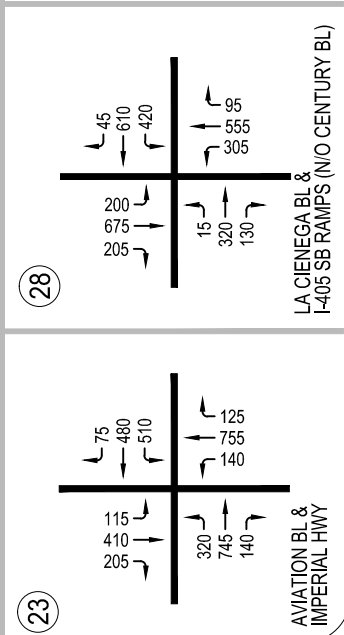
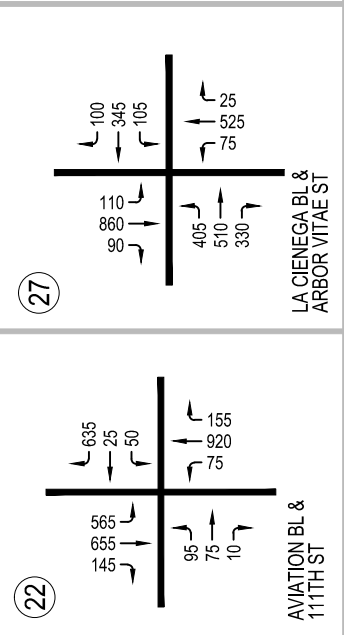
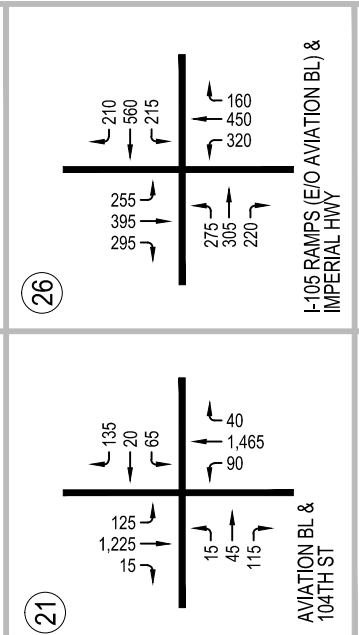
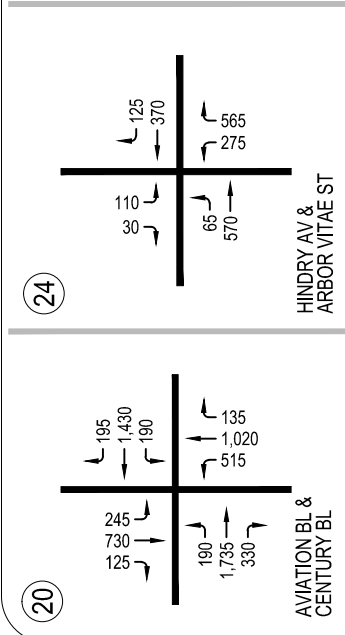


FIGURE 14A  
 FUTURE (2035) WITH PROJECT AND SBO RELOCATION CONDITIONS  
 MID-DAY PEAK HOUR TRAFFIC VOLUMES



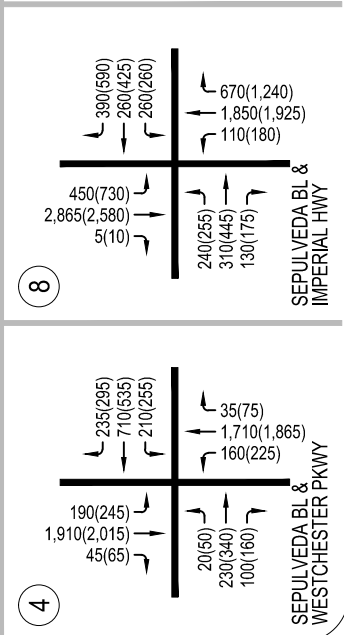
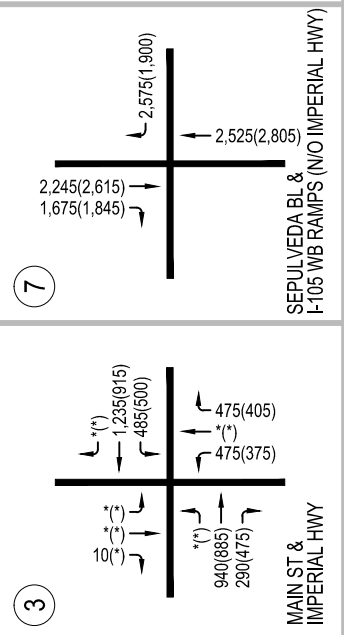
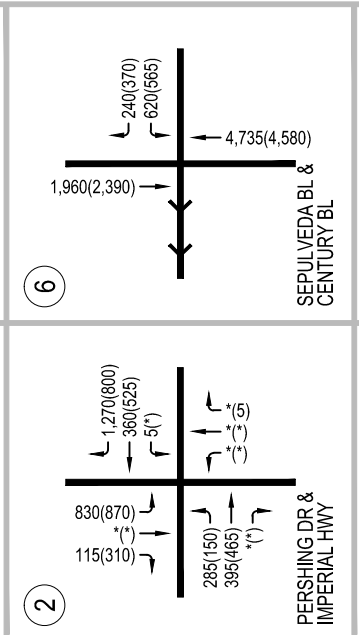
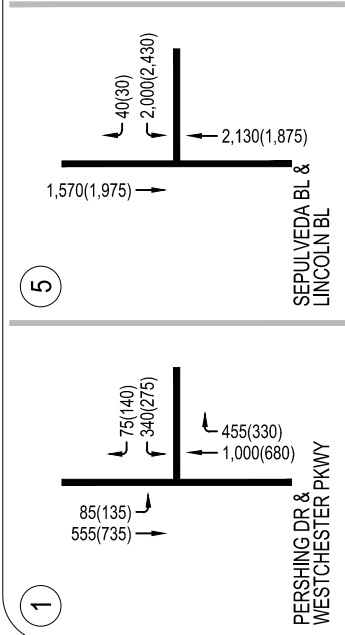
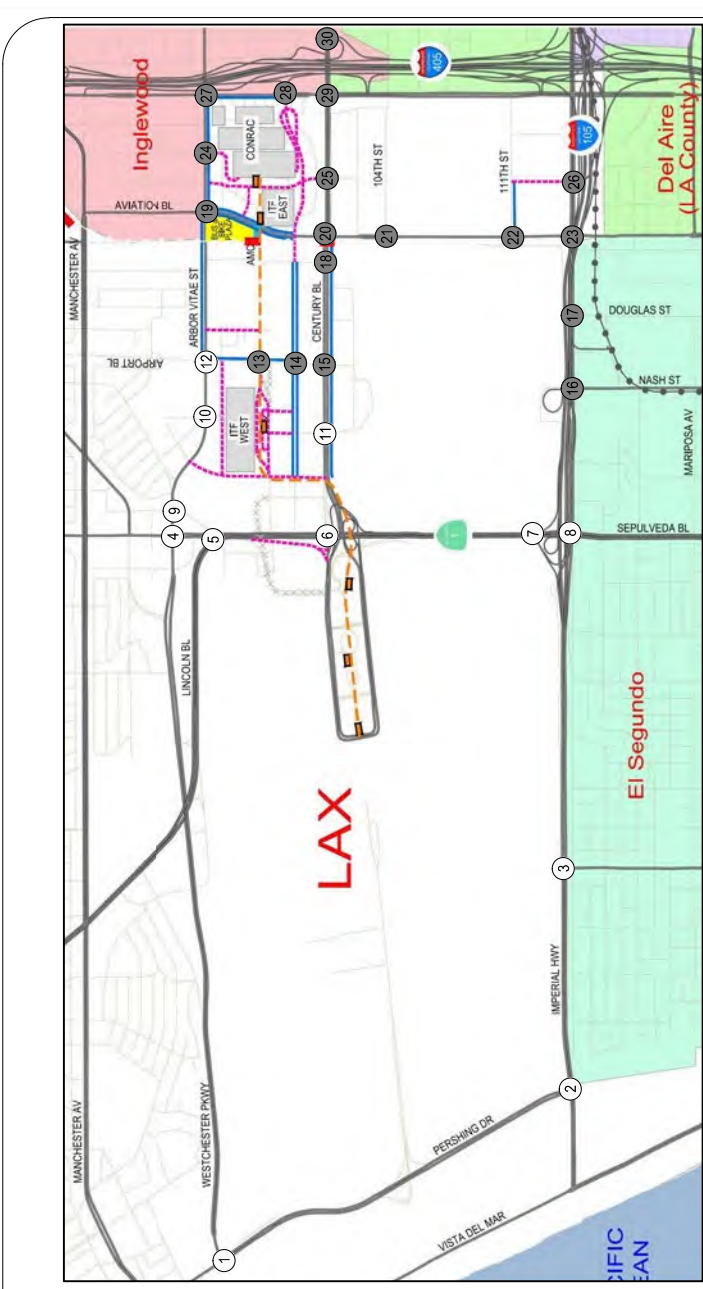
**LEGEND:**

- XXX - Mid-day Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection

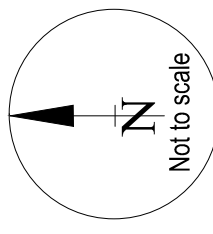


**FIGURE 14B**  
**FUTURE (2035) WITH PROJECT AND SBO RELOCATION CONDITIONS**  
**MID-DAY PEAK HOUR TRAFFIC VOLUMES**



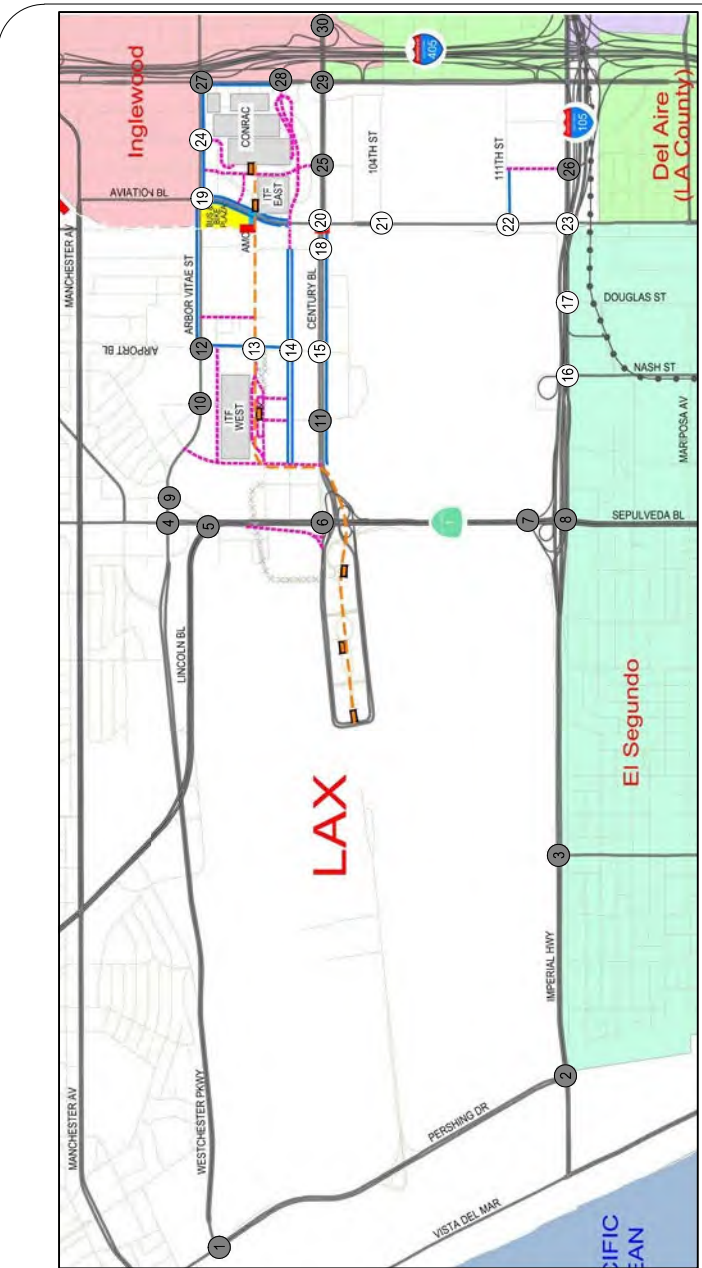


**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection



**FIGURE 15A**  
 FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
 RELATED DEVELOPMENT CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES

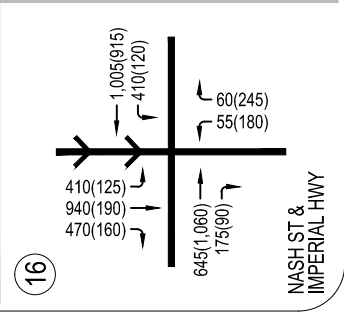
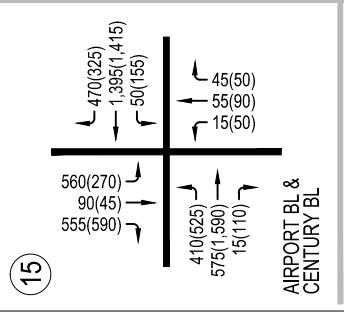
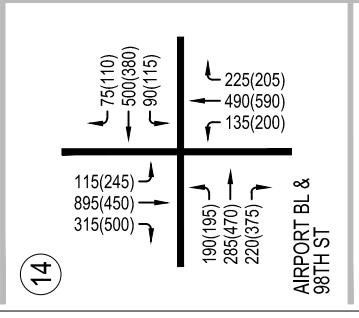
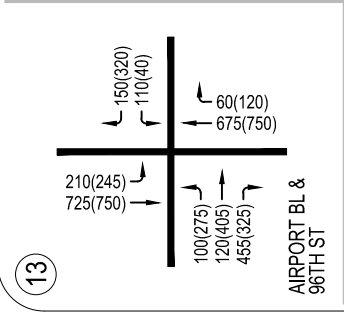
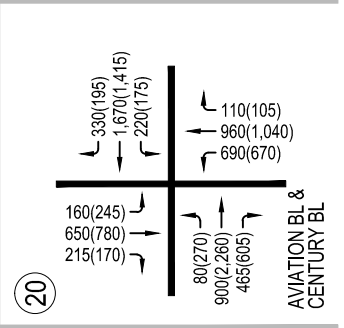
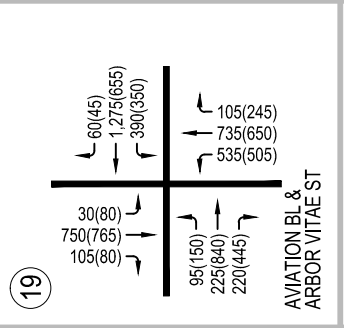
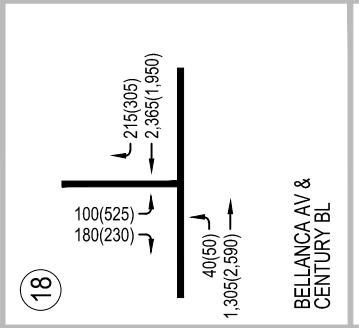
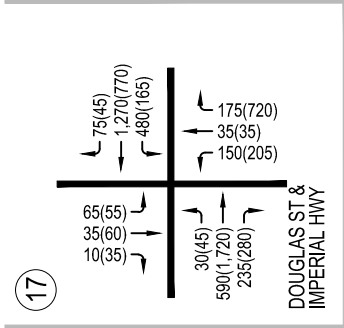
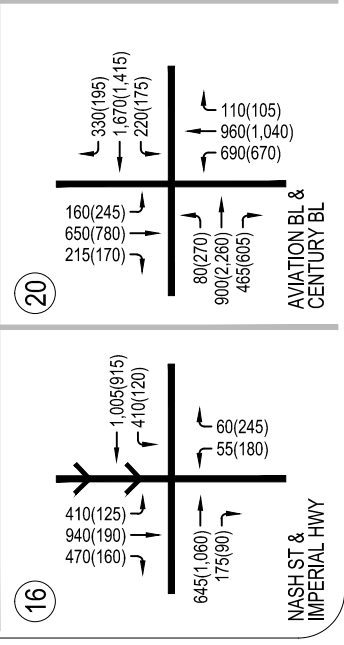
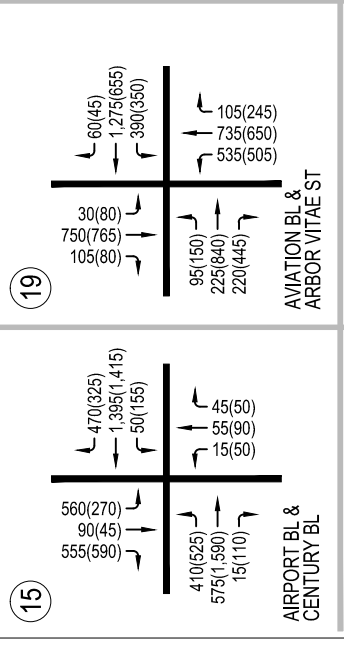
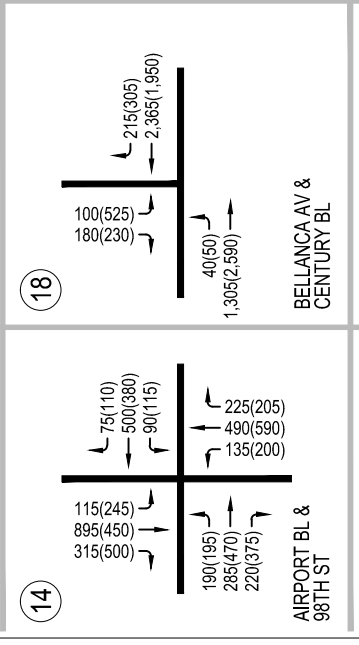
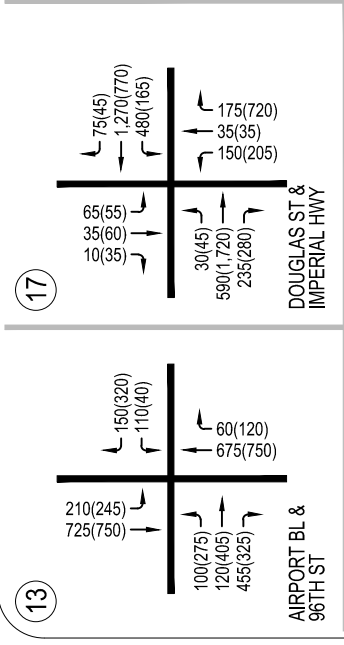
**RAJU Associates, Inc.**



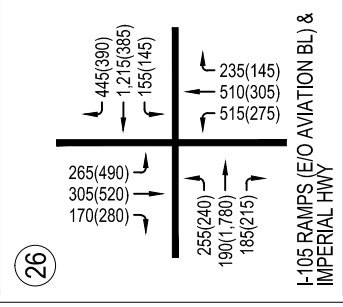
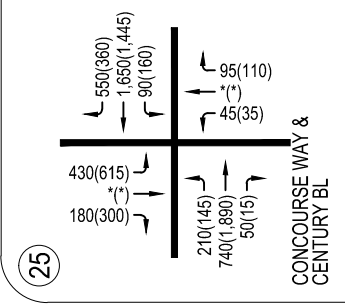
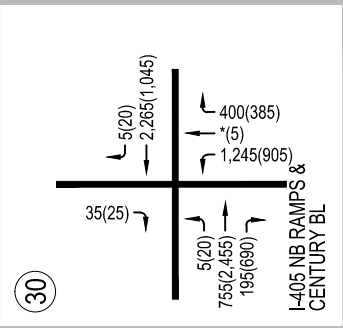
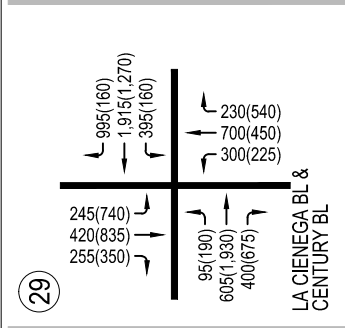
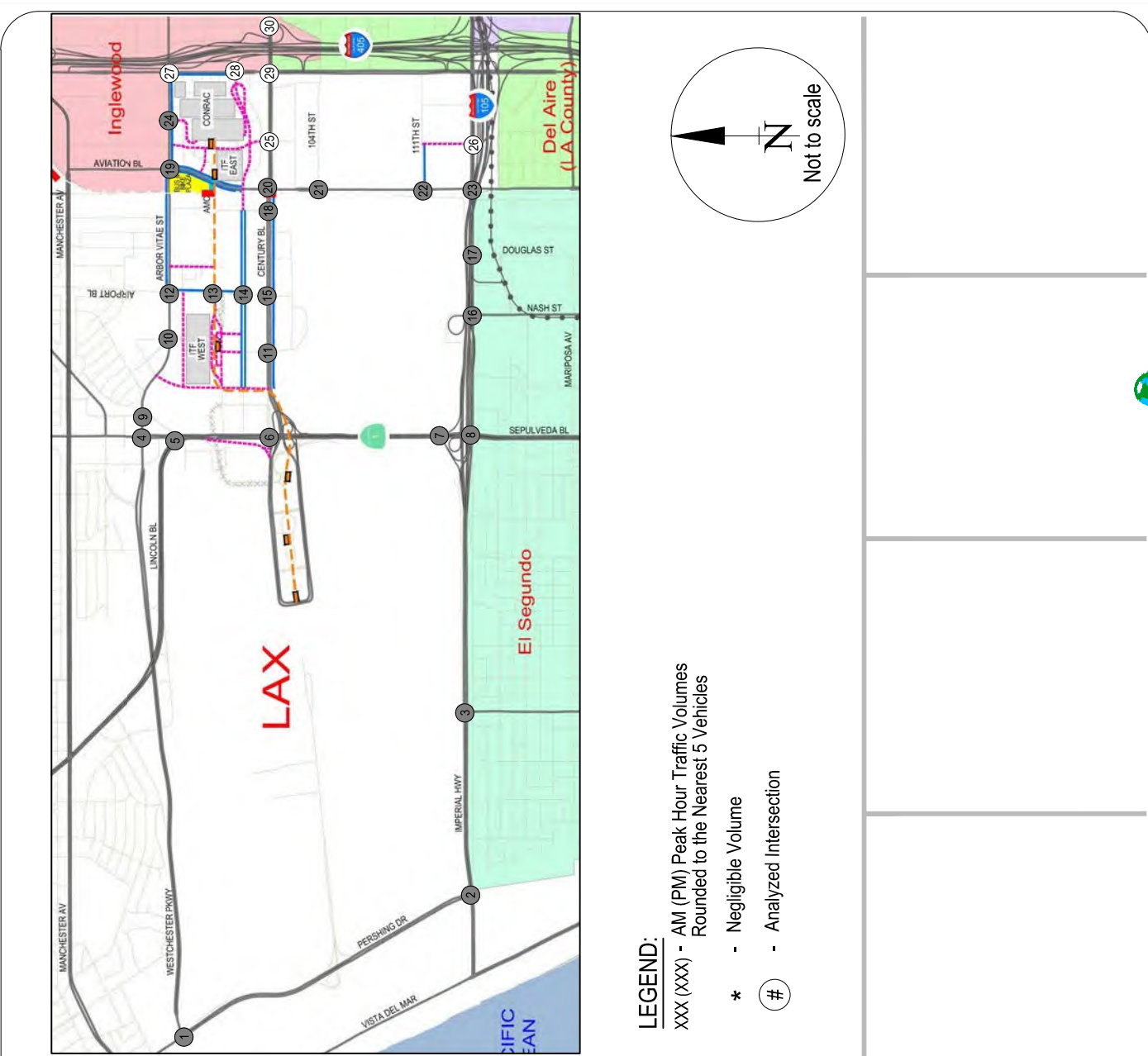
**LEGEND:**

XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection

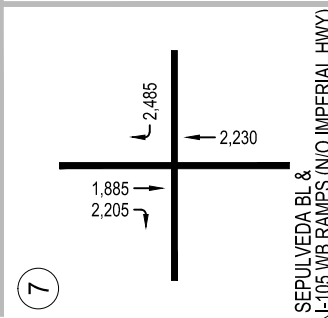
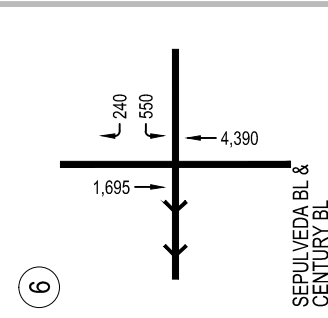
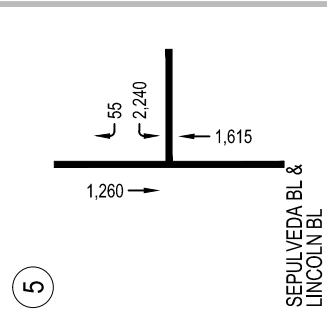
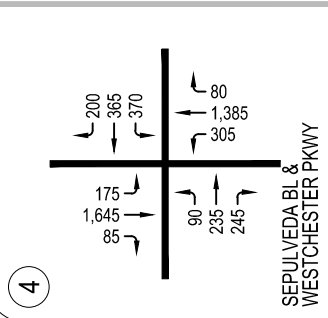
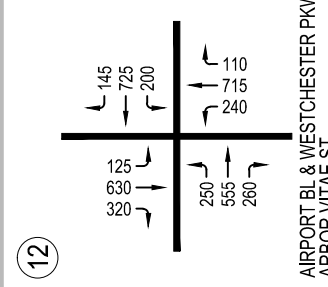
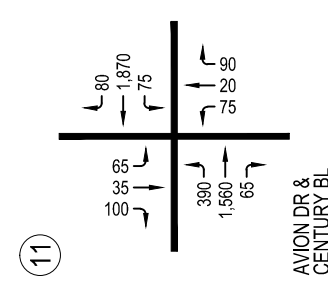
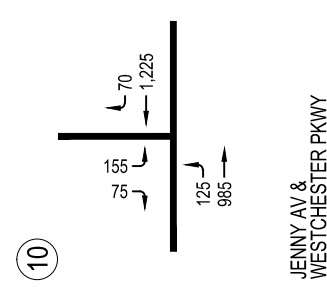
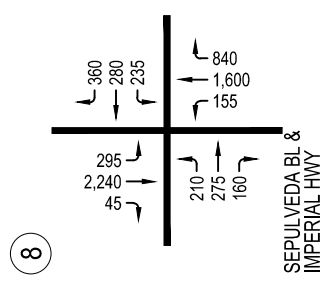
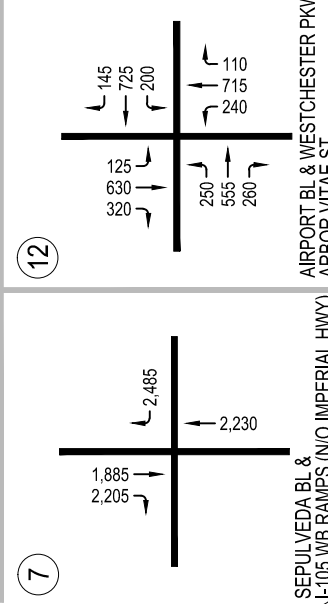
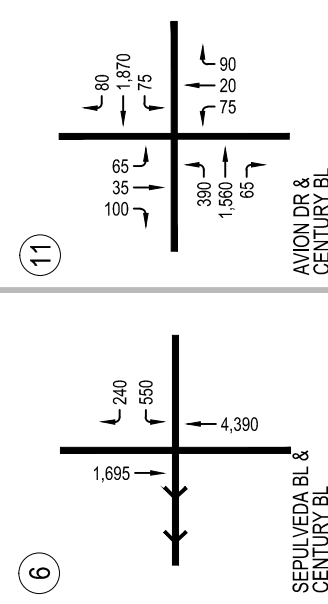
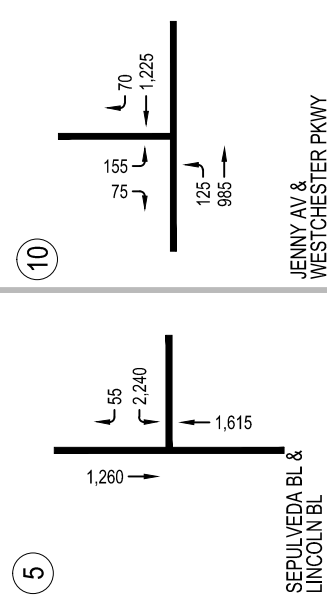
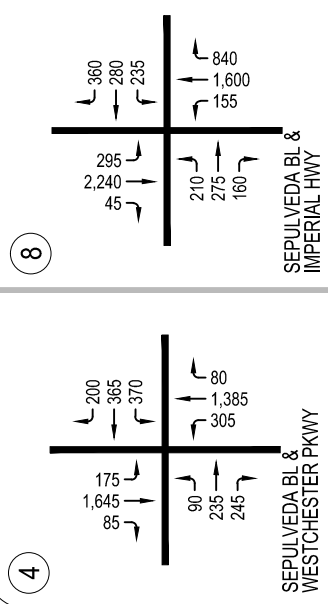
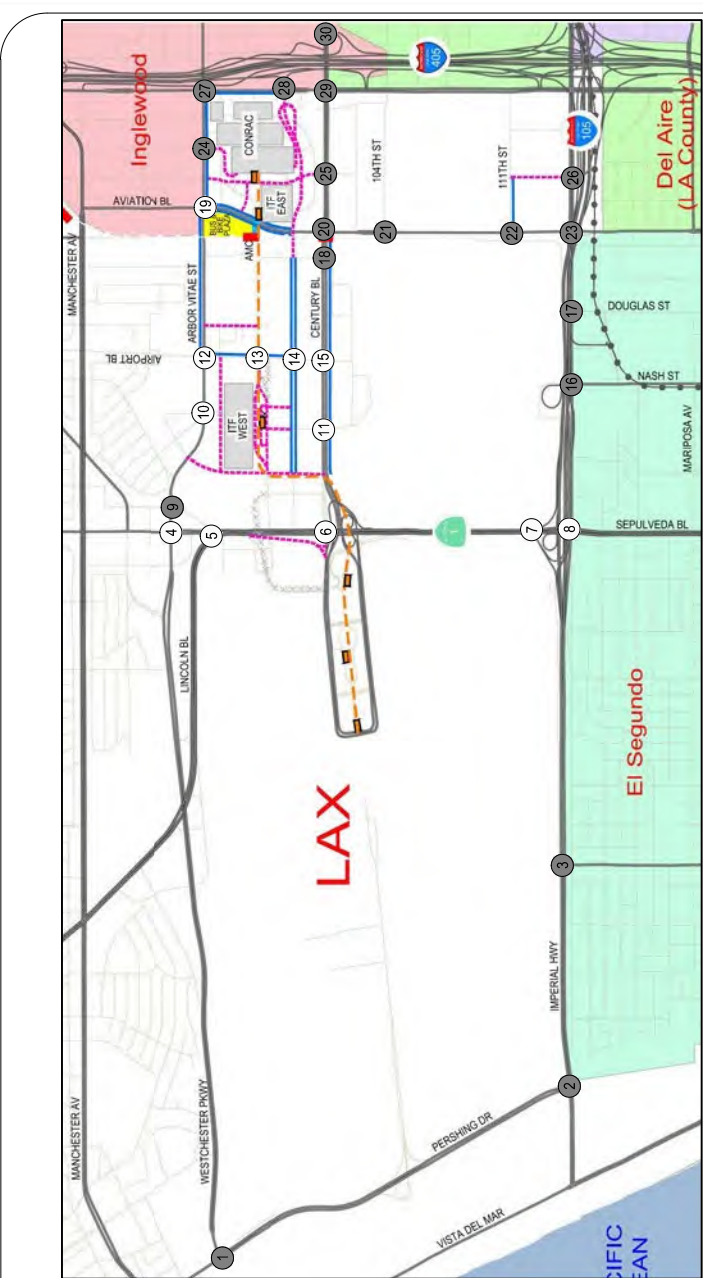


**FIGURE 15B**  
 FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
 RELATED DEVELOPMENT CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES

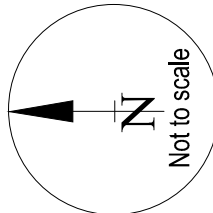


**FIGURE 15C**  
 FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
 RELATED DEVELOPMENT CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES

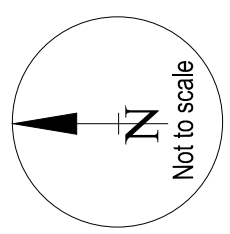
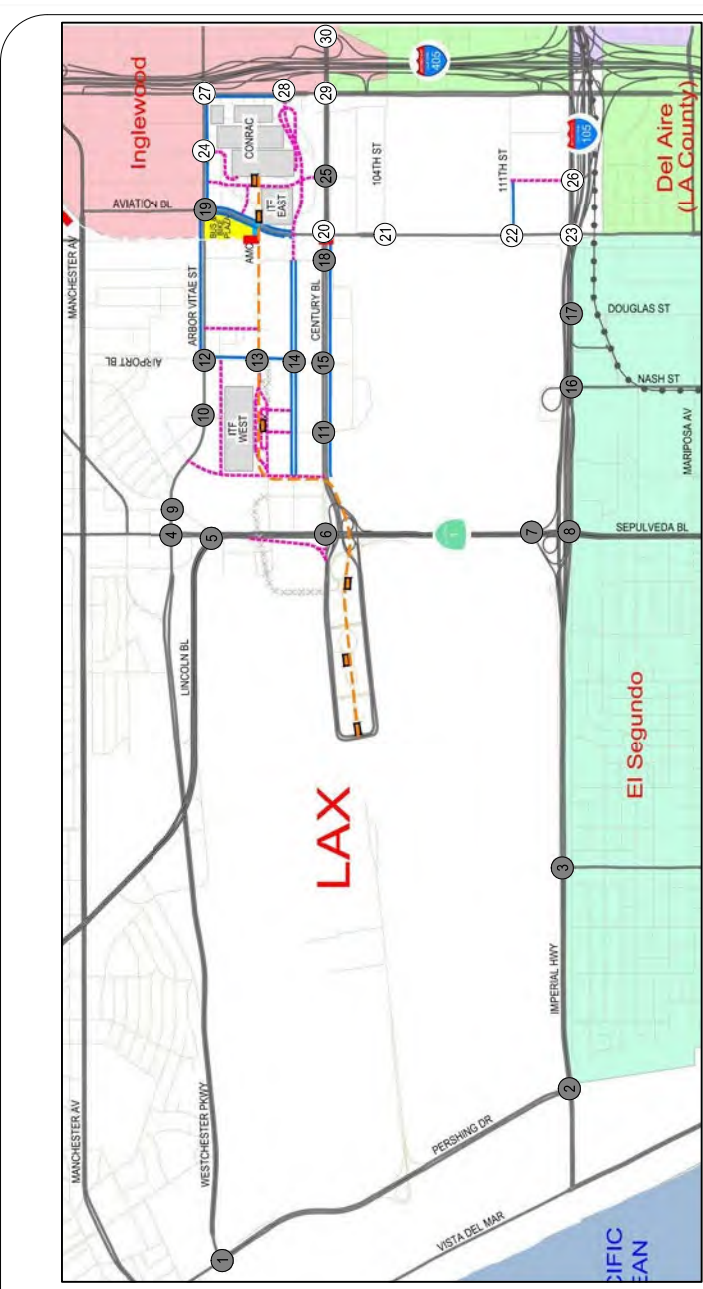




**LEGEND:**  
 XXX - Mid-day Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection

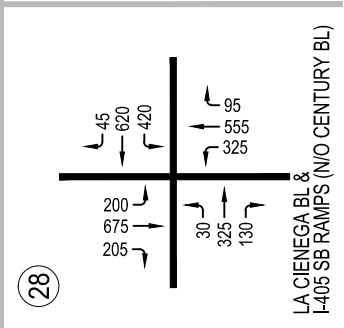
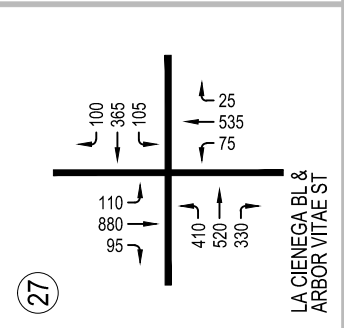
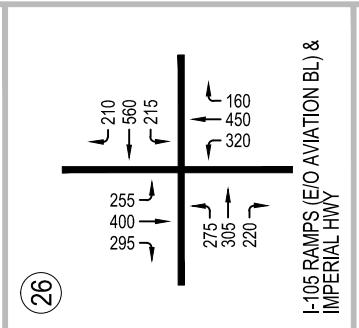
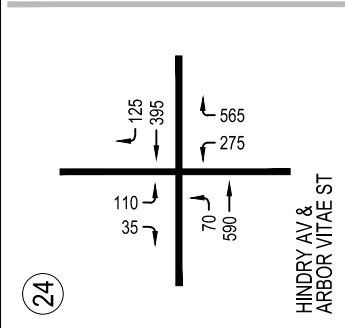
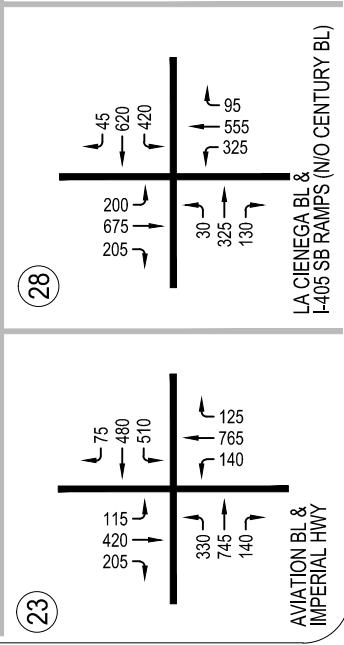
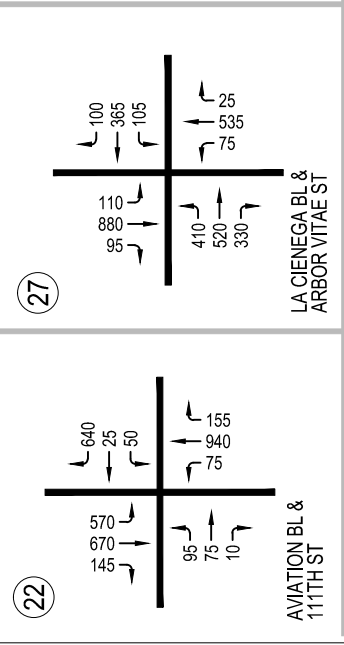
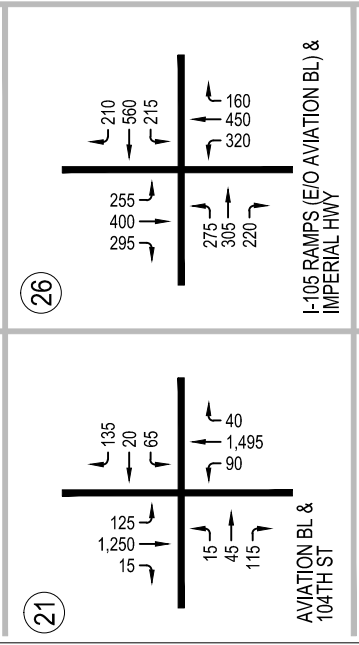
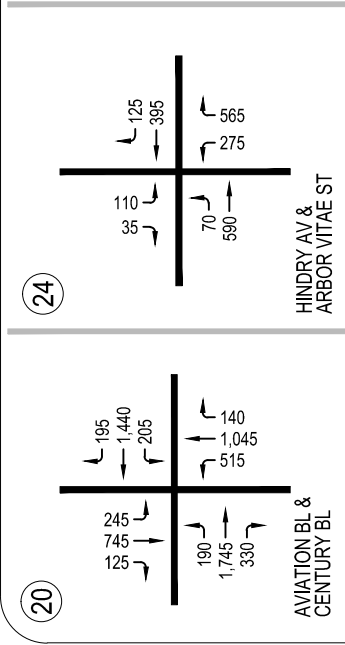


**FIGURE 16A**  
 FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND RELATED DEVELOPMENT CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES



**LEGEND:**

- XXX - Mid-day Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 16B**  
**FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND**  
**RELATED DEVELOPMENT CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES**



## **TRAFFIC CONDITIONS AND IMPACTS ANALYSIS**

Each of the 30 study intersections are evaluated for potential significant traffic impacts based on the significant impact criteria adopted by the jurisdiction(s) in which the study intersection is located (City of Los Angeles and City of Inglewood). Intersections lying on the boundary of multiple jurisdictions are evaluated using the more conservative criteria. A description of the significant impact criteria for each jurisdiction is presented below.

### **Significant Traffic Impact Criteria – City of Los Angeles**

The City of Los Angeles Department of Transportation has established threshold criteria that determine if a project has a significant traffic impact at a specific signalized intersection. For intersections under the City of Los Angeles jurisdiction, project impact is considered significant if the following conditions are met:

<b>Intersection Conditions with Project Traffic</b>		
<b>LOS</b>	<b>Final V/C Ratio</b>	<b>Project-Related Increase in V/C</b>
C	> 0.700 - 0.800	equal to or greater than 0.040
D	> 0.800 - 0.900	equal to or greater than 0.020
E or F	> 0.900	equal to or greater than 0.010

### **Significant Impact Criteria – City of Inglewood**

For the City of Inglewood, an impact is considered to be significant if the following threshold is exceeded:

- The LOS is F, its final V/C ratio is 1.001 or greater, and the project-related increase in V/C is 0.020 or greater.

### **Baseline (2015) with Project including SBO Relocation Traffic Conditions**

This section presents the results of the intersection operations analyses for the Baseline (2015) with Project conditions (including the LAMP Project and SBO relocation). The intersection lane

configurations and updated roadways/intersections due to the proposed Project in the Baseline conditions as identified in the *Transportation Study of the LAMP DEIR* are utilized as input for the intersection capacity calculations conducted at the 30 analyzed locations.

Table 8 presents the results of the Baseline (2015) with Project (including SBO Relocation) traffic analysis. As indicated in the table, 26 of the 30 study intersections are projected to operate at LOS D or better during the morning peak hour. During the evening peak hour, 29 of the 30 study intersections are projected to operate at LOS D or better. The following intersections are projected to operate at LOS E or F:

- Sepulveda Boulevard & I-105 WB Ramps (n/o Imperial Hwy): AM Peak Hour, LOS F
- Sepulveda Boulevard & Imperial Highway: PM Peak Hour, LOS F
- La Cienega Boulevard & Arbor Vitae Street: AM Peak Hour, LOS E
- La Cienega Boulevard & Century Boulevard: AM Peak Hour, LOS E
- I-405 Northbound Ramps & Century Boulevard: AM Peak Hour, LOS E

Capacity calculation worksheets for Baseline (2015) with Project including SBO Relocation conditions are included in Attachment A.

### **Baseline (2015) with Project including SBO Relocation – Mid-Day Peak Hour Intersection Operations**

The Baseline (2015) with Project (including SBO Relocation) intersection projected operating conditions for the mid-day peak hour are shown in Table 9. As indicated in the table, all 22 study intersections are projected to operate at LOS D or better during the mid-day peak hour.

Capacity calculation worksheets for Baseline (2015) with Project including SBO Relocation conditions during the mid-day peak hour are included in Attachment A.

### **Intersection Impacts – Before Mitigation Measures**

Traffic impact analysis was conducted for the 30 study intersections based on significant impact criteria detailed above. Table 8 provides a summary of the impacted intersections, before mitigation measures. Under Baseline with Project conditions, the Project including SBO Relocation is expected to result in significant impacts at two of the 30 study intersections. These intersections include:



**TABLE 8  
SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - BASELINE (2015) WITH PROJECT AND SBO RELOCATION CONDITIONS**

MAP #	INTERSECTION	PEAK HOUR	EXISTING CONDITIONS*		BASELINE (2015) WITH PROJECT AND SBO RELOCATION CONDITIONS			
			V/C OR DELAY	LOS	V/C	LOS	CHANGE IN V/C	SIGNIFICANT IMPACT
1	Pershing Drive & Westchester Parkway	AM	0.429	A	0.418	A	-0.011	No
		PM	0.259	A	0.242	A	-0.017	No
2	Pershing Drive & Imperial Highway	AM	0.520	A	0.501	A	-0.019	No
		PM	0.400	A	0.377	A	-0.023	No
3	Main Street & Imperial Highway	AM	0.693	B	0.680	B	-0.013	No
		PM	0.608	B	0.597	A	-0.011	No
4	Sepulveda Boulevard & Westchester Parkway	AM	0.735	C	0.736	C	0.001	No
		PM	0.784	C	0.779	C	-0.005	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	AM	0.601	B	0.613	B	0.013	No
		PM	0.620	B	0.621	B	0.001	No
6	Sepulveda Boulevard & Century Boulevard	AM	0.754	C	0.751	C	-0.003	No
		PM	0.689	B	0.663	B	-0.026	No
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	AM	1.078	F	1.032	F	-0.046	No
		PM	0.901	E	0.872	D	-0.029	No
8	Sepulveda Boulevard & Imperial Highway	AM	0.774	C	0.715	C	-0.059	No
		PM	1.089	F	1.058	F	-0.031	No
9	Sepulveda Eastway & Westchester Parkway	AM	0.407	A	0.431	A	0.024	No
		PM	0.602	B	0.618	B	0.016	No
10	Jenny Avenue & Westchester Parkway	AM	0.197	A	0.303	A	0.106	No
		PM	0.330	A	0.292	A	-0.038	No
11	Avion Drive & Century Boulevard	AM	0.381	A	0.360	A	-0.021	No
		PM	0.292	A	0.261	A	-0.031	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	AM	0.661	B	0.626	B	-0.035	No
		PM	0.763	C	0.674	B	-0.089	No
13	Airport Boulevard & 96th Street	AM	0.279	A	0.345	A	0.066	No
		PM	0.376	A	0.388	A	0.012	No
14	Airport Boulevard & 98th Street	AM	0.374	A	0.507	A	0.133	No
		PM	0.467	A	0.700	B	0.233	No
15	Airport Boulevard & Century Boulevard	AM	0.565	A	0.523	A	-0.042	No
		PM	0.459	A	0.478	A	0.019	No
16	Nash Street /I-105 Westbound Ramps & Imperial Highway	AM	0.414	A	0.402	A	-0.012	No
		PM	0.350	A	0.256	A	-0.094	No
17	Douglas Street & Imperial Highway	AM	0.346	A	0.348	A	0.002	No
		PM	0.579	A	0.577	A	-0.002	No
18	Bellanca Avenue & Century Boulevard	AM	0.471	A	0.310	A	-0.161	No
		PM	0.437	A	0.269	A	-0.168	No
19	Aviation Boulevard & Arbor Vitae Street	AM	0.802	D	0.807	D	0.005	No
		PM	0.720	C	0.800	C	0.080	Yes
20	Aviation Boulevard & Century Boulevard	AM	0.730	C	0.644	B	-0.086	No
		PM	0.729	C	0.671	B	-0.058	No
21	Aviation Boulevard & 104th Street	AM	0.520	A	0.513	A	-0.007	No
		PM	0.507	A	0.581	A	0.074	No
22	Aviation Boulevard & 111th Street	AM	0.475	A	0.651	B	0.176	No
		PM	0.459	A	0.636	B	0.177	No
23	Aviation Boulevard & Imperial Highway	AM	0.576	A	0.536	A	-0.040	No
		PM	0.736	C	0.757	C	0.021	No
24	Hindry Avenue & Arbor Vitae Street [2]	AM	19.0 s	C	0.515	A	-0.116	No
		PM	14.6 s	B	0.398	A	-0.171	No
25	Concourse Way & Century Boulevard	AM	0.249	A	0.611	B	0.362	No
		PM	0.323	A	0.536	A	0.213	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	AM	0.622	B	0.569	A	-0.053	No
		PM	0.531	A	0.561	A	0.030	No
27	La Cienega Boulevard & Arbor Vitae Street	AM	0.740	C	0.917	E	0.177	No
		PM	0.711	C	0.779	C	0.068	No
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Bl)	AM	0.742	C	0.676	B	-0.066	No
		PM	0.610	B	0.488	A	-0.122	No
29	La Cienega Boulevard & Century Boulevard	AM	0.891	D	0.925	E	0.034	Yes
		PM	0.823	D	0.865	D	0.042	Yes
30	I-405 Northbound Ramps & Century Boulevard	AM	0.879	D	0.922	E	0.043	No
		PM	0.715	C	0.725	C	0.010	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR*, Raju Associates, Inc., September 2016 .

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

**TABLE 9  
SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - BASELINE (2015) WITH PROJECT AND SBO RELOCATION CONDITIONS MID-DAY PEAK HOUR**

MAP #	INTERSECTION	EXISTING (2015) CONDITIONS*			BASELINE (2015) WITH PROJECT AND SBO RELOCATION CONDITIONS				SIGNIFICANT IMPACT
		V/C OR DELAY	MD PEAK HOUR	LOS	V/C	MD PEAK HOUR		CHANGE IN V/C	
						LOS	LOS		
4	Sepulveda Boulevard & Westchester Parkway	0.748		C	0.747		C	-0.001	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	0.478		A	0.477		A	-0.001	No
6	Sepulveda Boulevard & Century Boulevard	0.594		A	0.719		C	0.125	Yes
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	0.921		E	0.870		D	-0.051	No
8	Sepulveda Boulevard & Imperial Highway	0.684		B	0.652		B	-0.032	No
10	Jenny Avenue & Westchester Parkway	0.232		A	0.333		A	0.101	No
11	Avion Drive & Century Boulevard	0.320		A	0.245		A	-0.075	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	0.587		A	0.491		A	-0.096	No
13	Airport Boulevard & 96th Street	0.332		A	0.328		A	-0.004	No
14	Airport Boulevard & 98th Street	0.397		A	0.610		B	0.213	No
15	Airport Boulevard & Century Boulevard	0.451		A	0.402		A	-0.049	No
19	Aviation Boulevard & Arbor Vitae Street	0.521		A	0.528		A	0.007	No
20	Aviation Boulevard & Century Boulevard	0.554		A	0.501		A	-0.053	No
21	Aviation Boulevard & 104th Street	0.388		A	0.403		A	0.015	No
22	Aviation Boulevard & 111th Street	0.327		A	0.499		A	0.172	No
23	Aviation Boulevard & Imperial Highway	0.517		A	0.429		A	-0.088	No
24	Hindry Avenue & Arbor Vitae Street [2]	13.2 s		B	0.299		A	-0.051	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	0.275		A	0.338		A	0.063	No
27	La Cienega Boulevard & Arbor Vitae Street	0.562		A	0.666		B	0.104	No
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Boulevard)	0.494		A	0.529		A	0.035	No
29	La Cienega Boulevard & Century Boulevard	0.511		A	0.543		A	0.032	No
30	I-405 Northbound Ramps & Century Boulevard	0.584		A	0.598		A	0.014	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

- Aviation Boulevard & Arbor Vitae Street: Impacted in PM Peak Hour at LOS C
- La Cienega Boulevard & Century Boulevard: Impacted in AM Peak Hour at LOS E and in PM Peak Hour at LOS D

Table 9 provides a summary of the impacted intersections, before mitigation measures, during the mid-day peak hours. Under Baseline with Project conditions, the Project including SBO Relocations is expected to result in significant impacts at one of the 22 study intersections, Sepulveda Boulevard & Century Boulevard – LOS C, during the mid-day peak hour.

The updated LAMP Project including the relocation of the SBO does not result in any changes to significant intersection impacts compared to those described in the *Transportation Study of the LAMP DEIR, Chapter V: Future Conditions – With Project and Traffic Impacts*.

#### **Future (2024) with Project (LAMP Phase 1 and SBO Relocation) Traffic Conditions**

This section presents the results of the intersection operations analyses for the Future (2024) with Phase 1 Project (including SBO Relocation) conditions. The same intersection lane configurations and updated roadways/intersections due to the Proposed Phase 1 Project in the Future 2024 conditions as identified in the *Transportation Study of the LAMP DEIR* were assumed at the 30 analyzed locations.

Table 10 presents the results of the Future (2024) with Project (LAMP Phase 1 and SBO Relocation) traffic analysis. As indicated in the table, 26 of the 30 study intersections are projected to operate at LOS D or better during the morning peak hour. During the evening peak hour, 27 of the 30 study intersections are projected to operate at LOS D or better. The following intersections are projected to operate at LOS E or F:

- Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway): AM Peak Hour, LOS F; PM Peak Hour, LOS E
- La Cienega Boulevard & Arbor Vitae Street: AM Peak Hour, LOS F; PM Peak Hour, LOS E
- La Cienega Boulevard & Century Boulevard: AM Peak Hour, LOS E; PM Peak Hour, LOS F
- I-405 Northbound Ramps & Century Boulevard: AM Peak Hour, LOS E

**TABLE 10**  
**SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - FUTURE (2024) WITH PHASE 1 PROJECT AND SBO RELOCATION CONDITIONS**

MAP #	INTERSECTION	PEAK HOUR	FUTURE (2024) WITHOUT PROJECT CONDITIONS*		FUTURE (2024) WITH PHASE 1 PROJECT AND SBO RELOCATION CONDITIONS			
			V/C OR DELAY	LOS	V/C	LOS	CHANGE IN V/C	SIGNIFICANT IMPACT
1	Pershing Drive & Westchester Parkway	AM	0.459	A	0.446	A	-0.013	No
		PM	0.313	A	0.291	A	-0.022	No
2	Pershing Drive & Imperial Highway	AM	0.528	A	0.504	A	-0.024	No
		PM	0.460	A	0.430	A	-0.030	No
3	Main Street & Imperial Highway	AM	0.685	B	0.675	B	-0.010	No
		PM	0.619	B	0.609	B	-0.010	No
4	Sepulveda Boulevard & Westchester Parkway	AM	0.768	C	0.797	C	0.029	No
		PM	0.914	E	0.881	D	-0.033	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	AM	0.645	B	0.659	B	0.015	No
		PM	0.692	B	0.688	B	-0.004	No
6	Sepulveda Boulevard & Century Boulevard	AM	0.789	C	0.729	C	-0.060	No
		PM	0.834	D	0.790	C	-0.044	No
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	AM	1.085	F	1.042	F	-0.043	No
		PM	0.973	E	0.936	E	-0.037	No
8	Sepulveda Boulevard & Imperial Highway	AM	0.769	C	0.707	C	-0.062	No
		PM	0.910	E	0.852	D	-0.058	No
9	Sepulveda Eastway & Westchester Parkway	AM	0.450	A	0.471	A	0.021	No
		PM	0.727	C	0.724	C	-0.003	No
10	Jenny Avenue & Westchester Parkway	AM	0.208	A	0.331	A	0.123	No
		PM	0.432	A	0.387	A	-0.045	No
11	Avion Drive & Century Boulevard	AM	0.436	A	0.438	A	0.002	No
		PM	0.555	A	0.512	A	-0.043	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	AM	0.696	B	0.663	B	-0.033	No
		PM	1.032	F	0.840	D	-0.192	No
13	Airport Boulevard & 96th Street	AM	0.311	A	0.515	A	0.204	No
		PM	0.504	A	0.696	B	0.192	No
14	Airport Boulevard & 98th Street	AM	0.392	A	0.645	B	0.253	No
		PM	0.561	A	0.698	B	0.137	No
15	Airport Boulevard & Century Boulevard	AM	0.611	B	0.684	B	0.073	No
		PM	0.660	B	0.882	D	0.222	Yes
16	Nash Street /I-105 Westbound Ramps & Imperial Highway	AM	0.521	A	0.518	A	-0.003	No
		PM	0.446	A	0.408	A	-0.038	No
17	Douglas Street & Imperial Highway	AM	0.369	A	0.403	A	0.034	No
		PM	0.706	C	0.699	B	-0.007	No
18	Bellanca Avenue & Century Boulevard	AM	0.613	B	0.384	A	-0.229	No
		PM	0.688	B	0.493	A	-0.195	No
19	Aviation Boulevard & Arbor Vitae Street	AM	0.912	E	0.895	D	-0.017	No
		PM	0.792	C	0.892	D	0.100	Yes
20	Aviation Boulevard & Century Boulevard	AM	0.863	D	0.755	C	-0.108	No
		PM	1.013	F	0.868	D	-0.145	No
21	Aviation Boulevard & 104th Street	AM	0.640	B	0.623	B	-0.017	No
		PM	0.784	C	0.743	C	-0.041	No
22	Aviation Boulevard & 111th Street	AM	0.739	C	0.731	C	-0.008	No
		PM	0.731	C	0.759	C	0.028	No
23	Aviation Boulevard & Imperial Highway	AM	0.724	C	0.601	B	-0.123	No
		PM	0.865	D	0.867	D	0.002	No
24	Hindry Avenue & Arbor Vitae Street [2]	AM	23.4 s	C	0.561	A	-0.127	No
		PM	18.0 s	C	0.514	A	-0.095	No
25	Concourse Way & Century Boulevard	AM	0.306	A	0.637	B	0.331	No
		PM	0.466	A	0.618	B	0.152	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	AM	0.781	C	0.767	C	-0.014	No
		PM	0.679	B	0.688	B	0.009	No
27	La Cienega Boulevard & Arbor Vitae Street	AM	0.813	D	1.013	F	0.200	Yes
		PM	0.806	D	0.954	E	0.148	No
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Bl)	AM	0.783	C	0.666	B	-0.117	No
		PM	0.642	B	0.548	A	-0.094	No
29	La Cienega Boulevard & Century Boulevard	AM	0.930	E	0.982	E	0.052	Yes
		PM	0.915	E	1.007	F	0.092	Yes
30	I-405 Northbound Ramps & Century Boulevard	AM	0.952	E	0.980	E	0.028	No
		PM	0.826	D	0.866	D	0.040	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

Capacity calculation worksheets for Future (2024) with Phase 1 Project including SBO Relocation conditions are included in Attachment B.

### **Future (2024) with Project (LAMP Phase 1 and SBO Relocation) – Mid-Day Peak Hour Intersection Operations**

The Future (2024) with Project (including SBO Relocation) intersection projected operating conditions for the mid-day peak hour are shown in Table 11. As indicated in the table, 21 of the 22 study intersections are projected to operate at LOS D or better during the mid-day peak hour. The remaining intersection, Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway), is projected to operate at LOS E.

Capacity calculation worksheets for Future (2024) with Phase 1 Project including SBO Relocation conditions during the mid-day peak hour are included in Attachment B.

### **Intersection Impacts – Before Mitigation Measures**

Traffic impact analysis was conducted for the 30 study intersections based on significant impact criteria as detailed above. Table 10 provides a summary of the impacted intersections, before mitigation measures, based on the significant criteria during the morning and evening peak hours. Under Future Year 2024 conditions, the Phase 1 Project including SBO Relocation is expected to result in significant impacts at four (4) of the 30 study intersections similar to those described in the *Transportation Study for the LAMP DEIR* within this study area. These intersections include:

- Airport Boulevard & Century Boulevard – Impacted in PM Peak Hour at LOS D
- Aviation Boulevard & Arbor Vitae Street - Impacted in PM Peak Hour at LOS D
- La Cienega Boulevard & Arbor Vitae Street – Impacted in AM Peak Hour at LOS F
- La Cienega Boulevard & Century Boulevard – Impacted in AM Peak Hour at LOS E and in PM Peak Hour at LOS F

Table 11 provides a summary of the impacted intersections, before mitigation measures, during the mid-day peak hour. As indicated in the table, the Phase 1 Project including SBO Relocation is expected to result in significant impacts at two intersections during the mid-day peak hours similar to those described in the *Transportation Study for the LAMP DEIR* within this study area:

**TABLE 11  
SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - FUTURE (2024) WITH PHASE 1 PROJECT AND SBO RELOCATION CONDITIONS MID-DAY PEAK HOUR**

MAP #	INTERSECTION	FUTURE (2024) WITHOUT PROJECT CONDITIONS*			FUTURE (2024) WITH PHASE 1 PROJECT AND SBO RELOCATION CONDITIONS			SIGNIFICANT IMPACT	
		V/C OR DELAY	MD PEAK HOUR	LOS	V/C	MD PEAK HOUR	LOS		CHANGE IN V/C
4	Sepulveda Boulevard & Westchester Parkway	0.910		E	0.888		D	-0.022	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	0.609		B	0.597		A	-0.012	No
6	Sepulveda Boulevard & Century Boulevard	0.643		B	0.601		B	-0.042	No
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	1.002		F	0.953		E	-0.049	No
8	Sepulveda Boulevard & Imperial Highway	0.632		B	0.627		B	-0.005	No
10	Jenny Avenue & Westchester Parkway	0.295		A	0.344		A	0.049	No
11	Avion Drive & Century Boulevard	0.445		A	0.375		A	-0.070	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	0.787		C	0.549		A	-0.238	No
13	Airport Boulevard & 96th Street	0.483		A	0.633		B	0.150	No
14	Airport Boulevard & 98th Street	0.523		A	0.698		B	0.175	No
15	Airport Boulevard & Century Boulevard	0.691		B	0.826		D	0.135	Yes
19	Aviation Boulevard & Arbor Vitae Street	0.638		B	0.770		C	0.132	Yes
20	Aviation Boulevard & Century Boulevard	0.838		D	0.779		C	-0.059	No
21	Aviation Boulevard & 104th Street	0.640		B	0.673		B	0.033	No
22	Aviation Boulevard & 111th Street	0.696		B	0.719		C	0.023	No
23	Aviation Boulevard & Imperial Highway	0.667		B	0.622		B	-0.045	No
24	Hindry Avenue & Arbor Vitae Street [2]	14.7 s		B	0.350		A	-0.118	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	0.412		A	0.549		A	0.137	No
27	La Cienega Boulevard & Arbor Vitae Street	0.667		B	0.757		C	0.090	No
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Boulevard)	0.653		B	0.544		A	-0.109	No
29	La Cienega Boulevard & Century Boulevard	0.693		B	0.701		C	0.008	No
30	I-405 Northbound Ramps & Century Boulevard	0.716		C	0.728		C	0.012	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

- Airport Boulevard & Century Boulevard – Impacted in MD Peak Hour at LOS D
- Aviation Boulevard & Arbor Vitae Street – Impacted in MD Peak Hour at LOS C

Therefore, the updated LAMP Project including the relocation of the SBO does not result in any additional significant intersection impacts under Future (2024) with Phase 1 Project (including SBO Relocation) conditions during the AM, PM and mid-day peak hours within the study area, as reported in *Chapter V: Future Conditions – With Project and Traffic Impacts of the Transportation Study of the LAMP DEIR*.

### **Future (2035) with Project (LAMP Buildout including SBO Relocation) Traffic Conditions**

This section presents the results of the intersection operations analyses for the Future (2035) with Overall Project (including SBO Relocation) conditions. The intersection lane configurations and updated roadways/intersections due to the proposed Project in the Future 2035 conditions as identified in the *Transportation Study of the LAMP DEIR* were utilized for intersection capacity calculations conducted at the 30 analyzed locations.

Table 12 presents the results of the traffic analysis for the Future (2035) with Project (LAMP Full Buildout including SBO Relocation). As indicated in the table, 24 of the 30 study intersections are projected to operate at LOS D or better during the morning peak hour. During the evening peak hour, 21 of the 30 study intersections are projected to operate at LOS D or better. The following intersections are projected to operate at LOS E or F:

- Sepulveda Boulevard & Westchester Parkway: PM Peak Hour, LOS E
- Sepulveda Boulevard & Century Boulevard: AM Peak Hour, LOS E
- Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway): AM Peak Hour, LOS F; PM Peak Hour, LOS E
- Airport Boulevard & Arbor Vitae Street-Westchester Parkway: PM Peak Hour, LOS E
- Aviation Boulevard & Arbor Vitae Street: AM Peak Hour, LOS E; PM Peak Hour, LOS F
- Aviation Boulevard & Century Boulevard: PM Peak Hour, LOS E
- Aviation Boulevard & Imperial Highway: PM Peak Hour, LOS E
- La Cienega Boulevard & Arbor Vitae Street: AM Peak Hour, LOS F; PM Peak Hour, LOS F



**TABLE 12**  
**SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - FUTURE (2035) WITH PROJECT AND SBO RELOCATION CONDITIONS**

MAP #	INTERSECTION	PEAK HOUR	FUTURE (2035) WITHOUT PROJECT CONDITIONS*		FUTURE (2035) WITH PROJECT AND SBO RELOCATION CONDITIONS			
			V/C or DELAY	LOS	V/C	LOS	CHANGE IN V/C	SIGNIFICANT IMPACT
1	Pershing Drive & Westchester Parkway	AM	0.457	A	0.443	A	-0.014	No
		PM	0.362	A	0.337	A	-0.025	No
2	Pershing Drive & Imperial Highway	AM	0.550	A	0.524	A	-0.026	No
		PM	0.501	A	0.469	A	-0.032	No
3	Main Street & Imperial Highway	AM	0.694	B	0.688	B	-0.006	No
		PM	0.633	B	0.615	B	-0.018	No
4	Sepulveda Boulevard & Westchester Parkway	AM	0.812	D	0.830	D	0.018	No
		PM	0.971	E	0.913	E	-0.058	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	AM	0.685	B	0.706	C	0.021	No
		PM	0.715	C	0.719	C	0.004	No
6	Sepulveda Boulevard & Century Boulevard	AM	0.839	D	0.911	E	0.072	Yes
		PM	0.947	E	0.863	D	-0.084	No
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	AM	1.104	F	1.060	F	-0.044	No
		PM	1.001	F	0.964	E	-0.037	No
8	Sepulveda Boulevard & Imperial Highway	AM	0.792	C	0.727	C	-0.065	No
		PM	0.940	E	0.896	D	-0.044	No
9	Sepulveda Eastway & Westchester Parkway	AM	0.491	A	0.506	A	0.015	No
		PM	0.787	C	0.755	C	-0.032	No
10	Jenny Avenue & Westchester Parkway	AM	0.212	A	0.351	A	0.139	No
		PM	0.457	A	0.467	A	0.010	No
11	Avion Drive & Century Boulevard	AM	0.515	A	0.483	A	-0.032	No
		PM	0.640	B	0.538	A	-0.102	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	AM	0.744	C	0.748	C	0.004	No
		PM	1.153	F	0.940	E	-0.213	No
13	Airport Boulevard & 96th Street	AM	0.341	A	0.492	A	0.151	No
		PM	0.580	A	0.578	A	-0.002	No
14	Airport Boulevard & 98th Street	AM	0.433	A	0.660	B	0.227	No
		PM	0.625	B	0.659	B	0.034	No
15	Airport Boulevard & Century Boulevard	AM	0.672	B	0.653	B	-0.019	No
		PM	0.725	C	0.715	C	-0.010	No
16	Nash Street /I-105 Westbound Ramps & Imperial Highway	AM	0.547	A	0.548	A	0.001	No
		PM	0.480	A	0.494	A	0.014	No
17	Douglas Street & Imperial Highway	AM	0.398	A	0.437	A	0.039	No
		PM	0.739	C	0.713	C	-0.026	No
18	Bellanca Avenue & Century Boulevard	AM	0.654	B	0.459	A	-0.195	No
		PM	0.761	C	0.499	A	-0.262	No
19	Aviation Boulevard & Arbor Vitae Street	AM	0.996	E	0.974	E	-0.022	No
		PM	0.902	E	1.000	F	0.098	Yes
20	Aviation Boulevard & Century Boulevard	AM	0.961	E	0.830	D	-0.131	No
		PM	1.051	F	0.949	E	-0.102	No
21	Aviation Boulevard & 104th Street	AM	0.790	C	0.785	C	-0.005	No
		PM	0.875	D	0.868	D	-0.007	No
22	Aviation Boulevard & 111th Street	AM	0.957	E	0.844	D	-0.113	No
		PM	0.872	D	0.822	D	-0.050	No
23	Aviation Boulevard & Imperial Highway	AM	0.878	D	0.651	B	-0.227	No
		PM	0.923	E	0.921	E	-0.002	No
24	Hindry Avenue & Arbor Vitae Street [2]	AM	49.4 s	E	0.667	B	-0.127	No
		PM	24.1 s	C	0.656	B	-0.066	No
25	Concourse Way & Century Boulevard	AM	0.337	A	0.562	A	0.225	No
		PM	0.528	A	0.637	B	0.109	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	AM	0.838	D	0.822	D	-0.016	No
		PM	0.713	C	0.787	C	0.074	Yes
27	La Cienega Boulevard & Arbor Vitae Street	AM	0.887	D	1.119	F	0.232	Yes
		PM	0.852	D	1.072	F	0.220	Yes
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Bl)	AM	0.809	D	0.682	B	-0.127	No
		PM	0.705	C	0.605	B	-0.100	No
29	La Cienega Boulevard & Century Boulevard	AM	0.985	E	1.032	F	0.047	Yes
		PM	1.088	F	1.163	F	0.075	Yes
30	I-405 Northbound Ramps & Century Boulevard	AM	0.993	E	1.003	F	0.010	No
		PM	0.890	D	0.910	E	0.020	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR*, Raju Associates, Inc., September 2016.

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

- La Cienega Boulevard & Century Boulevard: AM Peak Hour, LOS F; PM Peak Hour, LOS F
- I-405 Northbound Ramps & Century Boulevard: AM Peak Hour, LOS F; PM Peak Hour, LOS E

The capacity calculation worksheets for Future (2035) with Project including SBO Relocation conditions are included in Attachment C.

### **Future (2035) with Project including SBO Relocation – Mid-Day Peak Hour Intersection Operations**

The Future (2035) with Project intersection operating conditions for the mid-day peak hour are shown in Table 13. As indicated in the table, 20 of the 22 study intersections are projected to operate at LOS D or better during the mid-day peak hour. The remaining intersections are projected to operate at LOS E and include:

- Sepulveda Boulevard & Westchester Parkway: MD Peak Hour, LOS E
- Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway): MD Peak Hour, LOS E

Capacity calculation worksheets for Future (2035) with Project including SBO Relocation conditions during the mid-day peak hour are included in Attachment C.

### **Intersection Impacts – Before Mitigation Measures**

Traffic impact analysis was conducted for the 30 study intersections using the significant impact criteria detailed earlier. Table 12 provides a summary of the impacted intersections, before mitigation measures, during the morning and evening peak hours. Under Future Year 2035 conditions, the Project including SBO relocation is expected to result in significant impacts at five (5) of the 30 study intersections similar to those detailed in the *Transportation Study for the LAMP DEIR* within this study area. These intersections include:

- Sepulveda Boulevard & Century Boulevard – Impacted in AM Peak Hour at LOS E
- Aviation Boulevard & Arbor Vitae Street - Impacted in PM Peak Hour at LOS F
- I-105 Ramps (e/o Aviation BI) & Imperial Highway – Impacted in PM Peak Hour at LOS C

**TABLE 13  
SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - FUTURE (2035) WITH PROJECT AND SBO RELOCATION CONDITIONS MID-DAY PEAK HOUR**

MAP #	INTERSECTION	FUTURE (2035) WITHOUT PROJECT CONDITIONS*		FUTURE (2035) WITH PROJECT AND SBO RELOCATION CONDITIONS		SIGNIFICANT IMPACT	
		MD PEAK HOUR		MD PEAK HOUR			CHANGE IN V/C
		V/C OR DELAY	LOS	V/C	LOS		
4	Sepulveda Boulevard & Westchester Parkway	0.965	E	0.949	E	-0.016	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	0.648	B	0.632	B	-0.016	No
6	Sepulveda Boulevard & Century Boulevard	0.777	C	0.829	D	0.052	Yes
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	1.025	F	0.973	E	-0.052	No
8	Sepulveda Boulevard & Imperial Highway	0.647	B	0.653	B	0.006	No
10	Jenny Avenue & Westchester Parkway	0.338	A	0.440	A	0.102	No
11	Avion Drive & Century Boulevard	0.572	A	0.464	A	-0.108	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	0.858	D	0.678	B	-0.180	No
13	Airport Boulevard & 96th Street	0.553	A	0.508	A	-0.045	No
14	Airport Boulevard & 98th Street	0.573	A	0.623	B	0.050	No
15	Airport Boulevard & Century Boulevard	0.800	C	0.667	B	-0.133	No
19	Aviation Boulevard & Arbor Vitae Street	0.731	C	0.775	C	0.044	Yes
20	Aviation Boulevard & Century Boulevard	0.900	D	0.872	D	-0.028	No
21	Aviation Boulevard & 104th Street	0.752	C	0.779	C	0.027	No
22	Aviation Boulevard & 111th Street	0.867	D	0.821	D	-0.046	No
23	Aviation Boulevard & Imperial Highway	0.694	B	0.640	B	-0.054	No
24	Hindry Avenue & Arbor Vitae Street [2]	16.5 s	C	0.389	A	-0.164	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	0.440	A	0.593	A	0.153	No
27	La Cienega Boulevard & Arbor Vitae Street	0.724	C	0.806	D	0.082	No
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Boulevard)	0.703	C	0.637	B	-0.066	No
29	La Cienega Boulevard & Century Boulevard	0.813	D	0.864	D	0.051	Yes
30	I-405 Northbound Ramps & Century Boulevard	0.761	C	0.753	C	-0.008	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

- La Cienega Boulevard & Arbor Vitae Street – Impacted in AM & PM Peak Hours at LOS F
- La Cienega Boulevard & Century Boulevard – Impacted in AM & PM Peak Hours at LOS F

Table 13 provides a summary of the impacted intersections, before mitigation measures, during the mid-day peak hour. As indicated in the table, the Project including SBO Relocation is expected to result in significant impacts at three intersections during the mid-day peak hours similar to those detailed in the *Transportation Study for the LAMP DEIR* within this study area:

- Sepulveda Boulevard & Century Boulevard – Impacted in MD Peak Hour at LOS D
- Aviation Boulevard & Arbor Vitae Street – Impacted in MD Peak Hour at LOS C
- La Cienega Boulevard & Century Boulevard – Impacted in MD Peak Hour at LOS D

Therefore, the updated LAMP Project including the relocation of the SBO does not result in any additional significant intersection impacts under Future (2035) with Project (including SBO Relocation) conditions during the AM, PM and mid-day peak hours, similar to those reported in *Chapter V: Future Conditions – With Project and Traffic Impacts of the Transportation Study of the LAMP DEIR*.

**Future (2035) with Project (LAMP Buildout including SBO Relocation) and Related Development Traffic Conditions**

This section presents the results of the intersection analyses operations for the Future (2035) with Project (including SBO Relocation) and Potential Future Related Development conditions. The intersection lane configurations and updated roadways/intersections due to the proposed Project and Potential Future Related Development in the Future 2035 conditions as identified in the *Transportation Study of the LAMP DEIR* were utilized for the intersection capacity calculations conducted at the 30 analyzed locations.

Table 14 presents the results of the Future (2035) with Project (LAMP Full Buildout including SBO Relocation) and Related Development traffic analysis. As indicated in the table, 24 of the 30 study intersections are projected to operate at LOS D or better during the morning peak hour. During the evening peak hour, 21 of the 30 study intersections are projected to operate at LOS D or better. The following intersections are projected to operate at LOS E or F:

**TABLE 14  
SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS  
FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND RELATED DEVELOPMENT CONDITIONS**

MAP #	INTERSECTION	PEAK HOUR	FUTURE (2035) WITHOUT PROJECT CONDITIONS*		FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND RELATED DEVELOPMENT CONDITIONS			
			V/C or DELAY	LOS	V/C	LOS	CHANGE IN V/C	SIGNIFICANT IMPACT
1	Pershing Drive & Westchester Parkway	AM	0.457	A	0.444	A	-0.013	No
		PM	0.362	A	0.338	A	-0.024	No
2	Pershing Drive & Imperial Highway	AM	0.550	A	0.524	A	-0.026	No
		PM	0.501	A	0.469	A	-0.032	No
3	Main Street & Imperial Highway	AM	0.694	B	0.690	B	-0.004	No
		PM	0.633	B	0.616	B	-0.017	No
4	Sepulveda Boulevard & Westchester Parkway	AM	0.812	D	0.835	D	0.023	Yes
		PM	0.971	E	0.920	E	-0.051	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	AM	0.685	B	0.707	C	0.022	No
		PM	0.715	C	0.721	C	0.006	No
6	Sepulveda Boulevard & Century Boulevard	AM	0.839	D	0.916	E	0.077	Yes
		PM	0.947	E	0.870	D	-0.077	No
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	AM	1.104	F	1.062	F	-0.042	No
		PM	1.001	F	0.966	E	-0.035	No
8	Sepulveda Boulevard & Imperial Highway	AM	0.792	C	0.729	C	-0.063	No
		PM	0.940	E	0.898	D	-0.042	No
9	Sepulveda Eastway & Westchester Parkway	AM	0.491	A	0.516	A	0.025	No
		PM	0.787	C	0.778	C	-0.009	No
10	Jenny Avenue & Westchester Parkway	AM	0.212	A	0.357	A	0.145	No
		PM	0.457	A	0.487	A	0.030	No
11	Avion Drive & Century Boulevard	AM	0.515	A	0.485	A	-0.030	No
		PM	0.640	B	0.548	A	-0.092	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	AM	0.744	C	0.776	C	0.032	No
		PM	1.153	F	0.985	E	-0.168	No
13	Airport Boulevard & 96th Street	AM	0.341	A	0.504	A	0.163	No
		PM	0.580	A	0.595	A	0.015	No
14	Airport Boulevard & 98th Street	AM	0.433	A	0.699	B	0.266	No
		PM	0.625	B	0.693	B	0.068	No
15	Airport Boulevard & Century Boulevard	AM	0.672	B	0.660	B	-0.012	No
		PM	0.725	C	0.729	C	0.004	No
16	Nash Street /I-105 Westbound Ramps & Imperial Highway	AM	0.547	A	0.549	A	0.002	No
		PM	0.480	A	0.496	A	0.016	No
17	Douglas Street & Imperial Highway	AM	0.398	A	0.439	A	0.041	No
		PM	0.739	C	0.715	C	-0.024	No
18	Bellanca Avenue & Century Boulevard	AM	0.654	B	0.463	A	-0.191	No
		PM	0.761	C	0.503	A	-0.258	No
19	Aviation Boulevard & Arbor Vitae Street	AM	0.996	E	0.992	E	-0.004	No
		PM	0.902	E	1.035	F	0.133	Yes
20	Aviation Boulevard & Century Boulevard	AM	0.961	E	0.834	D	-0.127	No
		PM	1.051	F	0.991	E	-0.060	No
21	Aviation Boulevard & 104th Street	AM	0.790	C	0.797	C	0.007	No
		PM	0.875	D	0.878	D	0.003	No
22	Aviation Boulevard & 111th Street	AM	0.957	E	0.856	D	-0.101	No
		PM	0.872	D	0.832	D	-0.040	No
23	Aviation Boulevard & Imperial Highway	AM	0.878	D	0.662	B	-0.216	No
		PM	0.923	E	0.930	E	0.007	No
24	Hindry Avenue & Arbor Vitae Street [2]	AM	49.4 s	E	0.676	B	-0.118	No
		PM	24.1 s	C	0.667	B	-0.055	No
25	Concourse Way & Century Boulevard	AM	0.337	A	0.611	B	0.274	No
		PM	0.528	A	0.688	B	0.160	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	AM	0.838	D	0.823	D	-0.015	No
		PM	0.713	C	0.791	C	0.078	Yes
27	La Cienega Boulevard & Arbor Vitae Street	AM	0.887	D	1.151	F	0.264	Yes
		PM	0.852	D	1.090	F	0.238	Yes
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century BI)	AM	0.809	D	0.687	B	-0.122	No
		PM	0.705	C	0.633	B	-0.072	No
29	La Cienega Boulevard & Century Boulevard	AM	0.985	E	1.037	F	0.052	Yes
		PM	1.088	F	1.185	F	0.097	Yes
30	I-405 Northbound Ramps & Century Boulevard	AM	0.993	E	1.026	F	0.033	Yes
		PM	0.890	D	0.932	E	0.042	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR*, Raju Associates, Inc., September 2016.

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

- Sepulveda Boulevard & Westchester Parkway: PM Peak Hour, LOS E
- Sepulveda Boulevard & Century Boulevard: AM Peak Hour, LOS E
- Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway): AM Peak Hour, LOS F; PM Peak Hour, LOS E
- Airport Boulevard & Arbor Vitae Street-Westchester Parkway: PM Peak Hour, LOS E
- Aviation Boulevard & Arbor Vitae Street: AM Peak Hour, LOS E; PM Peak Hour, LOS F
- Aviation Boulevard & Century Boulevard: PM Peak Hour, LOS E
- Aviation Boulevard & Imperial Highway: PM Peak Hour, LOS E
- La Cienega Boulevard & Arbor Vitae Street: AM Peak Hour, LOS F; PM Peak Hour, LOS F
- La Cienega Boulevard & Century Boulevard: AM Peak Hour, LOS F; PM Peak Hour, LOS F
- I-405 Northbound Ramps & Century Boulevard: AM Peak Hour, LOS F; PM Peak Hour, LOS E

The capacity calculation worksheets for Future (2035) with Project (including SBO Relocation) and Related Development conditions are included in Attachment D.

**Future (2035) with Project (including SBO Relocation) and Related Development – Mid-Day Peak Hour Intersection Operations**

The intersection operating conditions for the mid-day peak hour are shown in Table 15. As indicated in the table, 20 of the 22 study intersections are projected to operate at LOS D or better during the mid-day peak hour. The remaining intersections are projected to operate at LOS E and include:

- Sepulveda Boulevard & Westchester Parkway: MD Peak Hour, LOS E
- Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway): MD Peak Hour, LOS E

Capacity calculation worksheets for Future (2035) with Project (including SBO Relocation) and Related Development conditions during the mid-day peak hour are included in Attachment D.

**TABLE 15  
SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS  
FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND RELATED DEVELOPMENT CONDITIONS MID-DAY PEAK HOUR**

MAP #	INTERSECTION	FUTURE (2035) WITHOUT PROJECT CONDITIONS*			FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND RELATED DEVELOPMENT CONDITIONS			SIGNIFICANT IMPACT
		MD PEAK HOUR		LOS	MD PEAK HOUR		V/C	
		V/C OR DELAY	LOS		V/C	LOS		
4	Sepulveda Boulevard & Westchester Parkway	0.965	E	0.963	E	-0.002	No	
5	Sepulveda Boulevard & Lincoln Boulevard [1]	0.648	B	0.633	B	-0.015	No	
6	Sepulveda Boulevard & Century Boulevard	0.777	C	0.834	D	0.057	Yes	
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	1.025	F	0.976	E	-0.049	No	
8	Sepulveda Boulevard & Imperial Highway	0.647	B	0.654	B	0.007	No	
10	Jenny Avenue & Westchester Parkway	0.338	A	0.449	A	0.111	No	
11	Avion Drive & Century Boulevard	0.572	A	0.475	A	-0.097	No	
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	0.858	D	0.701	C	-0.157	No	
13	Airport Boulevard & 96th Street	0.553	A	0.520	A	-0.033	No	
14	Airport Boulevard & 98th Street	0.573	A	0.657	B	0.084	No	
15	Airport Boulevard & Century Boulevard	0.800	C	0.683	B	-0.117	No	
19	Aviation Boulevard & Arbor Vitae Street	0.731	C	0.790	C	0.059	Yes	
20	Aviation Boulevard & Century Boulevard	0.900	D	0.893	D	-0.007	No	
21	Aviation Boulevard & 104th Street	0.752	C	0.789	C	0.037	No	
22	Aviation Boulevard & 111th Street	0.867	D	0.832	D	-0.035	No	
23	Aviation Boulevard & Imperial Highway	0.694	B	0.645	B	-0.049	No	
24	Hindry Avenue & Arbor Vitae Street [2]	16.5 s	C	0.402	A	-0.151	No	
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	0.440	A	0.595	A	0.155	No	
27	La Cienega Boulevard & Arbor Vitae Street	0.724	C	0.823	D	0.099	No	
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Boulevard)	0.703	C	0.660	B	-0.043	No	
29	La Cienega Boulevard & Century Boulevard	0.813	D	0.877	D	0.064	Yes	
30	I-405 Northbound Ramps & Century Boulevard	0.761	C	0.764	C	0.003	No	

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.



## Intersection Impacts – Before Mitigation Measures

Traffic impact analysis was conducted for the 30 study intersections based on significant impact criteria detailed earlier. Table 14 provides a summary of the impacted intersections, before mitigation measures, during the morning and evening peak hours. Under Future (2035) with Project (including SBO Relocation) and Related Development conditions, the Project is expected to result in significant impacts at seven (7) of the 30 study intersections similar to those described in the *Transportation Study for the LAMP DEIR* within this study area. These intersections include:

- Sepulveda Boulevard & Westchester Parkway – Impacted in AM Peak Hour at LOS D
- Sepulveda Boulevard & Century Boulevard – Impacted in AM Peak Hour at LOS E
- Aviation Boulevard & Arbor Vitae Street - Impacted in PM Peak Hour at LOS F
- I-105 Ramps (e/o Aviation BI) & Imperial Highway – Impacted in PM Peak Hour at LOS C
- La Cienega Boulevard & Arbor Vitae Street – Impacted in AM & PM Peak Hours at LOS F
- La Cienega Boulevard & Century Boulevard – Impacted in AM & PM Peak Hours at LOS F
- I-405 Northbound Ramps & Century Boulevard – Impacted in AM Peak Hour at LOS F

Table 15 provides a summary of the impacted intersections, before mitigation measures, during the mid-day peak hour. As indicated in the table, the Project including SBO Relocation is expected to result in significant impacts at three intersections similar to those identified in the *Transportation Study for the LAMP DEIR* within this study area during the mid-day peak hours:

- Sepulveda Boulevard & Century Boulevard – Impacted in MD Peak Hour at LOS D
- Aviation Boulevard & Arbor Vitae Street – Impacted in MD Peak Hour at LOS C
- La Cienega Boulevard & Century Boulevard – Impacted in MD Peak Hour at LOS D

Therefore, the updated LAMP Project including the relocation of the SBO does not result in any additional significant intersection impacts under Future (2035) with Project (including SBO Relocation) and Related Development conditions during the AM, PM and mid-day peak hours, similar to those reported in *Chapter V: Future Conditions – With Project and Traffic Impacts* of the *Transportation Study of the LAMP DEIR*.

## TRANSPORTATION IMPROVEMENT AND MITIGATION PROGRAM

The proposed Project has been forecast to create significant impacts at intersections as described in the section above. Specific mitigation measures were identified in the *Transportation Study for the LAMP Project DEIR* at these locations to address them. The effectiveness of the mitigation program (identified in the LAMP DEIR) has been evaluated in this section. The various guidelines, methods, and assumptions mandated by LADOT and other jurisdictions, wherever applicable, have been used in the preparation of this analysis.

The mitigation program for the Project includes the following major components as identified in *Chapter VI – Transportation Improvement and Mitigation Program* in the *Transportation Study for the LAMP Project DEIR*:

1. Implementation of a site-wide Transportation Demand Management (TDM) program for LAX and associated facilities to provide a variety of additional transportation access choices in order to promote non-auto travel, particularly for LAX employees.
2. Signal system improvements, including signal controller upgrades and installation of CCTV cameras at key intersections within the Study Area.
3. Specific corridor and intersection improvements, including physical mitigations and signal system and phasing enhancements.

The proposed physical improvements include: Roadway Corridor Improvements and Intersection Improvements.

### **Roadway Corridor Improvements**

The following roadway corridor improvements are provided below:

- **I-405 Northbound Auxiliary Lane** – This improvement would involve adding an auxiliary lane along northbound I-405 between El Segundo Boulevard on-ramp and the Imperial Highway off-ramp. This improvement would require widening the I-405 northbound roadway between the limits noted above including potentially widening the bridge over 120<sup>th</sup> Street.
- **Imperial Highway off-ramp** – This improvement would involve widening the off-ramp to two lanes at the exit from the I-405 northbound lanes and carrying the widening to the ramp junction at Imperial Highway to provide two left-turn lanes and a separate right-turn lane.

- **La Cienega Boulevard** – This improvement would involve reconstructing the median along certain stretches of La Cienega Boulevard to allow for a third northbound travel lane between Imperial Highway and Century Boulevard during the peak periods, by restricting parking on the east side of the street. Some parking restrictions currently exist and the proposed improvement would allow for three through lanes in both directions along La Cienega Boulevard during the peak time periods.

### **Specific Intersection Improvements**

Intersection improvements designed to alleviate the significant impacts of the Project consist of signal system and phasing enhancements, and physical improvements involving minor widening. A summary of these improvements that address the impacted intersections, from *Chapter VI – Transportation Improvement and Mitigation Program* in the *Transportation Study for the LAMP DEIR*, is provided below.

### **Baseline (2015) with Project (including SBO Relocation) Intersection Improvements -**

- Sepulveda Boulevard & Century Boulevard - This improvement would provide a third westbound left-turn lane. As part of the Project, new connections would be provided between westbound Century Boulevard to northbound Sepulveda Boulevard via new 'A' Street and 96<sup>th</sup> Street. This will result in reducing the number of westbound right-turning vehicles at Sepulveda Boulevard & Century Boulevard and eliminating the need for a second westbound right-turn lane. The proposed improvement would restripe the westbound right-turn lane into a third left-turn. The westbound approach would have three left-turn lanes and one right-turn lane. The westbound through movement from Century Boulevard into the airport (via the existing "Little" Century Boulevard) would be eliminated. Implementation of these improvements would fully mitigate the significant impact at this location.
- Aviation Boulevard & Arbor Vitae Street - This improvement would align the extension of Concourse Way to be directly across from Isis Avenue (north of Arbor Vitae Street) and provide the installation of a signal at the intersection of Isis Avenue/Concourse Way & Arbor Vitae Street. The provision of a traffic signal at this location would allow left-turn movement in and out of Concourse Way, reducing the number of westbound and northbound left-turns at the intersection of Aviation Boulevard & Arbor Vitae Street. Through movements north and south between Isis Avenue and Concourse Way would not be permitted. Implementation of this improvement would fully mitigate the significant impact at this location.
- La Cienega Boulevard & Century Boulevard - The improvement includes restriping the intersection to provide northbound and southbound dual left-turn lanes and a separate westbound right-turn lane. The northbound approach would be restriped within existing right-of-way to provide dual left-turn lanes, two through lanes and two right-turn lanes. The southbound approach would be restriped from one left-turn lane, two through lanes and two right-turn lanes to dual-left-turn lanes, two through lanes and one right-turn lane. The

existing westbound shared through-right turn lane would be restriped to a right-turn lane only. The westbound approach would have a left-turn lane, three through lanes and a separate right-turn lane. Implementation of this improvement would fully mitigate the significant impact at this location.

#### **Future (2024) with Phase 1 Project (including SBO Relocation) Intersection Improvements -**

- Airport Boulevard & Century Boulevard - The improvement would provide a signal modification to include a southbound right-turn overlap arrow, allowing right-turning vehicles to proceed at the same time the eastbound left-turn turn arrow is green. This improvement would require the prohibition of 'U'-turns in the eastbound direction. Implementation of this improvement would fully mitigate the significant impact at this location. If the prohibition of eastbound U-turns is not approved by LADOT, then this intersection would remain significantly impacted.
- Aviation Boulevard & Arbor Vitae Street - This improvement would align the extension of Concourse Way to be directly across from Isis Avenue (north of Arbor Vitae Street) and provide the installation of a signal at the intersection of Isis Avenue/Concourse Way & Arbor Vitae Street. The provision of a traffic signal at this location would allow left-turn movement in and out of Concourse Way, reducing the number of westbound and northbound left-turns at the intersection of Aviation Boulevard & Arbor Vitae Street. Through movements north and south between Isis Avenue and Concourse Way would not be permitted. Implementation of this improvement would fully mitigate the significant impact at this location.
- La Cienega Boulevard & Arbor Vitae Street - The improvement includes contribution to design and implementation of signal system improvement. The signal system improvement would increase the intersection capacity by a total of 10% (a 0.10 improvement in V/C ratio). Implementation of this improvement would fully mitigate the significant impact at this location.
- La Cienega Boulevard & Century Boulevard - The improvement includes restriping the intersection to provide northbound and southbound dual left-turn lanes and a separate westbound right-turn lane. The northbound approach would be restriped within existing right-of-way to provide dual left-turn lanes, two through lanes and two right-turn lanes. The southbound approach would be restriped from one left-turn lane, two through lanes and two right-turn lanes to dual-left-turn lanes, two through lanes and one right-turn lane. The existing westbound shared through-right turn lane would be restriped to a right-turn lane only. The westbound approach would have a left-turn lane, three through lanes and a separate right-turn lane. Implementation of this improvement would fully mitigate the significant impact at this location.

#### **Future (2035) with Project (including SBO Relocation) Intersection Improvements -**

- Sepulveda Boulevard & Century Boulevard - This improvement would provide a third westbound left-turn lane. As part of the Project, new connections would be provided between westbound Century Boulevard to northbound Sepulveda Boulevard via new 'A'

Street and 96<sup>th</sup> Street. This will result in reducing the number of westbound right-turning vehicles at Sepulveda Boulevard & Century Boulevard and eliminating the need for a second westbound right-turn lane. The proposed improvement would restripe the westbound right-turn lane into a third left-turn. The westbound approach would have three left-turn lanes and one right-turn lane. The westbound through movement from Century Boulevard into the airport (via the existing "Little" Century Boulevard) would be eliminated. Implementation of these improvements would fully mitigate the significant impact at this location.

- Aviation Boulevard & Arbor Vitae Street - This improvement would align the extension of Concourse Way to be directly across from Isis Avenue (north of Arbor Vitae Street) and provide the installation of a signal at the intersection of Isis Avenue/Concourse Way & Arbor Vitae Street. The provision of a traffic signal at this location would allow left-turn movement in and out of Concourse Way, reducing the number of westbound and northbound left-turns at the intersection of Aviation Boulevard & Arbor Vitae Street. Through movements north and south between Isis Avenue and Concourse Way would not be permitted. Implementation of this improvement would fully mitigate the significant impact at this location.
- I-105 Freeway Ramps (east of Aviation Boulevard) & Imperial Highway - This design modification for the new 'C' Street being proposed between 111<sup>th</sup> Street and Imperial Highway would provide a separate right-turn lane on the southbound approach to Imperial Highway. Implementation of this right-turn lane would fully mitigate the significant impact at this location.
- La Cienega Boulevard & Arbor Vitae Street - The improvement includes a second eastbound left-turn lane and contribution to design and implementation of signal system improvement. The eastbound approach would be restriped to have one left-turn lane, a shared left-through lane, one through lane and a separate right-turn lane. The signal system improvement would increase the intersection capacity by a total of 10% (a 0.10 improvement in V/C ratio). Implementation of these improvements would only partially mitigate the significant impact at this location. Therefore, this impact would remain significant and unavoidable.
- La Cienega Boulevard & Century Boulevard - The improvement includes restriping the intersection to provide northbound and southbound dual left-turn lanes and a separate westbound right-turn lane. The northbound approach would be restriped within existing right-of-way to provide dual left-turn lanes, two through lanes and two right-turn lanes. The southbound approach would be restriped from one left-turn lane, two through lanes and two right-turn lanes to dual-left-turn lanes, two through lanes and one right-turn lane. The existing westbound shared through-right turn lane would be restriped to a right-turn lane only. The westbound approach would have a left-turn lane, three through lanes and a separate right-turn lane. Implementation of this improvement would fully mitigate the significant impact at this location.

## **Future (2035) with Project (including SBO Relocation) and Potential Future Related Development Intersection Improvements -**

- Sepulveda Boulevard & Westchester Parkway - Option 1: The improvement proposes installation of CCTV cameras along the Sepulveda Boulevard intersections between Manchester Avenue and Imperial Highway including this impacted intersection. This improvement would increase the intersection capacity by a total of 1% (a 0.01 improvement in V/C ratio). Implementation of this improvement would fully mitigate the significant impact at this location.
- Sepulveda Boulevard & Century Boulevard - This improvement would provide a third westbound left-turn lane. As part of the Project, new connections would be provided between westbound Century Boulevard to northbound Sepulveda Boulevard via new 'A' Street and 96<sup>th</sup> Street. This will result in reducing the number of westbound right-turning vehicles at Sepulveda Boulevard & Century Boulevard and eliminating the need for a second westbound right-turn lane. The proposed improvement would restripe the westbound right-turn lane into a third left-turn. The westbound approach would have three left-turn lanes and one right-turn lane. The westbound through movement from Century Boulevard into the airport (via the existing "Little" Century Boulevard) would be eliminated. Implementation of these improvements would fully mitigate the significant impact at this location.
- Aviation Boulevard & Arbor Vitae Street - This improvement would align the extension of Concourse Way to be directly across from Isis Avenue (north of Arbor Vitae Street) and provide the installation of a signal at the intersection of Isis Avenue/Concourse Way & Arbor Vitae Street. The provision of a traffic signal at this location would allow left-turn movement in and out of Concourse Way, reducing the number of westbound and northbound left-turns at the intersection of Aviation Boulevard & Arbor Vitae Street. Through movements north and south between Isis Avenue and Concourse Way would not be permitted. Implementation of this improvement would fully mitigate the significant impact at this location.
- I-105 Freeway Ramps (east of Aviation Boulevard) & Imperial Highway - This design modification for the new 'C' Street being proposed between 111<sup>th</sup> Street and Imperial Highway would provide a separate right-turn lane on the southbound approach to Imperial Highway. Implementation of this right-turn lane would fully mitigate the significant impact at this location.
- La Cienega Boulevard & Arbor Vitae Street - The improvement includes a second eastbound left-turn lane and contribution to design and implementation of signal system improvement. The eastbound approach would be restriped to have one left-turn lane, a shared left-through lane, one through lane and a separate right-turn lane. The signal system improvement would increase the intersection capacity by a total of 10% (a 0.10 improvement in V/C ratio). Implementation of these improvements would not fully mitigate the significant impact at this location.
- La Cienega Boulevard & Century Boulevard - The improvement includes restriping the intersection to provide northbound and southbound dual left-turn lanes and a separate westbound right-turn lane. The northbound approach would be restriped within existing

right-of-way to provide dual left-turn lanes, two through lanes and two right-turn lanes. The southbound approach would be restriped from one left-turn lane, two through lanes and two right-turn lanes to dual-left-turn lanes, two through lanes and one right-turn lane. The existing westbound shared through-right turn lane would be restriped to a right-turn lane only. The westbound approach would have a left-turn lane, three through lanes and a separate right-turn lane. Implementation of this improvement would fully mitigate the significant impact at this location.

- I-405 Freeway Northbound Ramps & Century Boulevard - The improvement includes contribution to design and implementation of signal system improvement. This improvement would increase the intersection capacity by a total of 10% (a 0.10 improvement in V/C ratio). Implementation of this improvement would fully mitigate the significant impact at this location.

### **Intersection Operating Conditions – Baseline (2015) with Project (including SBO Relocation) and Mitigation Measures**

Figures 17A-C illustrate this scenario's traffic volumes during the morning and evening peak hours, accounting for network changes to reflect improvements and trip reduction from the TDM program as indicated in *Chapter VI – Transportation Improvement and Mitigation Program* of the *Transportation Study for the LAMP Project DEIR*. The mid-day peak hour traffic volumes are shown in Figures 18A-B.

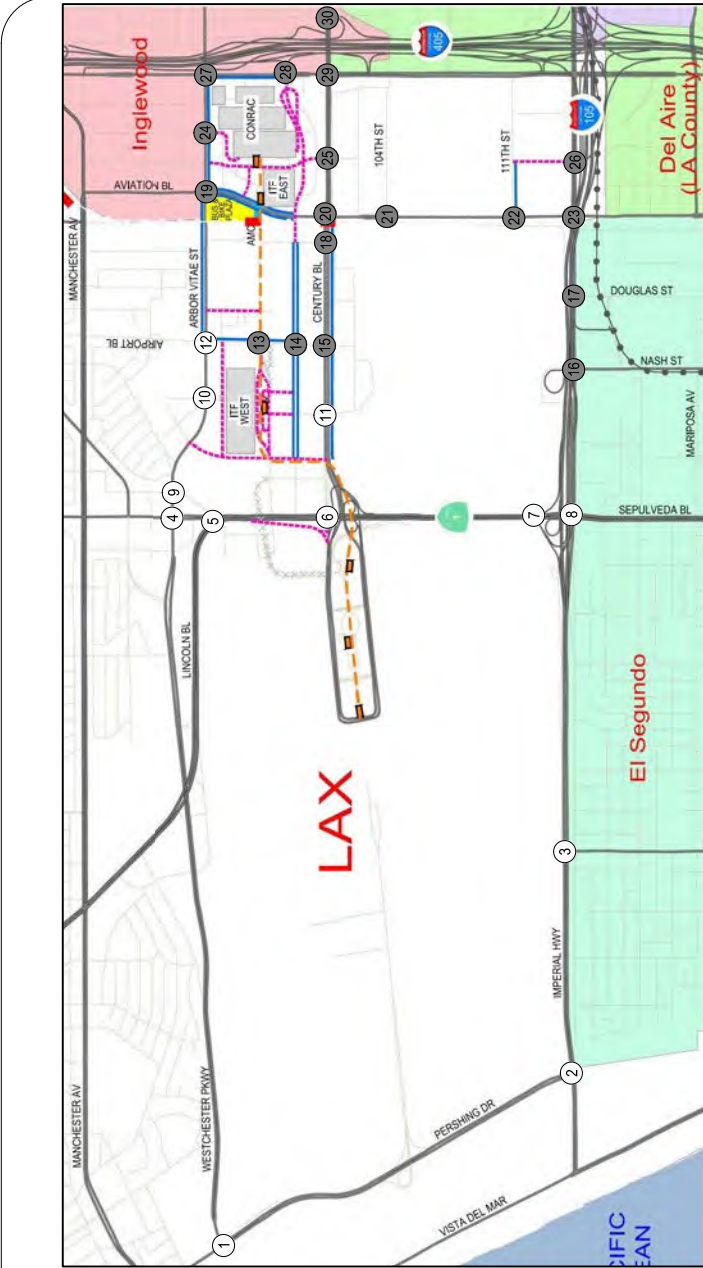
The traffic conditions for this scenario are defined by the traffic volumes, roadways, and intersection configurations that would exist in the Baseline Year 2015 following development of the Project (including SBO Relocation) with the proposed TDM program, transportation corridor improvements, and specific intersection improvements in place. The results of the implementation of the mitigation program are discussed below.

The 30 study intersections were analyzed and the results are shown in Table 16. As indicated in the table, 27 of the 30 study intersections are projected to operate at LOS D or better during the morning peak hour. During the evening peak hour, 29 of the 30 study intersections are projected to operate at LOS D or better. The following intersections are projected to operate at LOS E or F:

- Sepulveda Boulevard & I-105 WB Ramps (n/o Imperial Hwy): AM Peak Hour, LOS F
- Sepulveda Boulevard & Imperial Highway: PM Peak Hour, LOS F
- La Cienega Boulevard & Arbor Vitae Street: AM Peak Hour, LOS E
- I-405 Northbound Ramps & Century Boulevard: AM Peak Hour, LOS E

Capacity calculation worksheets for this scenario are included in Attachment E.

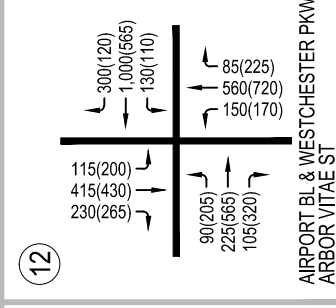
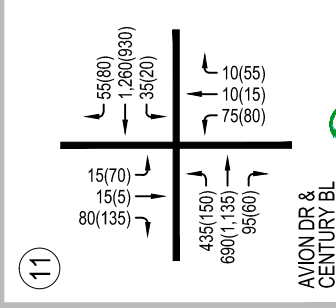
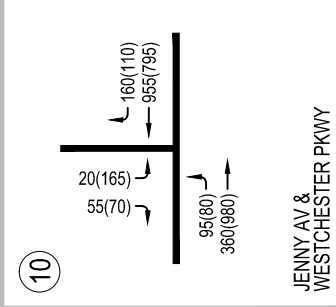
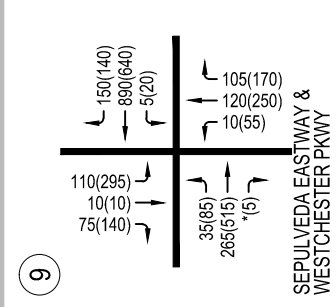
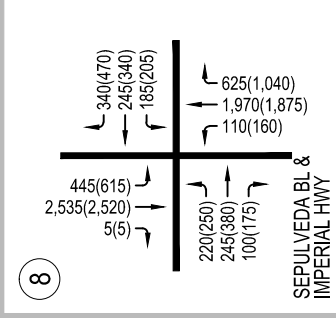
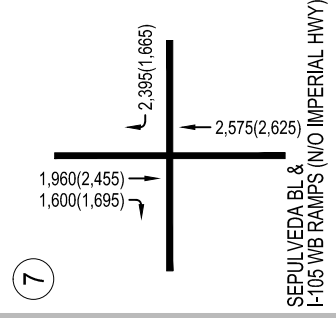
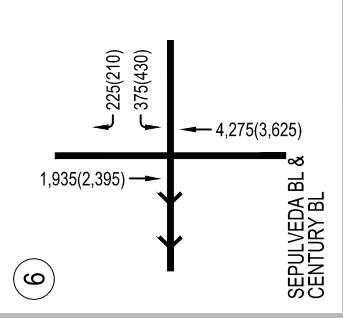
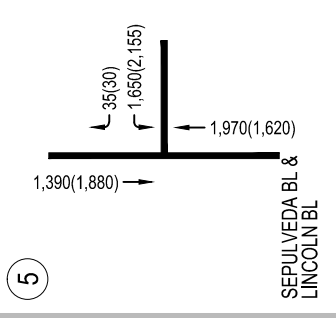
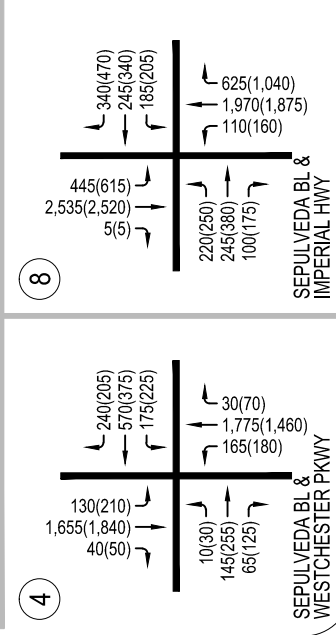
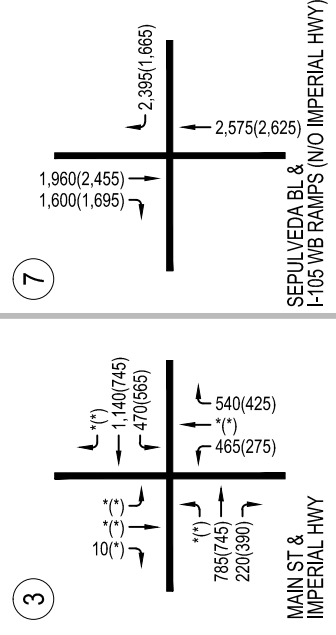
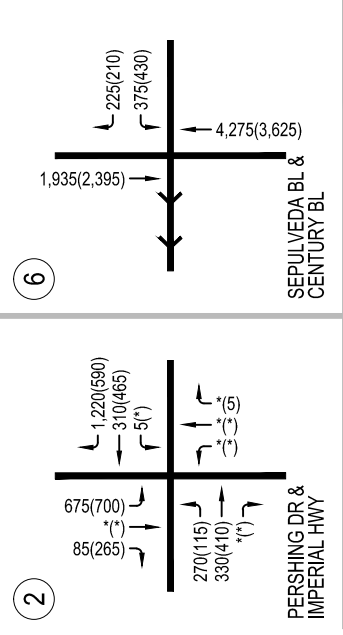
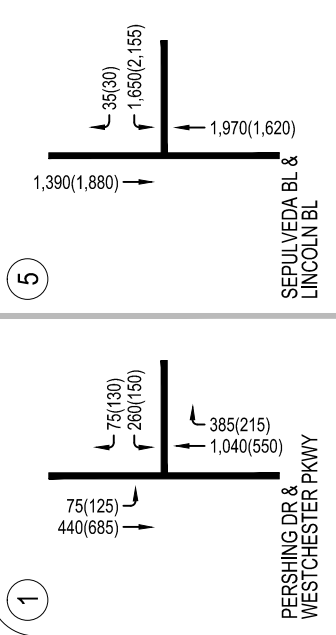
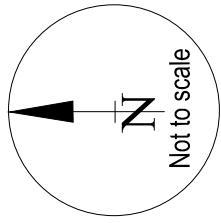




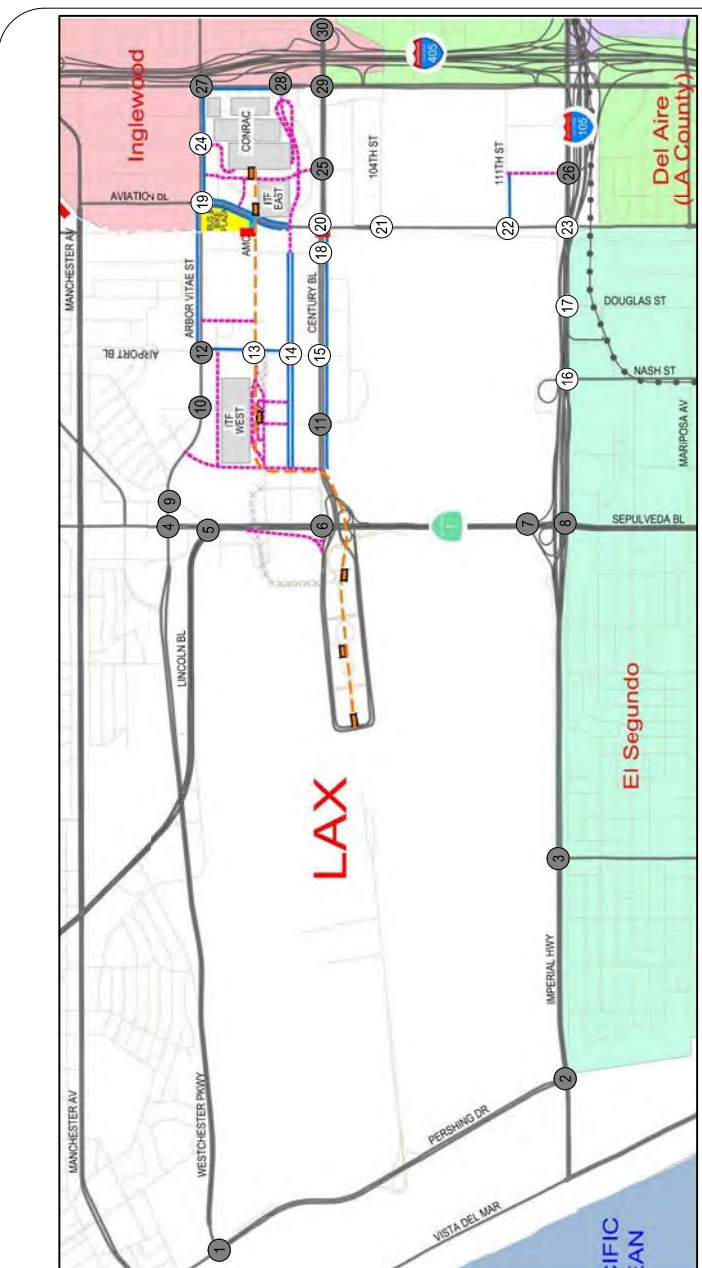
**LEGEND:**

XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection



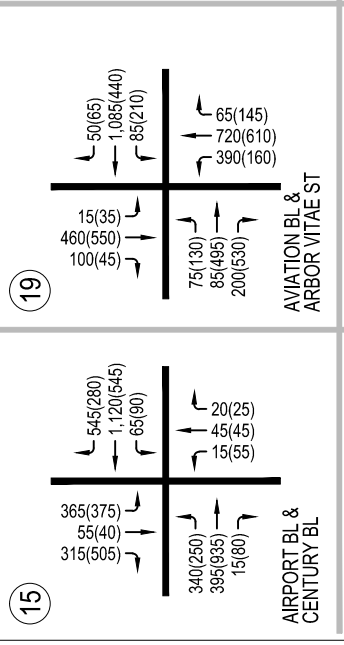
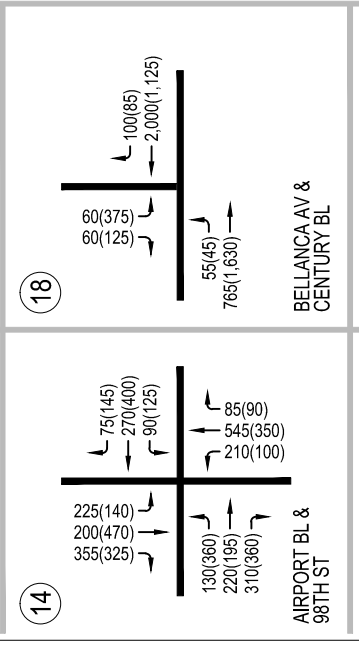
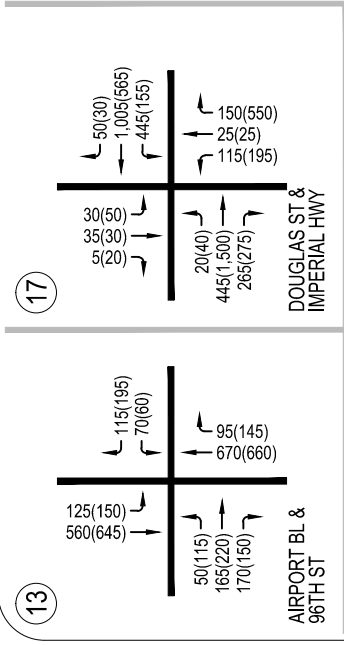
**FIGURE 17A**  
**BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND**  
**MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR VOLUMES**



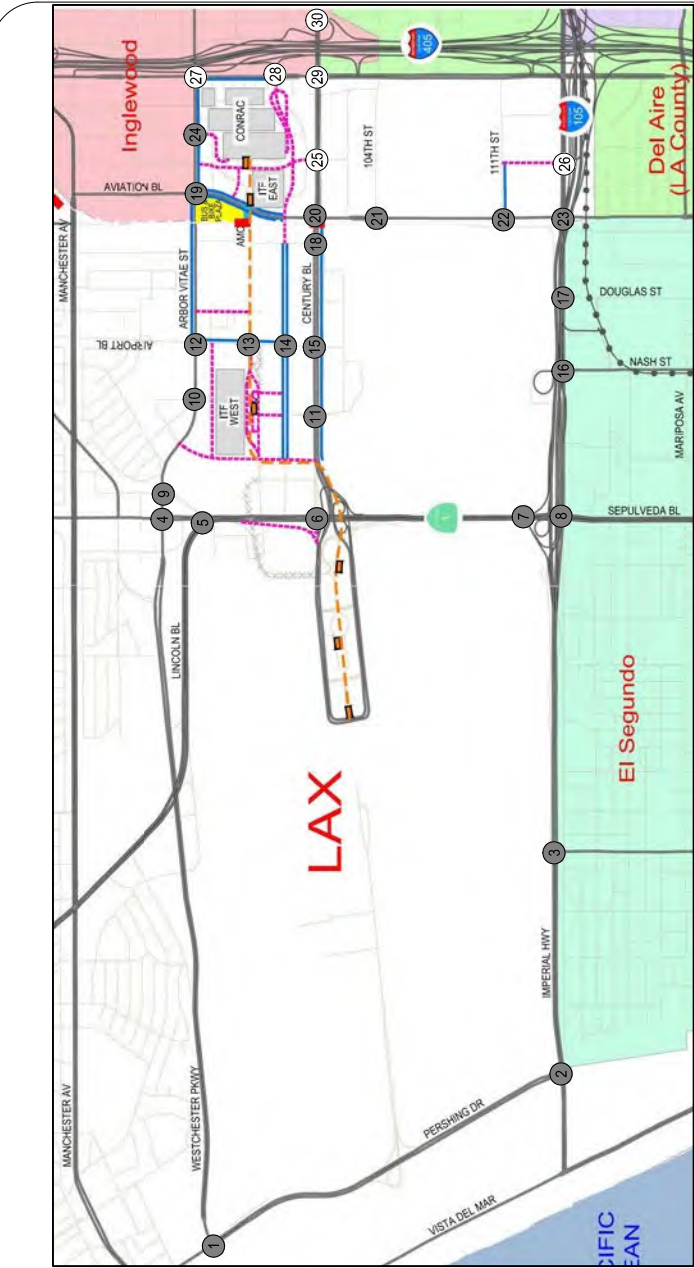
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XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection



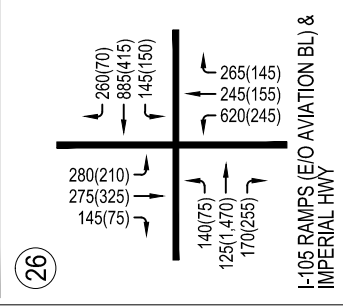
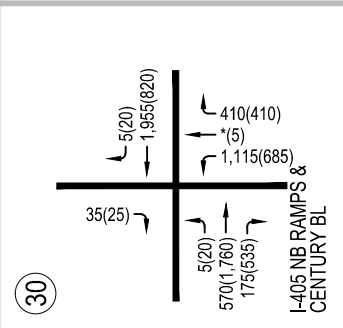
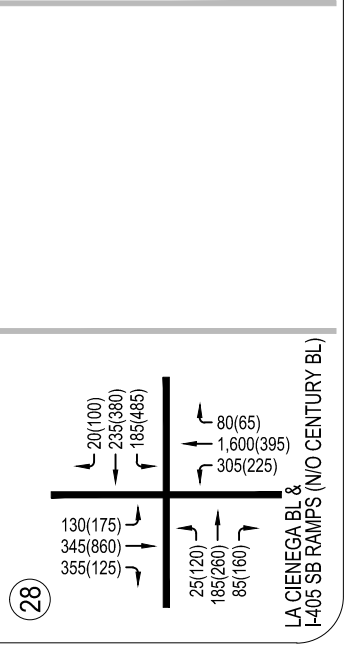
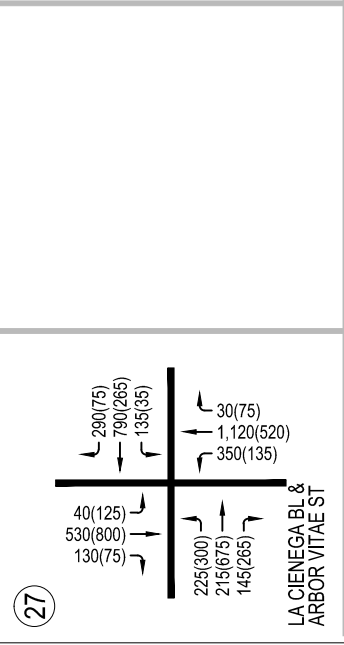
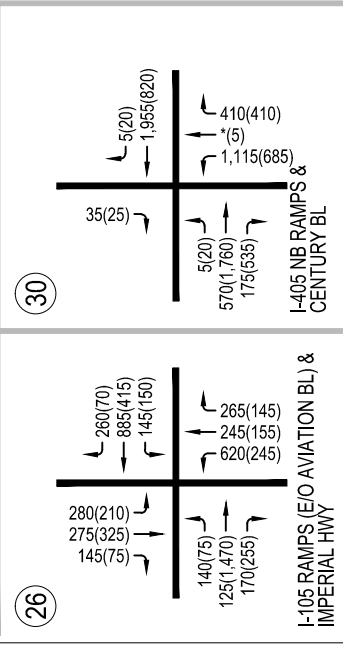
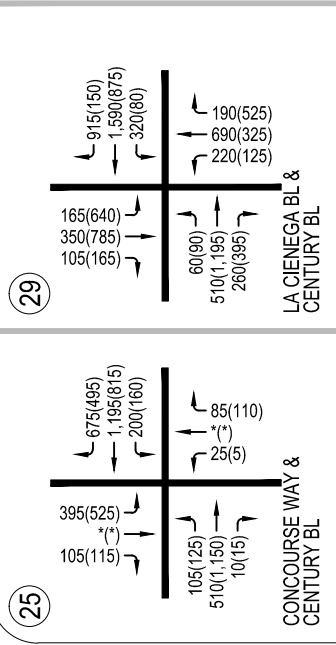
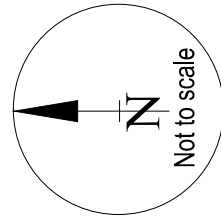
**FIGURE 17B**  
 BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
 MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR VOLUMES



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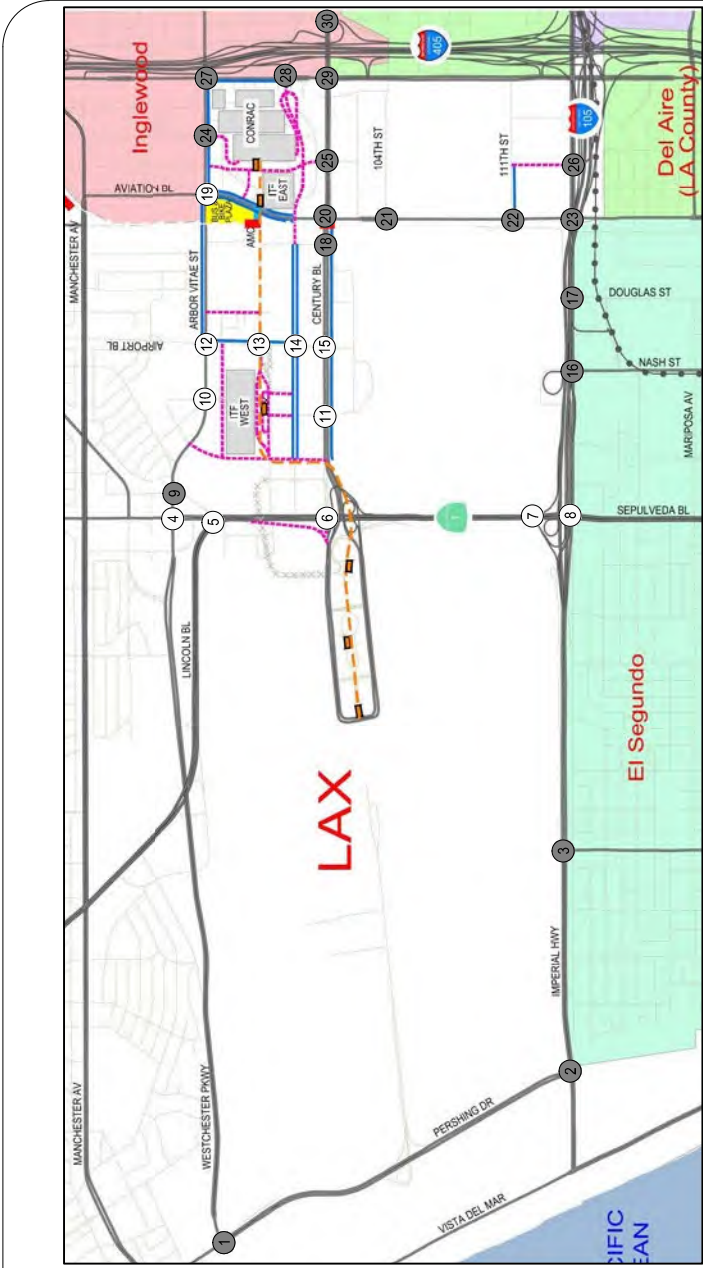
xxx (xxx) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection

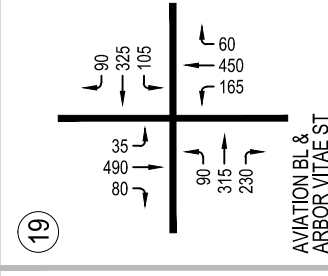
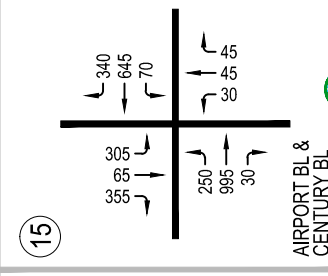
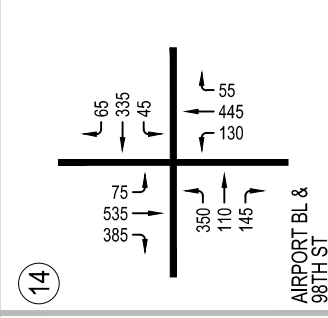
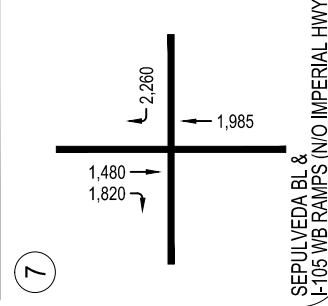
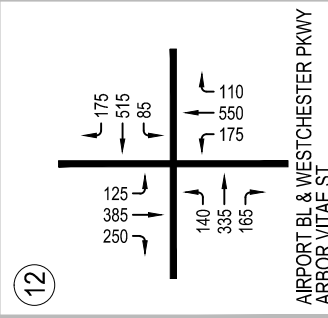
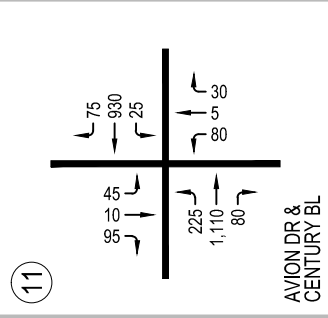
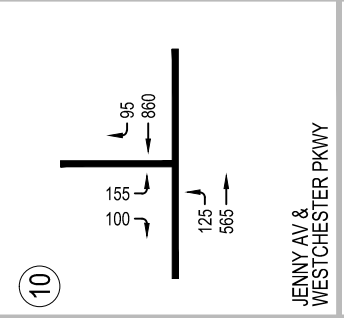
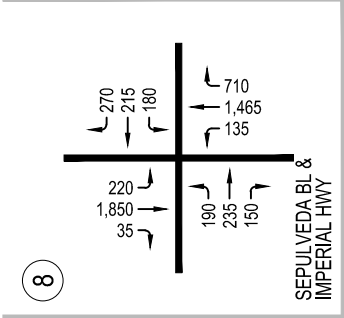
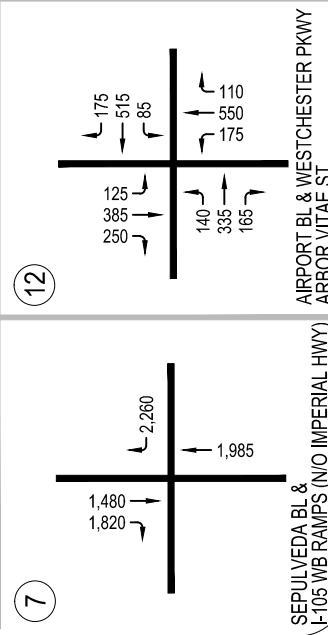
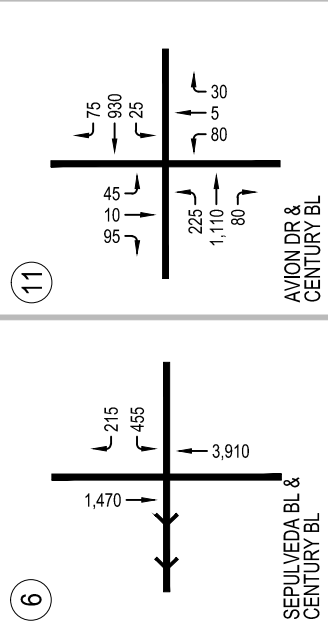
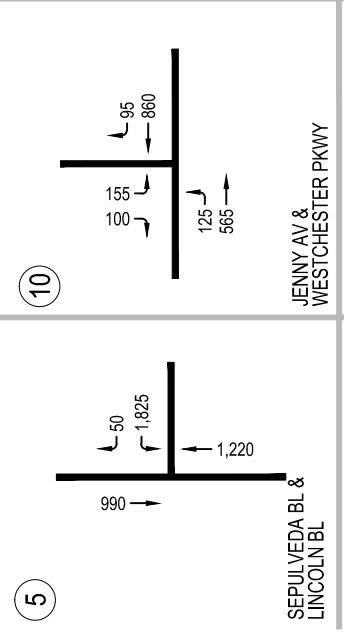
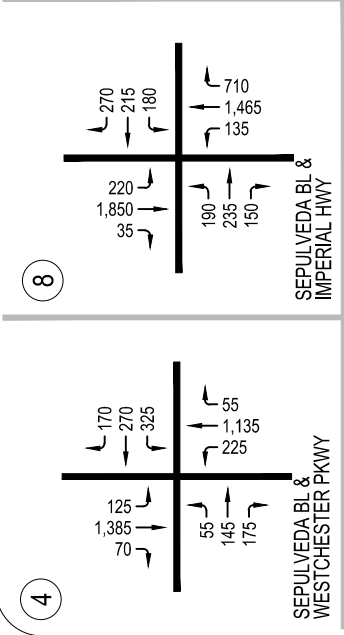
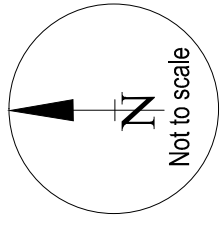


**FIGURE 17C**  
BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR VOLUMES





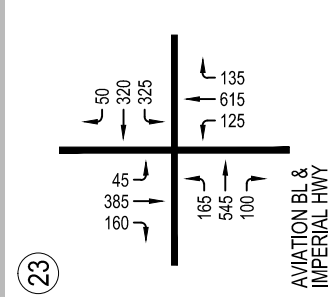
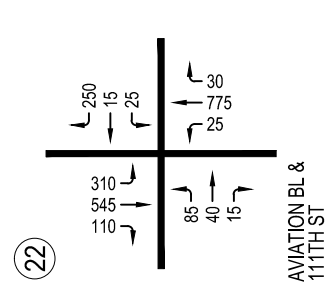
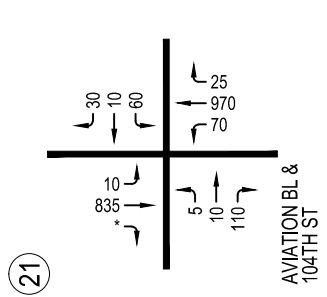
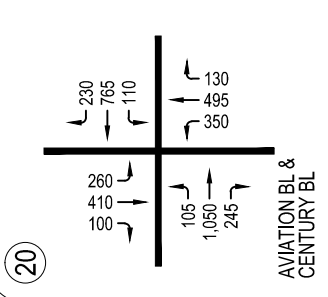
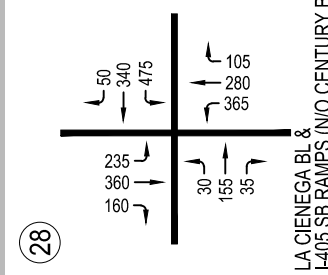
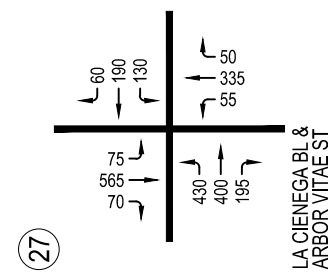
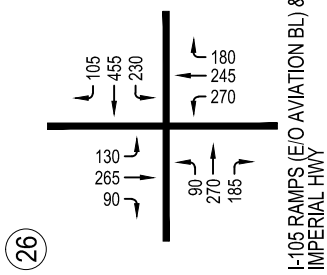
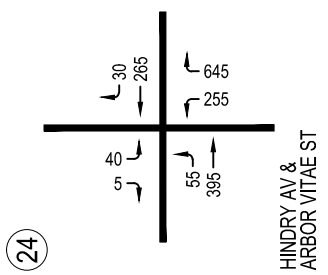
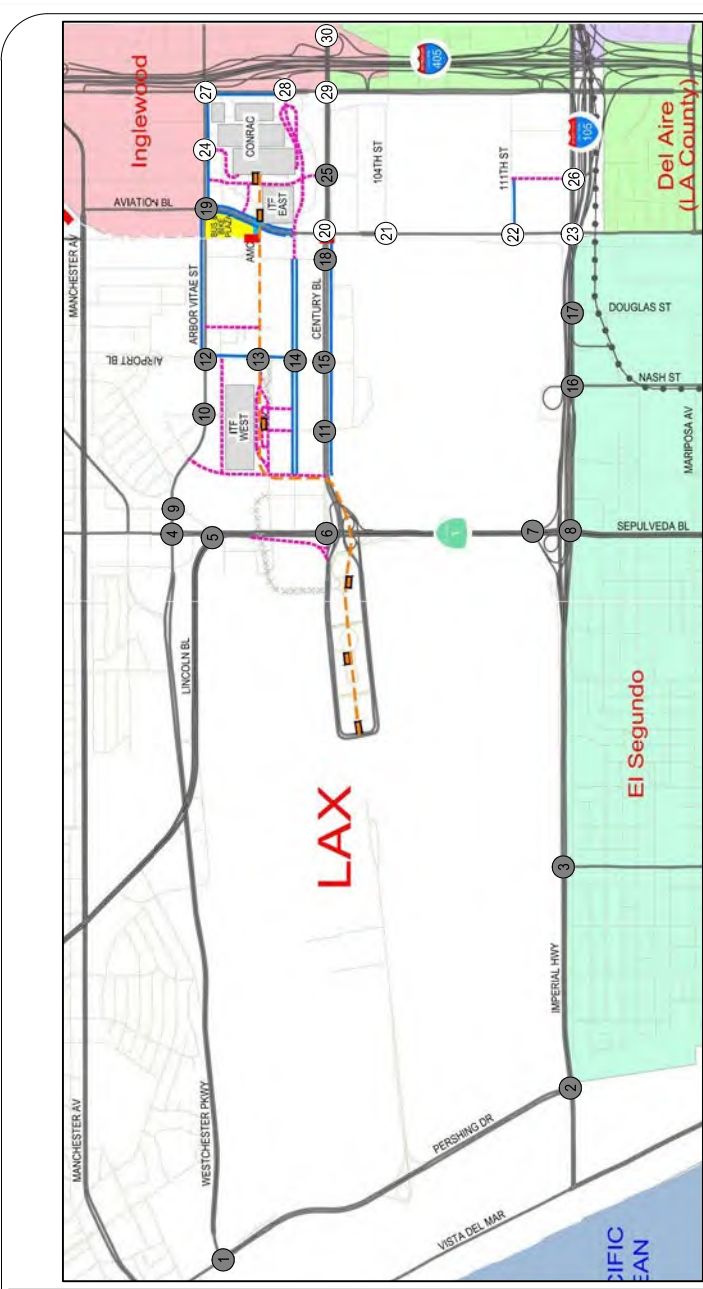
**LEGEND:**  
 XXX - Mid-day Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection



**FIGURE 18A**  
 BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
 MITIGATION MEASURES CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES



**RAJU** Associates, Inc.



**LEGEND:**  
 XXX - Mid-day Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection

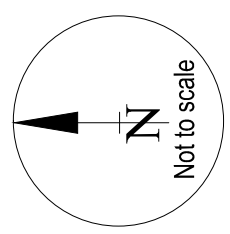


FIGURE 18B  
 BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
 MITIGATION MEASURES CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES

**TABLE 16**  
**SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS**

MAP #	INTERSECTION	PEAK HOUR	EXISTING (2015) CONDITIONS*		BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS			
			V/C OR DELAY	LOS	V/C OR DELAY	LOS	CHANGE IN V/C	SIGNIFICANT IMPACT
1	Pershing Drive & Westchester Parkway	AM	0.429	A	0.416	A	-0.013	No
		PM	0.259	A	0.241	A	-0.018	No
2	Pershing Drive & Imperial Highway	AM	0.520	A	0.496	A	-0.024	No
		PM	0.400	A	0.373	A	-0.027	No
3	Main Street & Imperial Highway	AM	0.693	B	0.678	B	-0.015	No
		PM	0.608	B	0.594	A	-0.014	No
4	Sepulveda Boulevard & Westchester Parkway	AM	0.735	C	0.730	C	-0.005	No
		PM	0.784	C	0.778	C	-0.006	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	AM	0.601	B	0.612	B	0.011	No
		PM	0.620	B	0.619	B	-0.001	No
6	Sepulveda Boulevard & Century Boulevard	AM	0.754	C	0.764	C	0.010	No
		PM	0.689	B	0.645	B	-0.044	No
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	AM	1.078	F	1.032	F	-0.046	No
		PM	0.901	E	0.871	D	-0.030	No
8	Sepulveda Boulevard & Imperial Highway	AM	0.774	C	0.714	C	-0.060	No
		PM	1.089	F	1.058	F	-0.031	No
9	Sepulveda Eastway & Westchester Parkway	AM	0.407	A	0.430	A	0.023	No
		PM	0.602	B	0.616	B	0.014	No
10	Jenny Avenue & Westchester Parkway	AM	0.197	A	0.297	A	0.100	No
		PM	0.330	A	0.287	A	-0.043	No
11	Avion Drive & Century Boulevard	AM	0.381	A	0.358	A	-0.023	No
		PM	0.292	A	0.257	A	-0.035	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	AM	0.661	B	0.619	B	-0.042	No
		PM	0.763	C	0.663	B	-0.100	No
13	Airport Boulevard & 96th Street	AM	0.279	A	0.344	A	0.065	No
		PM	0.376	A	0.384	A	0.008	No
14	Airport Boulevard & 98th Street	AM	0.374	A	0.506	A	0.132	No
		PM	0.467	A	0.697	B	0.230	No
15	Airport Boulevard & Century Boulevard	AM	0.565	A	0.518	A	-0.047	No
		PM	0.459	A	0.471	A	0.012	No
16	Nash Street /I-105 Westbound Ramps & Imperial Highway	AM	0.414	A	0.402	A	-0.012	No
		PM	0.350	A	0.256	A	-0.094	No
17	Douglas Street & Imperial Highway	AM	0.346	A	0.348	A	0.002	No
		PM	0.579	A	0.577	A	-0.002	No
18	Bellanca Avenue & Century Boulevard	AM	0.471	A	0.308	A	-0.163	No
		PM	0.437	A	0.269	A	-0.168	No
19	Aviation Boulevard & Arbor Vitae Street	AM	0.802	D	0.717	C	-0.085	No
		PM	0.720	C	0.653	B	-0.067	No
20	Aviation Boulevard & Century Boulevard	AM	0.730	C	0.643	B	-0.087	No
		PM	0.729	C	0.669	B	-0.060	No
21	Aviation Boulevard & 104th Street	AM	0.520	A	0.512	A	-0.008	No
		PM	0.507	A	0.579	A	0.072	No
22	Aviation Boulevard & 111th Street	AM	0.475	A	0.650	B	0.175	No
		PM	0.459	A	0.635	B	0.176	No
23	Aviation Boulevard & Imperial Highway	AM	0.576	A	0.536	A	-0.040	No
		PM	0.736	C	0.757	C	0.021	No
24	Hindry Avenue & Arbor Vitae Street [2]	AM	19.0 s	C	0.512	A	-0.119	No
		PM	14.6 s	B	0.395	A	-0.174	No
25	Concourse Way & Century Boulevard	AM	0.249	A	0.611	B	0.362	No
		PM	0.323	A	0.536	A	0.213	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	AM	0.622	B	0.568	A	-0.054	No
		PM	0.531	A	0.560	A	0.029	No
27	La Cienega Boulevard & Arbor Vitae Street	AM	0.740	C	0.912	E	0.172	No
		PM	0.711	C	0.776	C	0.065	No
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Bl)	AM	0.742	C	0.674	B	-0.068	No
		PM	0.610	B	0.488	A	-0.122	No
29	La Cienega Boulevard & Century Boulevard	AM	0.891	D	0.860	D	-0.031	No
		PM	0.823	D	0.656	B	-0.167	No
30	I-405 Northbound Ramps & Century Boulevard	AM	0.879	D	0.918	E	0.039	No
		PM	0.715	C	0.724	C	0.009	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

### **Baseline (2015) with Project (including SBO Relocation) and Mitigation Measures – Mid-Day Peak Hour Intersection Operations**

The intersection operating conditions for the mid-day peak hour are shown in Table 17. As indicated in the table, all 22 study intersections are projected to operate at LOS D or better during the mid-day peak hour. Capacity calculation worksheets for this scenario during the mid-day peak hour are included in Attachment E.

### **Intersection Impacts – with Mitigation Measures**

Traffic impact analysis was conducted for the 30 study intersections based on significant impact criteria detailed earlier. As indicated in Tables 16 and 17, the recommended improvements would fully mitigate the project-related impacts under Baseline (2015) with Project (including SBO Relocation). No residual significant impacts would remain due to the Project including SBO relocation. No change in the number of residual significant impacts during the morning, mid-day and evening peak hours due to the SBO relocation under this scenario would occur.

### **Intersection Operating Conditions – Future (2024) with Phase 1 Project (including SBO Relocation) and Mitigation Measures**

The Future (2024) with Project (including SBO Relocation) traffic volumes with the proposed mitigation measures were prepared using the LAX Travel Demand Model and applying the network changes to reflect the improvements. Additionally, the trip credits for the TDM program were applied at the study intersections. Figures 19A-C illustrate the traffic volumes for this scenario during the morning and evening peak hours. The mid-day peak hour traffic volumes are shown in Figures 20A-B.

Traffic conditions analysis utilizing the traffic forecasts developed above were conducted including all the mitigation measures at the various impacted locations identified.

Table 18 presents the results of the Future (2024) with Project (LAMP Phase 1 and SBO Relocation) and Mitigation Measures traffic condition analysis. As indicated in the table, 28 of the 30 study intersections are projected to operate at LOS D or better during both the morning and evening peak hours. The following intersections are projected to operate at LOS E or F:



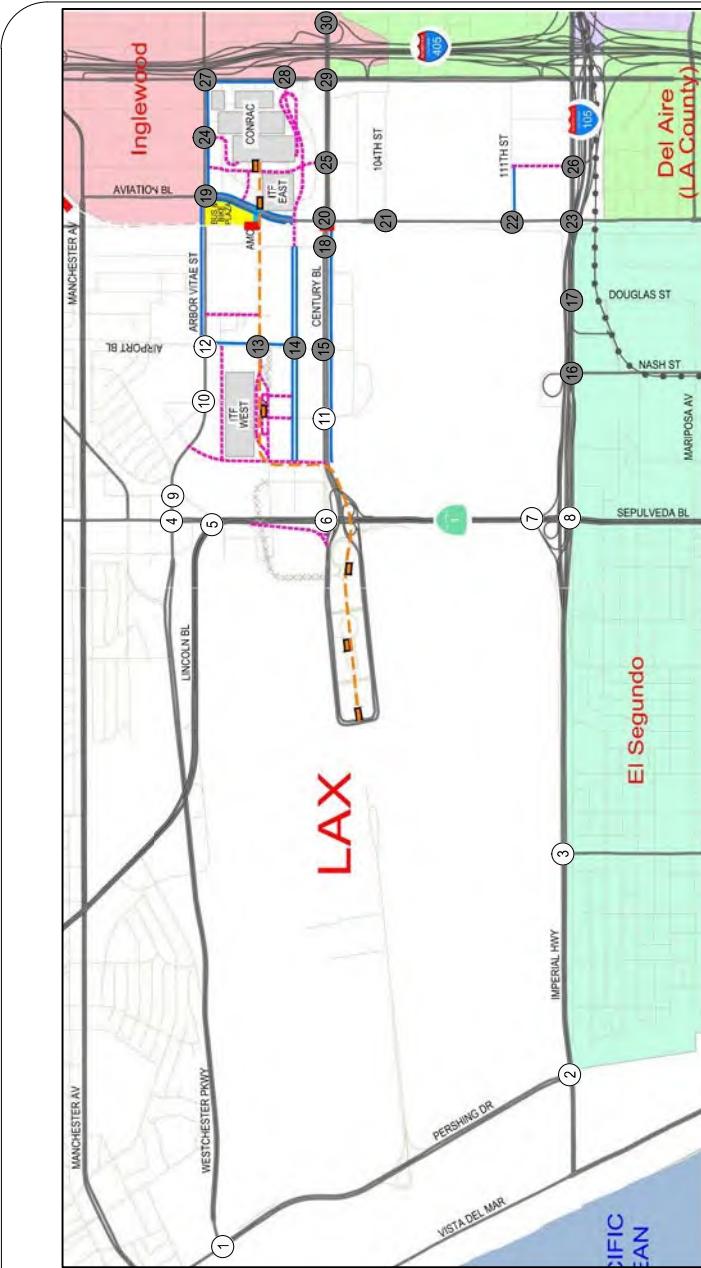
**TABLE 17**  
**SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS**  
**BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS MID-DAY PEAK HOUR**

MAP #	INTERSECTION	EXISTING (2015) CONDITIONS*		BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS			SIGNIFICANT IMPACT
		MD PEAK HOUR		MD PEAK HOUR		V/C	
		V/C OR DELAY	LOS	V/C	LOS		
4	Sepulveda Boulevard & Westchester Parkway	0.748	C	0.745	C	-0.003	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	0.478	A	0.476	A	-0.002	No
6	Sepulveda Boulevard & Century Boulevard	0.594	A	0.696	B	0.102	No
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	0.921	E	0.869	D	-0.052	No
8	Sepulveda Boulevard & Imperial Highway	0.684	B	0.652	B	-0.032	No
10	Jenny Avenue & Westchester Parkway	0.232	A	0.327	A	0.095	No
11	Avion Drive & Century Boulevard	0.320	A	0.242	A	-0.078	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	0.587	A	0.482	A	-0.105	No
13	Airport Boulevard & 96th Street	0.332	A	0.326	A	-0.006	No
14	Airport Boulevard & 98th Street	0.397	A	0.607	B	0.210	No
15	Airport Boulevard & Century Boulevard	0.451	A	0.397	A	-0.054	No
19	Aviation Boulevard & Arbor Vitae Street	0.521	A	0.392	A	-0.129	No
20	Aviation Boulevard & Century Boulevard	0.554	A	0.500	A	-0.054	No
21	Aviation Boulevard & 104th Street	0.388	A	0.403	A	0.015	No
22	Aviation Boulevard & 111th Street	0.327	A	0.498	A	0.171	No
23	Aviation Boulevard & Imperial Highway	0.517	A	0.428	A	-0.089	No
24	Hindy Avenue & Arbor Vitae Street [2]	13.2 s	B	0.297	A	-0.053	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	0.275	A	0.337	A	0.062	No
27	La Cienega Boulevard & Arbor Vitae Street	0.562	A	0.661	B	0.099	No
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Boulevard)	0.494	A	0.529	A	0.035	No
29	La Cienega Boulevard & Century Boulevard	0.511	A	0.513	A	0.002	No
30	I-405 Northbound Ramps & Century Boulevard	0.584	A	0.593	A	0.009	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR*, Raju Associates, Inc., September 2016.

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

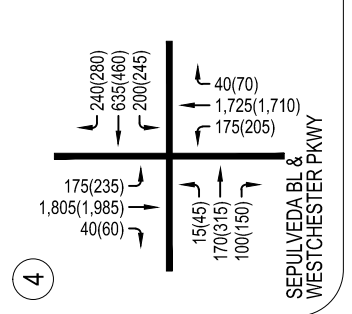
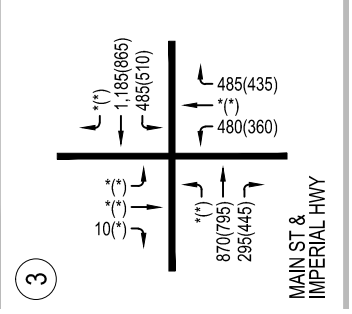
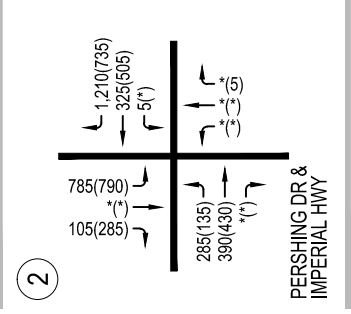
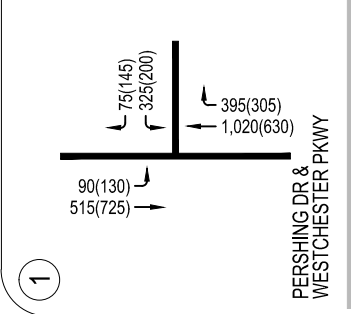
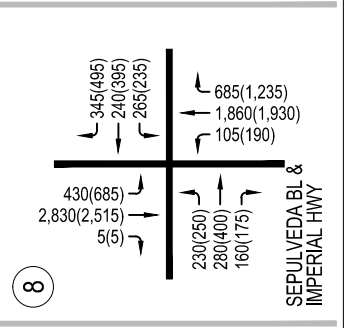
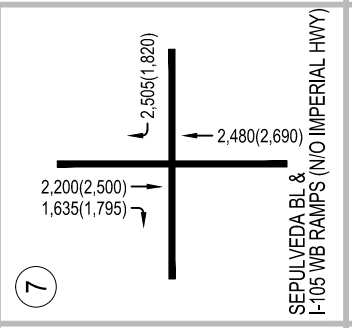
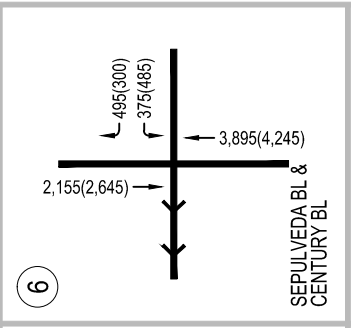
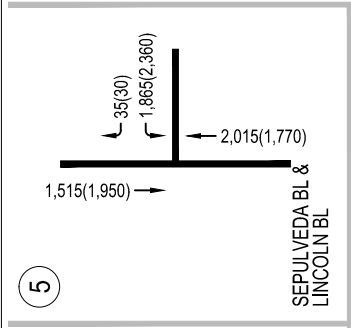
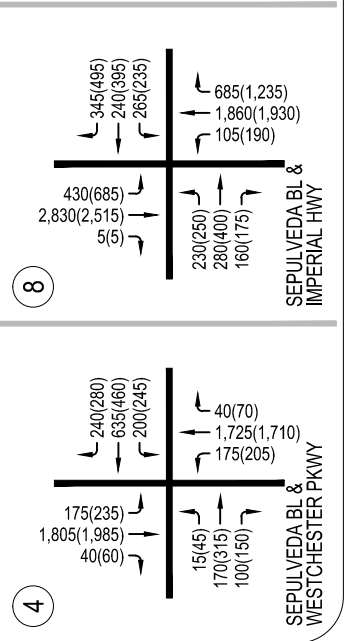
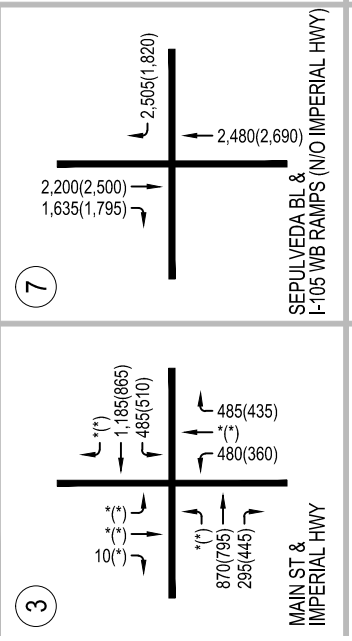
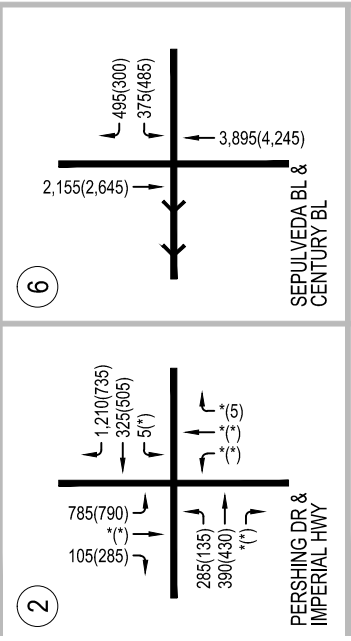
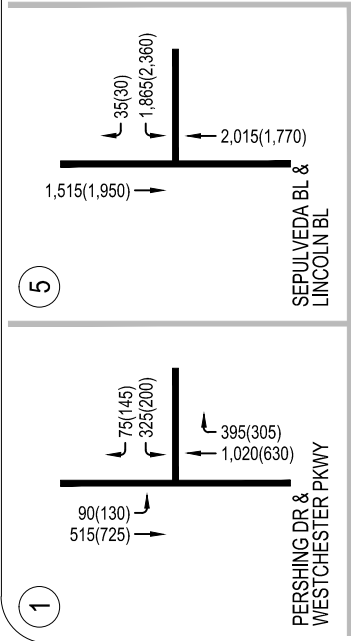
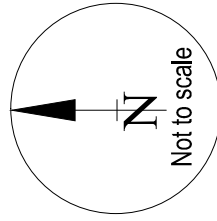


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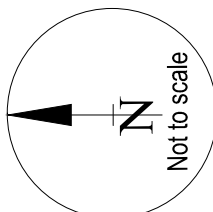
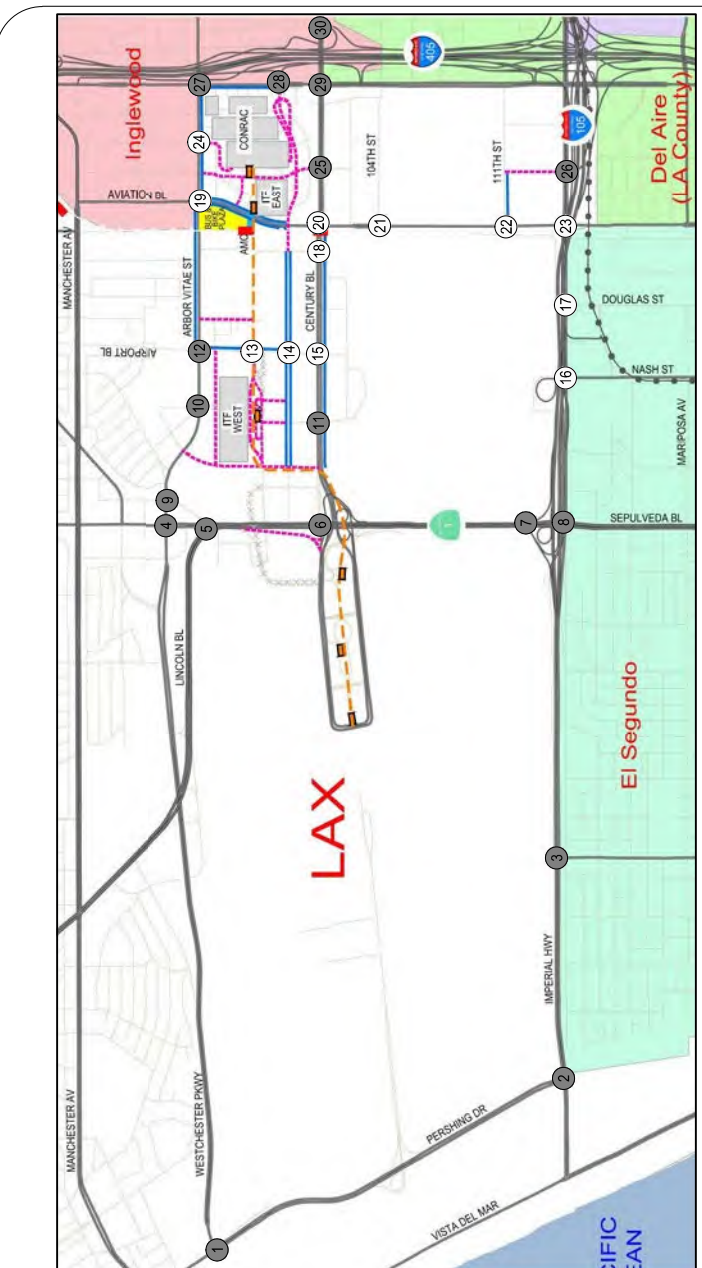
XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

\* - Negligible Volume

# - Analyzed Intersection



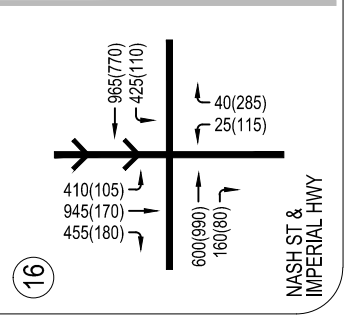
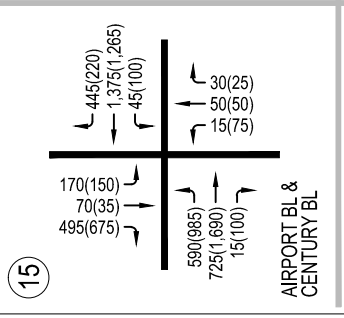
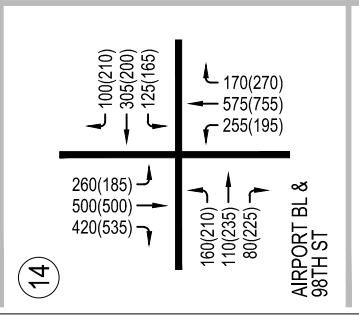
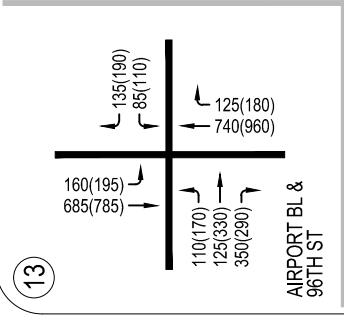
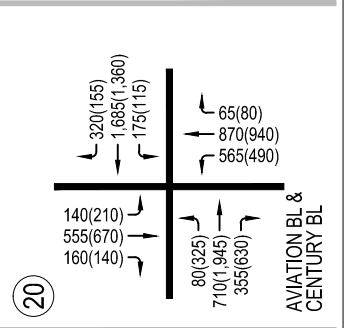
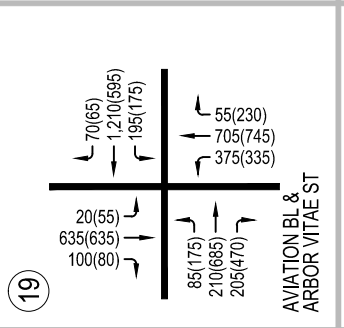
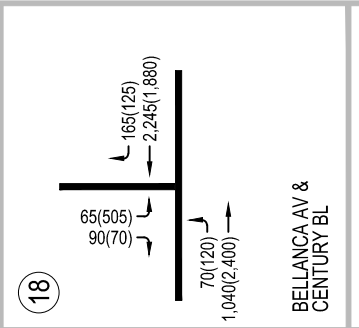
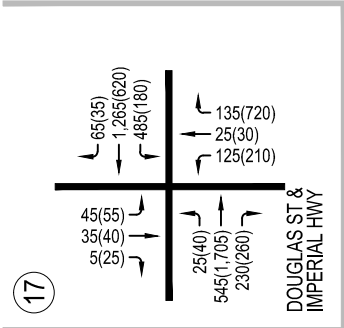
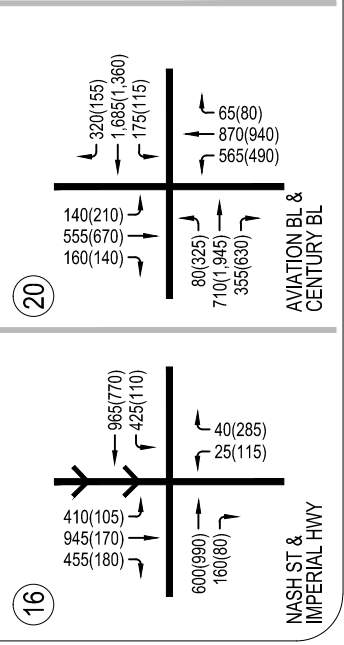
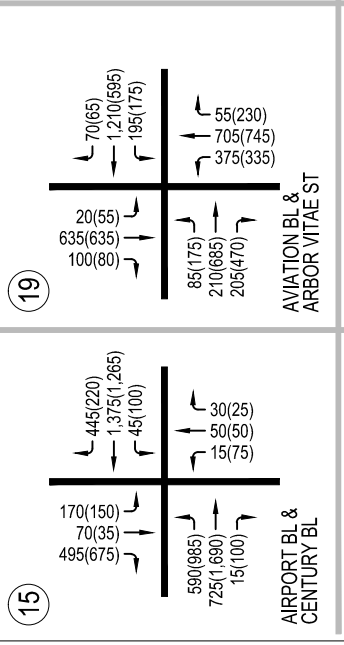
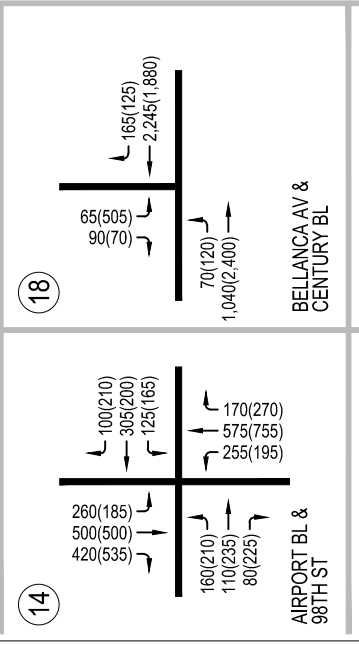
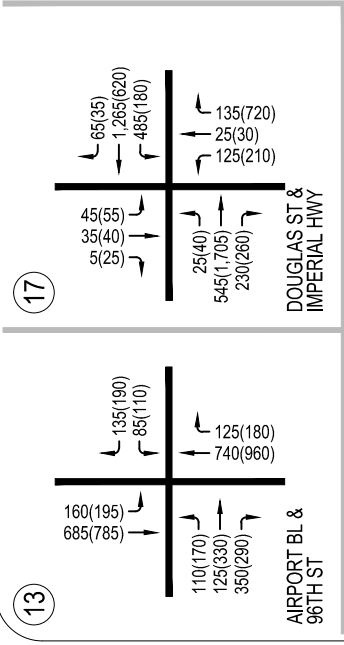
**FIGURE 19A**  
**FUTURE (2024) WITH PHASE 1 PROJECT (INCLUDING SBO RELOCATION) AND**  
**MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR VOLUMES**



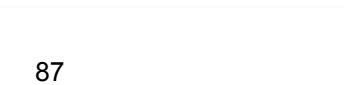
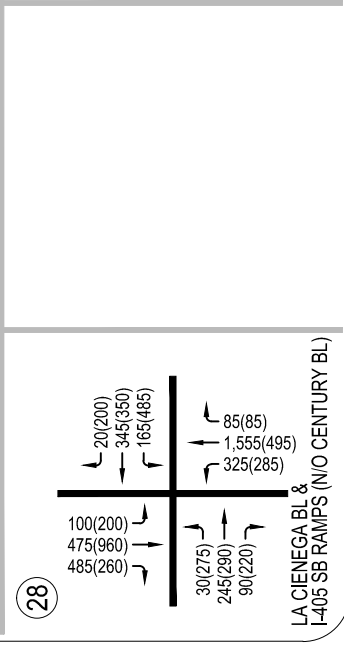
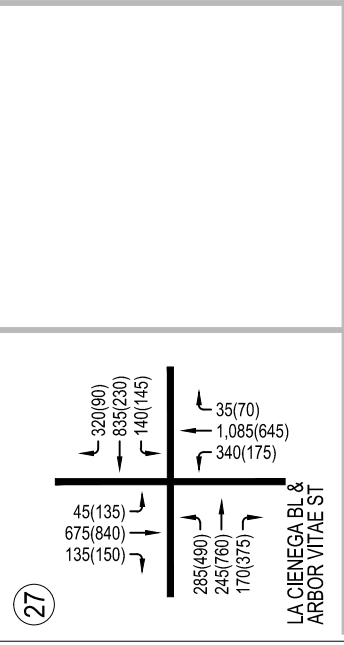
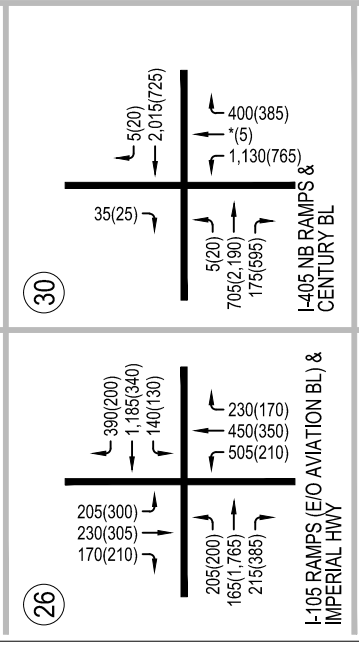
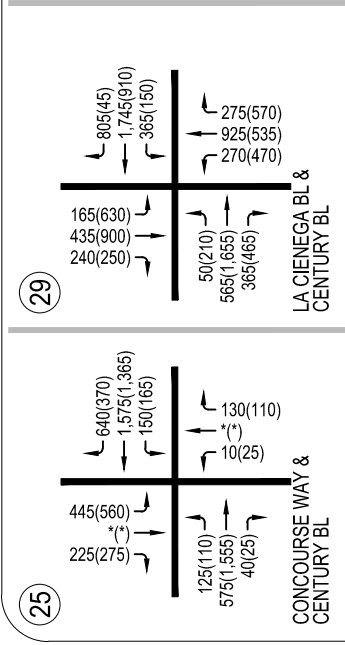
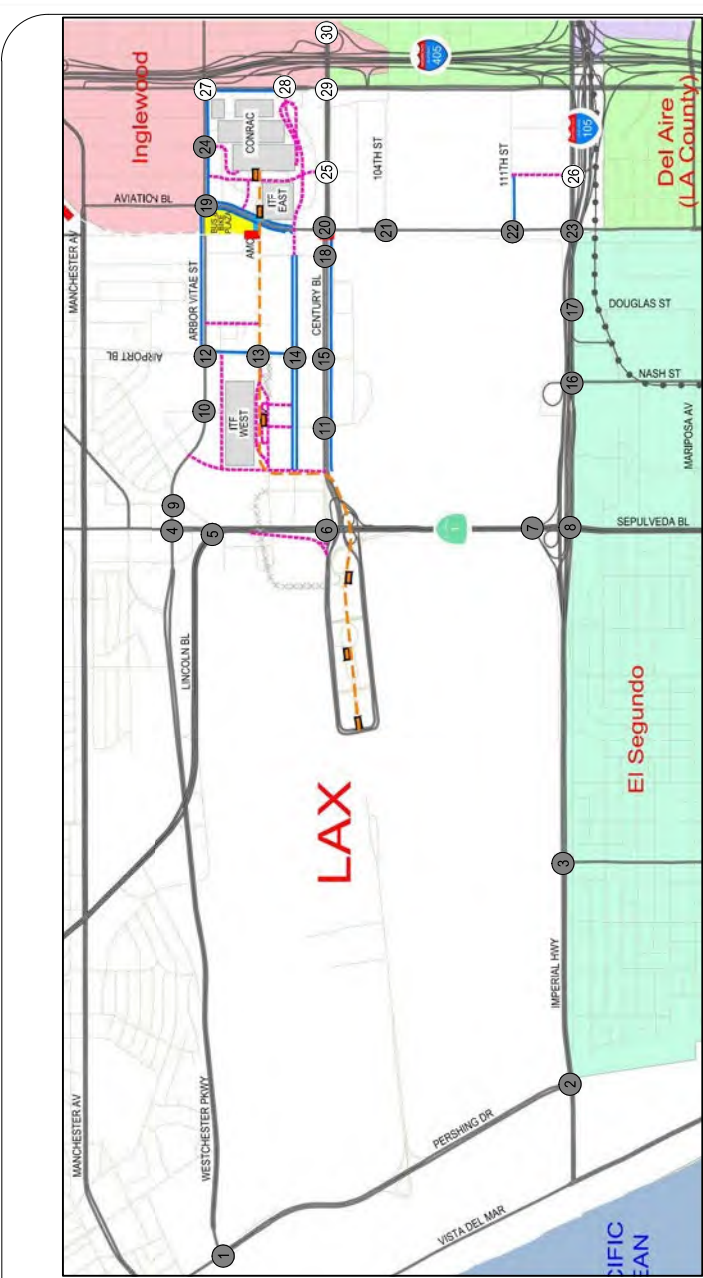
**LEGEND:**

XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection



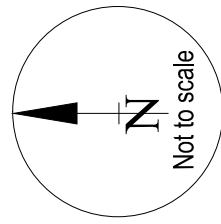
**FIGURE 19B**  
**FUTURE (2024) WITH PHASE 1 PROJECT (INCLUDING SBO RELOCATION) AND**  
**MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR VOLUMES**



**LEGEND:**

xxx (xxx) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

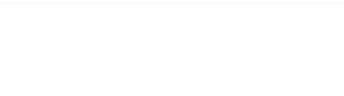
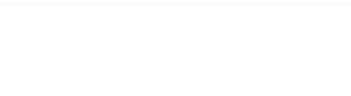
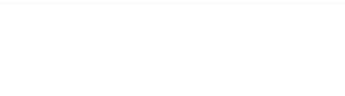
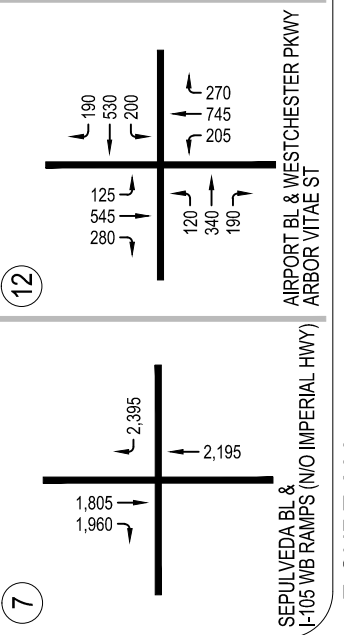
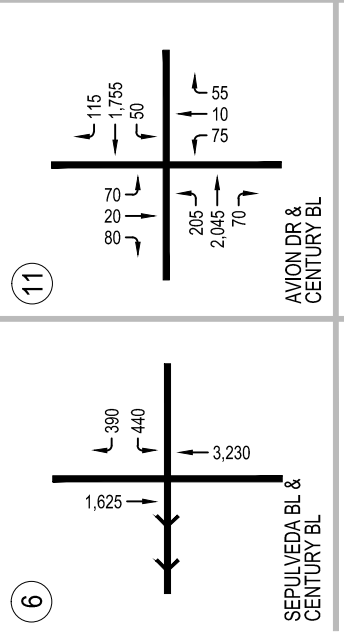
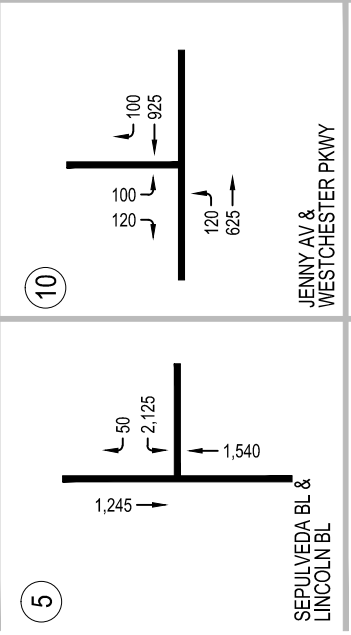
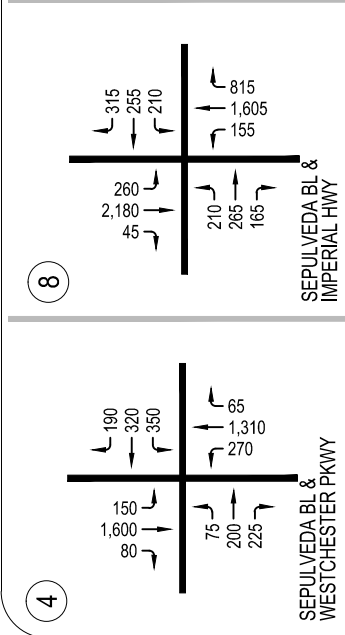
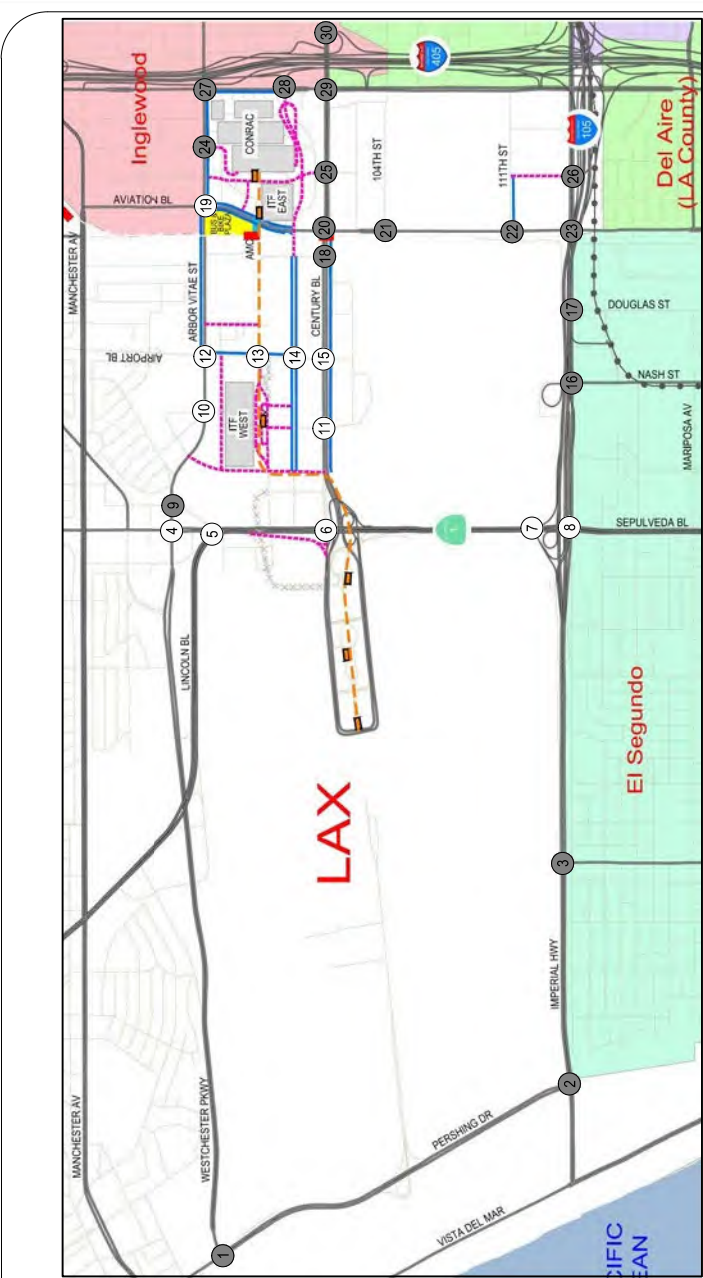
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 19C**  
**FUTURE (2024) WITH PHASE 1 PROJECT (INCLUDING SBO RELOCATION) AND**  
**MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR VOLUMES**

**RAJU** Associates, Inc.





**LEGEND:**  
 XXX - Mid-day Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection

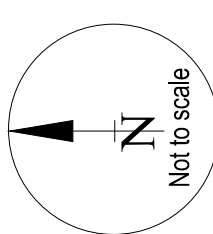
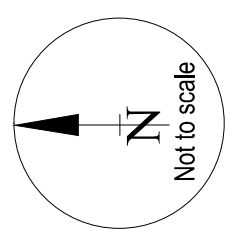
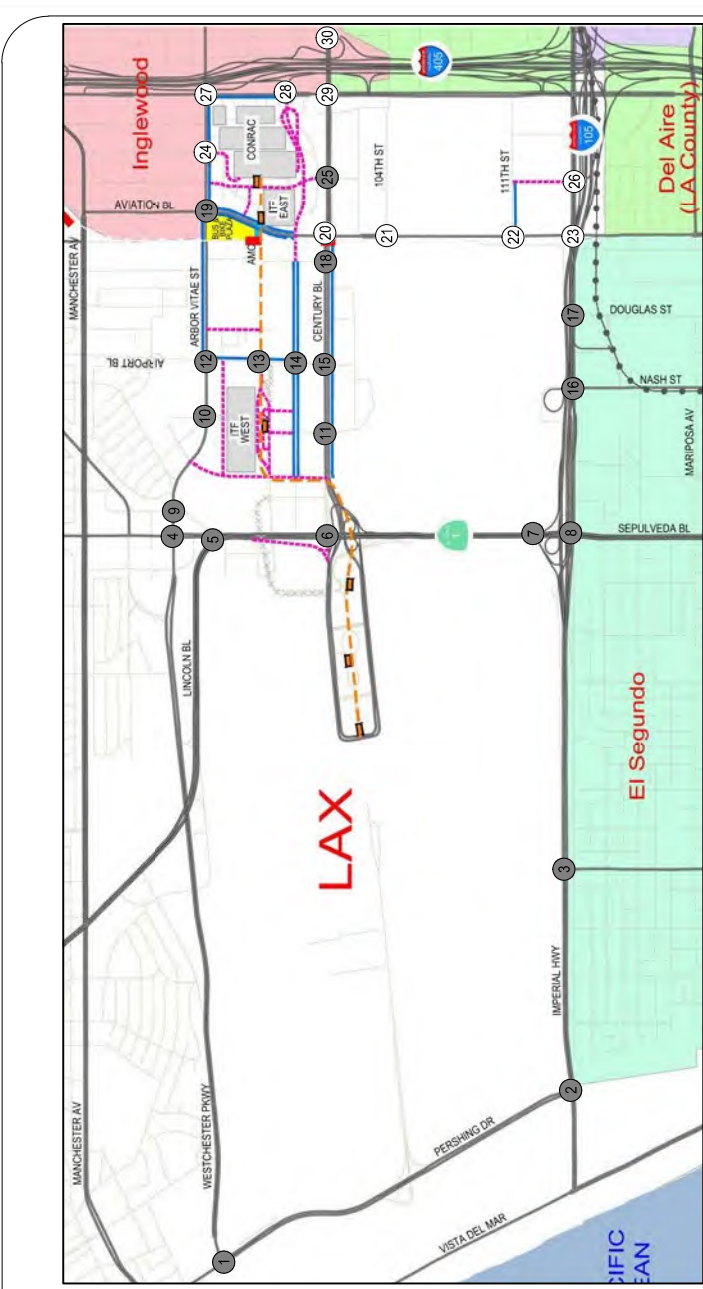
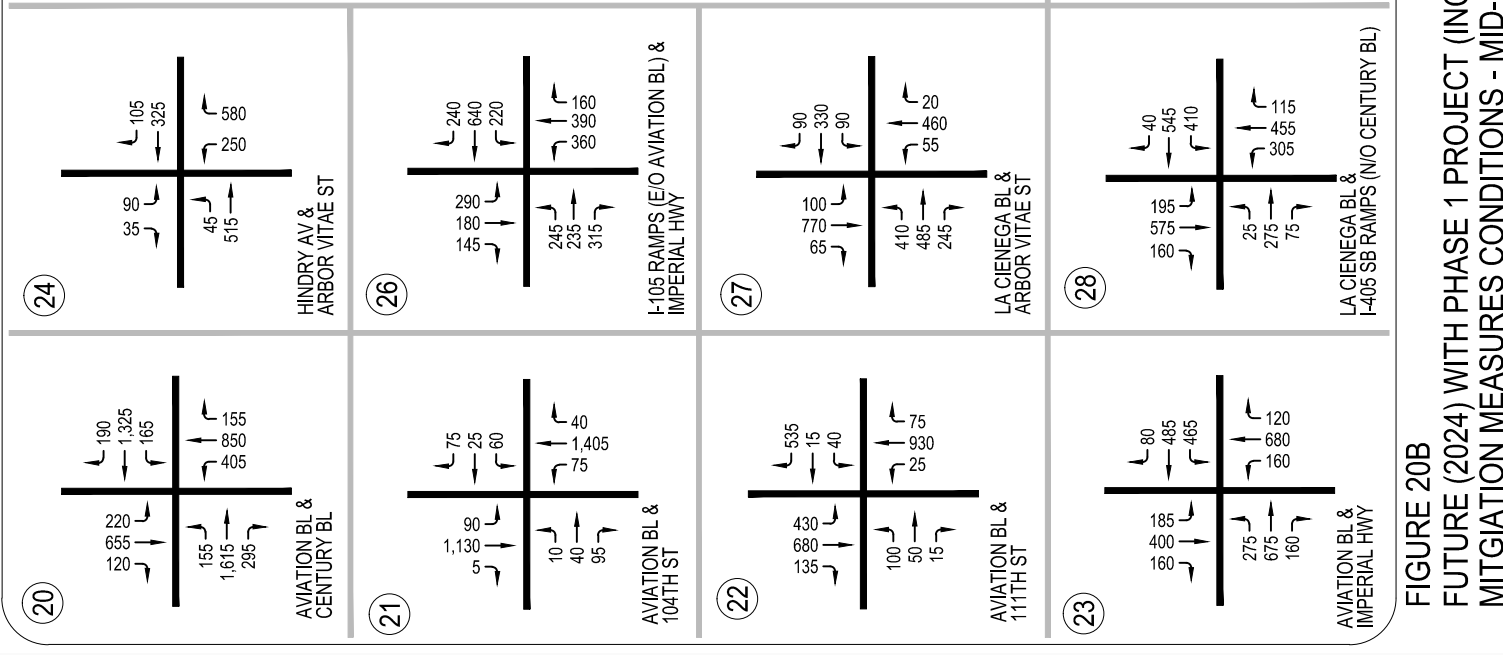


FIGURE 20A  
 FUTURE (2024) WITH PHASE 1 PROJECT (INCLUDING SBO RELOCATION) AND  
 MITIGATION MEASURES CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES



**LEGEND:**

- XXX - Mid-day Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



**TABLE 18**  
**SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - FUTURE (2024) WITH PHASE 1 PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS**

MAP #	INTERSECTION	PEAK HOUR	FUTURE (2024) WITHOUT PROJECT CONDITIONS*		FUTURE (2024) WITH PHASE 1 PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS			
			V/C OR DELAY	LOS	V/C OR DELAY	LOS	CHANGE IN V/C	SIGNIFICANT IMPACT
1	Pershing Drive & Westchester Parkway	AM	0.459	A	0.444	A	-0.015	No
		PM	0.313	A	0.290	A	-0.023	No
2	Pershing Drive & Imperial Highway	AM	0.528	A	0.499	A	-0.029	No
		PM	0.460	A	0.427	A	-0.033	No
3	Main Street & Imperial Highway	AM	0.685	B	0.673	B	-0.012	No
		PM	0.619	B	0.606	B	-0.013	No
4	Sepulveda Boulevard & Westchester Parkway	AM	0.768	C	0.796	C	0.028	No
		PM	0.914	E	0.879	D	-0.035	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	AM	0.645	B	0.659	B	0.014	No
		PM	0.692	B	0.687	B	-0.005	No
6	Sepulveda Boulevard & Century Boulevard	AM	0.789	C	0.730	C	-0.059	No
		PM	0.834	D	0.785	C	-0.049	No
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	AM	1.085	F	1.035	F	-0.050	No
		PM	0.973	E	0.923	E	-0.050	No
8	Sepulveda Boulevard & Imperial Highway	AM	0.769	C	0.705	C	-0.064	No
		PM	0.910	E	0.837	D	-0.073	No
9	Sepulveda Eastway & Westchester Parkway	AM	0.450	A	0.471	A	0.021	No
		PM	0.727	C	0.721	C	-0.006	No
10	Jenny Avenue & Westchester Parkway	AM	0.208	A	0.324	A	0.116	No
		PM	0.432	A	0.395	A	-0.037	No
11	Avion Drive & Century Boulevard	AM	0.436	A	0.441	A	0.005	No
		PM	0.555	A	0.506	A	-0.049	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	AM	0.696	B	0.655	B	-0.041	No
		PM	1.032	F	0.837	D	-0.195	No
13	Airport Boulevard & 96th Street	AM	0.311	A	0.512	A	0.201	No
		PM	0.504	A	0.691	B	0.187	No
14	Airport Boulevard & 98th Street	AM	0.392	A	0.641	B	0.249	No
		PM	0.561	A	0.692	B	0.131	No
15	Airport Boulevard & Century Boulevard	AM	0.611	B	0.560	A	-0.051	No
		PM	0.660	B	0.677	B	0.017	No
16	Nash Street /I-105 Westbound Ramps & Imperial Highway	AM	0.521	A	0.518	A	-0.003	No
		PM	0.446	A	0.408	A	-0.038	No
17	Douglas Street & Imperial Highway	AM	0.369	A	0.403	A	0.034	No
		PM	0.706	C	0.699	B	-0.007	No
18	Bellanca Avenue & Century Boulevard	AM	0.613	B	0.386	A	-0.227	No
		PM	0.688	B	0.498	A	-0.190	No
19	Aviation Boulevard & Arbor Vitae Street	AM	0.912	E	0.813	D	-0.099	No
		PM	0.792	C	0.693	B	-0.099	No
20	Aviation Boulevard & Century Boulevard	AM	0.863	D	0.751	C	-0.112	No
		PM	1.013	F	0.866	D	-0.147	No
21	Aviation Boulevard & 104th Street	AM	0.640	B	0.584	A	-0.056	No
		PM	0.784	C	0.703	C	-0.081	No
22	Aviation Boulevard & 111th Street	AM	0.739	C	0.667	B	-0.072	No
		PM	0.731	C	0.704	C	-0.027	No
23	Aviation Boulevard & Imperial Highway	AM	0.724	C	0.580	A	-0.144	No
		PM	0.865	D	0.866	D	0.001	No
24	Hindry Avenue & Arbor Vitae Street [2]	AM	23.4 s	C	0.657	B	-0.031	No
		PM	18.0 s	C	0.611	B	0.002	No
25	Concourse Way & Century Boulevard	AM	0.306	A	0.637	B	0.331	No
		PM	0.466	A	0.609	B	0.143	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	AM	0.781	C	0.760	C	-0.021	No
		PM	0.679	B	0.688	B	0.009	No
27	La Cienega Boulevard & Arbor Vitae Street	AM	0.813	D	0.908	E	0.095	No
		PM	0.806	D	0.865	D	0.059	No
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Bl)	AM	0.783	C	0.663	B	-0.120	No
		PM	0.642	B	0.557	A	-0.085	No
29	La Cienega Boulevard & Century Boulevard	AM	0.930	E	0.858	D	-0.072	No
		PM	0.915	E	0.924	E	0.009	No
30	I-405 Northbound Ramps & Century Boulevard	AM	0.952	E	0.834	D	-0.118	No
		PM	0.826	D	0.730	C	-0.096	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.



- Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway): AM Peak Hour, LOS F; PM Peak Hour, LOS E
- La Cienega Boulevard & Arbor Vitae Street: AM Peak Hour, LOS E
- La Cienega Boulevard & Century Boulevard: PM Peak Hour, LOS E

Capacity calculation worksheets for traffic conditions associated with this scenario are included in Attachment F.

**Future (2024) with Phase 1 Project (including SBO Relocation) and Mitigation Measures – Mid-Day Peak Hour Intersection Operations**

The Future (2024) with Phase 1 Project (including SBO Relocation) and Mitigation Measures intersection operating conditions for the mid-day peak hour are shown in Table 19. As indicated in the table, 21 of the 22 study intersections are projected to operate at LOS D or better during the mid-day peak hour. The remaining intersection, Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway), is projected to operate at LOS E. Capacity calculation worksheets for this scenario during the mid-day peak hour are included in Attachment F.

**Intersection Impacts – with Mitigation Measures**

Traffic impact analysis was conducted for the 30 study intersections based on significant impact criteria detailed earlier. As indicated in Tables 18 and 19, the recommended improvements would fully mitigate the project-related impacts under Future (2024) with the Proposed LAMP Phase 1 Project including SBO Relocation. No residual significant impacts would remain due to the LAMP Phase 1 Project (including SBO Relocation). No change in the number of residual significant impacts during the morning, mid-day and evening peak hours due to the SBO relocation under this scenario would occur.

**Intersection Operating Conditions – Future (2035) with Project (including SBO Relocation) and Mitigation Measures**

Future (2035) traffic volumes with the proposed mitigation measures are estimated using the LAX Travel Demand Model including the LAMP Project, SBO relocation and network changes to reflect the improvements. Additionally, the trip credits associated with the TDM program were

**TABLE 19  
SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS  
FUTURE (2024) WITH PHASE 1 PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS MID-DAY PEAK HOUR**

MAP #	INTERSECTION	FUTURE (2024) WITHOUT PROJECT CONDITIONS*			FUTURE (2024) WITH PHASE 1 PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS			SIGNIFICANT IMPACT
		MD PEAK HOUR		LOS	MD PEAK HOUR		V/C	
		V/C OR DELAY	LOS	V/C	LOS	V/C		
4	Sepulveda Boulevard & Westchester Parkway	0.910	E	0.885	D	-0.025	No	
5	Sepulveda Boulevard & Lincoln Boulevard [1]	0.609	B	0.597	A	-0.012	No	
6	Sepulveda Boulevard & Century Boulevard	0.643	B	0.600	A	-0.043	No	
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	1.002	F	0.946	E	-0.056	No	
8	Sepulveda Boulevard & Imperial Highway	0.632	B	0.627	B	-0.005	No	
10	Jenny Avenue & Westchester Parkway	0.295	A	0.337	A	0.042	No	
11	Avion Drive & Century Boulevard	0.445	A	0.378	A	-0.067	No	
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	0.787	C	0.539	A	-0.248	No	
13	Airport Boulevard & 96th Street	0.483	A	0.629	B	0.146	No	
14	Airport Boulevard & 98th Street	0.523	A	0.693	B	0.170	No	
15	Airport Boulevard & Century Boulevard	0.691	B	0.664	B	-0.027	No	
19	Aviation Boulevard & Arbor Vitae Street	0.638	B	0.598	A	-0.040	No	
20	Aviation Boulevard & Century Boulevard	0.838	D	0.765	C	-0.073	No	
21	Aviation Boulevard & 104th Street	0.640	B	0.670	B	0.030	No	
22	Aviation Boulevard & 111th Street	0.696	B	0.726	C	0.030	No	
23	Aviation Boulevard & Imperial Highway	0.667	B	0.610	B	-0.057	No	
24	Hindry Avenue & Arbor Vitae Street [2]	14.7 s	B	0.347	A	-0.121	No	
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	0.412	A	0.549	A	0.137	No	
27	La Cienega Boulevard & Arbor Vitae Street	0.667	B	0.653	B	-0.014	No	
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Boulevard)	0.653	B	0.557	A	-0.096	No	
29	La Cienega Boulevard & Century Boulevard	0.693	B	0.709	C	0.016	No	
30	I-405 Northbound Ramps & Century Boulevard	0.716	C	0.590	A	-0.126	No	

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

applied to obtain the future forecasts. Figures 21A-C illustrate the traffic volumes for this scenario during the morning and evening peak hours. The mid-day peak hour traffic volumes are shown in Figures 22A-B.

Traffic conditions analysis utilizing the traffic forecasts developed above were conducted including all the mitigation measures at the various impacted intersections.

The Future (2035) with Project (including SBO Relocation) and Mitigation Measures intersection operating conditions for the morning and evening peak hours are shown in Table 20. As indicated in the table, 28 of the 30 study intersections are projected to operate at LOS D or better during the morning peak hour. During the evening peak hour, 23 of the 30 study intersections are projected to operate at LOS D or better. The following intersections are projected to operate at LOS E or F:

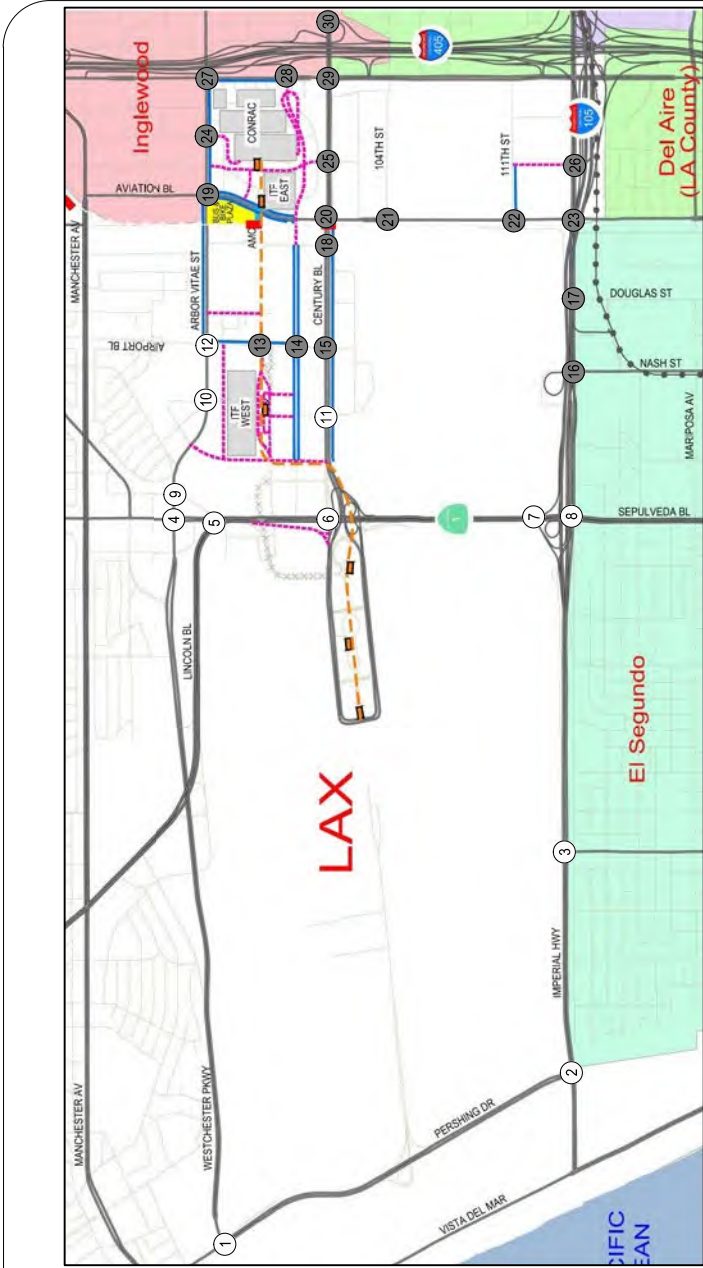
- Sepulveda Boulevard & Westchester Parkway: PM Peak Hour, LOS E
- Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway): AM Peak Hour, LOS F; PM Peak Hour, LOS E
- Airport Boulevard & Arbor Vitae Street-Westchester Parkway: PM Peak Hour, LOS E
- Aviation Boulevard & Century Boulevard: PM Peak Hour, LOS E
- Aviation Boulevard & Imperial Highway: PM Peak Hour, LOS E
- La Cienega Boulevard & Arbor Vitae Street: AM Peak Hour, LOS F; PM Peak Hour, LOS F
- La Cienega Boulevard & Century Boulevard: PM Peak Hour, LOS E

The capacity calculation worksheets for traffic conditions associated with this scenario are included in Attachment G.

#### **Future (2035) with Project (including SBO Relocation) and Mitigation Measures – Mid-Day Peak Hour Intersection Operations**

The intersection operating conditions for the mid-day peak hour are shown in Table 21. As indicated in the table, 20 of the 22 study intersections are projected to operate at LOS D or better during the mid-day peak hour. The remaining intersections are projected to operate at LOS E and include:

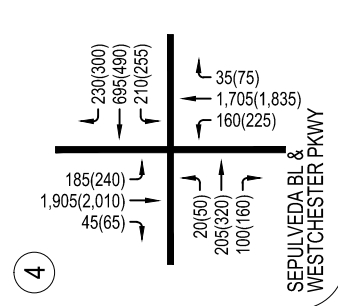
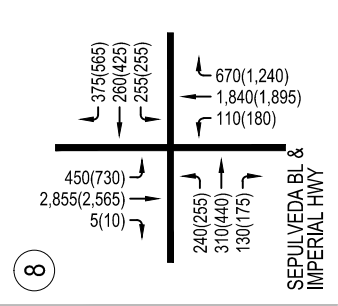
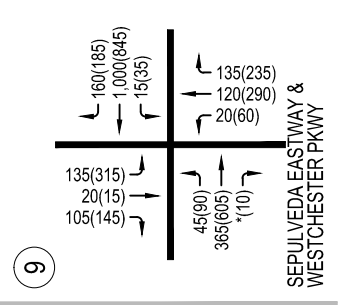
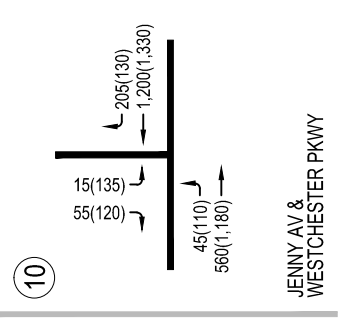
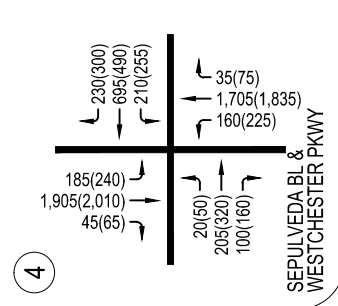
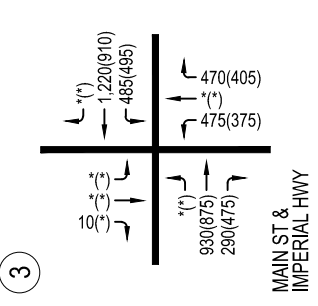
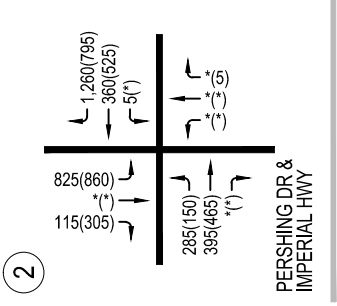
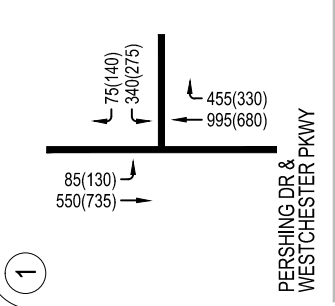
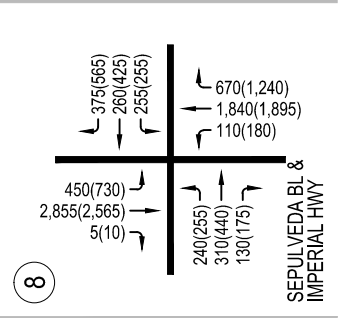
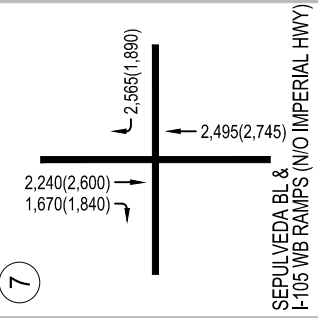
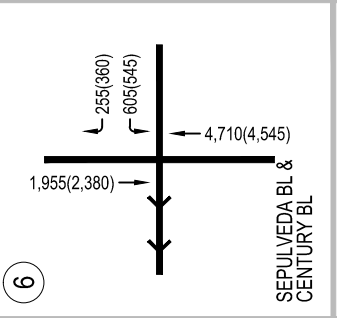
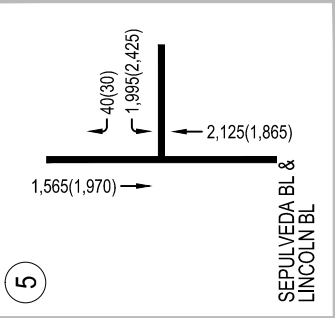
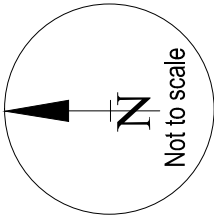
- Sepulveda Boulevard & Westchester Parkway: MD Peak Hour, LOS E



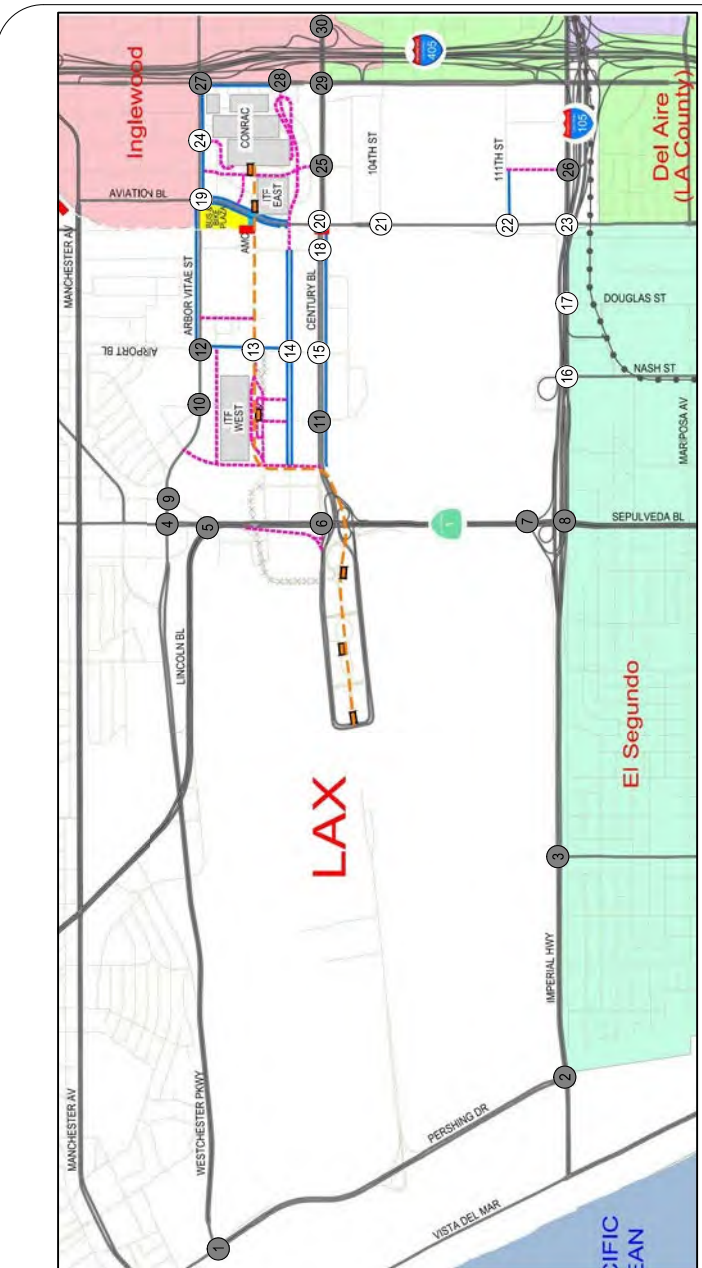
**LEGEND:**

XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection

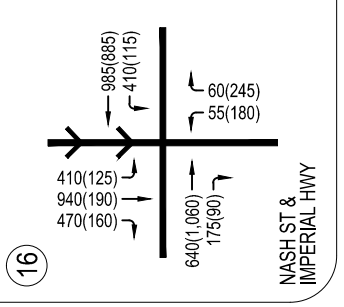
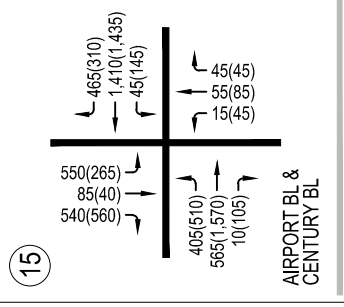
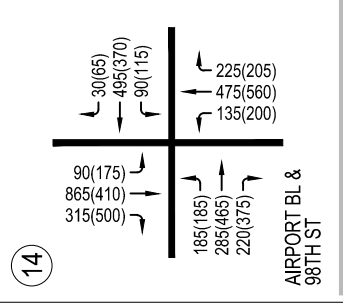
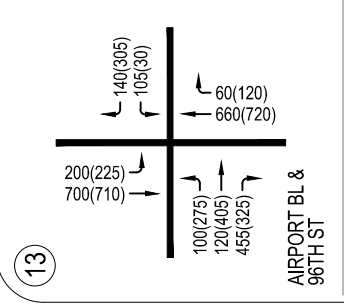
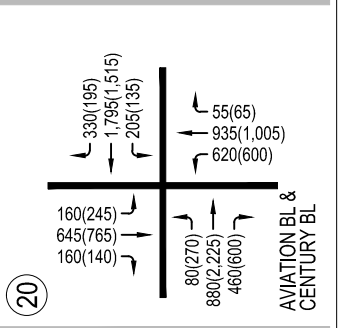
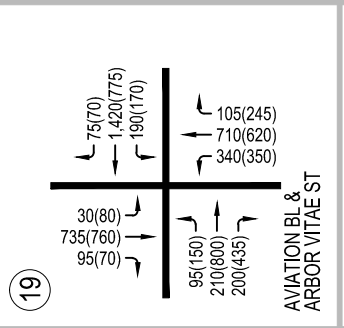
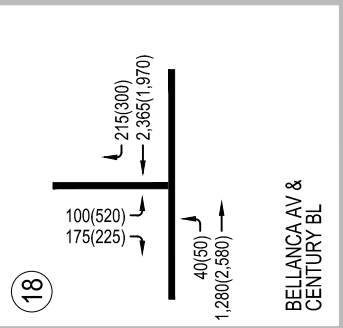
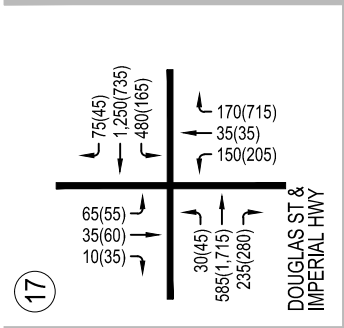
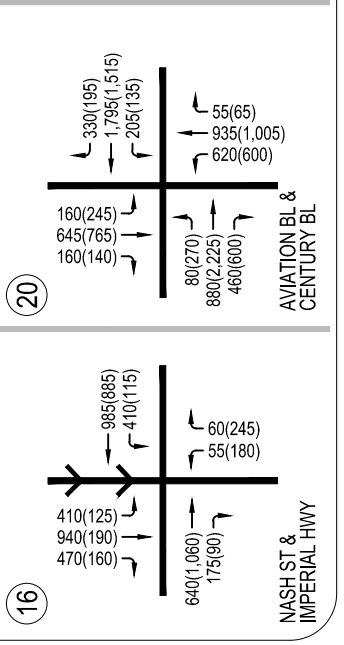
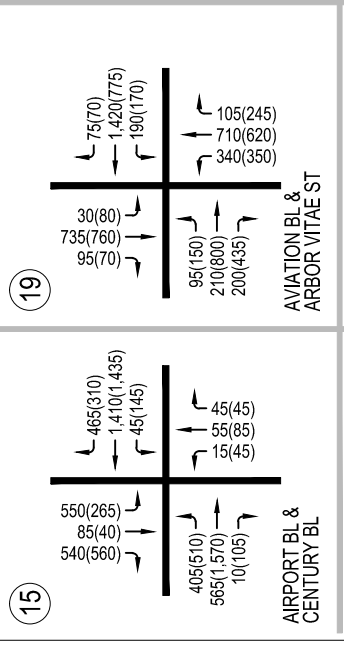
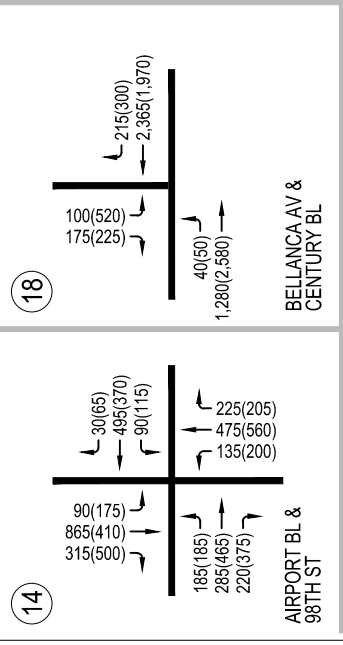
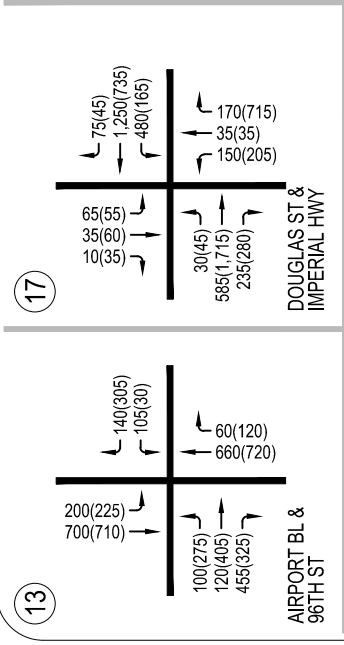
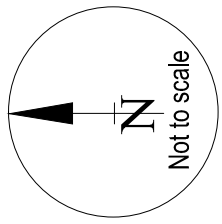


**FIGURE 21A**  
**FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND**  
**MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR VOLUMES**



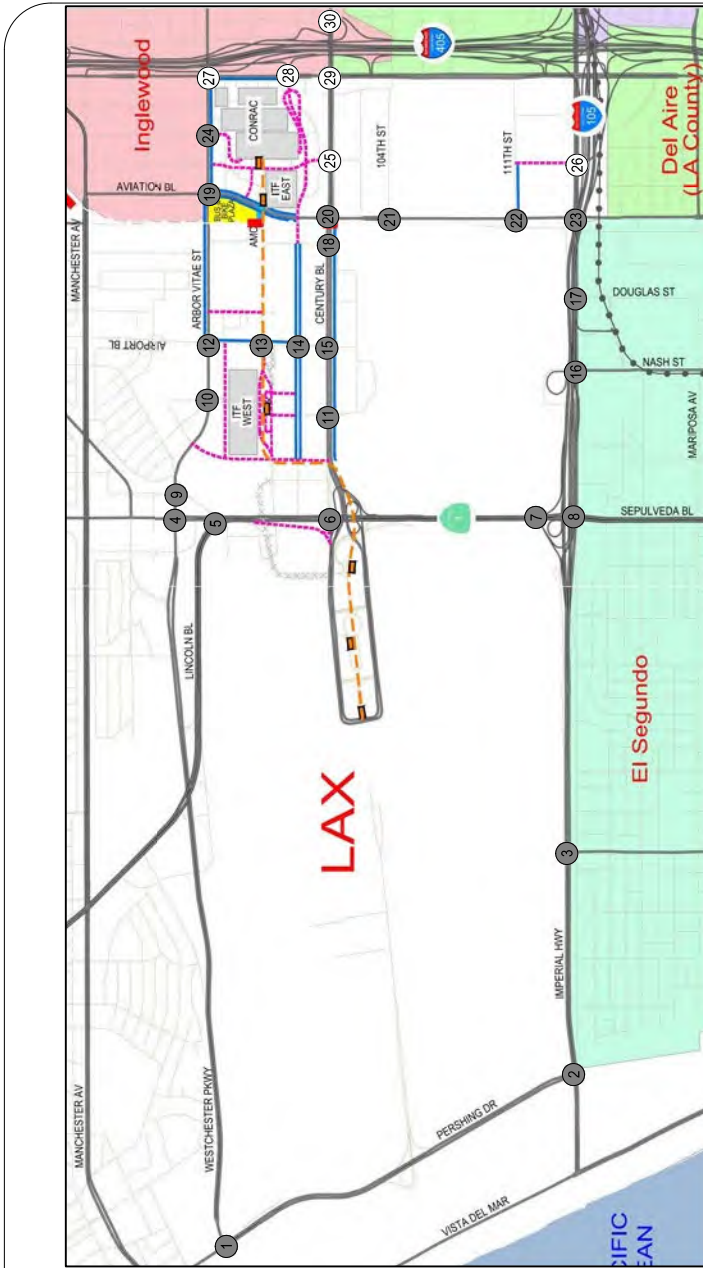
**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection



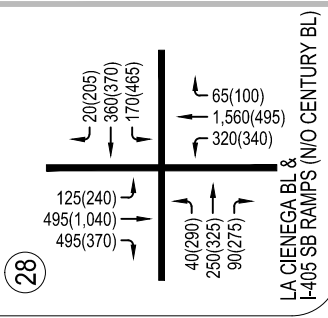
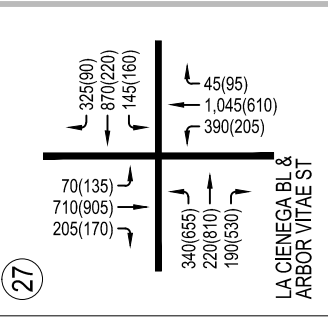
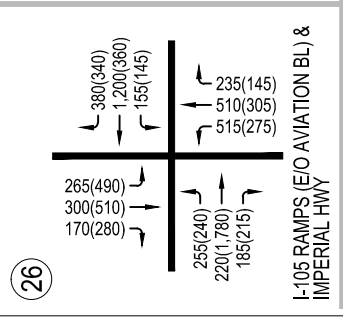
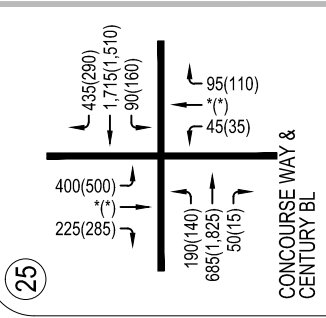
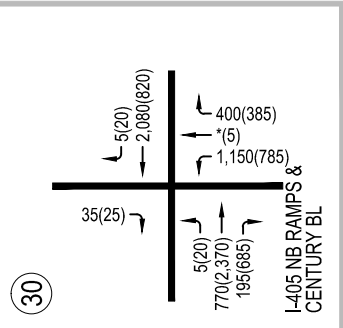
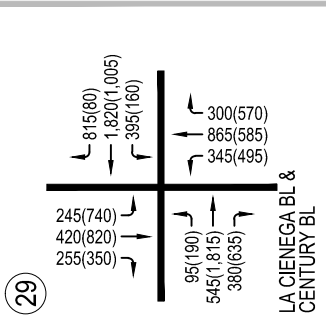
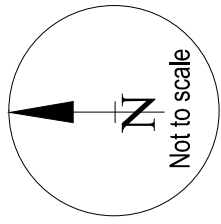
**FIGURE 21B**  
 FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
 MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR VOLUMES



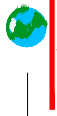


**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles

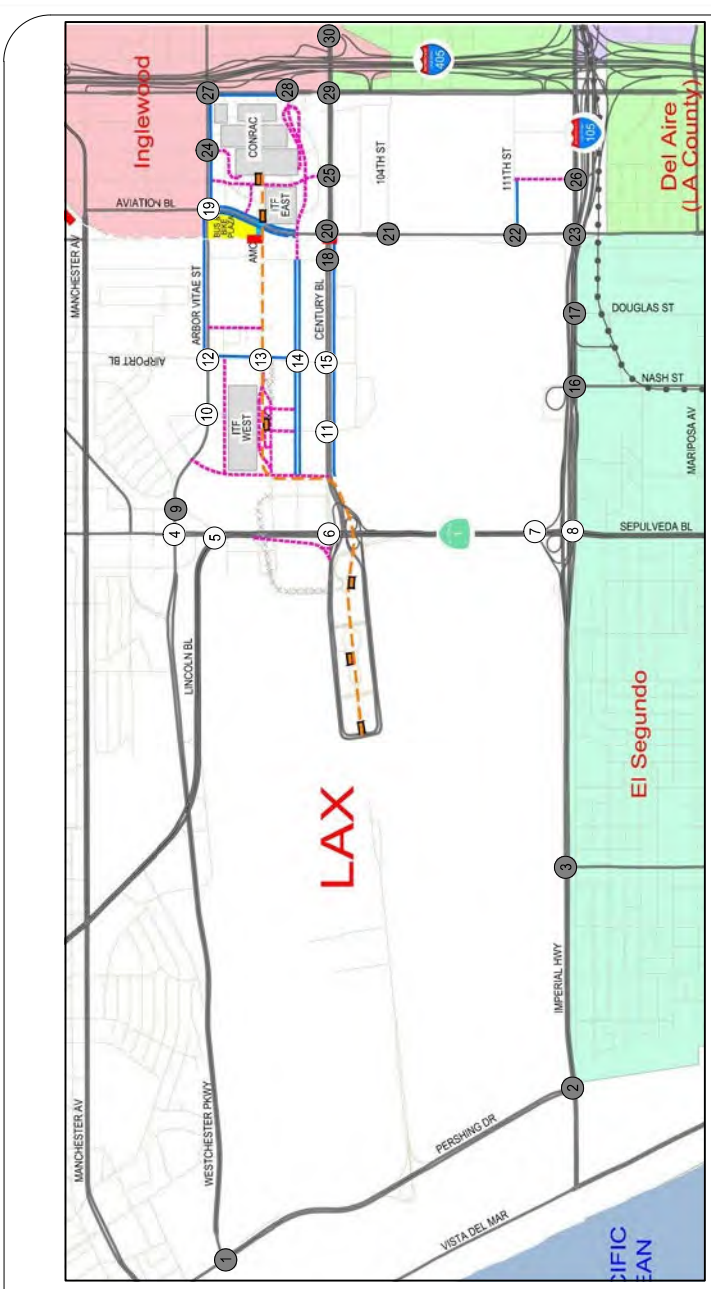
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 21C**  
 FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
 MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR VOLUMES

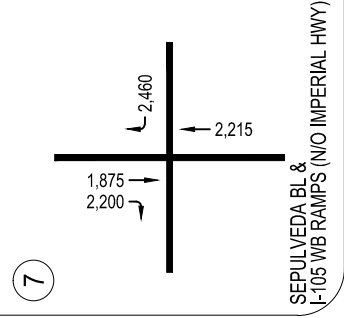
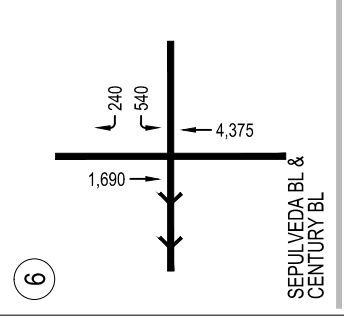
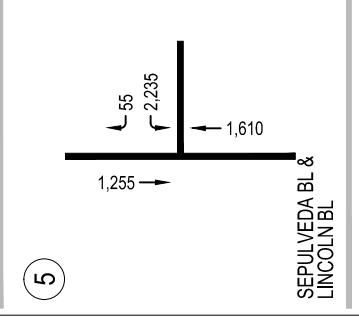
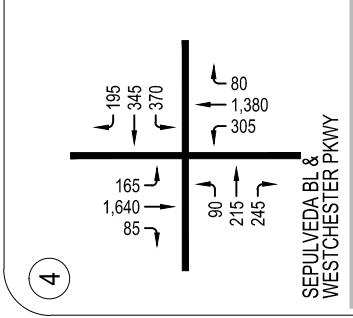
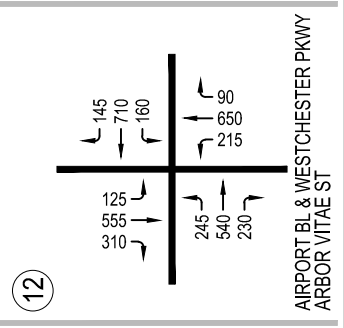
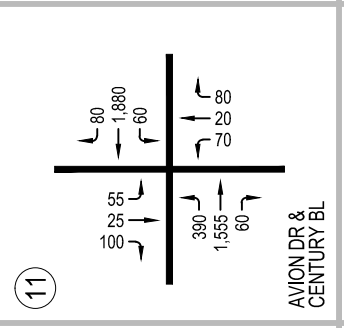
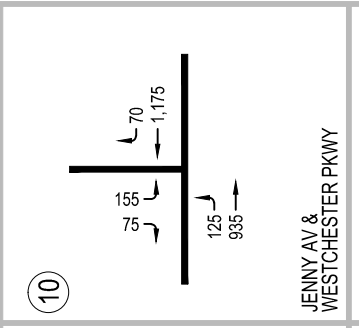
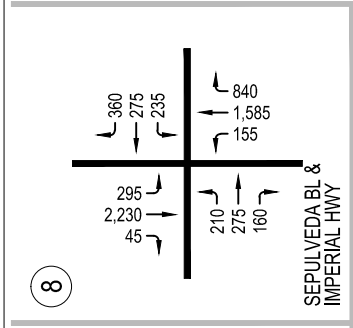
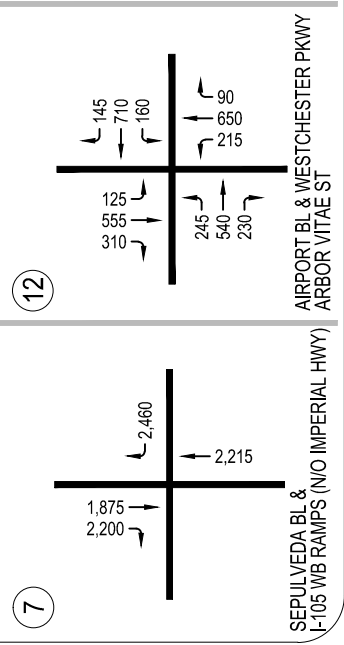
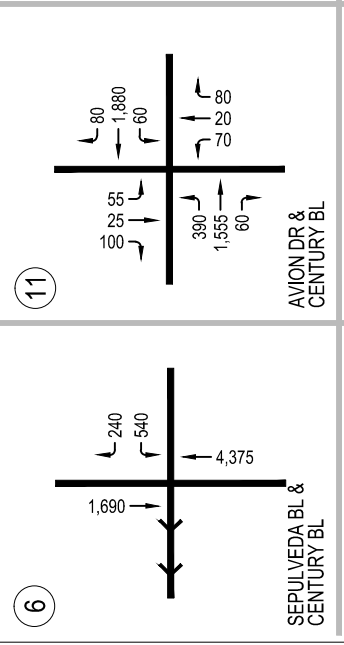
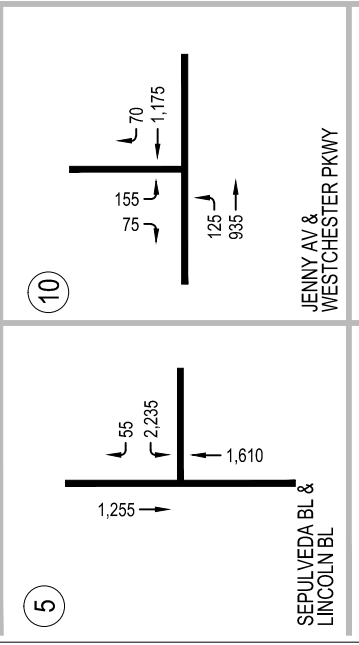
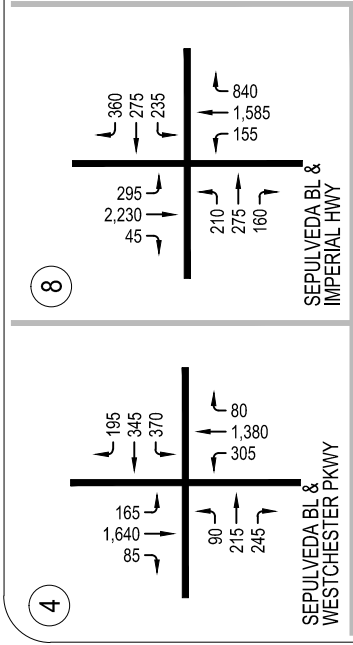
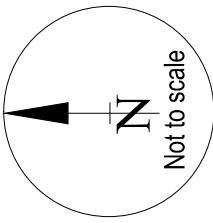


**RAJU** Associates, Inc.



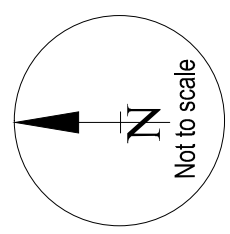
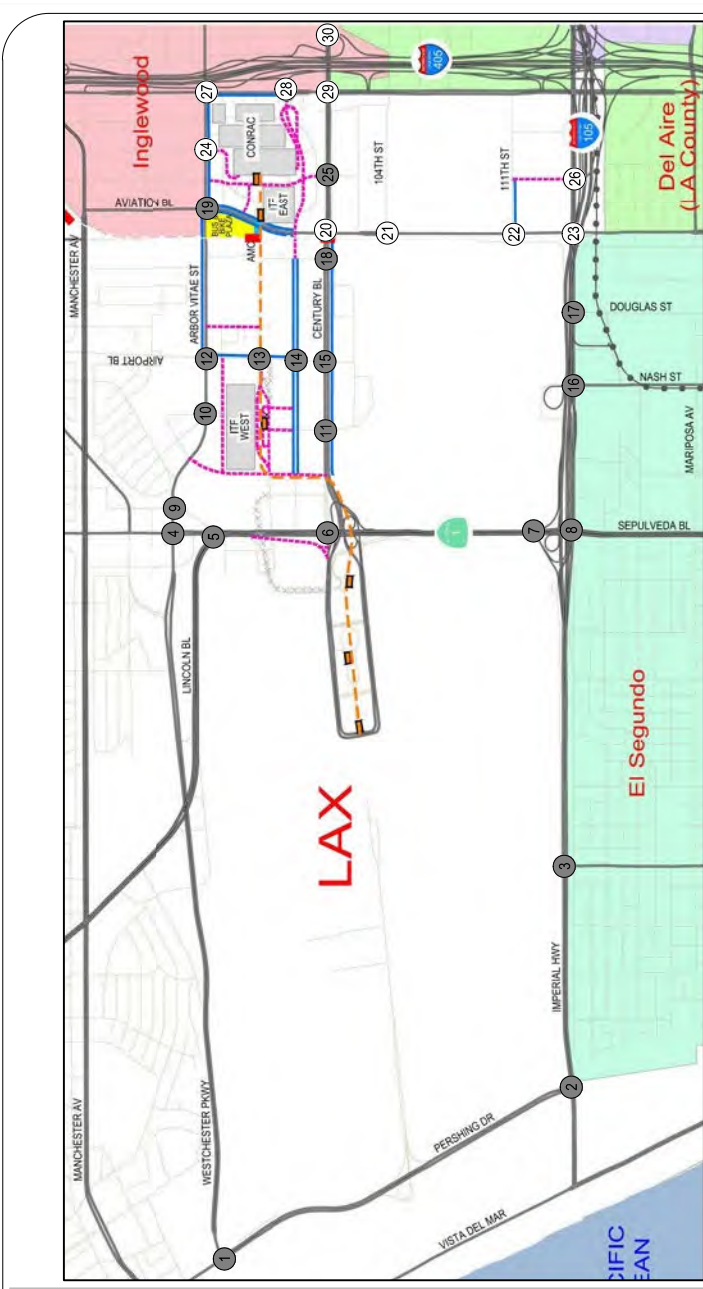
**LEGEND:**

- XXX - Mid-day Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



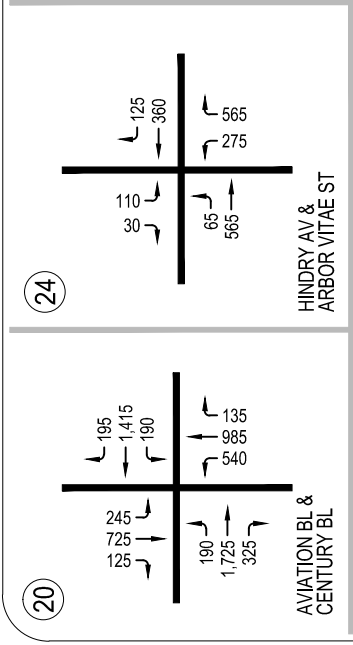
**FIGURE 22A**  
**FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND**  
**MITIGATION MEASURES CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES**





**LEGEND:**

- XXX - Mid-day Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 22B**  
**FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND**  
**MITIGATION MEASURES CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES**

**TABLE 20**  
**SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS - FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS**

MAP #	INTERSECTION	PEAK HOUR	FUTURE (2035) WITHOUT PROJECT CONDITIONS*		FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS			
			V/C OR DELAY	LOS	V/C	LOS	CHANGE IN V/C	SIGNIFICANT IMPACT
1	Pershing Drive & Westchester Parkway	AM	0.457	A	0.442	A	-0.015	No
		PM	0.362	A	0.336	A	-0.026	No
2	Pershing Drive & Imperial Highway	AM	0.550	A	0.517	A	-0.033	No
		PM	0.501	A	0.466	A	-0.035	No
3	Main Street & Imperial Highway	AM	0.694	B	0.686	B	-0.008	No
		PM	0.632	B	0.611	B	-0.021	No
4	Sepulveda Boulevard & Westchester Parkway	AM	0.812	D	0.817	D	0.005	No
		PM	0.971	E	0.901	E	-0.070	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	AM	0.685	B	0.695	B	0.010	No
		PM	0.715	C	0.708	C	-0.007	No
6	Sepulveda Boulevard & Century Boulevard	AM	0.839	D	0.844	D	0.005	No
		PM	0.947	E	0.889	D	-0.058	No
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	AM	1.104	F	1.043	F	-0.061	No
		PM	1.001	F	0.941	E	-0.060	No
8	Sepulveda Boulevard & Imperial Highway	AM	0.792	C	0.704	C	-0.088	No
		PM	0.940	E	0.862	D	-0.078	No
9	Sepulveda Eastway & Westchester Parkway	AM	0.491	A	0.505	A	0.014	No
		PM	0.787	C	0.752	C	-0.035	No
10	Jenny Avenue & Westchester Parkway	AM	0.212	A	0.341	A	0.129	No
		PM	0.457	A	0.473	A	0.016	No
11	Avion Drive & Century Boulevard	AM	0.515	A	0.485	A	-0.030	No
		PM	0.640	B	0.529	A	-0.111	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	AM	0.744	C	0.737	C	-0.007	No
		PM	1.153	F	0.933	E	-0.220	No
13	Airport Boulevard & 96th Street	AM	0.341	A	0.490	A	-0.220	No
		PM	0.580	A	0.573	A	-0.007	No
14	Airport Boulevard & 98th Street	AM	0.432	A	0.656	B	0.224	No
		PM	0.625	B	0.659	B	0.034	No
15	Airport Boulevard & Century Boulevard	AM	0.672	B	0.648	B	-0.024	No
		PM	0.725	C	0.706	C	-0.019	No
16	Nash Street /I-105 Westbound Ramps & Imperial Highway	AM	0.547	A	0.548	A	0.001	No
		PM	0.480	A	0.494	A	0.014	No
17	Douglas Street & Imperial Highway	AM	0.398	A	0.437	A	0.039	No
		PM	0.739	C	0.713	C	-0.026	No
18	Bellanca Avenue & Century Boulevard	AM	0.654	B	0.461	A	-0.193	No
		PM	0.761	C	0.503	A	-0.258	No
19	Aviation Boulevard & Arbor Vitae Street	AM	0.996	E	0.883	D	-0.113	No
		PM	0.902	E	0.776	C	-0.126	No
20	Aviation Boulevard & Century Boulevard	AM	0.961	E	0.827	D	-0.134	No
		PM	1.051	F	0.923	E	-0.128	No
21	Aviation Boulevard & 104th Street	AM	0.790	C	0.745	C	-0.045	No
		PM	0.875	D	0.832	D	-0.043	No
22	Aviation Boulevard & 111th Street	AM	0.957	E	0.827	D	-0.130	No
		PM	0.872	D	0.767	C	-0.105	No
23	Aviation Boulevard & Imperial Highway	AM	0.878	D	0.629	B	-0.249	No
		PM	0.923	E	0.920	E	-0.003	No
24	Hindry Avenue & Arbor Vitae Street [2]	AM	49.4 s	E	0.661	B	-0.133	No
		PM	24.1 s	C	0.653	B	-0.069	No
25	Concourse Way & Century Boulevard	AM	0.327	A	0.580	A	0.253	No
		PM	0.528	A	0.629	B	0.101	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	AM	0.838	D	0.815	D	-0.023	No
		PM	0.713	C	0.749	C	0.036	No
27	La Cienega Boulevard & Arbor Vitae Street	AM	0.887	D	1.019	F	0.132	Yes
		PM	0.852	D	1.070	F	0.218	Yes
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Bl)	AM	0.809	D	0.679	B	-0.130	No
		PM	0.705	C	0.615	B	-0.090	No
29	La Cienega Boulevard & Century Boulevard	AM	0.985	E	0.877	D	-0.108	No
		PM	1.088	F	0.964	E	-0.124	No
30	I-405 Northbound Ramps & Century Boulevard	AM	0.993	E	0.856	D	-0.137	No
		PM	0.890	D	0.773	C	-0.117	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

**TABLE 21**  
**SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS**  
**FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS MID-DAY PEAK HOUR**

MAP #	INTERSECTION	FUTURE (2035) WITHOUT PROJECT CONDITIONS*			FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS			SIGNIFICANT IMPACT
		MD PEAK HOUR		LOS	MD PEAK HOUR		V/C	
		V/C OR DELAY	LOS		V/C	LOS		
4	Sepulveda Boulevard & Westchester Parkway	0.965	E	0.936	E	-0.029	No	
5	Sepulveda Boulevard & Lincoln Boulevard [1]	0.648	B	0.621	B	-0.027	No	
6	Sepulveda Boulevard & Century Boulevard	0.777	C	0.781	C	0.004	No	
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	1.025	F	0.956	E	-0.069	No	
8	Sepulveda Boulevard & Imperial Highway	0.647	B	0.643	B	-0.004	No	
10	Jenny Avenue & Westchester Parkway	0.338	A	0.433	A	0.095	No	
11	Avion Drive & Century Boulevard	0.572	A	0.467	A	-0.105	No	
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	0.858	D	0.665	B	-0.193	No	
13	Airport Boulevard & 96th Street	0.553	A	0.505	A	-0.048	No	
14	Airport Boulevard & 98th Street	0.573	A	0.623	B	0.050	No	
15	Airport Boulevard & Century Boulevard	0.800	C	0.663	B	-0.137	No	
19	Aviation Boulevard & Arbor Vitae Street	0.731	C	0.672	B	-0.059	No	
20	Aviation Boulevard & Century Boulevard	0.900	D	0.857	D	-0.043	No	
21	Aviation Boulevard & 104th Street	0.752	C	0.776	C	0.024	No	
22	Aviation Boulevard & 111th Street	0.867	D	0.829	D	-0.038	No	
23	Aviation Boulevard & Imperial Highway	0.694	B	0.627	B	-0.067	No	
24	Hindry Avenue & Arbor Vitae Street [2]	16.5 s	C	0.385	A	-0.168	No	
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	0.440	A	0.536	A	0.096	No	
27	La Cienega Boulevard & Arbor Vitae Street	0.724	C	0.759	C	0.035	No	
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Boulevard)	0.703	C	0.629	B	-0.074	No	
29	La Cienega Boulevard & Century Boulevard	0.813	D	0.816	D	0.003	No	
30	I-405 Northbound Ramps & Century Boulevard	0.761	C	0.615	B	-0.146	No	

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

- Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway): MD Peak Hour, LOS E

Capacity calculation worksheets for this scenario during the mid-day peak hour are included in Attachment G.

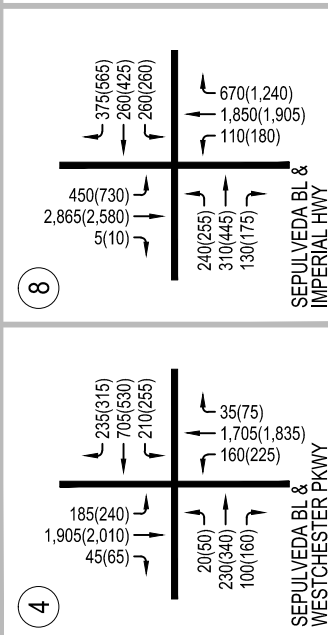
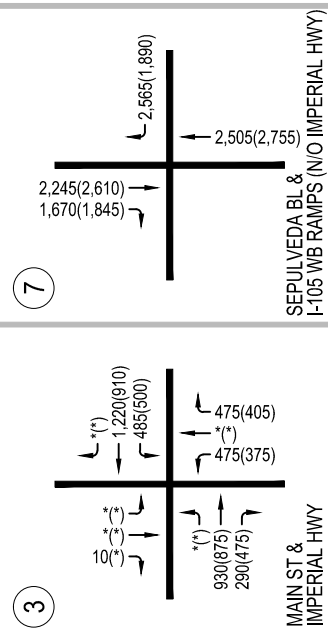
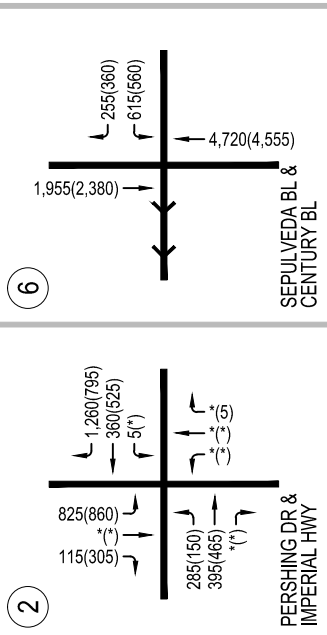
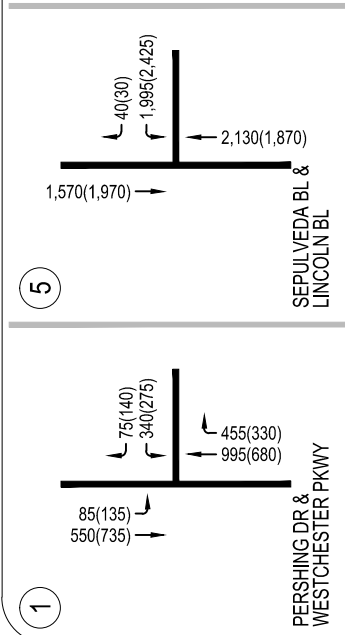
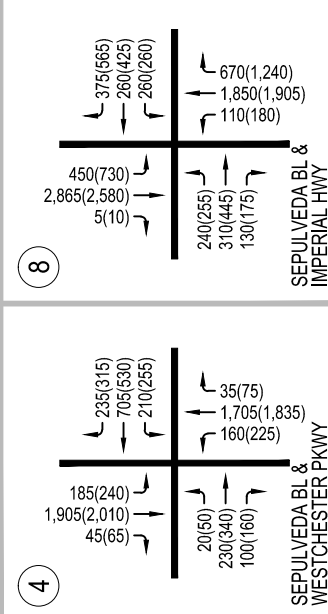
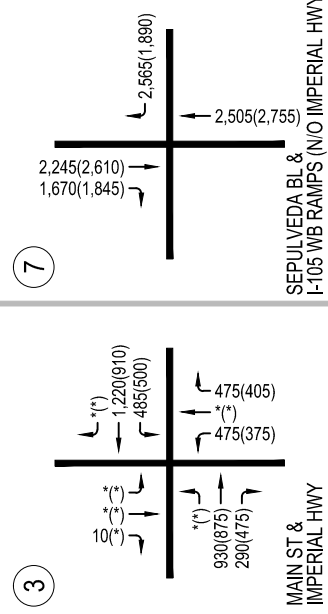
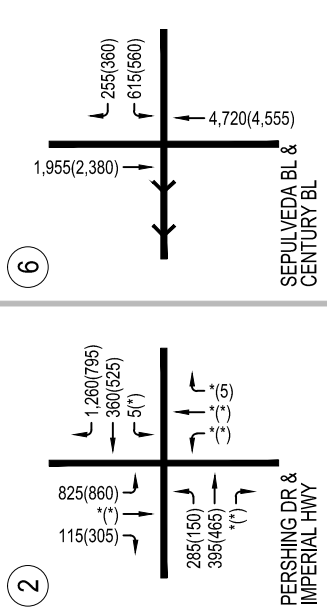
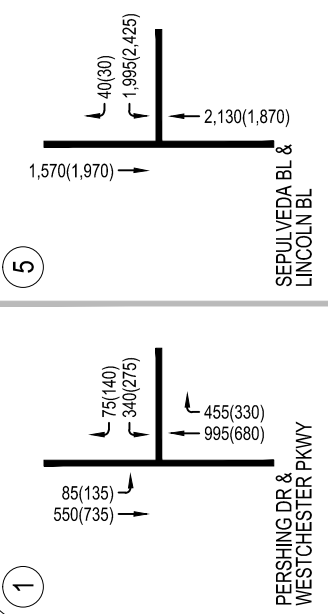
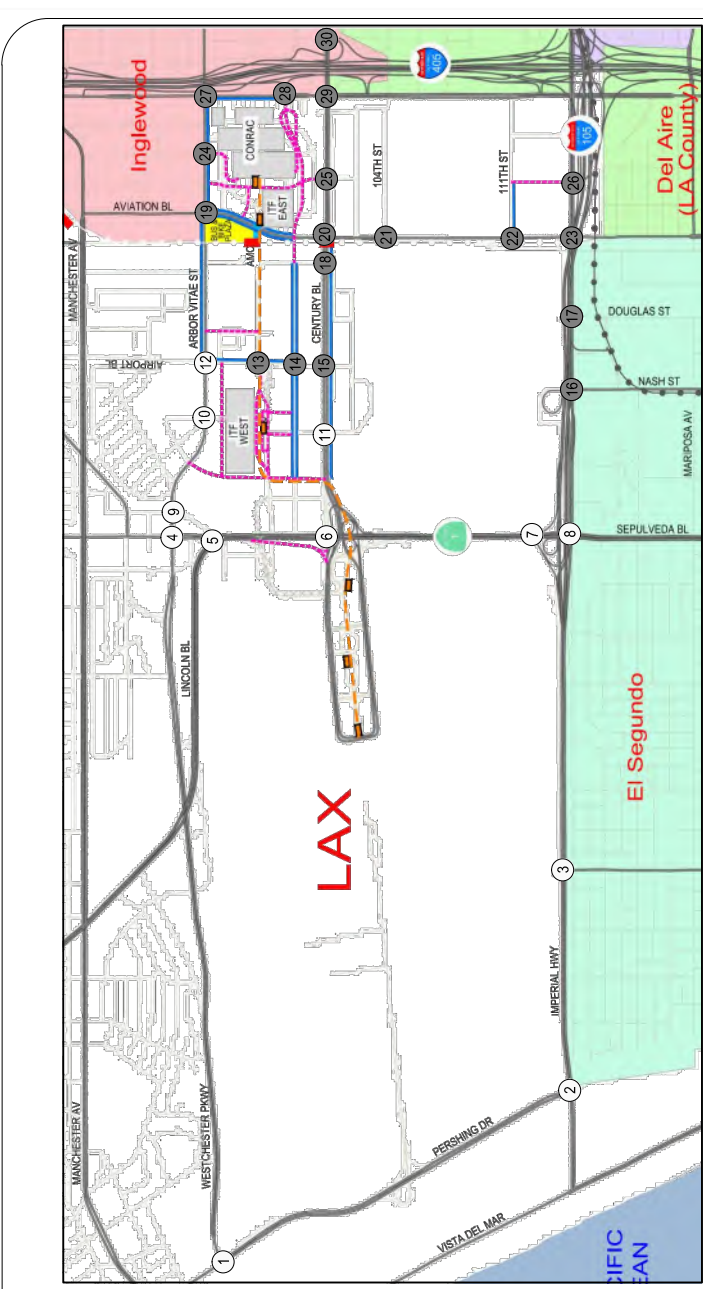
### **Intersection Impacts – with Mitigation Measures**

Traffic impact analysis was conducted for the 30 study intersections based on significant impact criteria detailed earlier and the results are shown in Tables 20 and 21. It can be observed from Tables 20 and 21 that the recommended improvements would fully mitigate the project-related impacts under the Future (2035) with Project (including SBO Relocation) and Mitigation Measures at two of the three significantly impacted intersections. A residual significant impact would remain at the intersection of La Cienega Boulevard/Arbor Vitae Street during the morning and evening peak hours, similar to the residual impact at the same location described in *Chapter VI – Transportation Improvement and Mitigation Program of the Transportation Study for the LAMP Project DEIR*. No change in the number of residual significant impacts during the morning, mid-day and evening peak hours due to the SBO relocation under this scenario would occur.

### **Intersection Operating Conditions – Future (2035) with Project (including SBO Relocation), Related Development and Mitigation Measures**

The Future (2035) with Project (including SBO Relocation) and Potential Future Related Development forecasted traffic volumes with the proposed mitigation measures were prepared using the LAX Travel Demand Model and applying the network changes to reflect the improvements. Additionally, the trip credits for the TDM program were applied to obtain the traffic forecasts for this scenario. Figures 23A-C illustrate the traffic volumes for this scenario during the morning and evening peak hours. The mid-day peak hour traffic volumes are shown in Figures 24A-B.

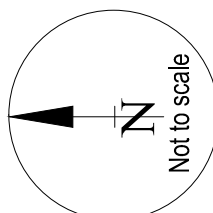
Traffic conditions analysis utilizing the traffic forecasts developed above were conducted including all the mitigation measures at the various impacted intersections.



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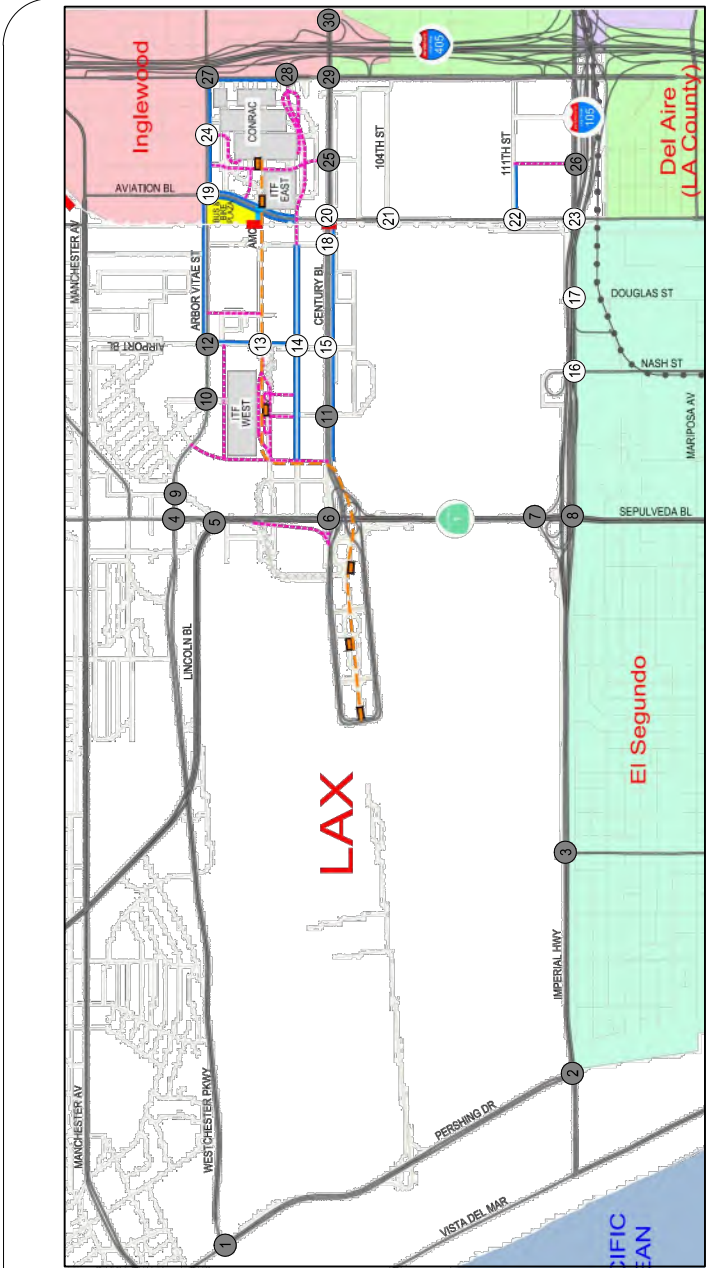
XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection



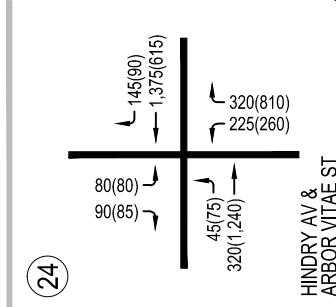
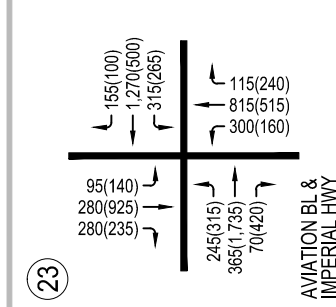
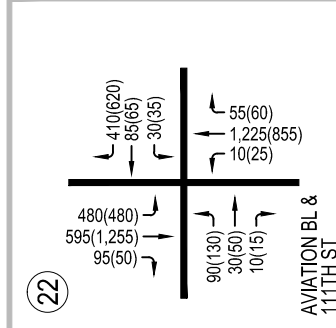
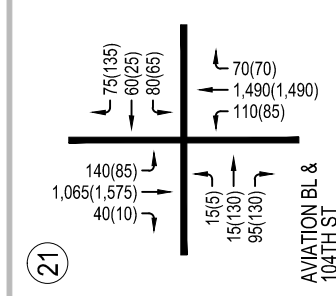
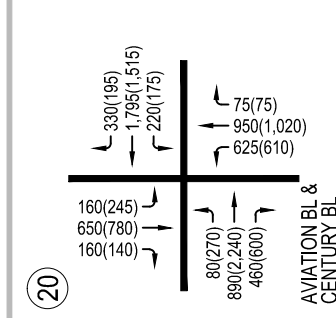
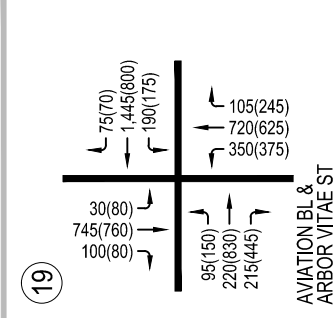
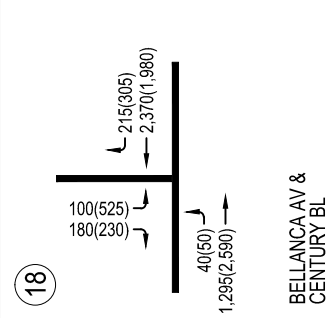
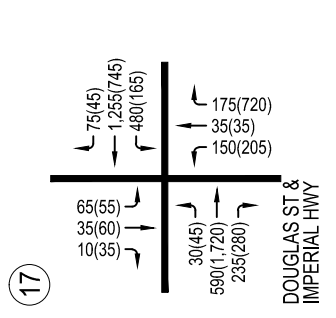
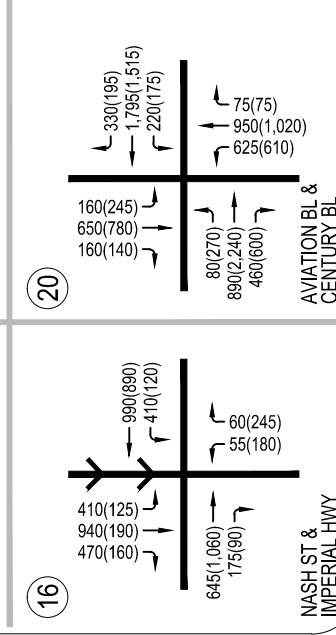
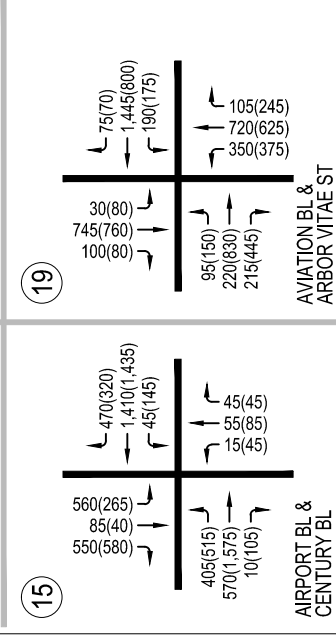
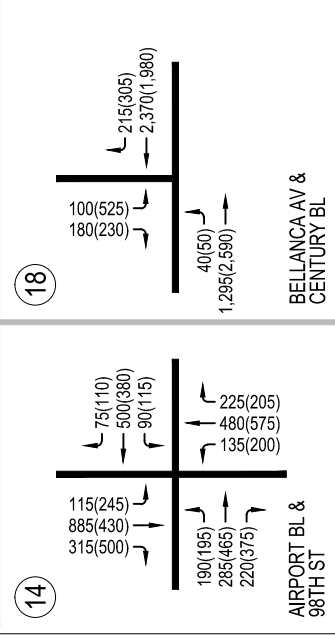
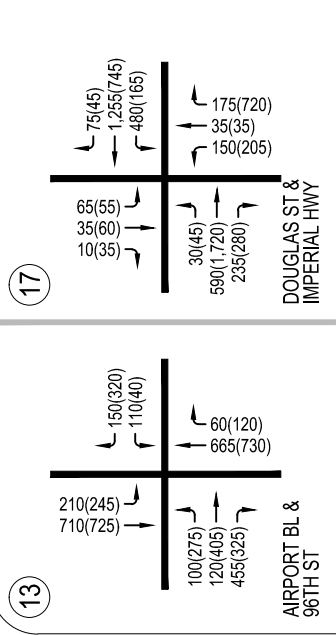
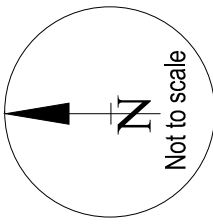
**FIGURE 23A**  
**FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION), RELATED DEVELOPMENT AND MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES**  
**RAJU Associates, Inc.**





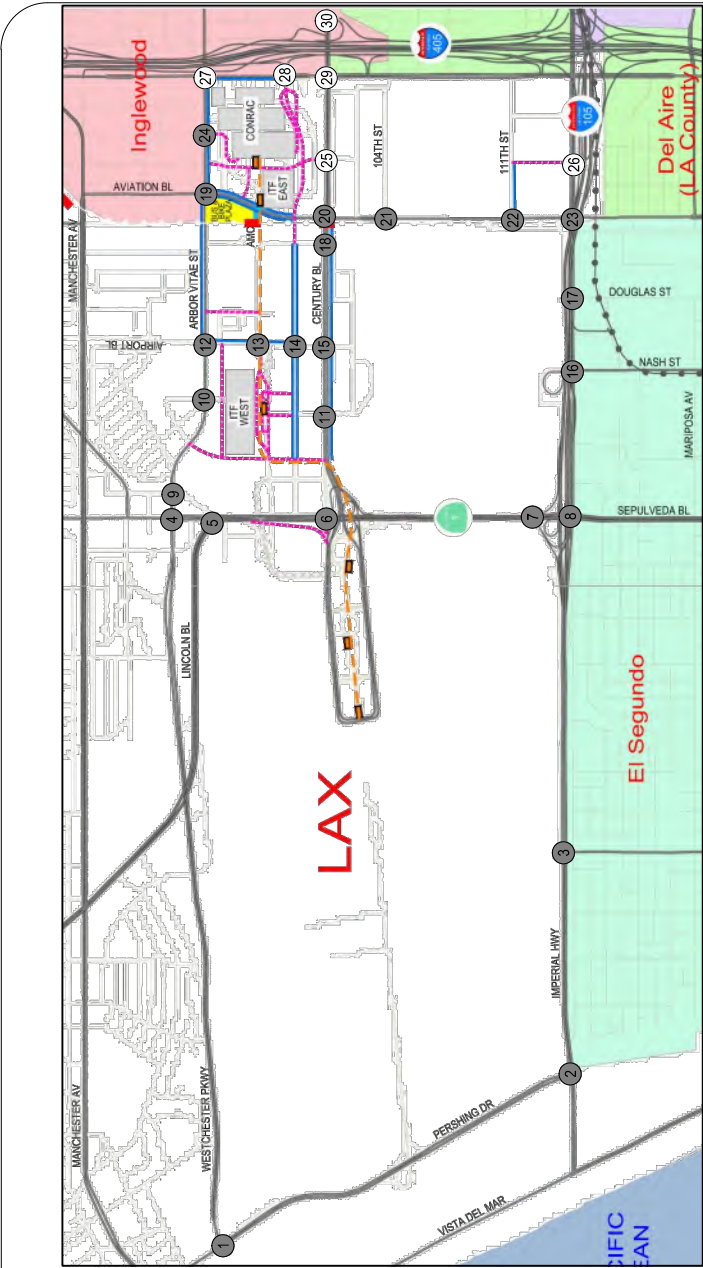
**LEGEND:**  
 XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 23B**  
 FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION), RELATED DEVELOPMENT AND  
 MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES

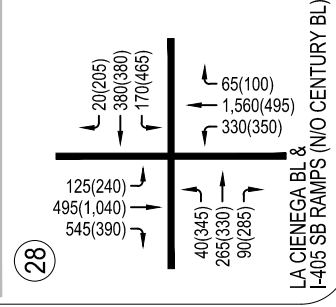
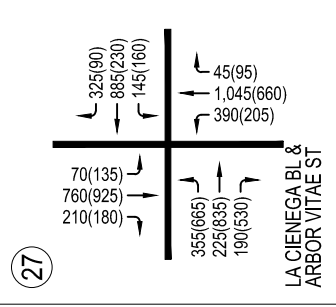
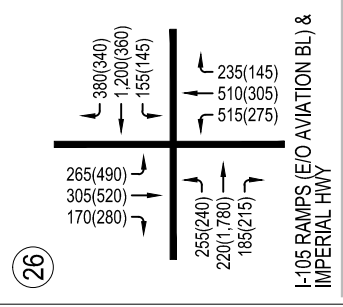
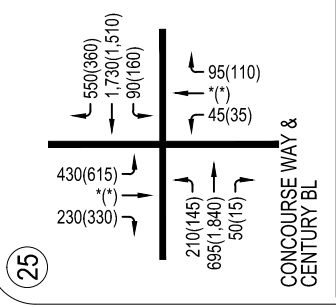
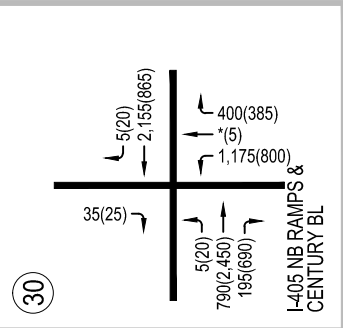
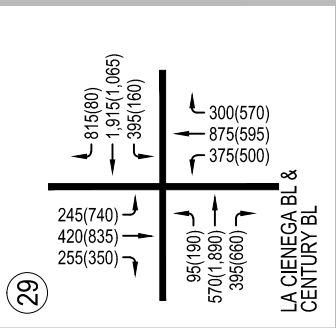
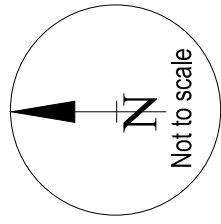
**RAJU** Associates, Inc.



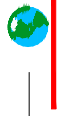
**LEGEND:**

XXX (XXX) - AM (PM) Peak Hour Traffic Volumes  
Rounded to the Nearest 5 Vehicles

- \* - Negligible Volume
- # - Analyzed Intersection

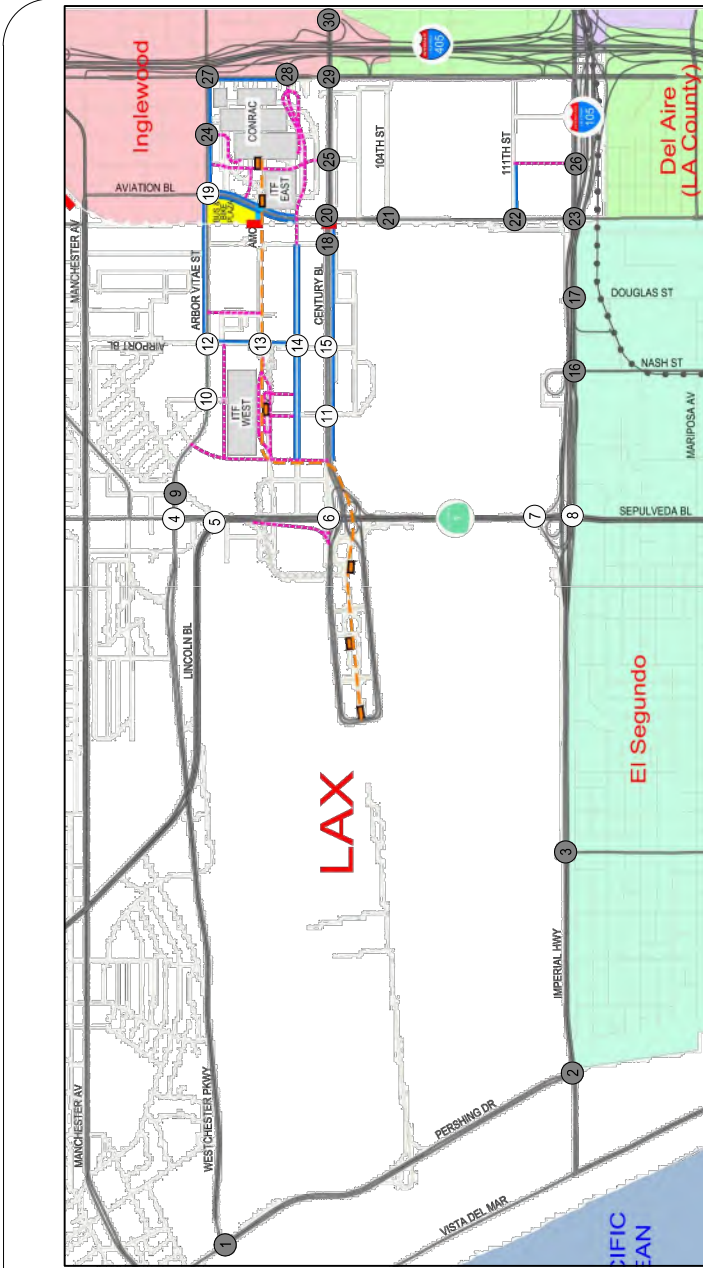


**FIGURE 23C**  
**FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION), RELATED DEVELOPMENT AND MITIGATION MEASURES CONDITIONS - AM(PM) PEAK HOUR TRAFFIC VOLUMES**



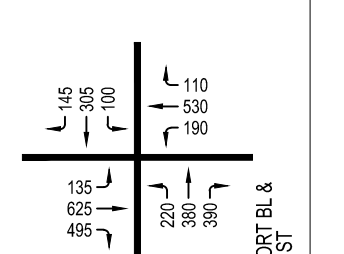
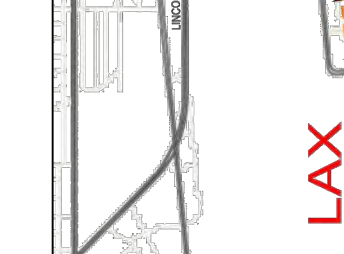
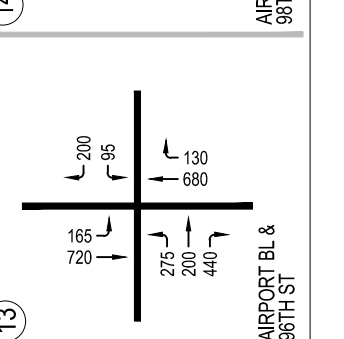
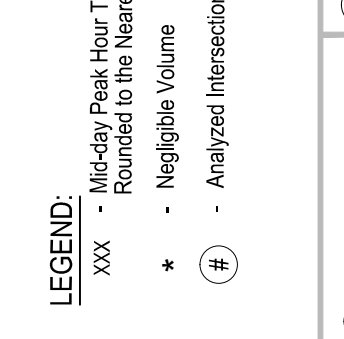
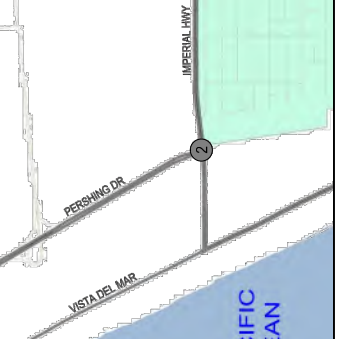
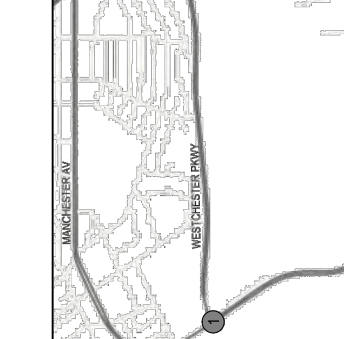
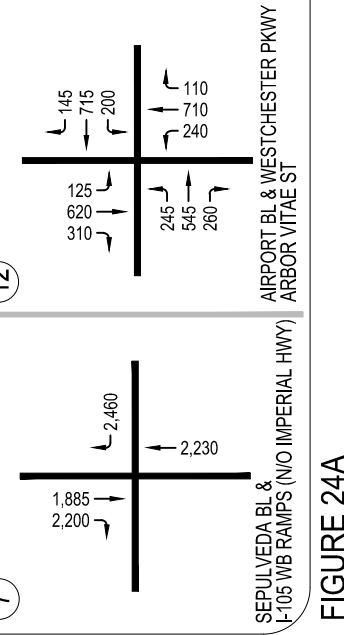
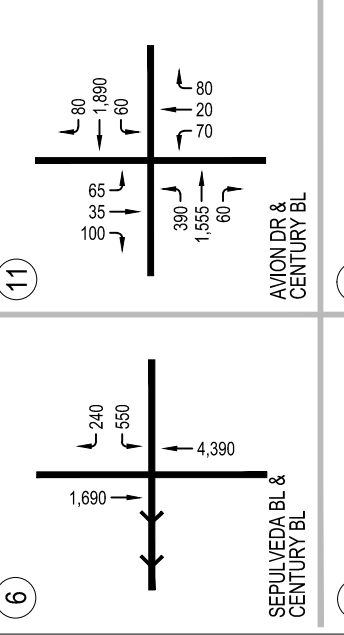
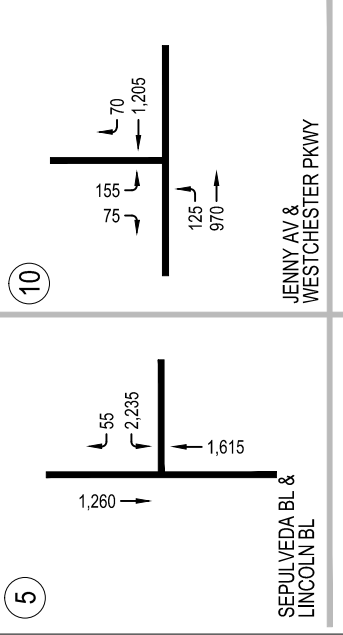
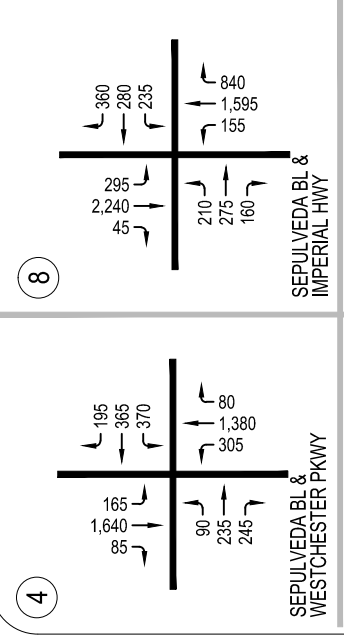
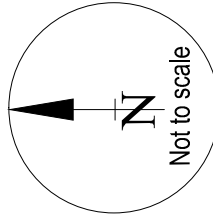
**RAJU** Associates, Inc.





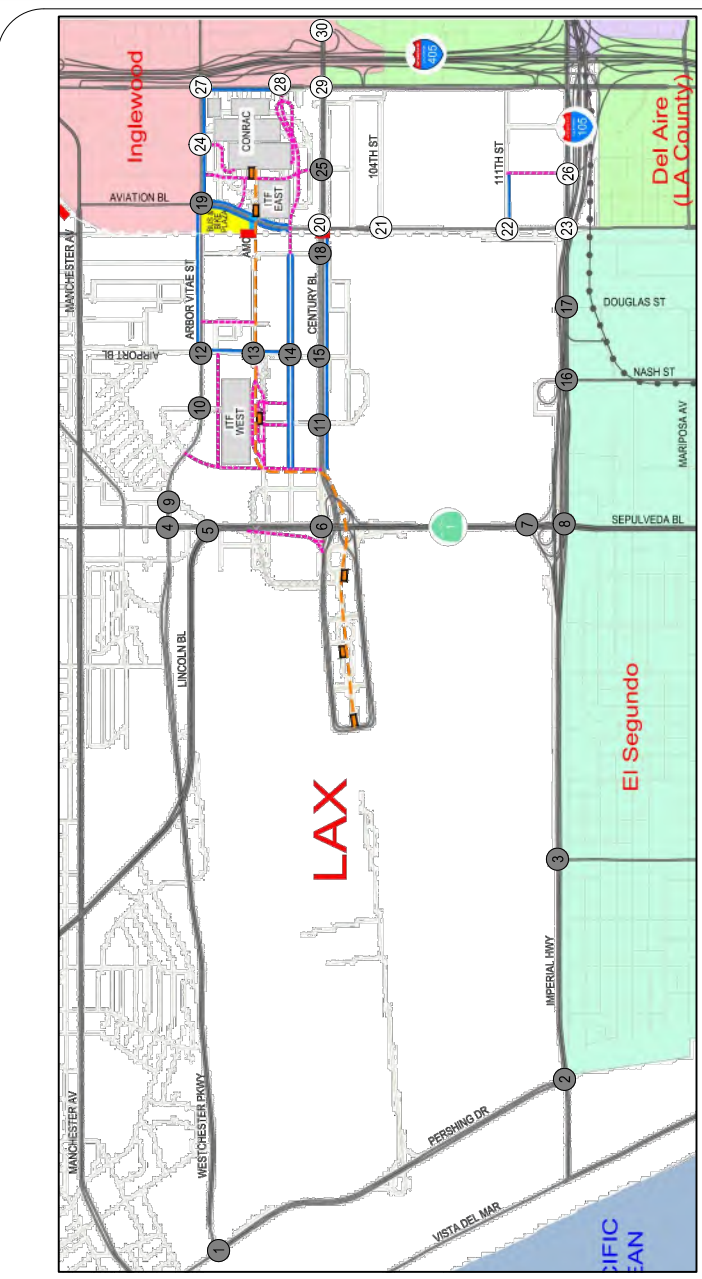
**LEGEND:**

- XXX - Mid-day Peak Hour Traffic Volumes Rounded to the Nearest 5 Vehicles
- \* - Negligible Volume
- # - Analyzed Intersection



**FIGURE 24A** FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION), RELATED DEVELOPMENT AND MITIGATION MEASURES CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES





**LEGEND:**  
 XXX - Mid-day Peak Hour Traffic Volumes  
 Rounded to the Nearest 5 Vehicles  
 \* - Negligible Volume  
 # - Analyzed Intersection

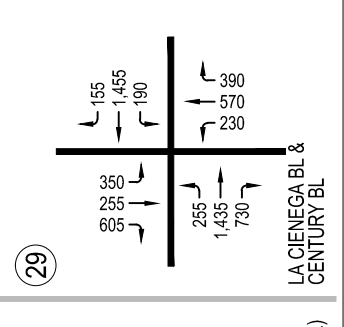
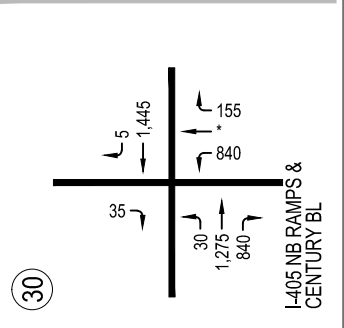
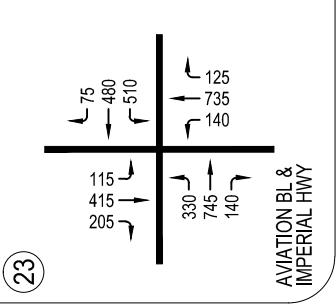
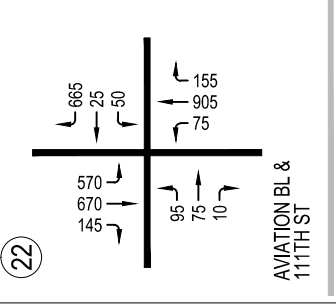
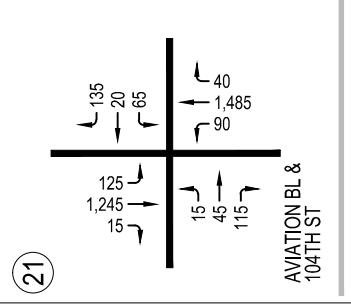
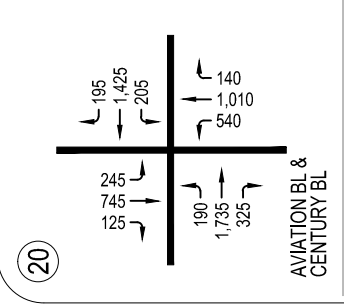
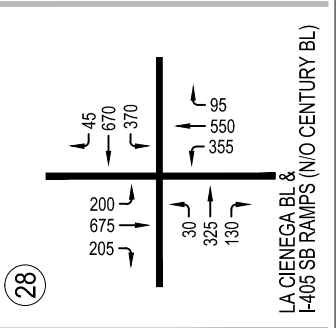
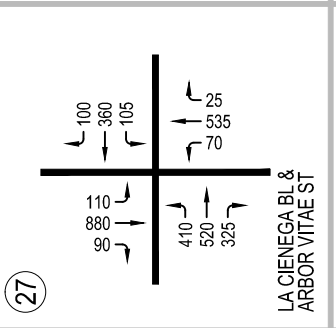
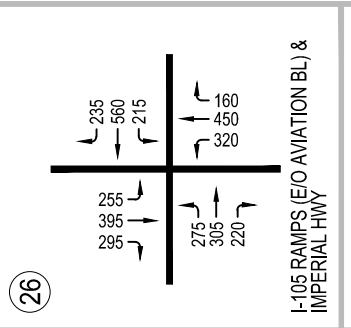
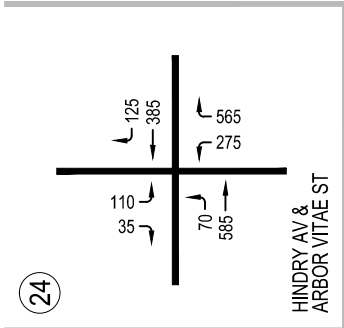


FIGURE 24B FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION), RELATED DEVELOPMENT AND MITIGATION MEASURES CONDITIONS - MID-DAY PEAK HOUR TRAFFIC VOLUMES



RAJU Associates, Inc.

The projected Future (2035) with Project (including SBO Relocation), Potential Future Related Development and Mitigation Measures intersection operating conditions for the morning and evening peak hours are shown in Table 22. As indicated in the table, 27 of the 30 study intersections are projected to operate at LOS D or better during the morning peak hour. During the evening peak hour, 23 of the 30 study intersections are projected to operate at LOS D or better. The following intersections are projected to operate at LOS E or F:

- Sepulveda Boulevard & Westchester Parkway: PM Peak Hour, LOS E
- Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway): AM Peak Hour, LOS F; PM Peak Hour, LOS E
- Airport Boulevard & Arbor Vitae Street-Westchester Parkway: PM Peak Hour, LOS E
- Aviation Boulevard & Arbor Vitae Street: AM Peak Hour, LOS E
- Aviation Boulevard & Century Boulevard: PM Peak Hour, LOS E
- Aviation Boulevard & Imperial Highway: PM Peak Hour, LOS E
- La Cienega Boulevard & Arbor Vitae Street: AM Peak Hour, LOS F; PM Peak Hour, LOS F
- La Cienega Boulevard & Century Boulevard: PM Peak Hour, LOS E

The capacity calculation worksheets for traffic conditions associated with this scenario are included in Attachment H.

#### **Future (2035) with Project (including SBO Relocation), Related Development and Mitigation Measures – Mid-Day Peak Hour Intersection Operations**

The intersection operating conditions during the mid-day peak hour for Future (2035) with Project (including SBO Relocation), Related Development and Mitigation Measures scenario are shown in Table 23. As indicated in the table, 20 of the 22 study intersections are projected to operate at LOS D or better during the mid-day peak hour. The remaining intersections are projected to operate at LOS E and include:

- Sepulveda Boulevard & Westchester Parkway: MD Peak Hour, LOS E
- Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway): MD Peak Hour, LOS E

**TABLE 22**  
**SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS**  
**FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION), RELATED DEVELOPMENT AND MITIGATION CONDITIONS**

MAP #	INTERSECTION	PEAK HOUR	FUTURE (2035) WITHOUT PROJECT CONDITIONS*		FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION), RELATED DEVELOPMENT AND MITIGATION CONDITIONS			
			V/C OR DELAY	LOS	V/C	LOS	CHANGE IN V/C	SIGNIFICANT IMPACT
1	Pershing Drive & Westchester Parkway	AM	0.457	A	0.442	A	-0.015	No
		PM	0.362	A	0.336	A	-0.026	No
2	Pershing Drive & Imperial Highway	AM	0.550	A	0.517	A	-0.033	No
		PM	0.501	A	0.466	A	-0.035	No
3	Main Street & Imperial Highway	AM	0.694	B	0.688	B	-0.006	No
		PM	0.632	B	0.612	B	-0.020	No
4	Sepulveda Boulevard & Westchester Parkway	AM	0.812	D	0.822	D	0.010	No
		PM	0.971	E	0.909	E	-0.062	No
5	Sepulveda Boulevard & Lincoln Boulevard [1]	AM	0.685	B	0.696	B	0.011	No
		PM	0.715	C	0.710	C	-0.005	No
6	Sepulveda Boulevard & Century Boulevard	AM	0.839	D	0.846	D	0.007	No
		PM	0.947	E	0.890	D	-0.057	No
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	AM	1.104	F	1.045	F	-0.059	No
		PM	1.001	F	0.943	E	-0.058	No
8	Sepulveda Boulevard & Imperial Highway	AM	0.792	C	0.706	C	-0.086	No
		PM	0.940	E	0.865	D	-0.075	No
9	Sepulveda Eastway & Westchester Parkway	AM	0.491	A	0.515	A	0.024	No
		PM	0.787	C	0.775	C	-0.012	No
10	Jenny Avenue & Westchester Parkway	AM	0.212	A	0.347	A	0.135	No
		PM	0.457	A	0.494	A	0.037	No
11	Avion Drive & Century Boulevard	AM	0.515	A	0.487	A	-0.028	No
		PM	0.640	B	0.540	A	-0.100	No
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	AM	0.744	C	0.765	C	0.021	No
		PM	1.153	F	0.979	E	-0.174	No
13	Airport Boulevard & 96th Street	AM	0.341	A	0.502	A	0.161	No
		PM	0.580	A	0.589	A	0.009	No
14	Airport Boulevard & 98th Street	AM	0.432	A	0.695	B	0.263	No
		PM	0.625	B	0.693	B	0.068	No
15	Airport Boulevard & Century Boulevard	AM	0.672	B	0.656	B	-0.016	No
		PM	0.725	C	0.721	C	-0.004	No
16	Nash Street /I-105 Westbound Ramps & Imperial Highway	AM	0.547	A	0.549	A	0.002	No
		PM	0.480	A	0.496	A	0.016	No
17	Douglas Street & Imperial Highway	AM	0.398	A	0.439	A	0.041	No
		PM	0.739	C	0.715	C	-0.024	No
18	Bellanca Avenue & Century Boulevard	AM	0.654	B	0.464	A	-0.190	No
		PM	0.761	C	0.508	A	-0.253	No
19	Aviation Boulevard & Arbor Vitae Street	AM	0.996	E	0.901	E	-0.095	No
		PM	0.902	E	0.810	D	-0.092	No
20	Aviation Boulevard & Century Boulevard	AM	0.961	E	0.830	D	-0.131	No
		PM	1.051	F	0.965	E	-0.086	No
21	Aviation Boulevard & 104th Street	AM	0.790	C	0.758	C	-0.032	No
		PM	0.875	D	0.848	D	-0.027	No
22	Aviation Boulevard & 111th Street	AM	0.957	E	0.839	D	-0.118	No
		PM	0.872	D	0.777	C	-0.095	No
23	Aviation Boulevard & Imperial Highway	AM	0.878	D	0.640	B	-0.238	No
		PM	0.923	E	0.930	E	0.007	No
24	Hindry Avenue & Arbor Vitae Street [2]	AM	49.4 s	E	0.672	B	-0.122	No
		PM	24.1 s	C	0.664	B	-0.058	No
25	Concourse Way & Century Boulevard	AM	0.327	A	0.611	B	0.284	No
		PM	0.528	A	0.680	B	0.152	No
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	AM	0.838	D	0.816	D	-0.022	No
		PM	0.713	C	0.750	C	0.037	No
27	La Cienega Boulevard & Arbor Vitae Street	AM	0.887	D	1.047	F	0.160	Yes
		PM	0.852	D	1.084	F	0.232	Yes
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Bl)	AM	0.809	D	0.683	B	-0.126	No
		PM	0.705	C	0.642	B	-0.063	No
29	La Cienega Boulevard & Century Boulevard	AM	0.985	E	0.882	D	-0.103	No
		PM	1.088	F	0.987	E	-0.101	No
30	I-405 Northbound Ramps & Century Boulevard	AM	0.993	E	0.880	D	-0.113	No
		PM	0.890	D	0.795	C	-0.095	No

\* Source: *Transportation Study for Landside Access Modernization Program DEIR*, Raju Associates, Inc., September 2016.

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

**TABLE 23  
SUMMARY OF INTERSECTION LEVEL OF SERVICE ANALYSIS  
FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION), RELATED DEVELOPMENT AND MITIGATION CONDITIONS MID-DAY PEAK HOUR**

MAP #	INTERSECTION	FUTURE (2035) WITHOUT PROJECT CONDITIONS*			FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION), RELATED DEVELOPMENT AND MITIGATION CONDITIONS			SIGNIFICANT IMPACT
		MD PEAK HOUR		LOS	MD PEAK HOUR		CHANGE IN V/C	
		V/C OR DELAY	LOS		V/C	LOS		
4	Sepulveda Boulevard & Westchester Parkway	0.965	E	0.950	E	-0.015	No	
5	Sepulveda Boulevard & Lincoln Boulevard [1]	0.648	B	0.621	B	-0.027	No	
6	Sepulveda Boulevard & Century Boulevard	0.777	C	0.783	C	0.006	No	
7	Sepulveda Boulevard & I-105 Westbound Ramps (n/o Imperial Highway)	1.025	F	0.959	E	-0.066	No	
8	Sepulveda Boulevard & Imperial Highway	0.647	B	0.644	B	-0.003	No	
10	Jenny Avenue & Westchester Parkway	0.338	A	0.441	A	0.103	No	
11	Avion Drive & Century Boulevard	0.572	A	0.477	A	-0.095	No	
12	Airport Boulevard & Arbor Vitae Street/Westchester Parkway	0.858	D	0.688	B	-0.170	No	
13	Airport Boulevard & 96th Street	0.553	A	0.517	A	-0.036	No	
14	Airport Boulevard & 98th Street	0.573	A	0.657	B	0.084	No	
15	Airport Boulevard & Century Boulevard	0.800	C	0.679	B	-0.121	No	
19	Aviation Boulevard & Arbor Vitae Street	0.731	C	0.691	B	-0.040	No	
20	Aviation Boulevard & Century Boulevard	0.900	D	0.878	D	-0.022	No	
21	Aviation Boulevard & 104th Street	0.752	C	0.786	C	0.034	No	
22	Aviation Boulevard & 111th Street	0.867	D	0.839	D	-0.028	No	
23	Aviation Boulevard & Imperial Highway	0.694	B	0.632	B	-0.062	No	
24	Hindry Avenue & Arbor Vitae Street [2]	16.5 s	C	0.398	A	-0.155	No	
26	I-105 Ramps (e/o Aviation Boulevard) & Imperial Highway	0.440	A	0.537	A	0.097	No	
27	La Cienega Boulevard & Arbor Vitae Street	0.724	C	0.776	C	0.052	No	
28	La Cienega Boulevard & I-405 Southbound Ramps (n/o Century Boulevard)	0.703	C	0.658	B	-0.045	No	
29	La Cienega Boulevard & Century Boulevard	0.813	D	0.826	D	0.013	No	
30	I-405 Northbound Ramps & Century Boulevard	0.761	C	0.627	B	-0.134	No	

\* Source: *Transportation Study for Landside Access Modernization Program DEIR, Raju Associates, Inc., September 2016.*

[1] Los Angeles County Congestion Management Program (CMP) arterial monitoring location.

[2] Stop-controlled on minor approach under existing conditions. Worst-case approach delay (in seconds) is reported in table. Analyzed using CMA methodology to determine change in V/C.

Capacity calculation worksheets for this scenario during the mid-day peak hour are included in Attachment H.

### **Intersection Impacts – with Mitigation Measures**

Traffic impact analysis was conducted for the 30 study intersections based on significant impact criteria detailed previously. The results are shown in Tables 22 and 23. As indicated in Tables 22 and 23, the recommended improvements would fully mitigate the project-related impacts under Future (2035) with Project (including SBO Relocation), Potential Future Related Development and Mitigation Measures at six (6) of the seven (7) significantly impacted intersections. A residual significant impact would remain at the intersection of La Cienega Boulevard/Arbor Vitae Street during the morning and evening peak hours similar to the residual impact documented in the *Transportation Study for the LAMP Project DEIR*. No change in the number of residual significant impacts during the morning, mid-day and evening peak hours due to the SBO relocation under this scenario would occur.

### **SUMMARY AND CONCLUSIONS**

Raju Associates has evaluated traffic conditions and impacts associated with inclusion of the relocation of the LAWA Security Badge Office to the ITF West with the LAMP Program, as part of this addendum study. No other changes to the LAMP Project description as detailed in the *Landside Access Modernization Program (LAMP) EIR* are included in the study.

This study finds that the LAMP Project including the proposed relocation of the LAWA Security Badge Office would not change the results of the traffic impact analysis detailed and documented in the *Transportation Study for the Landside Access Modernization Program (LAMP) DEIR*. A brief summary of findings from this detailed evaluation is presented below:

- Thirty (30) study intersections during the morning and evening peak hours and 22 intersections during the mid-day peak hour were analyzed within the study area for this traffic evaluation based on the extent of geographic area that the effects of relocation of SBO from its current location (analyzed in the LAMP DEIR) to the proposed location at the ITF West were felt. The study area includes Arbor Vitae Street/Westchester Parkway on the north and west, Pershing Drive on the west, Imperial Highway on the south and the I-

405 Freeway on the south. The analysis locations fall within the Cities of Los Angeles and Inglewood.

- The existing LAWA Security Badge Office is located at 7333 World Way West, on the north-east corner of the intersection of Maintenance Road/World Way West. There are currently 46 employees at the existing location. As proposed, the Security Badge Office would be relocated to the ITF West site area. The new Security Badge Office facility would consist of approximately 25,000 square feet and would have a total of 63 employees in Future Years 2024/2035, as analyzed in the *Transportation Study for the LAMP DEIR*, but at the new location.
- The updated LAMP Project including the relocation of the existing Security Badge Office does not result in any additional significant intersection impacts under Baseline (2015) with Project (including SBO Relocation) conditions during the AM, PM and mid-day peak hours similar to those reported in *Chapter V: Future Conditions – With Project and Traffic Impacts of the Transportation Study for the LAMP DEIR*.
- Under Future (2024) with Phase 1 Project (including SBO Relocation) conditions, the updated LAMP Project including the relocation of the existing Security Badge Office does not result in any additional significant intersection impacts during the AM, PM and mid-day peak hours similar to those reported in *Chapter V: Future Conditions – With Project and Traffic Impacts of the Transportation Study for the LAMP DEIR*.
- Under Future (2035) with Project (including SBO Relocation) conditions, the updated LAMP Project including the relocation of the existing Security Badge Office does not result in any additional significant intersection impacts during the AM, PM and mid-day peak hours similar to those reported in *Chapter V: Future Conditions – With Project and Traffic Impacts of the Transportation Study for the LAMP DEIR*.
- Under Future (2035) with Project (including SBO Relocation) and Related Development conditions, the updated LAMP Project including the relocation of the existing Security Badge Office does not result in any additional significant intersection impacts during the AM, PM and mid-day peak hours similar to those reported in *Chapter V: Future Conditions – With Project and Traffic Impacts of the Transportation Study of the LAMP DEIR*.
- The mitigation program to address impacts consists of the same components identified in *Chapter VI – Transportation Improvement and Mitigation Program of the Transportation Study for the LAMP Project DEIR*. No changes are needed to the mitigation program due to the updated LAMP Project.
- Under Baseline (2015) with the proposed Project (including SBO Relocation), the recommended improvements would fully mitigate the project-related impacts during the morning, mid-day and evening. No residual significant impacts would remain due to the proposed Project (similar to those described in the *Transportation Study for the LAMP Project DEIR*).
- The recommended improvements would fully mitigate the project-related impacts under Future (2024) with the Proposed Phase 1 Project (including SBO Relocation) during the morning, mid-day and evening. No residual significant impacts would remain due to the



Phase 1 Project (similar to those described in the *Transportation Study for the LAMP Project DEIR*).

- The recommended improvements would fully mitigate the project-related impacts under Future (2035) with the proposed Project (including SBO Relocation) at two of the three significantly impacted intersections. A residual significant impact would remain at the intersection of La Cienega Boulevard/Arbor Vitae Street during the morning and evening peak hours (similar to those described in the *Transportation Study for the LAMP Project DEIR*).
- The recommended improvements would fully mitigate the project-related impacts under Future (2035) with the proposed Project (including SBO Relocation) and Potential Future Related Development at six (6) of the seven (7) significantly impacted intersections. A residual significant impact would remain at the intersection of La Cienega Boulevard/Arbor Vitae Street during the morning and evening peak hours (similar to those described in the *Transportation Study for the LAMP Project DEIR*).

**ATTACHMENT A**

**LEVEL OF SERVICE WORKSHEETS**

**Baseline (2015) with Project (including SBO Relocation) Conditions**



## Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum		
<b>1</b>	<b>North-South Street:</b> Pershing Drive	<b>East-West Street:</b> Westchester Parkway	
	<b>Scenario:</b> Baseline (2015) with Project (including SBO Relocation) Conditions		
	<b>Count Date:</b>	<b>Analyst:</b> RA	<b>Date:</b> 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through	0	0	0	0	0	0
	Through	1040	2	520	555	2	278
	Through-Right	0	0	0	0	0	0
	Right	385	1	241	218	1	135
	Left-Through-Right	0	0	0	0	0	0
	Left-Right	0	0	0	0	0	0
SOUTHBOUND	Left	74	1	74	127	1	127
	Left-Through	0	0	0	0	0	0
	Through	446	2	223	684	2	342
	Through-Right	0	0	0	0	0	0
	Right	0	0	0	0	0	0
	Left-Through-Right	0	0	0	0	0	0
	Left-Right	0	0	0	0	0	0
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through	0	0	0	0	0	0
	Through	0	0	0	0	0	0
	Through-Right	0	0	0	0	0	0
	Right	0	0	0	0	0	0
	Left-Through-Right	0	0	0	0	0	0
	Left-Right	0	0	0	0	0	0
WESTBOUND	Left	262	2	144	150	2	83
	Left-Through	0	0	0	0	0	0
	Through	0	0	0	0	0	0
	Through-Right	0	0	0	0	0	0
	Right	76	1	2	132	1	5
	Left-Through-Right	0	0	0	0	0	0
	Left-Right	0	0	0	0	0	0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		594	<i>North-South:</i>		405
		<i>East-West:</i>		144	<i>East-West:</i>		83
		<b>SUM:</b>		738	<b>SUM:</b>		488
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.518			0.342
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.418</b>			<b>0.242</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



# Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b> <b>2</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum
	<b>North-South Street:</b> Pershing Drive <b>East-West Street:</b> Imperial Highway
	<b>Scenario:</b> Baseline (2015) with Project (including SBO Relocation) Conditions
	<b>Count Date:</b> <b>Analyst:</b> RA <b>Date:</b> 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	3	NB -- 0	SB -- 3	3
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	1	0	1	1	0	1
	↵↔ Left-Through		1			1	
	→ Through	0	0	1	1	0	2
	↵↔ Through-Right		1			1	
	↘ Right	1	0	0	5	0	4
	↵↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↘ Left	679	1	340	711	1	356
	↘↔ Left-Through		1			1	
	→ Through	1	0	340	0	0	356
	↘↔ Through-Right		0			0	
	↘ Right	85	1	0	267	1	203
	↘↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	270	2	149	117	2	64
	↵↔ Left-Through		0			0	
	→ Through	330	1	166	408	1	204
	↵↔ Through-Right		1			1	
	↘ Right	1	0	1	0	0	0
	↵↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>WESTBOUND</b>	↘ Left	4	1	4	2	1	2
	↘↔ Left-Through		0			0	
	→ Through	309	2	155	463	2	232
	↘↔ Through-Right		0			0	
	↘ Right	1229	2	336	593	2	0
	↘↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 341			<i>North-South:</i> 360
				<i>East-West:</i> 485			<i>East-West:</i> 296
				<i>SUM:</i> 826			<i>SUM:</i> 656
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.601			0.477
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.501</b>			<b>0.377</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

### Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**3**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Main Street      **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	467	1	234	276	1	138
	Left-Through		1			1	
	Through	1	0	234	0	0	138
	Through-Right		0			0	
	Right	539	1	410	426	1	271
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	9	0	0	0
	Through-Right		0			0	
	Right	9	0	0	0	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	789	2	395	752	2	376
	Through-Right		0			0	
	Right	221	1	104	389	1	320
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	471	2	259	565	2	311
	Left-Through		0			0	
	Through	1149	1	576	747	1	374
	Through-Right		1			1	
	Right	2	0	2	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				<i>North-South:</i> 419 <i>East-West:</i> 654 <b>SUM:</b> 1073			<i>North-South:</i> 271 <i>East-West:</i> 687 <b>SUM:</b> 958
VOLUME/CAPACITY (V/C) RATIO:				0.780			0.697
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.680</b>			<b>0.597</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**4**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** Westchester Parkway  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

MOVEMENT		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3      SB -- 3		3	NB -- 3      SB -- 3		3
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0      WB -- 0		0	EB -- 0      WB -- 0		0
Override Capacity				2			2
				0			0
NORTHBOUND	Left	165	1	165	180	1	180
	Left-Through		0			0	
	Through	1,776	3	592	1,461	3	487
	Through-Right		0			0	
	Right	32	1	0	69	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	138	1	138	215	1	215
	Left-Through		0			0	
	Through	1,658	3	553	1,844	3	615
	Through-Right		0			0	
	Right	39	1	27	52	1	23
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	12	1	12	29	1	29
	Left-Through		0			0	
	Through	145	1	105	256	1	191
	Through-Right		1			1	
	Right	64	0	64	126	0	126
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	174	1	174	223	1	223
	Left-Through		0			0	
	Through	570	1	407	379	1	293
	Through-Right		1			1	
	Right	243	0	243	207	0	207
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				North-South: 730 East-West: 419 SUM: 1149			North-South: 795 East-West: 414 SUM: 1209
VOLUME/CAPACITY (V/C) RATIO:				0.836			0.879
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.736</b>			<b>0.779</b>
LEVEL OF SERVICE (LOS):				<b>C</b>			<b>C</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



<b>1/S #:</b>
<b>5</b>

<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum
<b>North-South Street:</b> Sepulveda Boulevard <b>East-West Street:</b> Lincoln Boulevard
<b>Scenario:</b> Baseline (2015) with Project (including SBO Relocation) Conditions
<b>Count Date:</b> <b>Analyst:</b> RA <b>Date:</b> 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR				
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume		
No. of Phases		2			2				
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0				
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB --</i> 0	<i>SB --</i> 0	0	<i>NB --</i> 0	<i>SB --</i> 0	0		
ATSAC-1 or ATSAC+ATCS-2?		<i>EB --</i> 0	<i>WB --</i> 0	0	<i>EB --</i> 0	<i>WB --</i> 0	0		
Override Capacity		2			2				
0		0			0				
MOVEMENT									
<b>NORTHBOUND</b>	↔ Left	0	0	0	0	0	0		
	↔↗ Left-Through		0			0			
	→ Through [1]	1970	3	657	1624	3	541		
	↔↘ Through-Right		0			0			
	↔ Right	0	0	0	0	0	0		
	↔↗↘ Left-Through-Right		0			0			
	↔↘ Left-Right		0			0			
<b>SOUTHBOUND</b>	↔ Left	0	0	0	0	0	0		
	↔↗ Left-Through		0			0			
	→ Through	1393	4	348	1882	4	471		
	↔↘ Through-Right		0			0			
	↔ Right	0	0	0	0	0	0		
	↔↗↘ Left-Through-Right		0			0			
	↔↘ Left-Right		0			0			
<b>EASTBOUND</b>	↔ Left	0	0	0	0	0	0		
	↔↗ Left-Through		0			0			
	→ Through	0	0	0	0	0	0		
	↔↘ Through-Right		0			0			
	↔ Right	0	0	0	0	0	0		
	↔↗↘ Left-Through-Right		0			0			
	↔↘ Left-Right		0			0			
<b>WESTBOUND</b>	↔ Left	0	0	0	0	0	0		
	↔↗ Left-Through		0			0			
	→ Through	1652	4	413	2161	4	540		
	↔↘ Through-Right		0			0			
	↔ Right	36	1	36	31	1	31		
	↔↗↘ Left-Through-Right		0			0			
	↔↘ Left-Right		0			0			
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		657	<i>North-South:</i>		541		
		<i>East-West:</i>		413	<i>East-West:</i>		540		
		<b>SUM:</b>		1070	<b>SUM:</b>		1081		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>					0.713				0.721
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>					<span style="color: red;">0.613</span>				<span style="color: red;">0.621</span>
<b>LEVEL OF SERVICE (LOS):</b>					<span style="color: red;">B</span>				<span style="color: red;">B</span>

**REMARKS:** [1] Northbound has a fourth through which is approx. 50 feet in length.



# Level of Service Workheet (Circular 212 Method)



I/S #: 6

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Sepulveda Boulevard East-West Street: Century Boulevard  
 Scenario: Baseline (2015) with Project (including SBO Relocation) Conditions  
 Count Date: Analyst: RA Date: 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
		No. of Phases		2			2
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0 SB -- 0 EB -- 0 WB -- 2			NB -- 0 SB -- 0 EB -- 0 WB -- 2
		ATSAC-1 or ATSAC+ATCS-2?		2			2
		Override Capacity		0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	4276	4	1069	3628	4	907
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1941	4	485	2398	4	600
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	377	2	207	431	2	237
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	227	2	125	210	2	116
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South:		1069	North-South:		907
		East-West:		207	East-West:		237
		SUM:		1276	SUM:		1144
VOLUME/CAPACITY (V/C) RATIO:				0.851			0.763
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.751			0.663
LEVEL OF SERVICE (LOS):				C			B

REMARKS:

**Level of Service Workheet**  
**(Circular 212 Method)**



**I/S #:** 7      **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** I-105 Ramps (n/o Imperial Hwy)  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	2578	3	859	2625	3	875
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through [1]	1960	1	0	2455	1	0
	Through-Right		1			1	
	Right [1]	1602	1	0	1696	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right [1]	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	2397	3	839	1666	3	583
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 859			<i>North-South:</i> 875
				<i>East-West:</i> 839			<i>East-West:</i> 583
				<i>SUM:</i> 1698			<i>SUM:</i> 1458
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				1.132			0.972
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				1.032			0.872
<b>LEVEL OF SERVICE (LOS):</b>				<b>F</b>			<b>D</b>

**REMARKS:** [1] Free-flow movement.





# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	22	1	22	163	1	90
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	54	1	0	68	1	27
	Left-Through-Right		0			0	
	Left-Right		1			1	
EASTBOUND	Left	96	1	96	82	1	82
	Left-Through		0			0	
	Through	363	2	182	996	2	498
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	973	2	487	807	2	404
	Through-Right		0			0	
	Right	160	1	149	111	1	66
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		22	<i>North-South:</i>		90
		<i>East-West:</i>		583	<i>East-West:</i>		498
		<b>SUM:</b>		605	<b>SUM:</b>		588
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.403			0.392
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.303			0.292
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				3 0 0 0 2 0			3 0 0 0 2 0
		NB -- 0 EB -- 0	SB -- WB --		NB -- 0 EB -- 0	SB -- WB --	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	75	1	75	83	1	83
	Left-Through		0			0	
	Through	9	1	9	13	1	13
	Through-Right		0			0	
	Right	14	1	0	67	1	54
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	13	1	13	71	1	71
	Left-Through		0			0	
	Through	13	1	13	7	1	7
	Through-Right		0			0	
	Right	82	1	0	136	1	95
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	433	2	238	151	2	83
	Left-Through		0			0	
	Through	694	4	159	1142	4	241
	Through-Right		1			1	
	Right	99	0	99	63	0	63
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	46	1	46	26	1	26
	Left-Through		0			0	
	Through	1265	3	330	933	3	254
	Through-Right		1			1	
	Right	54	0	54	81	0	81
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 88 <i>East-West:</i> 568 <b>SUM:</b> 656	<i>North-South:</i> 178 <i>East-West:</i> 337 <b>SUM:</b> 515		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.460			0.361
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.360</b>			<b>0.261</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**12**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Arbor Vitae St / Westchester Parkw  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases			4		
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0		
		Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB -- 0	SB -- 3	0
		ATSAC-1 or ATSAC+ATCS-2?			EB -- 3	WB -- 0	0
		Override Capacity			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↙	152	1	152	170	1	170
	↘		0			0	
	→	565	2	283	732	2	366
	↗		0			0	
	→	86	1	20	227	1	173
	↙↗		0			0	
SOUTHBOUND	↘	116	1	116	198	1	198
	↙		0			0	
	→	424	3	141	434	3	145
	↗		0			0	
	→	238	1	144	269	1	55
	↙↗		0			0	
EASTBOUND	↙	94	1	94	214	1	214
	↘		0			0	
	→	226	2	113	574	2	287
	↗		0			0	
	→	107	1	0	321	1	151
	↙↗		0			0	
WESTBOUND	↘	132	1	132	109	1	109
	↙		0			0	
	→	1010	2	505	571	2	286
	↗		0			0	
	→	301	1	243	122	1	23
	↙↗		0			0	
<b>CRITICAL VOLUMES</b>				North-South: 399			North-South: 564
				East-West: 599			East-West: 500
				<b>SUM: 998</b>			<b>SUM: 1064</b>
VOLUME/CAPACITY (V/C) RATIO:				0.726			0.774
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.626</b>			<b>0.674</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>B</b>

**REMARKS:**





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**13**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 96th Street  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

MOVEMENT		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity							
		4			4		
		2			2		
		0	0			0	0
		0	0			0	0
		2			2		
		0			0		
<b>NORTHBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	676	2	258	676	2	274
	Through-Right		1			1	
	Right	97	0	97	146	0	146
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	124	1	124	151	1	151
	Left-Through		0			0	
	Through	569	3	190	652	3	217
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	49	1	49	117	1	117
	Left-Through		0			0	
	Through	164	0	168	221	0	187
	Through-Right		0			0	
	Right	171	1	0	152	1	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	72	1	62	59	1	59
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	115	1	0	193	1	31
	Left-Through-Right		0			0	
	Left-Right		1			1	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 382			<i>North-South:</i> 425
				<i>East-West:</i> 230			<i>East-West:</i> 246
				<i>SUM:</i> 612			<i>SUM:</i> 671
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.445			0.488
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.345			0.388
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

REMARKS:

# Level of Service Worksheet (Circular 212 Method)



I/S #: **14**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 98th Street  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases		2			2
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0
		<i>NB --</i> 0	<i>SB --</i> 3	3	<i>NB --</i> 0	<i>SB --</i> 3	3
		<i>EB --</i> 0	<i>WB --</i> 0	0	<i>EB --</i> 0	<i>WB --</i> 0	0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?		0			0
		ATSAC-1 or ATSAC+ATCS-2?		2			2
		Override Capacity		0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	209	1	209	98	1	98
	Left-Through		0			0	
	Through	553	2	212	363	2	151
	Through-Right		1			1	
	Right	84	0	84	91	0	91
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	223	1	223	142	1	142
	Left-Through		0			0	
	Through	209	3	70	479	3	160
	Through-Right		0			0	
	Right	357	1	227	326	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	130	1	130	360	1	360
	Left-Through		0			0	
	Through	220	1	220	196	1	196
	Through-Right		1			1	
	Right	311	0	207	358	0	309
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	92	1	92	123	1	123
	Left-Through		0			0	
	Through	271	0	344	400	0	547
	Through-Right		1			1	
	Right	73	0	0	147	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		<i>North-South:</i>		436	<i>North-South:</i>		293
		<i>East-West:</i>		474	<i>East-West:</i>		907
		<b>SUM:</b>		910	<b>SUM:</b>		1200
VOLUME/CAPACITY (V/C) RATIO:				0.607			0.800
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.507</b>			<b>0.700</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>C</b>

REMARKS:

# Level of Service Worksheet (Circular 212 Method)



I/S #: 15

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Airport Boulevard East-West Street: Century Boulevard  
 Scenario: Baseline (2015) with Project (including SBO Relocation) Conditions  
 Count Date: Analyst: RA Date: 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	14	1	14	58	1	58
	Left-Through		0			0	
	Through	47	2	24	52	2	26
	Through-Right		0			0	
	Right	24	1	0	32	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	366	2	128	377	2	132
	Left-Through		1			1	
	Through	57	1	57	43	1	43
	Through-Right		0			0	
	Right	318	1	225	507	1	437
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	340	2	187	254	2	140
	Left-Through		0			0	
	Through	399	4	83	946	4	205
	Through-Right		1			1	
	Right	18	0	18	81	0	81
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	66	1	66	95	1	95
	Left-Through		0			0	
	Through	1127	4	282	551	4	138
	Through-Right		0			0	
	Right	549	1	421	285	1	153
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				North-South: 249 East-West: 608 SUM: 857			North-South: 495 East-West: 300 SUM: 795
VOLUME/CAPACITY (V/C) RATIO:				0.623			0.578
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.523			0.478
LEVEL OF SERVICE (LOS):				A			A





## Level of Service Workheet (Circular 212 Method)



<b>I/S #:</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum	
<b>17</b>	<b>North-South Street:</b> Douglas Street	<b>East-West Street:</b> Imperial Highway
	<b>Scenario:</b> Baseline (2015) with Project (including SBO Relocation) Conditions	
	<b>Count Date:</b>	<b>Analyst:</b> RA <span style="float: right;"><b>Date:</b> 1/29/2018</span>

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	114	1	114	197	1	197
	Left-Through		0			0	
	Through	24	1	24	25	1	25
	Through-Right		0			0	
	Right	152	2	0	548	2	216
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	32	1	32	48	1	38
	Left-Through		0			0	
	Through	35	0	35	28	0	38
	Through-Right		0			0	
	Right	3	1	0	22	1	3
	Left-Through-Right		1			1	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	22	1	22	38	1	38
	Left-Through		0			0	
	Through	444	2	222	1502	2	592
	Through-Right		1			1	
	Right	266	0	209	275	0	275
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	446	2	245	154	2	85
	Left-Through		0			0	
	Through	1003	2	352	563	2	198
	Through-Right		1			1	
	Right	52	0	52	30	0	30
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<b>North-South:</b>		149	<b>North-South:</b>		254
		<b>East-West:</b>		467	<b>East-West:</b>		677
		<b>SUM:</b>		616	<b>SUM:</b>		931
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.448			0.677
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.348			0.577
<b>LEVEL OF SERVICE (LOS):</b>				A			A

**REMARKS:**

### Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b> 18	<b>PROJECT TITLE:</b>	Landside Access Modernization Program at LAX - Addendum		
	<b>North-South Street:</b>	Bellanca Avenue	<b>East-West Street:</b>	Century Boulevard
	<b>Scenario:</b>	Baseline (2015) with Project (including SBO Relocation) Conditions		
	<b>Count Date:</b>		<b>Analyst:</b>	RA
			<b>Date:</b>	1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB --	0		0	NB --	0	0
	EB --	0		0	EB --	0	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↙ Left	0	0	0	0	0	0
	↙↔ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	→↔ Through-Right		0			0	
	↘ Right	0	0	0	0	0	0
	↘↔ Left-Through-Right		0			0	
	↔↔ Left-Right		0			0	
SOUTHBOUND	↙ Left	59	2	32	376	2	207
	↙↔ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	→↔ Through-Right		0			0	
	↘ Right	60	1	33	125	1	103
	↘↔ Left-Through-Right		0			0	
	↔↔ Left-Right		0			0	
EASTBOUND	↙ Left	54	1	54	44	1	44
	↙↔ Left-Through		0			0	
	→ Through	774	5	155	1630	5	326
	→↔ Through-Right		0			0	
	↘ Right	0	0	0	0	0	0
	↘↔ Left-Through-Right		0			0	
	↔↔ Left-Right		0			0	
WESTBOUND	↙ Left	0	0	0	0	0	0
	↙↔ Left-Through		0			0	
	→ Through	2014	3	528	1128	3	303
	→↔ Through-Right		1			1	
	↘ Right	99	0	99	85	0	85
	↘↔ Left-Through-Right		0			0	
	↔↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		33	<i>North-South:</i>		207
		<i>East-West:</i>		582	<i>East-West:</i>		347
		<b>SUM:</b>		615	<b>SUM:</b>		554
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.410			0.369
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.310</b>			<b>0.269</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

**I/S #:** 19      **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Arbor Vitae Street  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

MOVEMENT		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
		<i>No. of Phases</i>			<i>No. of Phases</i>		
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		
		Right Turns: FREE-1, NRTOR-2 or OLA-3?			Right Turns: FREE-1, NRTOR-2 or OLA-3?		
		ATSAC-1 or ATSAC+ATCS-2?			ATSAC-1 or ATSAC+ATCS-2?		
		Override Capacity			Override Capacity		
NORTHBOUND	Left	575	1	575	287	1	287
	Left-Through		0			0	
	Through	734	2	367	636	2	318
	Through-Right		0			0	
	Right	64	1	0	145	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	13	1	13	35	1	35
	Left-Through		0			0	
	Through	461	1	282	549	1	297
	Through-Right		1			1	
	Right	102	0	102	45	0	45
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	74	1	74	130	1	130
	Left-Through		0			0	
	Through	86	3	29	504	3	168
	Through-Right		0			0	
	Right	202	1	0	530	1	243
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	185	1	185	410	1	410
	Left-Through		0			0	
	Through	912	2	316	315	2	119
	Through-Right		1			1	
	Right	36	0	36	41	0	41
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				North-South: 857			North-South: 584
				East-West: 390			East-West: 653
				<b>SUM: 1247</b>			<b>SUM: 1237</b>
VOLUME/CAPACITY (V/C) RATIO:				0.907			0.900
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.807</b>			<b>0.800</b>
LEVEL OF SERVICE (LOS):				<b>D</b>			<b>C</b>

REMARKS:





# Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b> <b>21</b>
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**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** 104th Street  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
				4			4
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB --	SB --	0	NB --	SB --	0
		EB --	WB --	0	EB --	WB --	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶ Left	93	1	93	60	1	60
	↶↷ Left-Through		0			0	
	→ Through	1391	1	716	1158	1	586
	↷ Through-Right		1			1	
	↘ Right	40	0	40	14	0	14
	↶↷↘ Left-Through-Right		0			0	
	↷↘ Left-Right		0			0	
<b>SOUTHBOUND</b>	↷ Left	3	1	3	1	1	1
	↷↷ Left-Through		0			0	
	→ Through	884	1	446	1264	1	633
	↷ Through-Right		1			1	
	↘ Right	7	0	7	1	0	1
	↷↷↘ Left-Through-Right		0			0	
	↷↘ Left-Right		0			0	
<b>EASTBOUND</b>	↶ Left	3	0	3	1	0	1
	↶↷ Left-Through		0			0	
	→ Through	2	0	77	4	0	152
	↷ Through-Right		0			0	
	↘ Right	72	0	0	147	0	0
	↶↷↘ Left-Through-Right		1			1	
	↷↘ Left-Right		0			0	
<b>WESTBOUND</b>	↶ Left	41	1	41	91	1	91
	↶↷ Left-Through		0			0	
	→ Through	35	0	47	10	0	14
	↷ Through-Right		1			1	
	↘ Right	12	0	0	4	0	0
	↶↷↘ Left-Through-Right		0			0	
	↷↘ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 719 <i>East-West:</i> 124 <i>SUM:</i> 843			<i>North-South:</i> 693 <i>East-West:</i> 243 <i>SUM:</i> 936
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.613			0.681
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.513</b>			<b>0.581</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

## Level of Service Workheet (Circular 212 Method)



I/S #:
22

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** 111th Street  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
				4			4
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↵ Left	13	1	13	19	1	19
	↵↵ Left-Through		0			0	
	→ Through	1101	1	554	870	1	446
	→↵ Through-Right		1			1	
	→ Right	6	0	6	21	0	21
	↵↵↵ Left-Through-Right		0			0	
	↵↵↵ Left-Right		0			0	
SOUTHBOUND	↵ Left	339	1	339	463	1	463
	↵↵ Left-Through		0			0	
	→ Through	437	1	296	1015	1	530
	→↵ Through-Right		1			1	
	→ Right	154	0	154	44	0	44
	↵↵↵ Left-Through-Right		0			0	
	↵↵↵ Left-Right		0			0	
EASTBOUND	↵ Left	71	1	71	71	1	71
	↵↵ Left-Through		0			0	
	→ Through	2	0	13	32	0	71
	→↵ Through-Right		1			1	
	→ Right	11	0	0	39	0	0
	↵↵↵ Left-Through-Right		0			0	
↵↵↵ Left-Right		0			0		
WESTBOUND	↵ Left	1	1	1	15	1	15
	↵↵ Left-Through		0			0	
	→ Through	3	1	3	32	1	32
	→↵ Through-Right		0			0	
	→ Right	408	1	69	259	1	0
	↵↵↵ Left-Through-Right		0			0	
↵↵↵ Left-Right		0			0		
<b>CRITICAL VOLUMES</b>				<b>North-South:</b> 893	<b>North-South:</b> 909		
				<b>East-West:</b> 140	<b>East-West:</b> 103		
				<b>SUM:</b> 1033	<b>SUM:</b> 1012		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.751			0.736
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.651</b>			<b>0.636</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>B</b>

**REMARKS:**



# Level of Service Worksheet (Circular 212 Method)

**I/S #:**  
**23**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4 0 3 3 2 0			4 0 3 3 2 0
NB --	3	SB --	3	NB --	3	SB --	3
EB --	0	WB --	3	EB --	0	WB --	3
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	288	2	158	161	2	89
	Left-Through		0			0	
	Through	664	2	332	569	2	285
	Through-Right		0			0	
	Right	115	1	0	99	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	70	2	39	162	2	89
	Left-Through		0			0	
	Through	217	2	109	622	2	311
	Through-Right		0			0	
	Right	177	1	39	283	1	162
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	251	2	138	220	2	121
	Left-Through		0			0	
	Through	167	2	76	1438	2	604
	Through-Right		1			1	
	Right	62	0	62	375	0	375
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	288	2	158	319	2	175
	Left-Through		0			0	
	Through	1097	3	366	266	3	89
	Through-Right		0			0	
	Right	129	1	90	115	1	26
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		North-South: 371 East-West: 504 <b>SUM: 875</b>		North-South: 400 East-West: 779 <b>SUM: 1179</b>			
<b>VOLUME/CAPACITY (V/C) RATIO:</b>		0.636		0.857			
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>		<b>0.536</b>		<b>0.757</b>			
<b>LEVEL OF SERVICE (LOS):</b>		<b>A</b>		<b>C</b>			

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



I/S #: **24**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Hindry Avenue      **East-West Street:** Arbor Vitae Street  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB --	0	NB -- 0	SB --	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB --	0	EB -- 0	WB --	0
Override Capacity				2			2
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	172	1	172	164	1	164
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	357	1	196	475	1	261
	Left-Through-Right		0			0	
	Left-Right		1			1	
SOUTHBOUND	Left	6	0	6	40	0	40
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	10	0	16	39	0	79
	Left-Through-Right		0			0	
	Left-Right		1			1	
EASTBOUND	Left	37	1	37	63	1	63
	Left-Through		0			0	
	Through	159	2	80	891	2	446
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1230	1	684	452	1	250
	Through-Right		1			1	
	Right	138	0	138	47	0	47
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i> 202			<i>North-South:</i> 301		
		<i>East-West:</i> 721			<i>East-West:</i> 446		
		<i>SUM:</i> 923			<i>SUM:</i> 747		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>		0.615			0.498		
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>		<b>0.515</b>			<b>0.398</b>		
<b>LEVEL OF SERVICE (LOS):</b>		<b>A</b>			<b>A</b>		

REMARKS:

**I/S #:** 25      **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Concourse Way      **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases		4			4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		2			2		
Override Capacity		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	27	1	27	6	1	6
	Left-Through		0			0	
	Through	0	0	87	0	0	109
	Through-Right		1			1	
	Right	87	0	0	109	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	395	2	217	525	2	289
	Left-Through		0			0	
	Through	0	0	106	0	0	115
	Through-Right		1			1	
	Right	106	0	0	115	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	104	1	104	124	1	124
	Left-Through		0			0	
	Through	515	3	132	1162	3	294
	Through-Right		1			1	
	Right	12	0	12	15	0	15
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	201	1	201	161	1	161
	Left-Through		0			0	
	Through	1204	4	301	826	4	207
	Through-Right		0			0	
	Right	677	1	569	497	1	353
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i> 304 <i>East-West:</i> 673 <b>SUM:</b> 977			<i>North-South:</i> 398 <i>East-West:</i> 477 <b>SUM:</b> 875		
VOLUME/CAPACITY (V/C) RATIO:		0.711			0.636		
V/C LESS ATSAC/ATCS ADJUSTMENT:		<b>0.611</b>			<b>0.536</b>		
LEVEL OF SERVICE (LOS):		<b>B</b>			<b>A</b>		

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 3	WB -- 3	3
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	620	2	188	243	2	134
	↵↔ Left-Through		0			0	
	→ Through	245	1	245	157	1	151
	↵↔ Through-Right		1			1	
	↘ Right	263	0	183	145	0	145
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	278	2	153	209	2	115
	↵↔ Left-Through		0			0	
	→ Through	276	1	212	329	1	203
	↵↔ Through-Right		1			1	
	↘ Right	147	0	147	77	0	77
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	140	2	77	75	2	41
	↵↔ Left-Through		0			0	
	→ Through	125	3	42	1472	3	491
	↵↔ Through-Right		0			0	
	↘ Right	171	1	0	254	1	120
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	146	2	80	148	2	81
	↵↔ Left-Through		0			0	
	→ Through	885	2	443	416	2	208
	↵↔ Through-Right		0			0	
	↘ Right	262	1	109	71	1	0
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 400			<i>North-South:</i> 337
				<i>East-West:</i> 520			<i>East-West:</i> 572
				<b>SUM:</b> 920			<b>SUM:</b> 909
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.669			0.661
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.569</b>			<b>0.561</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 27**  
**North/South Street:** LA CIENEGA BOULEVARD  
**East/West Street:** ARBOR VITAE STREET  
**Scenario:** BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period: AM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	130	0	0.000	N-S(1): 0.385
	TH	2.00	529	3,200	0.206 *	N-S(2): 0.429 *
	LT	1.00	40	1,600	0.025	E-W(1): 0.196
Westbound	RT	1.00	292	1,600	0.183	E-W(2): 0.388 *
	TH	2.00	790	3,200	0.247 *	
	LT	1.00	135	1,600	0.084	V/C: 0.817
Northbound	RT	0.00	29	0	0.000	Lost Time: 0.100
	TH	2.00	1,122	3,200	0.360	
	LT	1.00	357	1,600	0.223 *	
Eastbound	RT	1.00	146	0	0.000	ICU: 0.917
	TH	2.00	213	3,200	0.112	
	LT	1.00	225	1,600	0.141 *	LOS: E

<b>Peak Period: PM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	76	0	0.000	N-S(1): 0.265
	TH	2.00	801	3,200	0.274 *	N-S(2): 0.361 *
	LT	1.00	126	1,600	0.079	E-W(1): 0.318 *
Westbound	RT	1.00	75	1,600	0.047	E-W(2): 0.271
	TH	2.00	265	3,200	0.083	
	LT	1.00	37	1,600	0.023 *	V/C: 0.679
Northbound	RT	0.00	77	0	0.000	Lost Time: 0.100
	TH	2.00	518	3,200	0.186	
	LT	1.00	139	1,600	0.087 *	
Eastbound	RT	1.00	269	0	0.000	ICU: 0.779
	TH	2.00	675	3,200	0.295 *	
	LT	1.00	300	1,600	0.188	LOS: C

\* = Critical Movement





**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 30**  
**North/South Street:** I-405 NORTHBOUND RAMPS  
**East/West Street:** CENTURY BOULEVARD  
**Scenario:** BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period: AM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	33	1,600	0.018 *	N-S(1): 0.256
	TH	0.00	0	0	0.000	N-S(2): 0.410 *
	LT	0.00	0	0	0.000	E-W(1): 0.119
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.412 *
	TH	3.00	1,958	4,800	0.409 *	V/C: 0.822
	LT	0.00	0	0	0.000	Lost Time: 0.100
Northbound	RT	1.00	409	1,600	0.256	
	TH	0.00	0	0	0.000	
	LT	2.00	1,129	2,880	0.392 *	
Eastbound	RT	1.00	173	1,600	0.000	ICU: 0.922
	TH	3.00	569	4,800	0.119	
	LT	1.00	4	1,600	0.003 *	LOS: E

<b>Peak Period: PM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	27	1,600	0.005	N-S(1): 0.257 *
	TH	0.00	0	0	0.000	N-S(2): 0.248
	LT	0.00	1	1,600	0.001 *	E-W(1): 0.368 *
Westbound	RT	0.00	19	0	0.000	E-W(2): 0.188
	TH	3.00	828	4,800	0.176	V/C: 0.625
	LT	0.00	0	0	0.000 *	Lost Time: 0.100
Northbound	RT	1.00	410	1,600	0.256 *	
	TH	0.00	0	0	0.000	
	LT	2.00	699	2,880	0.243	
Eastbound	RT	1.00	533	1,600	0.115	ICU: 0.725
	TH	3.00	1,766	4,800	0.368 *	
	LT	1.00	19	1,600	0.012	LOS: C

\* = Critical Movement  
 EBR is free-flow movement.







### Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**6**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard     **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**     **Analyst:** RA     **Date:** 1/29/2018

		MD PEAK HOUR					
No. of Phases					2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0	0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 2	EB -- 0	WB -- 0	0	
Override Capacity					0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	3913	4	978			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	1476	4	369			0
	Through-Right		0				
	Right	0	1	0			0
	Left-Through-Right		0				
	Left-Right		0				
EASTBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
WESTBOUND	Left	456	2	251			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	216	2	119			0
	Left-Through-Right		0				
	Left-Right		0				
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		978	<i>North-South:</i>		0
		<i>East-West:</i>		251	<i>East-West:</i>		0
		<b>SUM:</b>		1229	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.819			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.719</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>A</b>

**REMARKS:**







## Level of Service Worksheet (Circular 212 Method)



I/S #: **8**

PROJECT TITLE: **Landside Access Modernization Program at LAX - Addendum**  
 North-South Street: **Sepulveda Boulevard**      East-West Street: **Imperial Highway**  
 Scenario: **Baseline (2015) with Project (including SBO Relocation) Conditions**  
 Count Date:    Analyst: **RA**    Date: **1/29/2018**

MOVEMENT	Volume	No. of Lanes	Lane Volume	MD PEAK HOUR		
				Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4	0	0
				NB -- 0	SB -- 0	NB -- 0      SB -- 0
				EB -- 0	WB -- 3	EB -- 0      WB -- 0
						0      0
						0      0
						0      0
MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	135	1	135		0
	Left-Through		0			0
	Through	1465	3	488		0
	Through-Right		0			0
	Right	709	1	660		0
	Left-Through-Right		0			0
	Left-Right		0			0
<b>SOUTHBOUND</b>	Left	219	2	120		0
	Left-Through		0			0
	Through	1853	3	472		0
	Through-Right		1			0
	Right	35	0	35		0
	Left-Through-Right		0			0
	Left-Right		0			0
<b>EASTBOUND</b>	Left	191	2	105		0
	Left-Through		0			0
	Through	235	3	78		0
	Through-Right		0			0
	Right	148	1	81		0
	Left-Through-Right		0			0
	Left-Right		0			0
<b>WESTBOUND</b>	Left	179	2	98		0
	Left-Through		0			0
	Through	214	3	71		0
	Through-Right		0			0
	Right	269	1	149		0
	Left-Through-Right		0			0
	Left-Right		0			0
<b>CRITICAL VOLUMES</b>			<i>North-South:</i> 780 <i>East-West:</i> 254 <i>SUM:</i> 1034	<i>North-South:</i> 0 <i>East-West:</i> 0 <i>SUM:</i> 0		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>			0.752			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>			<b>0.652</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>			<b>B</b>			<b>A</b>

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:** 10      **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		MD PEAK HOUR					
		No. of Phases		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?	
		2		0		0	
		0		0		0	
		0		0		0	
		0		0		0	
		2		0		0	
		0		0		0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶ Left	0	0	0			0
	↷ Left-Through		0				
	→ Through	0	0	0			0
	↷ Through-Right		0				
	↷ Right	0	0	0			0
	↷↶ Left-Through-Right		0				
	↷↶ Left-Right		0				
<b>SOUTHBOUND</b>	↶ Left	153	1	85			0
	↷ Left-Through		0				
	→ Through	0	0	0			0
	↷ Through-Right		0				
	↷ Right	101	1	22			0
	↷↶ Left-Through-Right		0				
	↷↶ Left-Right		1				
<b>EASTBOUND</b>	↶ Left	126	1	126			0
	↷ Left-Through		0				
	→ Through	576	2	288			0
	↷ Through-Right		0				
	↷ Right	0	0	0			0
	↷↶ Left-Through-Right		0				
	↷↶ Left-Right		0				
<b>WESTBOUND</b>	↶ Left	0	0	0			0
	↷ Left-Through		0				
	→ Through	875	2	438			0
	↷ Through-Right		0				
	↷ Right	95	1	53			0
	↷↶ Left-Through-Right		0				
	↷↶ Left-Right		0				
<b>CRITICAL VOLUMES</b>				North-South: 85			North-South: 0
				East-West: 564			East-West: 0
				<b>SUM:</b> 649			<b>SUM:</b> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.433			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.333</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		MD PEAK HOUR					
				3			0
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	82	1	82			0
	↵↔ Left-Through		0				
	→ Through	5	1	5			0
	↗ Through-Right		0				
	↘ Right	38	1	21			0
	↗↔ Left-Through-Right		0				
	↘↔ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	47	1	47			0
	↵↔ Left-Through		0				
	→ Through	10	1	10			0
	↗ Through-Right		0				
	↘ Right	94	1	32			0
	↗↔ Left-Through-Right		0				
	↘↔ Left-Right		0				
<b>EASTBOUND</b>	↵ Left	227	2	125			0
	↵↔ Left-Through		0				
	→ Through	1112	4	239			0
	↗ Through-Right		1				
	↘ Right	83	0	83			0
	↗↔ Left-Through-Right		0				
	↘↔ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	35	1	35			0
	↵↔ Left-Through		0				
	→ Through	934	3	252			0
	↗ Through-Right		1				
	↘ Right	75	0	75			0
	↗↔ Left-Through-Right		0				
	↘↔ Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 114			<i>North-South:</i> 0
				<i>East-West:</i> 377			<i>East-West:</i> 0
				<b>SUM:</b> 491			<b>SUM:</b> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.345			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.245</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**12**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Arbor Vitae St / Westchester Parkw  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	176	1	176			0
	Left-Through		0				
	Through	556	2	278			0
	Through-Right		0				
	Right	111	1	68			0
	Left-Through-Right		0				
	Left-Right		0				
<b>SOUTHBOUND</b>	Left	125	1	125			0
	Left-Through		0				
	Through	391	3	130			0
	Through-Right		0				
	Right	256	1	111			0
	Left-Through-Right		0				
	Left-Right		0				
<b>EASTBOUND</b>	Left	145	1	145			0
	Left-Through		0				
	Through	338	2	169			0
	Through-Right		0				
	Right	165	1	0			0
	Left-Through-Right		0				
	Left-Right		0				
<b>WESTBOUND</b>	Left	86	1	86			0
	Left-Through		0				
	Through	527	2	264			0
	Through-Right		0				
	Right	176	1	114			0
	Left-Through-Right		0				
	Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 403			<i>North-South:</i> 0
				<i>East-West:</i> 409			<i>East-West:</i> 0
				<i>SUM:</i> 812			<i>SUM:</i> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.591			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.491</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



### Level of Service Worksheet (Circular 212 Method)



I/S #: 13

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Airport Boulevard East-West Street: 96th Street  
 Scenario: Baseline (2015) with Project (including SBO Relocation) Conditions  
 Count Date: Analyst: RA Date: 1/29/2018

		MD PEAK HOUR					
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↶ Left	0	0	0			0
	↶↷ Left-Through		0				
	↷ Through	755	2	275			0
	↷↶ Through-Right		1				
	↷ Right	70	0	70			0
	↷↷ Left-Through-Right		0				
	↷↶ Left-Right		0				
SOUTHBOUND	↷ Left	59	1	59			0
	↷↶ Left-Through		0				
	↷ Through	756	3	252			0
	↷↶ Through-Right		0				
	↷ Right	0	0	0			0
	↷↷ Left-Through-Right		0				
	↷↶ Left-Right		0				
EASTBOUND	↶ Left	128	1	128			0
	↶↷ Left-Through		0				
	↷ Through	155	0	192			0
	↷↶ Through-Right		0				
	↷ Right	228	1	0			0
	↷↷ Left-Through-Right		1				
	↷↶ Left-Right		0				
WESTBOUND	↷ Left	89	1	63			0
	↷↶ Left-Through		0				
	↷ Through	0	0	0			0
	↷↶ Through-Right		0				
	↷ Right	99	1	34			0
	↷↷ Left-Through-Right		0				
	↷↶ Left-Right		1				
CRITICAL VOLUMES				North-South: 334			North-South: 0
				East-West: 255			East-West: 0
				SUM: 589			SUM: 0
VOLUME/CAPACITY (V/C) RATIO:				0.428			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.328</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

REMARKS:

# Level of Service Worksheet (Circular 212 Method)



I/S #: **14**

PROJECT TITLE: **Landside Access Modernization Program at LAX - Addendum**  
 North-South Street: **Airport Boulevard** East-West Street: **98th Street**  
 Scenario: **Baseline (2015) with Project (including SBO Relocation) Conditions**  
 Count Date: Analyst: **RA** Date: **1/29/2018**

		MD PEAK HOUR					
No. of Phases				<b>2</b>			<b>0</b>
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				<b>0</b>			<b>0</b>
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- <b>0</b>	SB --	<b>3</b>	NB -- <b>0</b>	SB --	<b>0</b>
ATSAC-1 or ATSAC+ATCS-2?		EB -- <b>0</b>	WB --	<b>0</b>	EB -- <b>0</b>	WB --	<b>0</b>
Override Capacity				<b>2</b>			<b>0</b>
				<b>0</b>			<b>0</b>
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	<b>129</b>	<b>1</b>	<b>129</b>			<b>0</b>
	Left-Through		<b>0</b>				<b>0</b>
	Through	<b>455</b>	<b>2</b>	<b>170</b>			<b>0</b>
	Through-Right		<b>1</b>				<b>0</b>
	Right	<b>56</b>	<b>0</b>	<b>56</b>			<b>0</b>
	Left-Through-Right		<b>0</b>				<b>0</b>
	Left-Right		<b>0</b>				<b>0</b>
SOUTHBOUND	Left	<b>77</b>	<b>1</b>	<b>77</b>			<b>0</b>
	Left-Through		<b>0</b>				<b>0</b>
	Through	<b>543</b>	<b>3</b>	<b>181</b>			<b>0</b>
	Through-Right		<b>0</b>				<b>0</b>
	Right	<b>385</b>	<b>1</b>	<b>34</b>			<b>0</b>
	Left-Through-Right		<b>0</b>				<b>0</b>
	Left-Right		<b>0</b>				<b>0</b>
EASTBOUND	Left	<b>351</b>	<b>1</b>	<b>351</b>			<b>0</b>
	Left-Through		<b>0</b>				<b>0</b>
	Through	<b>109</b>	<b>1</b>	<b>109</b>			<b>0</b>
	Through-Right		<b>1</b>				<b>0</b>
	Right	<b>146</b>	<b>0</b>	<b>82</b>			<b>0</b>
	Left-Through-Right		<b>0</b>				<b>0</b>
	Left-Right		<b>0</b>				<b>0</b>
WESTBOUND	Left	<b>45</b>	<b>1</b>	<b>45</b>			<b>0</b>
	Left-Through		<b>0</b>				<b>0</b>
	Through	<b>337</b>	<b>0</b>	<b>404</b>			<b>0</b>
	Through-Right		<b>1</b>				<b>0</b>
	Right	<b>67</b>	<b>0</b>	<b>0</b>			<b>0</b>
	Left-Through-Right		<b>0</b>				<b>0</b>
	Left-Right		<b>0</b>				<b>0</b>
CRITICAL VOLUMES		<i>North-South:</i>		<b>310</b>	<i>North-South:</i>		<b>0</b>
		<i>East-West:</i>		<b>755</b>	<i>East-West:</i>		<b>0</b>
		<b>SUM:</b>		<b>1065</b>	<b>SUM:</b>		<b>0</b>
VOLUME/CAPACITY (V/C) RATIO:				<b>0.710</b>			<b>0.000</b>
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.610</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>A</b>

REMARKS:





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**15**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		4				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	EB -- 0	WB -- 0		
Override Capacity			2			0	
			0			0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	30	1	30			0
	Left-Through		0				
	Through	50	2	25			0
	Through-Right		0				
	Right	49	1	13			0
	Left-Through-Right		0				
Left-Right		0					
SOUTHBOUND	Left	310	2	109			0
	Left-Through		1				
	Through	68	1	68			0
	Through-Right		0				
	Right	357	1	288			0
	Left-Through-Right		0				
Left-Right		0					
EASTBOUND	Left	253	2	139			0
	Left-Through		0				
	Through	999	4	206			0
	Through-Right		1				
	Right	30	0	30			0
	Left-Through-Right		0				
Left-Right		0					
WESTBOUND	Left	73	1	73			0
	Left-Through		0				
	Through	655	4	164			0
	Through-Right		0				
	Right	342	1	233			0
	Left-Through-Right		0				
Left-Right		0					
<b>CRITICAL VOLUMES</b>			<b>North-South:</b>	318		<b>North-South:</b>	0
			<b>East-West:</b>	372		<b>East-West:</b>	0
			<b>SUM:</b>	690		<b>SUM:</b>	0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.502			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.402			0.000
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**I/S #:**  
**19**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Arbor Vitae Street  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		MD PEAK HOUR					
				4			0
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↙ Left	259	1	259			0
	↙↔ Left-Through		0				
	→ Through	486	2	243			0
	↘ Through-Right		0				
	→ Right	62	1	0			0
	↘↔ Left-Through-Right		0				
	↘ Left-Right		0				
<b>SOUTHBOUND</b>	↙ Left	36	1	36			0
	↙↔ Left-Through		0				
	→ Through	493	1	288			0
	↘ Through-Right		1				
	→ Right	83	0	83			0
	↘↔ Left-Through-Right		0				
	↘ Left-Right		0				
<b>EASTBOUND</b>	↙ Left	89	1	89			0
	↙↔ Left-Through		0				
	→ Through	316	3	105			0
	↘ Through-Right		0				
	→ Right	229	1	0			0
	↘↔ Left-Through-Right		0				
	↘ Left-Right		0				
<b>WESTBOUND</b>	↙ Left	212	1	212			0
	↙↔ Left-Through		0				
	→ Through	239	2	98			0
	↘ Through-Right		1				
	→ Right	54	0	54			0
	↘↔ Left-Through-Right		0				
	↘ Left-Right		0				
<b>CRITICAL VOLUMES</b>				North-South: 547			North-South: 0
				East-West: 317			East-West: 0
				SUM: 864			SUM: 0
VOLUME/CAPACITY (V/C) RATIO:				0.628			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.528			0.000
LEVEL OF SERVICE (LOS):				A			A

REMARKS:

**Level of Service Worksheet  
(Circular 212 Method)**



**I/S #:**  
**20**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		MD PEAK HOUR					
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> -- 0	<i>SB</i> -- 3	3	<i>NB</i> -- 0	<i>SB</i> -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		<i>EB</i> -- 3	<i>WB</i> -- 0	0	<i>EB</i> -- 0	<i>WB</i> -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	350	2	193			0
	Left-Through		0				0
	Through	495	1	312			0
	Through-Right		1				0
	Right	128	0	128			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>SOUTHBOUND</b>	Left	260	2	143			0
	Left-Through		0				0
	Through	413	2	207			0
	Through-Right		0				0
	Right	100	1	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>EASTBOUND</b>	Left	103	1	103			0
	Left-Through		0				0
	Through	1057	4	264			0
	Through-Right		0				0
	Right	246	1	53			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>WESTBOUND</b>	Left	108	1	108			0
	Left-Through		0				0
	Through	773	3	251			0
	Through-Right		1				0
	Right	229	0	229			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 455		<i>North-South:</i> 0	0
				<i>East-West:</i> 372		<i>East-West:</i> 0	0
				<i>SUM:</i> 827		<i>SUM:</i> 0	0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.601			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.501</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum		
	North-South Street: Aviation Boulevard	East-West Street: 104th Street	
<b>21</b>	<b>Scenario:</b> Baseline (2015) with Project (including SBO Relocation) Conditions		
	<b>Count Date:</b>	<b>Analyst:</b> RA	<b>Date:</b> 1/29/2018

		MD PEAK HOUR					
		4			0		
No. of Phases							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?							
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity							
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶	69	1	69			0
	↷		0				0
	→	973	1	498			0
	↘		1				0
	↠	23	0	23			0
	↷↘		0				0
	↶↠		0				0
<b>SOUTHBOUND</b>	↷	12	1	12			0
	↶		0				0
	→	836	1	419			0
	↘		1				0
	↠	2	0	2			0
	↷↘		0				0
	↶↠		0				0
<b>EASTBOUND</b>	↶	5	0	5			0
	↷		0				0
	→	9	0	124			0
	↘		0				0
	↠	110	0	0			0
	↷↘		1				0
	↶↠		0				0
<b>WESTBOUND</b>	↶	58	1	58			0
	↷		0				0
	→	11	0	40			0
	↘		1				0
	↠	29	0	0			0
	↷↘		0				0
	↶↠		0				0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i> 510			<i>North-South:</i> 0		
		<i>East-West:</i> 182			<i>East-West:</i> 0		
		<i>SUM:</i> 692			<i>SUM:</i> 0		
VOLUME/CAPACITY (V/C) RATIO:		0.503			0.000		
V/C LESS ATSAC/ATCS ADJUSTMENT:		<b>0.403</b>			<b>0.000</b>		
LEVEL OF SERVICE (LOS):		<b>A</b>			<b>A</b>		

**REMARKS:**





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
24

PROJECT TITLE: **Landside Access Modernization Program at LAX - Addendum**  
 North-South Street: **Hindry Avenue** East-West Street: **Arbor Vitae Street**  
 Scenario: **Baseline (2015) with Project (including SBO Relocation) Conditions**  
 Count Date: Analyst: **RA** Date: **1/29/2018**

		MD PEAK HOUR					
		NB		SB		WB	
No. of Phases				2			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0		
Override Capacity				2			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	← Left	256	1	256			0
	↔ Left-Through		0				
	→ Through	0	0	0			0
	↗ Through-Right		0				
	→ Right	643	1	354			0
	↘ Left-Through-Right		0				
	↖ Left-Right		1				
SOUTHBOUND	← Left	39	0	39			0
	↔ Left-Through		0				
	→ Through	0	0	0			0
	↗ Through-Right		0				
	→ Right	6	0	45			0
	↘ Left-Through-Right		0				
	↖ Left-Right		1				
EASTBOUND	← Left	55	1	55			0
	↔ Left-Through		0				
	→ Through	397	2	199			0
	↗ Through-Right		0				
	→ Right	0	0	0			0
	↘ Left-Through-Right		0				
	↖ Left-Right		0				
WESTBOUND	← Left	0	0	0			0
	↔ Left-Through		0				
	→ Through	273	1	151			0
	↗ Through-Right		1				
	→ Right	29	0	29			0
	↘ Left-Through-Right		0				
	↖ Left-Right		0				
CRITICAL VOLUMES				North-South: 393	North-South:		0
				East-West: 206	East-West:		0
				SUM: 599	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.399			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.299			0.000
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:** 26     **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps     **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**     **Analyst:** RA     **Date:** 1/29/2018

			MD PEAK HOUR					
					4			0
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB -- 3	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAAC-1 or ATSAAC+ATCS-2?			EB -- 3	WB -- 3	3	EB -- 0	WB -- 0	0
Override Capacity					2			0
					0			0
MOVEMENT			Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	268	2	147			0
		Left-Through		0				0
		Through	245	1	213			0
		Through-Right		1				0
		Right	180	0	180			0
		Left-Through-Right		0				0
		Left-Right		0				0
SOUTHBOUND		Left	128	2	70			0
		Left-Through		0				0
		Through	267	1	178			0
		Through-Right		1				0
		Right	89	0	89			0
		Left-Through-Right		0				0
		Left-Right		0				0
EASTBOUND		Left	91	2	50			0
		Left-Through		0				0
		Through	270	3	90			0
		Through-Right		0				0
		Right	186	1	39			0
		Left-Through-Right		0				0
		Left-Right		0				0
WESTBOUND		Left	228	2	125			0
		Left-Through		0				0
		Through	454	2	227			0
		Through-Right		0				0
		Right	107	1	37			0
		Left-Through-Right		0				0
		Left-Right		0				0
<b>CRITICAL VOLUMES</b>					North-South: 325			North-South: 0
					East-West: 277			East-West: 0
					SUM: 602			SUM: 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>					0.438			0.000
<b>V/C LESS ATSAAC/ATCS ADJUSTMENT:</b>					<b>0.338</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>					<b>A</b>			<b>A</b>

**REMARKS:**

<b>Project: LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM INT # 27</b>						
<b>North/South Street: LA CIENEGA BOULEVARD</b>						
<b>East/West Street: ARBOR VITAE STREET</b>						
<b>Scenario: BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS</b>						
Thru Lane: 1600 vph			N-S Split Phase : N			
Left-Turn Lane: 1600 vph			E-W Split Phase : N			
Dual LT Penalty: 10 %			Lost Time (% of cycle): 10			
<b>Peak Period: MD PEAK HOUR</b>						
<b>Approach</b>	<b>Movement</b>	<b>Lanes</b>	<b>Volume</b>	<b>Capacity</b>	<b>V/C</b>	<b>ICU ANALYSIS</b>
Southbound	RT	0.00	70	0	0.000	N-S(1): 0.167
	TH	2.00	567	3,200	0.199 *	N-S(2): 0.236 *
	LT	1.00	75	1,600	0.047	E-W(1): 0.268
Westbound	RT	1.00	61	1,600	0.038	E-W(2): 0.330 *
	TH	2.00	194	3,200	0.061 *	
	LT	1.00	129	1,600	0.081	V/C: 0.566
Northbound	RT	0.00	48	0	0.000	Lost Time: 0.100
	TH	2.00	335	3,200	0.120	
	LT	1.00	59	1,600	0.037 *	
Eastbound	RT	1.00	199	0	0.000	ICU: 0.666
	TH	2.00	399	3,200	0.187	
	LT	1.00	431	1,600	0.269 *	LOS: B

\* = Critical Movement





## Level of Service Workheet (Circular 212 Method)



**I/S #:** **29**      **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** La Cienega Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		MD PEAK HOUR					
		No. of Phases		MD PEAK HOUR		MD PEAK HOUR	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	3	NB -- 0	SB --	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB --	0	EB -- 0	WB --	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	146	1	146			0
	Left-Through		0				
	Through	299	2	150			0
	Through-Right		0				
	Right	236	2	8			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	232	1	232			0
	Left-Through		0				
	Through	267	2	134			0
	Through-Right		0				
	Right	379	2	91			0
	Left-Through-Right		0				
	Left-Right		0				
EASTBOUND	Left	117	1	117			0
	Left-Through		0				
	Through	1139	3	380			0
	Through-Right		0				
	Right	368	1	222			0
	Left-Through-Right		0				
	Left-Right		0				
WESTBOUND	Left	122	1	122			0
	Left-Through		0				
	Through	921	3	295			0
	Through-Right		1				
	Right	258	0	258			0
	Left-Through-Right		0				
	Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 382	<i>North-South:</i>		0
				<i>East-West:</i> 502	<i>East-West:</i>		0
				<b>SUM:</b> 884	<b>SUM:</b>		0
VOLUME/CAPACITY (V/C) RATIO:				0.643			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.543</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

REMARKS:

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 30**  
**North/South Street:** I-405 NORTHBOUND RAMPS  
**East/West Street:** CENTURY BOULEVARD  
**Scenario:** BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period: MD PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	36	1,600	0.004 *	N-S(1): 0.097
	TH	0.00	0	0	0.000	N-S(2): 0.255 *
	LT	0.00	1	1,600	0.001	E-W(1): 0.237
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.243 *
	TH	3.00	1,069	4,800	0.224 *	V/C: 0.498
	LT	0.00	0	0	0.000	Lost Time: 0.100
Northbound	RT	1.00	154	1,600	0.096	
	TH	0.00	0	0	0.000	
	LT	2.00	722	2,880	0.251 *	
Eastbound	RT	2.00	796	3,200	0.136	ICU: 0.598
	TH	2.00	759	3,200	0.237	
	LT	1.00	30	1,600	0.019 *	LOS: A

\* = Critical Movement  
 EBR is free-flow movement.

**ATTACHMENT B**

**LEVEL OF SERVICE WORKSHEETS**

**Future (2024) with Phase 1 Project (including SBO Relocation) Conditions**



# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**1**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive **East-West Street:** Westchester Parkway  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:** **Analyst:** RA **Date:** 1/29/2018

No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity		AM PEAK HOUR			PM PEAK HOUR		
				3			3
				0			0
		<i>NB --</i>	3	<i>SB --</i>	0	<i>NB --</i>	3
		<i>EB --</i>	0	<i>WB --</i>	3	<i>EB --</i>	0
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↖ Left	0	0	0	0	0	0
	↔ Left-Through	1021	2	511	634	2	317
	→ Through						
	↗ Through-Right						
	↘ Right	396	1	217	305	1	195
	↗↘ Left-Through-Right						
	↖↘ Left-Right						
<b>SOUTHBOUND</b>	↖ Left	88	1	88	130	1	130
	↔ Left-Through						
	→ Through	518	2	259	724	2	362
	↗ Through-Right						
	↘ Right	0	0	0	0	0	0
	↗↘ Left-Through-Right						
	↖↘ Left-Right						
<b>EASTBOUND</b>	↖ Left	0	0	0	0	0	0
	↔ Left-Through						
	→ Through	0	0	0	0	0	0
	↗ Through-Right						
	↘ Right	0	0	0	0	0	0
	↗↘ Left-Through-Right						
	↖↘ Left-Right						
<b>WESTBOUND</b>	↖ Left	325	2	179	200	2	110
	↔ Left-Through						
	→ Through	0	0	0	0	0	0
	↗ Through-Right						
	↘ Right	76	1	0	147	1	17
	↗↘ Left-Through-Right						
	↖↘ Left-Right						
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 599 <i>East-West:</i> 179 <b>SUM:</b> 778			<i>North-South:</i> 447 <i>East-West:</i> 110 <b>SUM:</b> 557
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.546			0.391
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.446			0.291
<b>LEVEL OF SERVICE (LOS):</b>				A			A

**REMARKS:**





## Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b> <b>2</b>	<b>PROJECT TITLE:</b>	Landside Access Modernization Program at LAX - Addendum			
	<b>North-South Street:</b>	Pershing Drive	<b>East-West Street:</b>	Imperial Highway	
	<b>Scenario:</b>	Future (2024) with Phase 1 Project (including SBO Relocation) Conditions			
	<b>Count Date:</b>	Analyst: RA		<b>Date:</b>	1/29/2018

			AM PEAK HOUR			PM PEAK HOUR		
No. of Phases					4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?			<b>NB --</b> 0	<b>SB --</b> 3	3	<b>NB --</b> 0	<b>SB --</b> 3	3
ATSAC-1 or ATSAC+ATCS-2?			<b>EB --</b> 0	<b>WB --</b> 3	3	<b>EB --</b> 0	<b>WB --</b> 3	3
Override Capacity					2			2
Override Capacity					0			0
MOVEMENT			Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	← Left		1	0	1	1	0	1
	← Left-Through			1	1		1	1
	→ Through		0	0	1	1	0	2
	→ Through-Right			1	1		1	1
	→ Right		1	0	0	5	0	4
	↔ Left-Through-Right			0	0		0	0
	↔ Left-Right			0	0		0	0
SOUTHBOUND	← Left		792	1	397	797	1	399
	← Left-Through			1	1		1	1
	→ Through		1	0	397	0	0	399
	→ Through-Right			0	0		0	0
	→ Right		107	1	0	287	1	213
	↔ Left-Through-Right			0	0		0	0
	↔ Left-Right			0	0		0	0
EASTBOUND	← Left		285	2	157	134	2	74
	← Left-Through			0	0		0	0
	→ Through		388	1	195	429	1	215
	→ Through-Right			1	1		1	1
	→ Right		1	0	1	0	0	0
	↔ Left-Through-Right			0	0		0	0
	↔ Left-Right			0	0		0	0
WESTBOUND	← Left		4	1	4	2	1	2
	← Left-Through			0	0		0	0
	→ Through		326	2	163	503	2	252
	→ Through-Right			0	0		0	0
	→ Right		1222	2	275	740	2	8
	↔ Left-Through-Right			0	0		0	0
	↔ Left-Right			0	0		0	0
<b>CRITICAL VOLUMES</b>			<b>North-South:</b>		398	<b>North-South:</b>		403
			<b>East-West:</b>		432	<b>East-West:</b>		326
			<b>SUM:</b>		830	<b>SUM:</b>		729
<b>VOLUME/CAPACITY (V/C) RATIO:</b>					0.604			0.530
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>					0.504			0.430
<b>LEVEL OF SERVICE (LOS):</b>					<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**3**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Main Street      **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases		4			4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		1			1		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		2			2		
Override Capacity		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	481	1	241	358	1	179
	↵↔ Left-Through		1			1	
	→ Through	1	0	241	0	0	179
	↗ Through-Right		0			0	
	↘ Right	485	1	352	433	1	294
	↘↔ Left-Through-Right		0			0	
	↙↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through		0			0	
	→ Through	0	0	9	0	0	0
	↗ Through-Right		0			0	
	↘ Right	9	0	0	0	0	0
	↘↔ Left-Through-Right		1			1	
	↙↔ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through		0			0	
	→ Through	876	2	438	804	2	402
	↗ Through-Right		0			0	
	↘ Right	294	1	174	445	1	356
	↘↔ Left-Through-Right		0			0	
	↙↔ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	486	2	267	508	2	279
	↵↔ Left-Through		0			0	
	→ Through	1197	1	600	869	1	435
	↗ Through-Right		1			1	
	↘ Right	2	0	2	0	0	0
	↘↔ Left-Through-Right		0			0	
	↙↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i> 361			<i>North-South:</i> 294		
		<i>East-West:</i> 705			<i>East-West:</i> 681		
		<b>SUM:</b> 1066			<b>SUM:</b> 975		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>		0.775			0.709		
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>		<b>0.675</b>			<b>0.609</b>		
<b>LEVEL OF SERVICE (LOS):</b>		<b>B</b>			<b>B</b>		

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:** 4    
 **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard    
 **East-West Street:** Westchester Parkway  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**    
 **Analyst:** RA    
**Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
				4			4
No. of Phases							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?							
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	4	NB -- 3	SB -- 3	4
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity							
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	176	1	176	207	1	207
	Left-Through		0			0	
	Through	1,728	3	576	1,741	3	580
	Through-Right		0			0	
	Right	41	1	0	71	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	182	1	182	240	1	240
	Left-Through		0			0	
	Through	1,810	3	603	1,991	3	664
	Through-Right		0			0	
	Right	41	1	26	59	1	14
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	15	1	15	45	1	45
	Left-Through		0			0	
	Through	175	1	137	315	1	234
	Through-Right		1			1	
	Right	99	0	99	152	0	152
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	202	1	202	244	1	244
	Left-Through		0			0	
	Through	637	1	440	461	1	361
	Through-Right		1			1	
	Right	243	0	243	260	0	260
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South:		779	North-South:		871
		East-West:		455	East-West:		478
		SUM:		1234	SUM:		1349
VOLUME/CAPACITY (V/C) RATIO:				0.897			0.981
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.797			0.881
LEVEL OF SERVICE (LOS):				C			D

**REMARKS:**





**Level of Service Workheet  
(Circular 212 Method)**



I/S #: 6

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:** **Analyst:** RA **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0		NB -- 0	SB -- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 2		EB -- 0	WB -- 2	
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	3916	4	979	4269	4	1067
	Through-Right		0			0	
	Right	28	0	0	30	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	2159	4	540	2649	4	662
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	377	2	207	487	2	268
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	481	2	265	306	2	168
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				North-South: 979 East-West: 265 SUM: 1244			North-South: 1067 East-West: 268 SUM: 1335
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.829			0.890
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.729			0.790
<b>LEVEL OF SERVICE (LOS):</b>				C			C

REMARKS:



# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**7**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** I-105 Ramps (n/o Imperial Hwy)  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

			AM PEAK HOUR			PM PEAK HOUR		
No. of Phases					2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB -- 0	SB -- 0		NB -- 0	SB -- 0	
			EB -- 0	WB -- 0		EB -- 0	WB -- 0	
ATSAC-1 or ATSAC+ATCS-2?					2			2
Override Capacity					0			0
MOVEMENT			Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↙	Left	0	0	0	0	0	0
	↔	Left-Through		0			0	
	→	Through	2498	3	833	2738	3	913
	↗	Through-Right		0			0	
	↘	Right	0	0	0	0	0	0
	↗↔	Left-Through-Right		0			0	
	↘↔	Left-Right		0			0	
SOUTHBOUND	↙	Left	0	0	0	0	0	0
	↔	Left-Through		0			0	
	→	Through [1]	2202	1	0	2503	1	0
	↗	Through-Right [1]	1636	1	0	1798	1	0
	↘	Right		0			0	
	↗↔	Left-Through-Right		0			0	
	↘↔	Left-Right		0			0	
EASTBOUND	↙	Left	0	0	0	0	0	0
	↔	Left-Through		0			0	
	→	Through	0	0	0	0	0	0
	↗	Through-Right [1]	0	0	0	0	0	0
	↘	Right		0			0	
	↗↔	Left-Through-Right		0			0	
	↘↔	Left-Right		0			0	
WESTBOUND	↙	Left	0	0	0	0	0	0
	↔	Left-Through		0			0	
	→	Through	0	0	0	0	0	0
	↗	Through-Right		0			0	
	↘	Right	2514	3	880	1832	3	641
	↗↔	Left-Through-Right		0			0	
	↘↔	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>			<b>North-South:</b> 833 <b>East-West:</b> 880 <b>SUM:</b> 1713			<b>North-South:</b> 913 <b>East-West:</b> 641 <b>SUM:</b> 1554		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>			1.142			1.036		
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>			1.042			0.936		
<b>LEVEL OF SERVICE (LOS):</b>			F			E		

**REMARKS:** [1] Free-flow movement.

## Level of Service Workheet (Circular 212 Method)



**I/S #:** 8 **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:** **Analyst:** RA **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		4			4		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2? Override Capacity		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↶	107	1	107	191	1	191
	↶↷		0			0	
	↷	1861	3	620	1951	3	650
	↷↶		0			0	
	↷↷	683	2	304	1236	2	616
	↷↷↶		0			0	
	↷↷↷		0			0	
SOUTHBOUND	↷	432	2	238	686	2	377
	↷↶		0			0	
	↷	2831	3	710	2516	3	631
	↷↶		1			1	
	↷↷	7	0	7	7	0	7
	↷↷↶		0			0	
	↷↷↷		0			0	
EASTBOUND	↶	230	2	127	249	2	137
	↶↷		0			0	
	↷	282	3	94	399	3	133
	↷↶		0			0	
	↷↷	158	1	105	175	1	80
	↷↷↶		0			0	
	↷↷↷		0			0	
WESTBOUND	↷	263	2	145	233	2	128
	↷↶		0			0	
	↷	242	3	81	394	3	131
	↷↶		0			0	
	↷↷	362	1	124	522	1	145
	↷↷↶		0			0	
	↷↷↷		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 858			<i>North-South:</i> 1027
				<i>East-West:</i> 251			<i>East-West:</i> 282
				<i>SUM:</i> 1109			<i>SUM:</i> 1309
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.807			0.952
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.707</b>			<b>0.852</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>D</b>

**REMARKS:**





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**9**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Eastway      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 1/29/2018

MOVEMENT	AM PEAK HOUR			PM PEAK HOUR		
	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>No. of Phases</b>			2			2
<b>Opposed Ø'ing: N/S-1, E/W-2 or Both-3?</b>			0			0
<b>Right Turns: FREE-1, NRTOR-2 or OLA-3?</b>	<i>NB --</i> 0	<i>SB --</i> 0	0	<i>NB --</i> 0	<i>SB --</i> 0	0
	<i>EB --</i> 0	<i>WB --</i> 0	0	<i>EB --</i> 0	<i>WB --</i> 0	0
<b>ATSAC-1 or ATSAC+ATCS-2?</b>			2			2
<b>Override Capacity</b>			0			0
MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>						
Left	14	0	14	59	0	59
Left-Through		1			1	
Through	119	0	133	289	0	348
Through-Right		0			0	
Right	111	1	107	199	1	186
Left-Through-Right		0			0	
Left-Right		0			0	
<b>SOUTHBOUND</b>						
Left	122	0	122	321	0	321
Left-Through		0			0	
Through	15	0	233	13	0	480
Through-Right		0			0	
Right	96	0	0	146	0	0
Left-Through-Right		1			1	
Left-Right		0			0	
<b>EASTBOUND</b>						
Left	42	1	42	88	1	88
Left-Through		0			0	
Through	344	1	173	601	1	304
Through-Right		1			1	
Right	1	0	1	7	0	7
Left-Through-Right		0			0	
Left-Right		0			0	
<b>WESTBOUND</b>						
Left	9	1	9	27	1	27
Left-Through		0			0	
Through	964	1	560	793	1	479
Through-Right		1			1	
Right	156	0	156	164	0	164
Left-Through-Right		0			0	
Left-Right		0			0	
<b>CRITICAL VOLUMES</b>			<i>North-South:</i> 255 <i>East-West:</i> 602 <b>SUM:</b> 857			<i>North-South:</i> 669 <i>East-West:</i> 567 <b>SUM:</b> 1236
<b>VOLUME/CAPACITY (V/C) RATIO:</b>			0.571			0.824
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>			<b>0.471</b>			<b>0.724</b>
<b>LEVEL OF SERVICE (LOS):</b>			<b>A</b>			<b>C</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	→↔ Through-Right		0			0	
	↘ Right	0	0	0	0	0	0
	↵↔↘ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	14	1	14	133	1	81
	↵↔ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	→↔ Through-Right		0			0	
	↘ Right	56	1	0	110	1	33
	↵↔↘ Left-Through-Right		0			0	
	↘↔ Left-Right		1			1	
<b>EASTBOUND</b>	↵ Left	100	1	100	96	1	96
	↵↔ Left-Through		0			0	
	→ Through	448	2	224	951	2	476
	→↔ Through-Right		0			0	
	↘ Right	0	0	0	0	0	0
	↵↔↘ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through		0			0	
	→ Through	1065	2	533	1106	2	553
	→↔ Through-Right		0			0	
	↘ Right	162	1	155	95	1	55
	↵↔↘ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 14			<i>North-South:</i> 81
				<i>East-West:</i> 633			<i>East-West:</i> 649
				<b>SUM:</b> 647			<b>SUM:</b> 730
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.431			0.487
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.331</b>			<b>0.387</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				3 0 0 0 2 0			3 0 0 0 2 0
		NB -- 0 EB -- 0	SB -- WB --		NB -- 0 EB -- 0	SB -- WB --	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	65	1	65	55	1	55
	Left-Through		0			0	
	Through	21	1	21	21	1	21
	Through-Right		0			0	
	Right	29	1	0	120	1	99
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	37	1	37	205	1	205
	Left-Through		0			0	
	Through	24	1	24	12	1	12
	Through-Right		0			0	
	Right	71	1	0	176	1	133
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	450	2	248	156	2	86
	Left-Through		0			0	
	Through	1239	4	262	2473	4	506
	Through-Right		1			1	
	Right	72	0	72	55	0	55
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	88	1	88	42	1	42
	Left-Through		0			0	
	Through	1553	3	430	1773	3	482
	Through-Right		1			1	
	Right	168	0	168	154	0	154
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 89 <i>East-West:</i> 678 <b>SUM:</b> 767	<i>North-South:</i> 304 <i>East-West:</i> 568 <b>SUM:</b> 872		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.538			0.612
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.438</b>			<b>0.512</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



I/S #: **13**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard **East-West Street:** 96th Street  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:** **Analyst:** RA **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	749	2	375	976	2	488
	Through-Right		0			0	
	Right	125	1	89	178	1	128
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	158	1	158	195	1	195
	Left-Through		0			0	
	Through	699	3	233	804	3	268
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	109	1	109	170	1	170
	Left-Through		0			0	
	Through	127	0	239	329	0	311
	Through-Right		0			0	
	Right	350	1	0	292	1	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
WESTBOUND	Left	86	1	73	112	1	101
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	134	1	0	191	1	4
	Left-Through-Right		0			0	
	Left-Right		1			1	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 533	<i>North-South:</i> 683		
				<i>East-West:</i> 312	<i>East-West:</i> 412		
				<i>SUM:</i> 845	<i>SUM:</i> 1095		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.615	0.796		
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.515</b>	<b>0.696</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>	<b>B</b>		

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
14

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 98th Street  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	0	NB -- 0	SB -- 3	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↵	253	1	253	197	1	197
	↵↗		0			0	
	↔	581	2	291	769	2	385
	↵↘		0			0	
	↘	168	1	105	268	1	186
	↗↔		0			0	
	↗↘		0			0	
SOUTHBOUND	↘	260	1	260	185	1	185
	↘↗		0			0	
	↔	512	2	256	521	2	261
	↘↘		0			0	
	↗	421	1	260	534	1	326
	↗↔		0			0	
	↗↘		0			0	
EASTBOUND	↗	161	1	161	208	1	208
	↗↗		0			0	
	↔	112	0	192	237	0	463
	↗↘		1			1	
	↘	80	0	0	226	0	0
	↗↔		0			0	
	↗↘		0			0	
WESTBOUND	↘	126	1	126	164	1	164
	↘↗		0			0	
	↔	304	0	405	202	0	413
	↘↘		1			1	
	↗	101	0	0	211	0	0
	↗↔		0			0	
	↗↘		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 551			<i>North-South:</i> 570
				<i>East-West:</i> 566			<i>East-West:</i> 627
				<b>SUM:</b> 1117			<b>SUM:</b> 1197
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.745			0.798
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.645</b>			<b>0.698</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>B</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



I/S #: 15

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Airport Boulevard East-West Street: Century Boulevard  
 Scenario: Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
 Count Date: Analyst: RA Date: 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	15	1	15	78	1	78
	Left-Through		0			0	
	Through	55	2	28	57	2	29
	Through-Right		0			0	
	Right	31	1	6	31	1	0
	Left-Through-Right		0			0	
SOUTHBOUND	Left	174	2	62	153	2	54
	Left-Through		1			1	
	Through	72	1	62	37	1	37
	Through-Right		0			0	
	Right	500	1	337	688	1	415
	Left-Through-Right		0			0	
EASTBOUND	Left	594	2	327	994	2	547
	Left-Through		0			0	
	Through	733	4	150	1702	4	361
	Through-Right		1			1	
	Right	15	0	15	103	0	103
	Left-Through-Right		0			0	
WESTBOUND	Left	50	1	50	105	1	105
	Left-Through		0			0	
	Through	1357	4	339	1238	4	310
	Through-Right		0			0	
	Right	448	1	386	225	1	171
	Left-Through-Right		0			0	
CRITICAL VOLUMES				North-South: 365 East-West: 713 SUM: 1078			North-South: 493 East-West: 857 SUM: 1350
VOLUME/CAPACITY (V/C) RATIO:				0.784			0.982
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.684</b>			<b>0.882</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>D</b>





**I/S #:**  
**17**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Douglas Street      **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	127	1	127	211	1	211
	Left-Through		0			0	
	Through	25	1	25	30	1	30
	Through-Right		0			0	
	Right	136	2	0	720	2	298
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	45	1	41	53	1	47
	Left-Through		0			0	
	Through	37	0	41	41	0	47
	Through-Right		0			0	
	Right	6	1	0	25	1	5
	Left-Through-Right		1			1	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	25	1	25	41	1	41
	Left-Through		0			0	
	Through	544	2	258	1703	2	655
	Through-Right		1			1	
	Right	229	0	229	261	0	261
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	483	2	266	178	2	98
	Left-Through		0			0	
	Through	1282	2	449	647	2	228
	Through-Right		1			1	
	Right	65	0	65	36	0	36
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				North-South: 168			North-South: 345
				East-West: 524			East-West: 753
				<b>SUM:</b> 692			<b>SUM:</b> 1098
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.503			0.799
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.403</b>			<b>0.699</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>B</b>

**REMARKS:**



# Level of Service Worksheet (Circular 212 Method)



I/S #: **18**

PROJECT TITLE: **Landside Access Modernization Program at LAX - Addendum**  
 North-South Street: **Bellanca Avenue**      East-West Street: **Century Boulevard**  
 Scenario: **Future (2024) with Phase 1 Project (including SBO Relocation) Conditions**  
 Count Date:    Analyst: **RA**    Date: **1/29/2018**

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2 0 0 2 0			2 0 0 2 0
NB --    0          SB --    0 EB --    0          WB --    0						2 0 0 2 0	
MOVEMENT							
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0		0	0	0
	Through	0	0	0	0	0	0
	Through-Right		0		0	0	0
	Right	0	0	0	0	0	0
	Left-Through-Right		0		0	0	0
	Left-Right		0		0	0	0
SOUTHBOUND	Left	67	2	37	503	2	277
	Left-Through		0		0	0	0
	Through	0	0	0	0	0	0
	Through-Right		0		0	0	0
	Right	90	1	55	72	1	13
	Left-Through-Right		0		0	0	0
	Left-Right		0		0	0	0
EASTBOUND	Left	71	1	71	119	1	119
	Left-Through		0		0	0	0
	Through	1051	5	210	2402	5	480
	Through-Right		0		0	0	0
	Right	0	0	0	0	0	0
	Left-Through-Right		0		0	0	0
	Left-Right		0		0	0	0
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0		0	0	0
	Through	2234	3	600	1850	3	494
	Through-Right		1		1	1	126
	Right	167	0	167	126	0	126
	Left-Through-Right		0		0	0	0
	Left-Right		0		0	0	0
CRITICAL VOLUMES				<i>North-South:</i> 55 <i>East-West:</i> 671 <b>SUM:</b> 726			<i>North-South:</i> 277 <i>East-West:</i> 613 <b>SUM:</b> 890
VOLUME/CAPACITY (V/C) RATIO:				0.484			0.593
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.384			0.493
LEVEL OF SERVICE (LOS):				A			A

**REMARKS:**

### Level of Service Worksheet (Circular 212 Method)



I/S #: 19

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Aviation Boulevard East-West Street: Arbor Vitae Street  
 Scenario: Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
 Count Date: Analyst: RA Date: 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0	0	EB -- 3	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	541	1	541	432	1	432
	Left-Through		0			0	
	Through	719	2	360	767	2	384
	Through-Right		0			0	
	Right	53	1	0	231	1	60
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	22	1	22	57	1	57
	Left-Through		0			0	
	Through	638	1	371	634	1	358
	Through-Right		1			1	
	Right	104	0	104	81	0	81
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	84	1	84	175	1	175
	Left-Through		0			0	
	Through	210	3	70	692	3	231
	Through-Right		0			0	
	Right	207	1	0	471	1	39
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	384	1	384	343	1	343
	Left-Through		0			0	
	Through	1057	2	372	479	2	175
	Through-Right		1			1	
	Right	58	0	58	46	0	46
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				North-South: 912			North-South: 790
				East-West: 456			East-West: 574
				SUM: 1368			SUM: 1364
VOLUME/CAPACITY (V/C) RATIO:				0.995			0.992
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.895			0.892
LEVEL OF SERVICE (LOS):				D			D

REMARKS:

### Level of Service Worksheet (Circular 212 Method)



I/S #: **20**

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Aviation Boulevard      East-West Street: Century Boulevard  
 Scenario: Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
 Count Date:      Analyst: RA      Date: 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		4			4		
		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0      SB -- 3			NB -- 0      SB -- 3		
		EB -- 3      WB -- 0			EB -- 3      WB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		2			2		
Override Capacity		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	632	2	348	547	2	301
	Left-Through		0			0	
	Through	877	1	488	961	1	536
	Through-Right		1			1	
	Right	99	0	99	110	0	110
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	139	2	76	208	2	114
	Left-Through		0			0	
	Through	553	2	277	669	2	335
	Through-Right		0			0	
	Right	206	1	125	165	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	81	1	81	326	1	326
	Left-Through		0			0	
	Through	718	4	180	1963	4	491
	Through-Right		0			0	
	Right	357	1	9	630	1	329
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	174	1	174	116	1	116
	Left-Through		0			0	
	Through	1560	3	470	1265	3	355
	Through-Right		1			1	
	Right	321	0	321	153	0	153
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South: 625			North-South: 650		
		East-West: 551			East-West: 681		
		SUM: 1176			SUM: 1331		
VOLUME/CAPACITY (V/C) RATIO:		0.855			0.968		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.755			0.868		
LEVEL OF SERVICE (LOS):		C			D		

REMARKS:

# Level of Service Worksheet (Circular 212 Method)



I/S #: **21**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard **East-West Street:** 104th Street  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:** **Analyst:** RA **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases		4			4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		2			2		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		2			2		
Override Capacity		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↲ Left	107	1	107	74	1	74
	↲↯ Left-Through		0			0	
	↯↲ Through	1463	1	761	1505	1	784
	↯↯ Through-Right		1			1	
	↯ Right	59	0	59	62	0	62
	↯↯↲ Left-Through-Right		0			0	
	↯↯↲ Left-Right		0			0	
SOUTHBOUND	↲ Left	35	1	35	61	1	61
	↲↯ Left-Through		0			0	
	↯↲ Through	1063	1	542	1416	1	711
	↯↯ Through-Right		1			1	
	↯ Right	21	0	21	5	0	5
	↯↯↲ Left-Through-Right		0			0	
	↯↯↲ Left-Right		0			0	
EASTBOUND	↲ Left	5	0	5	4	0	4
	↲↯ Left-Through		0			0	
	↯↲ Through	17	0	98	40	0	206
	↯↯ Through-Right		0			0	
	↯ Right	76	0	0	162	0	0
	↯↯↲ Left-Through-Right		1			1	
	↯↯↲ Left-Right		0			0	
WESTBOUND	↲ Left	50	1	50	81	1	81
	↲↯ Left-Through		0			0	
	↯↲ Through	58	0	100	18	0	108
	↯↯ Through-Right		1			1	
	↯ Right	42	0	0	90	0	0
	↯↯↲ Left-Through-Right		0			0	
	↯↯↲ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 796			<i>North-South:</i> 845
				<i>East-West:</i> 198			<i>East-West:</i> 314
				<i>SUM:</i> 994			<i>SUM:</i> 1159
VOLUME/CAPACITY (V/C) RATIO:				0.723			0.843
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.623</b>			<b>0.743</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>C</b>

REMARKS:

# Level of Service Worksheet (Circular 212 Method)



**I/S #:** 22      
 **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      
 **East-West Street:** 111th Street  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**      
 **Analyst:** RA      
 **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB --	0	NB -- 0	SB --	0
		EB -- 0	WB --	3	EB -- 0	WB --	3
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	22	1	22	21	1	21
	Left-Through		0			0	
	Through	1100	1	563	869	1	458
	Through-Right		1			1	
	Right	25	0	25	46	0	46
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	346	1	346	434	1	434
	Left-Through		0			0	
	Through	640	1	388	1137	1	616
	Through-Right		1			1	
	Right	135	0	135	95	0	95
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	81	1	81	115	1	115
	Left-Through		0			0	
	Through	23	0	33	50	0	81
	Through-Right		1			1	
	Right	10	0	0	31	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	45	1	45	51	1	51
	Left-Through		0			0	
	Through	28	1	28	18	1	18
	Through-Right		0			0	
	Right	499	1	153	608	1	174
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				North-South: 909 East-West: 234 SUM: 1143			North-South: 892 East-West: 289 SUM: 1181
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.831			0.859
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.731</b>			<b>0.759</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>C</b>

**REMARKS:**





**I/S #:**  
**23**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

No. of Phases	AM PEAK HOUR			PM PEAK HOUR			
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	Right Turns: FREE-1, NRTOR-2 or OLA-3?	ATSAC-1 or ATSAC+ATCS-2?	Override Capacity	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	<b>NB -- 3</b>	<b>SB -- 3</b>		3	<b>NB -- 3</b>	<b>SB -- 3</b>	3
ATSAC-1 or ATSAC+ATCS-2?	<b>EB -- 0</b>	<b>WB -- 3</b>		3	<b>EB -- 0</b>	<b>WB -- 3</b>	3
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
<b>NORTHBOUND</b>							
Left	318	2	175	163	2	90	
Left-Through		0			0		
Through	713	2	357	531	2	266	
Through-Right		0			0		
Right	98	1	0	266	1	203	
Left-Through-Right		0			0		
Left-Right		0			0		
<b>SOUTHBOUND</b>							
Left	69	2	38	139	2	76	
Left-Through		0			0		
Through	406	2	203	919	2	460	
Through-Right		0			0		
Right	236	1	112	160	1	0	
Left-Through-Right		0			0		
Left-Right		0			0		
<b>EASTBOUND</b>							
Left	225	2	124	301	2	166	
Left-Through		0			0		
Through	306	2	123	1751	2	716	
Through-Right		1			1		
Right	63	0	63	397	0	397	
Left-Through-Right		0			0		
Left-Right		0			0		
<b>WESTBOUND</b>							
Left	266	2	146	114	2	63	
Left-Through		0			0		
Through	1335	3	445	511	3	170	
Through-Right		0			0		
Right	135	1	97	98	1	22	
Left-Through-Right		0			0		
Left-Right		0			0		
<b>CRITICAL VOLUMES</b>			<i>North-South:</i> 395	<i>North-South:</i> 550			
			<i>East-West:</i> 569	<i>East-West:</i> 779			
			<b>SUM:</b> 964	<b>SUM:</b> 1329			
<b>VOLUME/CAPACITY (V/C) RATIO:</b>			0.701	0.967			
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>			<b>0.601</b>	<b>0.867</b>			
<b>LEVEL OF SERVICE (LOS):</b>			<b>B</b>	<b>D</b>			

REMARKS:





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**25**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Concourse Way      **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases		4	No. of Phases		4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0		0	0		0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0      SB -- 0	0	NB -- 0      SB -- 0	0	0	0
ATSAC-1 or ATSAC+ATCS-2?		2		2	2		2
Override Capacity		0		0	0		0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	← Left	10	1	10	25	1	25
	↔ Left-Through		0			0	
	→ Through	0	0	129	0	0	109
	↔ Through-Right		1			1	
	→ Right	129	0	0	109	0	0
	↔ Left-Through-Right		0			0	
	↔ Left-Right		0			0	
SOUTHBOUND	← Left	443	2	244	559	2	307
	↔ Left-Through		0			0	
	→ Through	0	0	180	0	0	252
	↔ Through-Right		1			1	
	→ Right	180	0	0	252	0	0
	↔ Left-Through-Right		0			0	
	↔ Left-Right		0			0	
EASTBOUND	← Left	124	1	124	109	1	109
	↔ Left-Through		0			0	
	→ Through	618	3	165	1603	3	407
	↔ Through-Right		1			1	
	→ Right	42	0	42	25	0	25
	↔ Left-Through-Right		0			0	
↔ Left-Right		0			0		
WESTBOUND	← Left	149	1	149	164	1	164
	↔ Left-Through		0			0	
	→ Through	1498	4	375	1292	4	323
	↔ Through-Right		0			0	
	→ Right	639	1	517	369	1	216
	↔ Left-Through-Right		0			0	
↔ Left-Right		0			0		
CRITICAL VOLUMES		<i>North-South:</i>		373	<i>North-South:</i>		416
		<i>East-West:</i>		641	<i>East-West:</i>		571
		<b>SUM:</b>		1014	<b>SUM:</b>		987
VOLUME/CAPACITY (V/C) RATIO:				0.737			0.718
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.637</b>			<b>0.618</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>B</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 3	WB -- 3	3
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	505	2	278	210	2	116
	↵↔ Left-Through		0			0	
	→ Through	453	1	343	349	1	259
	↵↔ Through-Right		1			1	
	↘ Right	232	0	232	168	0	168
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	203	2	112	302	2	166
	↵↔ Left-Through		0			0	
	→ Through	233	1	202	306	1	257
	↵↔ Through-Right		1			1	
	↘ Right	170	0	170	208	0	208
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	203	2	112	198	2	109
	↵↔ Left-Through		0			0	
	→ Through	137	3	46	1767	3	589
	↵↔ Through-Right		0			0	
	↘ Right	217	1	0	386	1	270
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	141	2	78	128	2	70
	↵↔ Left-Through		0			0	
	→ Through	1200	2	600	366	2	183
	↵↔ Through-Right		0			0	
	↘ Right	453	1	341	250	1	84
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 480			<i>North-South:</i> 425
				<i>East-West:</i> 712			<i>East-West:</i> 659
				<b>SUM:</b> 1192			<b>SUM:</b> 1084
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.867			0.788
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.767</b>			<b>0.688</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>B</b>

**REMARKS:**

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 27**  
**North/South Street:** LA CIENEGA BOULEVARD  
**East/West Street:** ARBOR VITAE STREET  
**Scenario:** FUTURE (2024) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

Peak Period: AM PEAK HOUR						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	138	0	0.000	N-S(1): 0.380
	TH	2.00	676	3,200	0.254 *	N-S(2): 0.472 *
	LT	1.00	47	1,600	0.029	E-W(1): 0.217
Westbound	RT	1.00	318	1,600	0.199	E-W(2): 0.441 *
	TH	2.00	839	3,200	0.262 *	
	LT	1.00	139	1,600	0.087	V/C: 0.913
Northbound	RT	0.00	35	0	0.000	Lost Time: 0.100
	TH	2.00	1,087	3,200	0.351	
	LT	1.00	348	1,600	0.218 *	
Eastbound	RT	1.00	171	0	0.000	ICU: 1.013
	TH	2.00	244	3,200	0.130	
	LT	1.00	286	1,600	0.179 *	LOS: F

Peak Period: PM PEAK HOUR						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	151	0	0.000	N-S(1): 0.301
	TH	2.00	842	3,200	0.310 *	N-S(2): 0.407 *
	LT	1.00	136	1,600	0.085	E-W(1): 0.447 *
Westbound	RT	1.00	90	1,600	0.056	E-W(2): 0.379
	TH	2.00	232	3,200	0.073	
	LT	1.00	144	1,600	0.090 *	V/C: 0.854
Northbound	RT	0.00	69	0	0.000	Lost Time: 0.100
	TH	2.00	623	3,200	0.216	
	LT	1.00	155	1,600	0.097 *	
Eastbound	RT	1.00	379	0	0.000	ICU: 0.954
	TH	2.00	763	3,200	0.357 *	
	LT	1.00	489	1,600	0.306	LOS: E

\* = Critical Movement



## Level of Service Workheet (Circular 212 Method)



I/S #: 29

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** La Cienega Boulevard    **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Phase 1 Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR			
				4			4	
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3      SB -- 3		0	NB -- 3      SB -- 3		0	
		EB -- 3      WB -- 3		0	EB -- 3      WB -- 3		0	
ATSAC-1 or ATSAC+ATCS-2?				2			2	
Override Capacity				0			0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
<b>NORTHBOUND</b>	↵	Left	1	193	222	1	222	
	↵→	Left-Through	0			0		
	→	Through	746	2	373	361	2	181
	→↵	Through-Right	0				0	
	↵↵	Right	206	2	0	539	2	147
	↵↵→	Left-Through-Right	0				0	
↵↵↵	Left-Right	0				0		
<b>SOUTHBOUND</b>	↵	Left	1	164	628	1	628	
	↵→	Left-Through	0			0		
	→	Through	434	2	217	899	2	450
	→↵	Through-Right	0				0	
	↵↵	Right	242	2	83	251	2	0
	↵↵→	Left-Through-Right	0				0	
↵↵↵	Left-Right	0				0		
<b>EASTBOUND</b>	↵	Left	1	50	212	1	212	
	↵→	Left-Through	0			0		
	→	Through	604	3	201	1692	3	564
	→↵	Through-Right	0				0	
	↵↵	Right	369	1	176	475	1	253
	↵↵→	Left-Through-Right	0				0	
↵↵↵	Left-Right	0				0		
<b>WESTBOUND</b>	↵	Left	1	367	149	1	149	
	↵→	Left-Through	0			0		
	→	Through	1744	3	581	1083	3	309
	→↵	Through-Right	1				1	
	↵↵	Right	983	0	901	152	0	152
	↵↵→	Left-Through-Right	0				0	
↵↵↵	Left-Right	0				0		
<b>CRITICAL VOLUMES</b>		<b>North-South:</b>		537	<b>North-South:</b>		809	
		<b>East-West:</b>		951	<b>East-West:</b>		713	
		<b>SUM:</b>		1488	<b>SUM:</b>		1522	
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				1.082			1.107	
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.982</b>			<b>1.007</b>	
<b>LEVEL OF SERVICE (LOS):</b>				<b>E</b>			<b>F</b>	

**REMARKS:**



**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 30**  
**North/South Street:** I-405 NORTHBOUND RAMPS  
**East/West Street:** CENTURY BOULEVARD  
**Scenario:** FUTURE (2024) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period: AM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	33	1,600	0.018 *	N-S(1): 0.251 N-S(2): 0.433 * E-W(1): 0.140 E-W(2): 0.447 *  V/C: 0.880 Lost Time: 0.100
	TH	0.00	0	0	0.000	
	LT	0.00	0	0	0.000	
Westbound	RT	0.00	6	0	0.000	
	TH	3.00	2,126	4,800	0.444 *	
	LT	0.00	0	0	0.000	
Northbound	RT	1.00	401	1,600	0.251	
	TH	0.00	0	0	0.000	
	LT	2.00	1,195	2,880	0.415 *	
Eastbound	RT	1.00	176	1,600	0.000	ICU: 0.980  LOS: E
	TH	3.00	674	4,800	0.140	
	LT	1.00	4	1,600	0.003 *	

<b>Peak Period: PM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	27	1,600	0.005 *	N-S(1): 0.241 N-S(2): 0.308 * E-W(1): 0.458 * E-W(2): 0.205  V/C: 0.766 Lost Time: 0.100
	TH	0.00	0	0	0.000	
	LT	0.00	1	1,600	0.001	
Westbound	RT	0.00	19	0	0.000	
	TH	3.00	908	4,800	0.193	
	LT	0.00	0	0	0.000 *	
Northbound	RT	1.00	384	1,600	0.240	
	TH	0.00	0	0	0.000	
	LT	2.00	873	2,880	0.303 *	
Eastbound	RT	1.00	597	1,600	0.100	ICU: 0.866  LOS: D
	TH	3.00	2,197	4,800	0.458 *	
	LT	1.00	19	1,600	0.012	

\* = Critical Movement  
 EBR is free-flow movement.







## Level of Service Worksheet (Circular 212 Method)



**I/S #:** 6     
**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard     
**East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Project (including SBO Relocation) Conditions  
**Count Date:**     
**Analyst:** RA     
**Date:** 2/8/2018

		MD PEAK HOUR		MD PEAK HOUR		MD PEAK HOUR	
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity	NB --	SB --	NB --	SB --	WB --
				2			0
				0			0
				0		0	0
				2		0	0
				2		0	0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	3230	4	808			0
	Through-Right		0				
	Right	29	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	1633	4	408			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
EASTBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
WESTBOUND	Left	444	2	244			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	398	2	219			0
	Left-Through-Right		0				
	Left-Right		0				
CRITICAL VOLUMES			<i>North-South:</i>	808	<i>North-South:</i>		0
			<i>East-West:</i>	244	<i>East-West:</i>		0
			<i>SUM:</i>	1052	<i>SUM:</i>		0
VOLUME/CAPACITY (V/C) RATIO:				0.701			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.601</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>A</b>

**REMARKS:**





# Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b> <b>8</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum
	<b>North-South Street:</b> Sepulveda Boulevard <b>East-West Street:</b> Imperial Highway
	<b>Scenario:</b> Future (2024) with Project (including SBO Relocation) Conditions
	<b>Count Date:</b> <b>Analyst:</b> RA <b>Date:</b> 2/8/2018

		MD PEAK HOUR					
		No. of Phases	4			0	
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	0			0	
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	0	NB -- 0	SB -- 0	0	
		ATSAC-1 or ATSAC+ATCS-2?	3	EB -- 0	WB -- 0	0	
		Override Capacity	2			0	
			0			0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶	156	1	156			0
	↷		0				0
	↔	1606	3	535			0
	↷		0				0
	↔	815	2	390			0
	↶		0				0
	↷		0				0
<b>SOUTHBOUND</b>	↶	262	2	144			0
	↷		0				0
	↔	2181	3	556			0
	↷		1				0
	↔	43	0	43			0
	↶		0				0
	↷		0				0
<b>EASTBOUND</b>	↶	209	2	115			0
	↷		0				0
	↔	267	3	89			0
	↷		0				0
	↔	164	1	86			0
	↶		0				0
	↷		0				0
<b>WESTBOUND</b>	↶	212	2	117			0
	↷		0				0
	↔	257	3	86			0
	↷		0				0
	↔	317	1	173			0
	↶		0				0
	↷		0				0
<b>CRITICAL VOLUMES</b>			North-South: 712		North-South: 0		0
			East-West: 288		East-West: 0		0
			SUM: 1000		SUM: 0		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>			0.727				0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>			0.627				0.000
<b>LEVEL OF SERVICE (LOS):</b>			B				A

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2024) with Project (including SBO Relocation) Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/8/2018

		MD PEAK HOUR					
				2			0
		No. of Phases		0			0
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0
		NB --	0	SB --	0	NB --	0
		EB --	0	WB --	0	EB --	0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?		0			0
		ATSAC-1 or ATSAC+ATCS-2?		2			0
		Override Capacity		0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	0	0	0			0
	↵↔ Left-Through		0				
	→ Through	0	0	0			0
	↵↔ Through-Right		0				
	→ Right	0	0	0			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	101	1	74			0
	↵↔ Left-Through		0				
	→ Through	0	0	0			0
	↵↔ Through-Right		0				
	→ Right	121	1	15			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		1				
<b>EASTBOUND</b>	↵ Left	119	1	119			0
	↵↔ Left-Through		0				
	→ Through	637	2	319			0
	↵↔ Through-Right		0				
	→ Right	0	0	0			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	0	0	0			0
	↵↔ Left-Through		0				
	→ Through	945	2	473			0
	↵↔ Through-Right		0				
	→ Right	98	1	61			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 74			<i>North-South:</i> 0
				<i>East-West:</i> 592			<i>East-West:</i> 0
				<i>SUM:</i> 666			<i>SUM:</i> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.444			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.344</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
				3			0
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	77	1	77			0
	↵↔ Left-Through		0				
	→ Through	9	1	9			0
	↵↔ Through-Right		0				
	↵ Right	63	1	33			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	69	1	69			0
	↵↔ Left-Through		0				
	→ Through	21	1	21			0
	↵↔ Through-Right		0				
	↵ Right	81	1	25			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>EASTBOUND</b>	↵ Left	206	2	113			0
	↵↔ Left-Through		0				
	→ Through	2048	4	424			0
	↵↔ Through-Right		1				
	↵ Right	71	0	71			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	61	1	61			0
	↵↔ Left-Through		0				
	→ Through	1732	3	462			0
	↵↔ Through-Right		1				
	↵ Right	116	0	116			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>CRITICAL VOLUMES</b>				North-South: 102			North-South: 0
				East-West: 575			East-West: 0
				SUM: 677			SUM: 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.475			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.375			0.000
<b>LEVEL OF SERVICE (LOS):</b>				A			A

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**12**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard **East-West Street:** Arbor Vitae St / Westchester Parkw  
**Scenario:** Future (2024) with Project (including SBO Relocation) Conditions  
**Count Date:** **Analyst:** RA **Date:** 2/8/2018

		MD PEAK HOUR					
No. of Phases					4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3			NB -- 0	SB -- 0
		EB -- 3	WB -- 0			EB -- 0	WB -- 0
ATSAC-1 or ATSAC+ATCS-2?					2		
Override Capacity					0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↶ Left	207	1	207			0
	↶↷ Left-Through		0				
	↷ Through	751	2	376			0
	↶↷↶ Through-Right		0				
	↷ Right	271	1	171			0
	↷↶↷ Left-Through-Right		0				
↷↶ Left-Right		0					
SOUTHBOUND	↷ Left	123	1	123			0
	↷↶ Left-Through		0				
	↷ Through	551	3	184			0
	↷↶ Through-Right		0				
	↷ Right	287	1	164			0
	↷↶↶ Left-Through-Right		0				
↷↶ Left-Right		0					
EASTBOUND	↶ Left	123	1	123			0
	↶↷ Left-Through		0				
	↷ Through	346	2	173			0
	↶↷ Through-Right		0				
	↷ Right	190	1	0			0
	↷↶↶ Left-Through-Right		0				
↷↶ Left-Right		0					
WESTBOUND	↷ Left	200	1	200			0
	↷↶ Left-Through		0				
	↷ Through	542	2	271			0
	↷↶ Through-Right		0				
	↷ Right	192	1	131			0
	↷↶↶ Left-Through-Right		0				
↷↶ Left-Right		0					
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		499	<i>North-South:</i>		0
		<i>East-West:</i>		394	<i>East-West:</i>		0
		<b>SUM:</b>		893	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.649			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.549</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**13**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 96th Street  
**Scenario:** Future (2024) with Project (including SBO Relocation) Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/8/2018

		MD PEAK HOUR					
No. of Phases				4			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?				2			
Override Capacity				0			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↙ Left	0	0	0			0
	↗ Left-Through		0				
	→ Through	959	2	480			0
	↘ Through-Right		0				
	↘ Right	102	1	60			0
	↗ Left-Through-Right		0				
	↖ Left-Right		0				
<b>SOUTHBOUND</b>	↙ Left	153	1	153			0
	↗ Left-Through		0				
	→ Through	860	3	287			0
	↘ Through-Right		0				
	↘ Right	0	0	0			0
	↗ Left-Through-Right		0				
	↖ Left-Right		0				
<b>EASTBOUND</b>	↙ Left	267	1	267			0
	↗ Left-Through		0				
	→ Through	215	0	291			0
	↘ Through-Right		0				
	↘ Right	366	1	0			0
	↗ Left-Through-Right		1				
	↖ Left-Right		0				
<b>WESTBOUND</b>	↙ Left	92	1	84			0
	↗ Left-Through		0				
	→ Through	0	0	0			0
	↘ Through-Right		0				
	↘ Right	161	1	8			0
	↗ Left-Through-Right		0				
	↖ Left-Right		1				
<b>CRITICAL VOLUMES</b>			<i>North-South:</i>	633	<i>North-South:</i>		0
			<i>East-West:</i>	375	<i>East-West:</i>		0
			<i>SUM:</i>	1008	<i>SUM:</i>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.733			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.633			0.000
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>A</b>

**REMARKS:**

**I/S #:**  
**14**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 98th Street  
**Scenario:** Future (2024) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
No. of Phases							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?							
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> -- 0	<i>SB</i> -- 3	<i>NB</i> -- 0	<i>SB</i> -- 0		
ATSAC-1 or ATSAC+ATCS-2?		<i>EB</i> -- 0	<i>WB</i> -- 0	<i>EB</i> -- 0	<i>WB</i> -- 0		
Override Capacity							
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	242	1	242			0
	Left-Through		0				0
	Through	800	2	400			0
	Through-Right		0				0
	Right	88	1	39			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	115	1	115			0
	Left-Through		0				0
	Through	798	2	399			0
	Through-Right		0				0
	Right	527	1	367			0
	Left-Through-Right		0				0
	Left-Right		0				0
EASTBOUND	Left	160	1	160			0
	Left-Through		0				0
	Through	126	0	381			0
	Through-Right		1				0
	Right	255	0	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
WESTBOUND	Left	98	1	98			0
	Left-Through		0				0
	Through	290	0	396			0
	Through-Right		1				0
	Right	106	0	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		641	<i>North-South:</i>		0
		<i>East-West:</i>		556	<i>East-West:</i>		0
		<i>SUM:</i>		1197	<i>SUM:</i>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.798			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.698</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>A</b>

**REMARKS:**



**Level of Service Worksheet  
(Circular 212 Method)**



I/S #: 19

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2024) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	396	1	396			0
	Left-Through		0				
	Through	586	2	293			0
	Through-Right		0				
	Right	56	1	0			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	64	1	64			0
	Left-Through		0				
	Through	668	1	391			0
	Through-Right		1				
	Right	114	0	114			0
	Left-Through-Right		0				
	Left-Right		0				
EASTBOUND	Left	113	1	113			0
	Left-Through		0				
	Through	338	3	113			0
	Through-Right		0				
	Right	390	1	0			0
	Left-Through-Right		0				
	Left-Right		0				
WESTBOUND	Left	296	1	296			0
	Left-Through		0				
	Through	287	2	115			0
	Through-Right		1				
	Right	58	0	58			0
	Left-Through-Right		0				
	Left-Right		0				
<b>CRITICAL VOLUMES</b>				North-South: 787			North-South: 0
				East-West: 409			East-West: 0
				<b>SUM: 1196</b>			<b>SUM: 0</b>
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.870			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.770</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>A</b>

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:** 20     
 **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard     
 **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Project (including SBO Relocation) Conditions  
**Count Date:**     
 **Analyst:** RA     
 **Date:** 2/8/2018

		MD PEAK HOUR					
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3		NB -- 0	SB -- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0		EB -- 0	WB -- 0	
Override Capacity				2			0
0				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	378	2	208			0
	↵↔ Left-Through		0				0
	→ Through	886	1	520			0
	↗ Through-Right		1				0
	↘ Right	154	0	154			0
	↗↔ Left-Through-Right		0				0
	↘↔ Left-Right		0				0
<b>SOUTHBOUND</b>	↵ Left	220	2	121			0
	↵↔ Left-Through		0				0
	→ Through	654	2	327			0
	↗ Through-Right		0				0
	↘ Right	122	1	0			0
	↗↔ Left-Through-Right		0				0
	↘↔ Left-Right		0				0
<b>EASTBOUND</b>	↵ Left	157	1	157			0
	↵↔ Left-Through		0				0
	→ Through	1621	4	405			0
	↗ Through-Right		0				0
	↘ Right	298	1	90			0
	↗↔ Left-Through-Right		0				0
	↘↔ Left-Right		0				0
<b>WESTBOUND</b>	↵ Left	163	1	163			0
	↵↔ Left-Through		0				0
	→ Through	1334	3	381			0
	↗ Through-Right		1				0
	↘ Right	190	0	190			0
	↗↔ Left-Through-Right		0				0
	↘↔ Left-Right		0				0
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 641			<i>North-South:</i> 0
				<i>East-West:</i> 568			<i>East-West:</i> 0
				<i>SUM:</i> 1209			<i>SUM:</i> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.879			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<span style="color: red;">0.779</span>			<span style="color: red;">0.000</span>
<b>LEVEL OF SERVICE (LOS):</b>				<span style="color: red; font-weight: bold;">C</span>			<span style="color: red; font-weight: bold;">A</span>

**REMARKS:**

Version: 1i Beta; 8/4/2011









## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**23**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 2/8/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> -- 3	<i>SB</i> -- 3	3	<i>NB</i> -- 0	<i>SB</i> -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		<i>EB</i> -- 0	<i>WB</i> -- 3	3	<i>EB</i> -- 0	<i>WB</i> -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	159	2	87			0
	Left-Through		0				
	Through	715	2	358			0
	Through-Right		0				
	Right	122	1	0			0
	Left-Through-Right		0				
	Left-Right		0				
<b>SOUTHBOUND</b>	Left	184	2	101			0
	Left-Through		0				
	Through	401	2	201			0
	Through-Right		0				
	Right	161	1	9			0
	Left-Through-Right		0				
	Left-Right		0				
<b>EASTBOUND</b>	Left	277	2	152			0
	Left-Through		0				
	Through	675	2	279			0
	Through-Right		1				
	Right	162	0	162			0
	Left-Through-Right		0				
	Left-Right		0				
<b>WESTBOUND</b>	Left	464	2	255			0
	Left-Through		0				
	Through	486	3	162			0
	Through-Right		0				
	Right	79	1	0			0
	Left-Through-Right		0				
	Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 459	<i>North-South:</i>		0
				<i>East-West:</i> 534	<i>East-West:</i>		0
				<b>SUM:</b> 993	<b>SUM:</b>		0
VOLUME/CAPACITY (V/C) RATIO:				0.722			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.622</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>A</b>

REMARKS:





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	361	2	199			0
	↵↔ Left-Through		0				
	→ Through	392	1	277			0
	↵↔ Through-Right		1				
	→ Right	162	0	162			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	290	2	160			0
	↵↔ Left-Through		0				
	→ Through	184	1	164			0
	↵↔ Through-Right		1				
	→ Right	144	0	144			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>EASTBOUND</b>	↵ Left	247	2	136			0
	↵↔ Left-Through		0				
	→ Through	237	3	79			0
	↵↔ Through-Right		0				
	→ Right	316	1	117			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	221	2	122			0
	↵↔ Left-Through		0				
	→ Through	638	2	319			0
	↵↔ Through-Right		0				
	→ Right	214	1	54			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 437			<i>North-South:</i> 0
				<i>East-West:</i> 455			<i>East-West:</i> 0
				<b>SUM:</b> 892			<b>SUM:</b> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.649			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.549</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 27**  
**North/South Street:** LA CIENEGA BOULEVARD  
**East/West Street:** ARBOR VITAE STREET  
**Scenario:** FUTURE (2024) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period: MD PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	67	0	0.000	N-S(1): 0.211
	TH	2.00	770	3,200	0.262 *	N-S(2): 0.299 *
	LT	1.00	98	1,600	0.061	E-W(1): 0.285
Westbound	RT	1.00	91	1,600	0.057	E-W(2): 0.358 *
	TH	2.00	330	3,200	0.103 *	
	LT	1.00	91	1,600	0.057	V/C: 0.657
Northbound	RT	0.00	21	0	0.000	Lost Time: 0.100
	TH	2.00	458	3,200	0.150	
	LT	1.00	59	1,600	0.037 *	
Eastbound	RT	1.00	246	0	0.000	ICU: 0.757
	TH	2.00	485	3,200	0.228	
	LT	1.00	408	1,600	0.255 *	LOS: C

\* = Critical Movement







**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 30**  
**North/South Street:** I-405 NORTHBOUND RAMPS  
**East/West Street:** CENTURY BOULEVARD  
**Scenario:** FUTURE (2024) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period:</b>		<b>MD PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS		
Southbound	RT	1.00	36	1,600	0.004 *	N-S(1):	0.097	
	TH	0.00	0	0	0.000	N-S(2):	0.323 *	
	LT	0.00	1	1,600	0.001	E-W(1):	0.305 *	
Westbound	RT	0.00	6	0	0.000	E-W(2):	0.286	
	TH	3.00	1,274	4,800	0.267	V/C:	0.628	
	LT	0.00	0	0	0.000 *	Lost Time:	0.100	
Northbound	RT	1.00	154	1,600	0.096			
	TH	0.00	0	0	0.000			
	LT	2.00	919	2,880	0.319 *			
Eastbound	RT	1.72	836	2,745	0.137	ICU:	0.728	
	TH	2.28	1,113	3,655	0.305 *			
	LT	1.00	30	1,600	0.019	LOS:	C	

\* = Critical Movement  
 EBR is free-flow movement.

**ATTACHMENT C**

**LEVEL OF SERVICE WORKSHEETS**

**Future (2035) with Project (including SBO Relocation) Conditions**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**1**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>No. of Phases</b> Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				3 0 0 3 2 0			3 0 0 3 2 0
		<i>NB --</i> 3	<i>SB --</i> 0		<i>NB --</i> 3	<i>SB --</i> 0	
		<i>EB --</i> 0	<i>WB --</i> 3		<i>EB --</i> 0	<i>WB --</i> 3	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	← Left	0	0	0	0	0	0
	↔ Left-Through		0			0	
	→ Through	1000	2	500	681	2	341
	↔ Through-Right		0			0	
	→ Right	456	1	268	330	1	180
	↔ Left-Through-Right		0			0	
	↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	← Left	86	1	86	132	1	132
	↔ Left-Through		0			0	
	→ Through	554	2	277	735	2	368
	↔ Through-Right		0			0	
	→ Right	0	0	0	0	0	0
	↔ Left-Through-Right		0			0	
	↔ Left-Right		0			0	
<b>EASTBOUND</b>	← Left	0	0	0	0	0	0
	↔ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	↔ Through-Right		0			0	
	→ Right	0	0	0	0	0	0
	↔ Left-Through-Right		0			0	
	↔ Left-Right		0			0	
<b>WESTBOUND</b>	← Left	342	2	188	273	2	150
	↔ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	↔ Through-Right		0			0	
	→ Right	75	1	0	138	1	6
	↔ Left-Through-Right		0			0	
	↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 586 <i>East-West:</i> 188 <i>SUM:</i> 774			<i>North-South:</i> 473 <i>East-West:</i> 150 <i>SUM:</i> 623
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.543			0.437
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.443</b>			<b>0.337</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:** 2     
 **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	1	NB -- 0	SB -- 3	1
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	1	0	1	1	0	1
	Left-Through		1			1	
	Through	0	0	1	1	0	2
	Through-Right		1			1	
	Right	1	0	0	5	0	4
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	830	1	416	870	1	435
	Left-Through		1			1	
	Through	1	0	416	0	0	435
	Through-Right		0			0	
	Right	116	1	0	308	1	227
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	285	2	157	148	2	81
	Left-Through		0			0	
	Through	397	1	199	464	1	232
	Through-Right		1			1	
	Right	1	0	1	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	4	1	4	2	1	2
	Left-Through		0			0	
	Through	358	2	179	526	2	263
	Through-Right		0			0	
	Right	1272	2	284	798	2	4
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 417 <i>East-West:</i> 441 <b>SUM:</b> 858			<i>North-South:</i> 439 <i>East-West:</i> 344 <b>SUM:</b> 783
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.624			0.569
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.524</b>			<b>0.469</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**3**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Main Street      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4 1 0 0 2 0			4 1 0 0 2 0
		<i>NB</i> -- 0	<i>SB</i> -- 0		<i>NB</i> -- 0	<i>SB</i> -- 0	
		<i>EB</i> -- 0	<i>WB</i> -- 0		<i>EB</i> -- 0	<i>WB</i> -- 0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	474	1	238	375	1	188
	↵↔ Left-Through		1			1	
	→ Through	1	0	238	0	0	188
	↗ Through-Right		0			0	
	↘ Right	472	1	339	404	1	268
	↗↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through		0			0	
	→ Through	0	0	9	0	0	0
	↗ Through-Right		0			0	
	↘ Right	9	0	0	0	0	0
	↗↔ Left-Through-Right		1			1	
	↘↔ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through		0			0	
	→ Through	938	2	469	884	2	442
	↗ Through-Right		0			0	
	↘ Right	290	1	171	473	1	379
	↗↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	485	2	267	496	2	273
	↵↔ Left-Through		0			0	
	→ Through	1233	1	618	913	1	457
	↗ Through-Right		1			1	
	↘ Right	2	0	2	0	0	0
	↗↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 348 <i>East-West:</i> 736 <i>SUM:</i> 1084			<i>North-South:</i> 268 <i>East-West:</i> 715 <i>SUM:</i> 983
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.788			0.715
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.688</b>			<b>0.615</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>B</b>

**REMARKS:**






**I/S #:**  
**5**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard     **East-West Street:** Lincoln Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**     **Analyst:** RA     **Date:** 1/29/2018

MOVEMENT		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2			2
				0			0
		NB -- 0	SB --	0	NB -- 0	SB --	0
		EB -- 0	WB --	0	EB -- 0	WB --	0
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↩ Left	0	0	0	0	0	0
	↩↩ Left-Through		0			0	
	→ Through [1]	2127	3	709	1867	3	622
	↩↩↩ Through-Right		0			0	
	↘ Right	0	0	0	0	0	0
	↩↩↩↩ Left-Through-Right		0			0	
	↩↩↩↩ Left-Right		0			0	
<b>SOUTHBOUND</b>	↩ Left	0	0	0	0	0	0
	↩↩ Left-Through		0			0	
	→ Through	1567	4	392	1970	4	493
	↩↩↩ Through-Right		0			0	
	↘ Right	0	0	0	0	0	0
	↩↩↩↩ Left-Through-Right		0			0	
	↩↩↩↩ Left-Right		0			0	
<b>EASTBOUND</b>	↩ Left	0	0	0	0	0	0
	↩↩ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	↩↩↩ Through-Right		0			0	
	↘ Right	0	0	0	0	0	0
	↩↩↩↩ Left-Through-Right		0			0	
	↩↩↩↩ Left-Right		0			0	
<b>WESTBOUND</b>	↩ Left	0	0	0	0	0	0
	↩↩ Left-Through		0			0	
	→ Through	2000	4	500	2428	4	607
	↩↩↩ Through-Right		0			0	
	↘ Right	38	1	38	32	1	32
	↩↩↩↩ Left-Through-Right		0			0	
	↩↩↩↩ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>			<i>North-South:</i> 709			<i>North-South:</i> 622	
			<i>East-West:</i> 500			<i>East-West:</i> 607	
			<i>SUM:</i> 1209			<i>SUM:</i> 1229	
<b>VOLUME/CAPACITY (V/C) RATIO:</b>			0.806			0.819	
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>			<b>0.706</b>			<b>0.719</b>	
<b>LEVEL OF SERVICE (LOS):</b>			<b>C</b>			<b>C</b>	

**REMARKS:** [1] Northbound has a fourth through which is approx. 50 feet in length.

# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**6**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2 0 0 2 2 0			2 0 0 2 2 0
		<i>NB --</i> 0 <i>SB --</i> 0		0	<i>NB --</i> 0 <i>SB --</i> 0		0
		<i>EB --</i> 0 <i>WB --</i> 0		2 2	<i>EB --</i> 0 <i>WB --</i> 0		2 2
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	4727	4	1182	4572	4	1143
	Through-Right		0			0	
	Right	51	0	0	13	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1961	4	490	2388	4	597
	Through-Right		0			0	
	Right	0	1	0	0	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	609	2	335	549	2	302
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	242	2	133	370	2	204
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 1182 <i>East-West:</i> 335 <b>SUM:</b> 1517	<i>North-South:</i> 1143 <i>East-West:</i> 302 <b>SUM:</b> 1445		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				1.011	0.963		
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.911</b>	<b>0.863</b>		
<b>LEVEL OF SERVICE (LOS):</b>				<b>E</b>	<b>D</b>		

**REMARKS:**































# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**8**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard    **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
		<b>No. of Phases</b>					
<b>Opposed Ø'ing: N/S-1, E/W-2 or Both-3?</b>						<b>4</b>	
<b>Right Turns: FREE-1, NRTOR-2 or OLA-3?</b>		<b>NB -- 0</b>	<b>SB -- 0</b>		<b>NB -- 0</b>	<b>SB -- 0</b>	
<b>ATSAC-1 or ATSAC+ATCS-2?</b>		<b>EB -- 0</b>	<b>WB -- 3</b>		<b>EB -- 0</b>	<b>WB -- 3</b>	
<b>Override Capacity</b>						<b>2</b>	
						<b>0</b>	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	 Left	108	1	108	180	1	180
	 Left-Through		0			0	
	 Through	1842	3	614	1916	3	639
	 Through-Right		0			0	
	 Right	672	2	300	1240	2	612
	 Left-Through-Right		0			0	
	 Left-Right		0			0	
<b>SOUTHBOUND</b>	 Left	449	2	247	732	2	403
	 Left-Through		0			0	
	 Through	2858	3	716	2569	3	644
	 Through-Right		1			1	
	 Right	7	0	7	8	0	8
	 Left-Through-Right		0			0	
	 Left-Right		0			0	
<b>EASTBOUND</b>	 Left	240	2	132	253	2	139
	 Left-Through		0			0	
	 Through	309	3	103	441	3	147
	 Through-Right		0			0	
	 Right	132	1	78	175	1	85
	 Left-Through-Right		0			0	
	 Left-Right		0			0	
<b>WESTBOUND</b>	 Left	257	2	141	255	2	140
	 Left-Through		0			0	
	 Through	259	3	86	424	3	141
	 Through-Right		0			0	
	 Right	391	1	144	591	1	188
	 Left-Through-Right		0			0	
	 Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<b>North-South:</b> 861			<b>North-South:</b> 1042
				<b>East-West:</b> 276			<b>East-West:</b> 327
				<b>SUM:</b> 1137			<b>SUM:</b> 1369
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.827			0.996
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.727</b>			<b>0.896</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>D</b>

**REMARKS:**

### Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**9**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Eastway      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases					2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0		NB -- 0	SB -- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0		EB -- 0	WB -- 0	
Override Capacity					2		
					0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	22	0	22	62	0	62
	↗ Left-Through		1			1	
	→ Through	119	0	141	291	0	353
	↘ Through-Right		0			0	
	↞ Right	134	1	128	236	1	219
	↗↞ Left-Through-Right		0			0	
	↘↞ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	136	0	136	317	0	317
	↗ Left-Through		0			0	
	→ Through	20	0	260	13	0	475
	↘ Through-Right		0			0	
	↞ Right	104	0	0	145	0	0
	↗↞ Left-Through-Right		1			1	
	↘↞ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	43	1	43	91	1	91
	↗ Left-Through		0			0	
	→ Through	376	1	189	611	1	310
	↘ Through-Right		1			1	
	↞ Right	2	0	2	8	0	8
	↗↞ Left-Through-Right		0			0	
	↘↞ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	13	1	13	35	1	35
	↗ Left-Through		0			0	
	→ Through	1006	1	584	855	1	521
	↘ Through-Right		1			1	
	↞ Right	161	0	161	187	0	187
	↗↞ Left-Through-Right		0			0	
	↘↞ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>					282	<b>North-South:</b> 670	
					627	<b>East-West:</b> 612	
					909	<b>SUM:</b> 1282	
<b>VOLUME/CAPACITY (V/C) RATIO:</b>					0.606	0.855	
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>					<b>0.506</b>	<b>0.755</b>	
<b>LEVEL OF SERVICE (LOS):</b>					<b>A</b>	<b>C</b>	

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB --</i> 0	<i>SB --</i>	0	<i>NB --</i> 0	<i>SB --</i>	0
ATSAC-1 or ATSAC+ATCS-2?		<i>EB --</i> 0	<i>WB --</i>	0	<i>EB --</i> 0	<i>WB --</i>	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	16	1	16	136	1	85
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	54	1	8	119	1	31
	Left-Through-Right		0			0	
	Left-Right		1			1	
<b>EASTBOUND</b>	Left	45	1	45	109	1	109
	Left-Through		0			0	
	Through	569	2	285	1205	2	603
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1229	2	615	1311	2	656
	Through-Right		0			0	
	Right	204	1	196	130	1	88
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 16			<i>North-South:</i> 85
				<i>East-West:</i> 660			<i>East-West:</i> 765
				<b>SUM:</b> 676			<b>SUM:</b> 850
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.451			0.567
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.351</b>			<b>0.467</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				3 0 0 0 2 0			3 0 0 0 2 0
		NB -- 0 EB -- 0	SB -- 0 WB -- 0		NB -- 0 EB -- 0	SB -- 0 WB -- 0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	78	1	78	80	1	80
	↵↔ Left-Through		0			0	
	→ Through	24	1	24	27	1	27
	→↔ Through-Right		0			0	
	↘ Right	45	1	1	135	1	109
	↘↔ Left-Through-Right		0			0	
↙↔ Left-Right		0			0		
<b>SOUTHBOUND</b>	↵ Left	62	1	62	126	1	126
	↵↔ Left-Through		0			0	
	→ Through	43	1	43	20	1	20
	→↔ Through-Right		0			0	
	↘ Right	86	1	0	99	1	13
	↘↔ Left-Through-Right		0			0	
↙↔ Left-Right		0			0		
<b>EASTBOUND</b>	↵ Left	563	2	310	315	2	173
	↵↔ Left-Through		0			0	
	→ Through	886	4	196	1932	4	398
	→↔ Through-Right		1			1	
	↘ Right	93	0	93	57	0	57
	↘↔ Left-Through-Right		0			0	
↙↔ Left-Right		0			0		
<b>WESTBOUND</b>	↵ Left	88	1	88	53	1	53
	↵↔ Left-Through		0			0	
	→ Through	1455	3	400	1928	3	501
	→↔ Through-Right		1			1	
	↘ Right	145	0	145	74	0	74
	↘↔ Left-Through-Right		0			0	
↙↔ Left-Right		0			0		
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 121 <i>East-West:</i> 710 <b>SUM:</b> 831			<i>North-South:</i> 235 <i>East-West:</i> 674 <b>SUM:</b> 909
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.583			0.638
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.483</b>			<b>0.538</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**12**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Arbor Vitae St / Westchester Parkw  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		0	3	4	0	3	4
No. of Phases							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?							
Right Turns: FREE-1, NRTOR-2 or OLA-3?							
ATSAC-1 or ATSAC+ATCS-2?							
Override Capacity							
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↵ Left	173	1	173	267	1	267
	↵↔ Left-Through		0			0	
	→ Through	556	2	278	911	2	456
	↵↔ Through-Right		0			0	
	↘ Right	121	1	16	179	1	118
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
SOUTHBOUND	↵ Left	135	1	135	229	1	229
	↵↔ Left-Through		0			0	
	→ Through	520	3	173	555	3	185
	↵↔ Through-Right		0			0	
	↘ Right	292	1	156	212	1	1
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
EASTBOUND	↵ Left	136	1	136	211	1	211
	↵↔ Left-Through		0			0	
	→ Through	325	2	163	802	2	401
	↵↔ Through-Right		0			0	
	↘ Right	192	1	19	273	1	6
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
WESTBOUND	↵ Left	210	1	210	123	1	123
	↵↔ Left-Through		0			0	
	→ Through	1233	2	617	1068	2	534
	↵↔ Through-Right		0			0	
	↘ Right	278	1	211	182	1	68
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i> 413			<i>North-South:</i> 685		
		<i>East-West:</i> 753			<i>East-West:</i> 745		
		<b>SUM:</b> 1166			<b>SUM:</b> 1430		
VOLUME/CAPACITY (V/C) RATIO:		0.848			1.040		
V/C LESS ATSAC/ATCS ADJUSTMENT:		<b>0.748</b>			<b>0.940</b>		
LEVEL OF SERVICE (LOS):		<b>C</b>			<b>E</b>		

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**13**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 96th Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

	No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity	AM PEAK HOUR			PM PEAK HOUR		
		NB --	SB --	Lane	NB --	SB --	Lane
		0	0	4	0	0	4
		0	0	2	0	0	2
		0	0	0	0	0	0
		0	0	0	0	0	0
		0	0	2	0	0	2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵	0	0	0	0	0	0
	↵→	0	0	0	0	0	0
	→	668	2	243	739	2	286
	→↵	0	1	0	0	1	0
	↵↵	62	0	62	120	0	120
	↵↵↵	0	0	0	0	0	0
	↵↵↵	0	0	0	0	0	0
<b>SOUTHBOUND</b>	↵	202	1	202	224	1	224
	↵→	0	0	0	0	0	0
	→	712	3	237	733	3	244
	→↵	0	0	0	0	0	0
	↵↵	0	0	0	0	0	0
	↵↵↵	0	0	0	0	0	0
	↵↵↵	0	0	0	0	0	0
<b>EASTBOUND</b>	↵	100	1	100	276	1	276
	↵→	0	0	0	0	0	0
	→	119	0	288	406	0	366
	→↵	0	0	0	0	0	0
	↵↵	457	1	0	325	1	0
	↵↵↵	0	1	0	0	1	0
	↵↵↵	0	0	0	0	0	0
<b>WESTBOUND</b>	↵	105	1	81	32	1	32
	↵→	0	0	0	0	0	0
	→	0	0	0	0	0	0
	→↵	0	0	0	0	0	0
	↵↵	138	1	0	305	1	56
	↵↵↵	0	0	0	0	0	0
	↵↵↵	0	1	0	0	1	0
<b>CRITICAL VOLUMES</b>	<i>North-South:</i>			445	<i>North-South:</i>		510
	<i>East-West:</i>			369	<i>East-West:</i>		422
	<b>SUM:</b>			814	<b>SUM:</b>		932
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.592			0.678
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.492</b>			<b>0.578</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



### Level of Service Worksheet (Circular 212 Method)



I/S #: 14

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Airport Boulevard East-West Street: 98th Street  
 Scenario: Future (2035) with Project (including SBO Relocation) Conditions  
 Count Date: Analyst: RA Date: 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	3	NB -- 0	SB -- 3	3
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	135	1	135	202	1	202
	Left-Through		0			0	
	Through	484	2	236	578	2	261
	Through-Right		1			1	
	Right	224	0	224	205	0	205
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	88	1	88	176	1	176
	Left-Through		0			0	
	Through	880	3	293	433	3	144
	Through-Right		0			0	
	Right	314	1	130	498	1	313
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	184	1	184	185	1	185
	Left-Through		0			0	
	Through	283	1	251	468	1	421
	Through-Right		1			1	
	Right	219	0	219	373	0	373
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	90	1	90	114	1	114
	Left-Through		0			0	
	Through	497	0	528	372	0	439
	Through-Right		1			1	
	Right	31	0	0	67	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South:		428	North-South:		515
		East-West:		712	East-West:		624
		SUM:		1140	SUM:		1139
VOLUME/CAPACITY (V/C) RATIO:				0.760			0.759
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.660			0.659
LEVEL OF SERVICE (LOS):				B			B

REMARKS:



### Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**16**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Nash St/I-105 WB Ramp **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:** **Analyst:** RA **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	55	1	55	182	1	182
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	61	2	0	246	2	71
	Left-Through-Right		0			0	
SOUTHBOUND	Left	408	1	338	127	1	127
	Left-Through		1			1	
	Through	942	0	338	188	0	188
	Through-Right		1			1	
	Right	469	1	338	158	1	87
	Left-Through-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	640	2	272	1058	2	383
	Through-Right		1			1	
	Right	176	0	176	92	0	92
	Left-Through-Right		0			0	
WESTBOUND	Left	410	2	226	116	2	64
	Left-Through		0			0	
	Through	1003	3	334	911	3	304
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
<b>CRITICAL VOLUMES</b>				<b>North-South:</b>	393	<b>North-South:</b>	370
				<b>East-West:</b>	498	<b>East-West:</b>	447
				<b>SUM:</b>	891	<b>SUM:</b>	817
<b>VOLUME/CAPACITY (V/C) RATIO:</b>					0.648		0.594
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>					<b>0.548</b>		<b>0.494</b>
<b>LEVEL OF SERVICE (LOS):</b>					<b>A</b>		<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**17**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Douglas Street      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases			No. of Phases		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	1	NB -- 3	SB -- 0	1
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↙ Left	152	1	152	205	1	205
	↘ Left-Through		0			0	
	→ Through	33	1	33	33	1	33
	↘ Through-Right		0			0	
	↘ Right	168	2	0	716	2	303
	↘↙ Left-Through-Right		0			0	
<b>SOUTHBOUND</b>	↙ Left	64	1	50	53	1	53
	↘ Left-Through		0			0	
	→ Through	36	0	50	58	0	58
	↘ Through-Right		0			0	
	↘ Right	12	1	0	33	1	11
	↘↙ Left-Through-Right		1			1	
<b>EASTBOUND</b>	↙ Left	30	1	30	44	1	44
	↘ Left-Through		0			0	
	→ Through	584	2	272	1716	2	666
	↘ Through-Right		1			1	
	↘ Right	233	0	233	281	0	281
	↘↙ Left-Through-Right		0			0	
<b>WESTBOUND</b>	↙ Left	481	2	265	166	2	91
	↘ Left-Through		0			0	
	→ Through	1267	2	448	759	2	268
	↘ Through-Right		1			1	
	↘ Right	76	0	76	46	0	46
	↘↙ Left-Through-Right		0			0	
				0			0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		202	<i>North-South:</i>		361
		<i>East-West:</i>		537	<i>East-West:</i>		757
		<b>SUM:</b>		739	<b>SUM:</b>		1118
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.537			0.813
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.437</b>			<b>0.713</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>C</b>

REMARKS:

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**18**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Bellanca Avenue      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>No. of Phases</b> Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2			2
				0			0
		<b>NB --</b>	<b>0</b>	<b>SB --</b>	<b>0</b>	<b>SB --</b>	<b>0</b>
		<b>EB --</b>	<b>0</b>	<b>WB --</b>	<b>0</b>	<b>WB --</b>	<b>0</b>
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	102	2	56	519	2	285
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	175	1	155	225	1	199
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	41	1	41	52	1	52
	Left-Through		0			0	
	Through	1292	5	258	2583	5	517
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	2357	3	643	1942	3	561
	Through-Right		1			1	
	Right	213	0	213	300	0	300
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 155			<i>North-South:</i> 285
				<i>East-West:</i> 684			<i>East-West:</i> 613
				<b>SUM:</b> 839			<b>SUM:</b> 898
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.559			0.599
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.459</b>			<b>0.499</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



**I/S #:** 19      **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

MOVEMENT	AM PEAK HOUR			PM PEAK HOUR			
	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
<b>No. of Phases</b> Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity	NB -- 0      SB -- 0 EB -- 3      WB -- 0		4 0 0 2 0	NB -- 0      SB -- 0 EB -- 3      WB -- 0		4 0 0 2 0	
NORTHBOUND	Left	526	1	526	479	1	479
	Left-Through		0			0	
	Through	727	2	364	645	2	323
	Through-Right		0			0	
	Right	107	1	0	246	1	73
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	29	1	29	82	1	82
	Left-Through		0			0	
	Through	737	1	418	761	1	416
	Through-Right		1			1	
	Right	98	0	98	71	0	71
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	95	1	95	149	1	149
	Left-Through		0			0	
	Through	212	3	71	813	3	271
	Through-Right		0			0	
	Right	201	1	0	435	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	391	1	391	347	1	347
	Left-Through		0			0	
	Through	1252	2	438	630	2	224
	Through-Right		1			1	
	Right	61	0	61	43	0	43
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES	North-South: 944 East-West: 533 SUM: 1477		North-South: 895 East-West: 618 SUM: 1513				
VOLUME/CAPACITY (V/C) RATIO:			1.074			1.100	
V/C LESS ATSAC/ATCS ADJUSTMENT:			<b>0.974</b>			<b>1.000</b>	
LEVEL OF SERVICE (LOS):			<b>E</b>			<b>F</b>	

REMARKS:

# Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum
<b>20</b>	<b>North-South Street:</b> Aviation Boulevard <b>East-West Street:</b> Century Boulevard
	<b>Scenario:</b> Future (2035) with Project (including SBO Relocation) Conditions
	<b>Count Date:</b> <b>Analyst:</b> RA <b>Date:</b> 1/29/2018

	No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity	AM PEAK HOUR			PM PEAK HOUR		
				4			4
				0			0
		<i>NB --</i> 0	<i>SB --</i> 3	3	<i>NB --</i> 0	<i>SB --</i> 3	3
		<i>EB --</i> 3	<i>WB --</i> 0	0	<i>EB --</i> 3	<i>WB --</i> 0	0
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↔ Left	688	2	378	656	2	361
	↔↔ Left-Through		0			0	
	→ Through	945	1	518	1029	1	562
	↔→ Through-Right		1			1	
	↔ Right	91	0	91	95	0	95
	↔↔↔ Left-Through-Right		0			0	
	↔↔↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↔ Left	160	2	88	246	2	135
	↔↔ Left-Through		0			0	
	→ Through	647	2	324	766	2	383
	↔→ Through-Right		0			0	
	↔ Right	213	1	135	172	1	0
	↔↔↔ Left-Through-Right		0			0	
	↔↔↔ Left-Right		0			0	
<b>EASTBOUND</b>	↔ Left	78	1	78	268	1	268
	↔↔ Left-Through		0			0	
	→ Through	887	4	222	2245	4	561
	↔→ Through-Right		0			0	
	↔ Right	462	1	84	604	1	243
	↔↔↔ Left-Through-Right		0			0	
	↔↔↔ Left-Right		0			0	
<b>WESTBOUND</b>	↔ Left	205	1	205	137	1	137
	↔↔ Left-Through		0			0	
	→ Through	1667	3	499	1414	3	402
	↔→ Through-Right		1			1	
	↔ Right	328	0	328	193	0	193
	↔↔↔ Left-Through-Right		0			0	
	↔↔↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 702			<i>North-South:</i> 744
				<i>East-West:</i> 577			<i>East-West:</i> 698
				<i>SUM:</i> 1279			<i>SUM:</i> 1442
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.930			1.049
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.830</b>			<b>0.949</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>E</b>

**REMARKS:**



## Level of Service Workheet (Circular 212 Method)



**I/S #:** 21     
 **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard     
 **East-West Street:** 104th Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**     
 **Analyst:** RA     
 **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	111	1	111	84	1	84
	Left-Through		0			0	
	Through	1565	1	819	1575	1	822
	Through-Right		1			1	
	Right	72	0	72	68	0	68
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	139	1	139	83	1	83
	Left-Through		0			0	
	Through	1050	1	544	1539	1	774
	Through-Right		1			1	
	Right	38	0	38	8	0	8
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	17	0	17	6	0	6
	Left-Through		0			0	
	Through	13	0	125	130	0	268
	Through-Right		0			0	
	Right	95	0	0	132	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	82	1	82	65	1	65
	Left-Through		0			0	
	Through	60	0	134	24	0	158
	Through-Right		1			1	
	Right	74	0	0	134	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 958 <i>East-West:</i> 259 <b>SUM:</b> 1217			<i>North-South:</i> 905 <i>East-West:</i> 426 <b>SUM:</b> 1331
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.885			0.968
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.785</b>			<b>0.868</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>D</b>

**REMARKS:**

### Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**22**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** 111th Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶ Left	11	1	11	24	1	24
	↶↷ Left-Through		0			0	
	→ Through	1238	1	646	889	1	468
	↷↷ Through-Right		1			1	
	↷ Right	54	0	54	46	0	46
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
<b>SOUTHBOUND</b>	↷ Left	480	1	480	472	1	472
	↷↶ Left-Through		0			0	
	→ Through	584	1	340	1221	1	636
	↶↷ Through-Right		1			1	
	↷ Right	96	0	96	50	0	50
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
<b>EASTBOUND</b>	↶ Left	88	1	88	128	1	128
	↶↷ Left-Through		0			0	
	→ Through	31	0	43	52	0	68
	↷↷ Through-Right		1			1	
	↷ Right	12	0	0	16	0	0
	↷↶ Left-Through-Right		0			0	
<b>WESTBOUND</b>	↷ Left	30	1	30	35	1	35
	↷↶ Left-Through		0			0	
	→ Through	84	1	84	65	1	65
	↶↷ Through-Right		0			0	
	↷ Right	473	1	0	672	1	200
	↷↶ Left-Through-Right		0			0	
CRITICAL VOLUMES				<i>North-South:</i> 1126			<i>North-South:</i> 940
				<i>East-West:</i> 172			<i>East-West:</i> 328
				<b>SUM:</b> 1298			<b>SUM:</b> 1268
VOLUME/CAPACITY (V/C) RATIO:				0.944			0.922
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.844</b>			<b>0.822</b>
LEVEL OF SERVICE (LOS):				<b>D</b>			<b>D</b>

**REMARKS:**



**Level of Service Worksheet  
(Circular 212 Method)**



**I/S #:**  
**23**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard     **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR			
		No. of Phases						
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			4		4	
		Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3     SB -- 3		NB -- 3     SB -- 3		
		ATSAC-1 or ATSAC+ATCS-2?		EB -- 0     WB -- 3		EB -- 0     WB -- 3		
		Override Capacity			2		2	
					0			
		MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↔	Left	302	2	166	161	2	89
	↔↔	Left-Through		0			0	
	→	Through	824	2	412	542	2	271
	↔↔	Through-Right		0			0	
	↔	Right	101	1	0	239	1	94
	↔↔	Left-Through-Right		0			0	
	↔	Left-Right		0			0	
<b>SOUTHBOUND</b>	↔	Left	96	2	53	141	2	78
	↔↔	Left-Through		0			0	
	→	Through	271	2	136	903	2	452
	↔↔	Through-Right		0			0	
	↔	Right	276	1	138	226	1	56
	↔↔	Left-Through-Right		0			0	
	↔	Left-Right		0			0	
<b>EASTBOUND</b>	↔	Left	251	2	138	309	2	170
	↔↔	Left-Through		0			0	
	→	Through	351	2	140	1733	2	718
	↔↔	Through-Right		1			1	
	↔	Right	68	0	68	422	0	422
	↔↔	Left-Through-Right		0			0	
	↔	Left-Right		0			0	
<b>WESTBOUND</b>	↔	Left	317	2	174	264	2	145
	↔↔	Left-Through		0			0	
	→	Through	1287	3	429	526	3	175
	↔↔	Through-Right		0			0	
	↔	Right	155	1	102	102	1	24
	↔↔	Left-Through-Right		0			0	
	↔	Left-Right		0			0	
		<b>CRITICAL VOLUMES</b>	<i>North-South:</i> 465		<i>North-South:</i> 541		<i>East-West:</i> 863	
			<i>East-West:</i> 567		<i>East-West:</i> 863			
			<b>SUM:</b> 1032		<b>SUM:</b> 1404			
		<b>VOLUME/CAPACITY (V/C) RATIO:</b>	0.751		1.021			
		<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>	<b>0.651</b>		<b>0.921</b>			
		<b>LEVEL OF SERVICE (LOS):</b>	<b>B</b>		<b>E</b>			

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**24**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Hindry Avenue      **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>No. of Phases</b> Opposed Ø'ing: N/S-1, E/W-2 or Both-3? <b>Right Turns:</b> FREE-1, NRTOR-2 or OLA-3? <b>ATSAC-1 or ATSAC+ATCS-2?</b> Override Capacity				2			2
				0			0
		<i>NB</i> --	0	<i>SB</i> --	0	<i>SB</i> --	0
		<i>EB</i> --	0	<i>WB</i> --	0	<i>WB</i> --	0
				2			2
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶	225	1	181	262	1	255
	↶→		0			0	
	→	0	0	0	0	0	0
	→↷		0			0	
	↷	318	1	181	810	1	446
	↶↷		0			0	
	↷↶		1			1	
<b>SOUTHBOUND</b>	↶	80	0	80	79	0	79
	↶→		0			0	
	→	0	0	0	0	0	0
	→↷		0			0	
	↷	87	0	167	78	0	157
	↶↷		0			0	
	↷↶		1			1	
<b>EASTBOUND</b>	↶	42	1	42	71	1	71
	↶→		0			0	
	→	301	2	151	1218	2	609
	→↷		0			0	
	↷	0	0	0	0	0	0
	↶↷		0			0	
	↷↶		0			0	
<b>WESTBOUND</b>	↶	0	0	0	0	0	0
	↶→		0			0	
	→	1368	1	760	601	1	346
	→↷		1			1	
	↷	146	0	146	90	0	90
	↶↷		0			0	
	↷↶		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 348 <i>East-West:</i> 802 <b>SUM:</b> 1150			<i>North-South:</i> 525 <i>East-West:</i> 609 <b>SUM:</b> 1134
VOLUME/CAPACITY (V/C) RATIO:				0.767			0.756
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.667</b>			<b>0.656</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>B</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**25**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Concourse Way      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶ Left	43	1	43	37	1	37
	↶↷ Left-Through		0			0	
	→ Through	0	0	97	0	0	108
	↷ Through-Right		1			1	
	↷ Right	97	0	0	108	0	0
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
<b>SOUTHBOUND</b>	↶ Left	399	2	219	498	2	274
	↶↷ Left-Through		0			0	
	→ Through	0	0	177	0	0	256
	↷ Through-Right		1			1	
	↷ Right	177	0	0	256	0	0
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
<b>EASTBOUND</b>	↶ Left	190	1	190	138	1	138
	↶↷ Left-Through		0			0	
	→ Through	728	3	195	1875	3	471
	↷ Through-Right		1			1	
	↷ Right	52	0	52	15	0	15
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
<b>WESTBOUND</b>	↶ Left	88	1	88	161	1	161
	↶↷ Left-Through		0			0	
	→ Through	1638	4	404	1443	4	360
	↷ Through-Right		0			0	
	↷ Right	434	1	325	288	1	151
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 316			<i>North-South:</i> 382
				<i>East-West:</i> 594			<i>East-West:</i> 632
				<b>SUM:</b> 910			<b>SUM:</b> 1014
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.662			0.737
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.562</b>			<b>0.637</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>B</b>

**REMARKS:**





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 3	WB -- 3	3
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	514	2	283	277	2	152
	↵↔ Left-Through		0			0	
	→ Through	510	1	373	306	1	227
	↵↔ Through-Right		1			1	
	↘ Right	235	0	235	147	0	147
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	263	2	145	491	2	270
	↵↔ Left-Through		0			0	
	→ Through	304	1	236	511	1	396
	↵↔ Through-Right		1			1	
	↘ Right	168	0	168	280	0	280
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	256	2	141	239	2	131
	↵↔ Left-Through		0			0	
	→ Through	192	3	64	1778	3	593
	↵↔ Through-Right		0			0	
	↘ Right	183	1	0	213	1	61
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	154	2	85	144	2	79
	↵↔ Left-Through		0			0	
	→ Through	1216	2	608	387	2	194
	↵↔ Through-Right		0			0	
	↘ Right	447	1	302	390	1	120
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 519			<i>North-South:</i> 548
				<i>East-West:</i> 749			<i>East-West:</i> 672
				<b>SUM:</b> 1268			<b>SUM:</b> 1220
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.922			0.887
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.822</b>			<b>0.787</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>C</b>

**REMARKS:**

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 27**  
**North/South Street:** LA CIENEGA BOULEVARD  
**East/West Street:** ARBOR VITAE STREET  
**Scenario:** FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period: AM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	208	0	0.000	N-S(1): 0.383
	TH	2.00	711	3,200	0.287 *	N-S(2): 0.535 *
	LT	1.00	68	1,600	0.043	E-W(1): 0.219
Westbound	RT	1.00	326	1,600	0.204	E-W(2): 0.484 *
	TH	2.00	871	3,200	0.272 *	
	LT	1.00	144	1,600	0.090	V/C: 1.019
Northbound	RT	0.00	44	0	0.000	Lost Time: 0.100
	TH	2.00	1,045	3,200	0.340	
	LT	1.00	396	1,600	0.248 *	
Eastbound	RT	1.00	194	0	0.000	ICU: 1.119
	TH	2.00	218	3,200	0.129	
	LT	1.00	339	1,600	0.212 *	LOS: F

<b>Peak Period: PM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	173	0	0.000	N-S(1): 0.299
	TH	2.00	903	3,200	0.336 *	N-S(2): 0.450 *
	LT	1.00	137	1,600	0.086	E-W(1): 0.522 *
Westbound	RT	1.00	91	1,600	0.057	E-W(2): 0.480
	TH	2.00	222	3,200	0.069	
	LT	1.00	160	1,600	0.100 *	V/C: 0.972
Northbound	RT	0.00	94	0	0.000	Lost Time: 0.100
	TH	2.00	588	3,200	0.213	
	LT	1.00	182	1,600	0.114 *	
Eastbound	RT	1.00	538	0	0.000	ICU: 1.072
	TH	2.00	812	3,200	0.422 *	
	LT	1.00	657	1,600	0.411	LOS: F

\* = Critical Movement





**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 30**  
**North/South Street:** I-405 NORTHBOUND RAMPS  
**East/West Street:** CENTURY BOULEVARD  
**Scenario:** FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period: AM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	33	1,600	0.018 *	N-S(1): 0.249 N-S(2): 0.442 * E-W(1): 0.153 E-W(2): 0.461 *
	TH	0.00	0	0	0.000	
	LT	0.00	0	0	0.000	
Westbound	RT	0.00	6	0	0.000	V/C: 0.903 Lost Time: 0.100
	TH	3.00	2,194	4,800	0.458 *	
	LT	0.00	0	0	0.000	
Northbound	RT	1.00	399	1,600	0.249	ICU: 1.003
	TH	0.00	0	0	0.000	
	LT	2.00	1,220	2,880	0.424 *	
Eastbound	RT	1.00	196	1,600	0.000	LOS: F
	TH	3.00	736	4,800	0.153	
	LT	1.00	4	1,600	0.003 *	

<b>Peak Period: PM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	27	1,600	0.005 *	N-S(1): 0.241 N-S(2): 0.315 * E-W(1): 0.495 * E-W(2): 0.225
	TH	0.00	0	0	0.000	
	LT	0.00	1	1,600	0.001	
Westbound	RT	0.00	19	0	0.000	V/C: 0.810 Lost Time: 0.100
	TH	3.00	1,004	4,800	0.213	
	LT	0.00	0	0	0.000 *	
Northbound	RT	1.00	384	1,600	0.240	ICU: 0.910
	TH	0.00	0	0	0.000	
	LT	2.00	893	2,880	0.310 *	
Eastbound	RT	1.00	687	1,600	0.150	LOS: E
	TH	3.00	2,377	4,800	0.495 *	
	LT	1.00	19	1,600	0.012	

\* = Critical Movement  
 EBR is free-flow movement.

# Level of Service Worksheet (Circular 212 Method)



**I/S #:** 4     **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard     **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**     **Analyst:** RA     **Date:** 2/8/2018

		MD PEAK HOUR			MD PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3     SB -- 3		3	NB -- 0     SB -- 0		0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0     WB -- 0		0	EB -- 0     WB -- 0		0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	306	1	306			0
	Left-Through		0				
	Through	1,383	3	461			0
	Through-Right		0				
	Right	79	1	0			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	173	1	173			0
	Left-Through		0				
	Through	1,645	3	548			0
	Through-Right		0				
	Right	83	1	0			0
	Left-Through-Right		0				
	Left-Right		0				
EASTBOUND	Left	88	1	88			0
	Left-Through		0				
	Through	217	1	217			0
	Through-Right		1				
	Right	245	0	92			0
	Left-Through-Right		0				
	Left-Right		0				
WESTBOUND	Left	371	1	371			0
	Left-Through		0				
	Through	348	1	274			0
	Through-Right		1				
	Right	199	0	199			0
	Left-Through-Right		0				
	Left-Right		0				
CRITICAL VOLUMES				North-South: 854			North-South: 0
				East-West: 588			East-West: 0
				SUM: 1442			SUM: 0
VOLUME/CAPACITY (V/C) RATIO:				1.049			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.949</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>E</b>			<b>A</b>

REMARKS:











# Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum	
<b>8</b>		
	<b>North-South Street:</b> Sepulveda Boulevard	<b>East-West Street:</b> Imperial Highway
	<b>Scenario:</b> Future (2035) with Project (including SBO Relocation) Conditions	
	<b>Count Date:</b>	<b>Analyst:</b> RA <b>Date:</b> 2/8/2018

		MD PEAK HOUR					
				4			0
		No. of Phases					
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0		0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB -- 0	SB -- 0	NB -- 0	SB -- 0	0
		ATSAC-1 or ATSAC+ATCS-2?	EB -- 0	WB -- 3	EB -- 0	WB -- 0	0
		Override Capacity			2		
					0		
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	154	1	154			0
	Left-Through		0				0
	Through	1589	3	530			0
	Through-Right		0				0
	Right	838	2	397			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>SOUTHBOUND</b>	Left	293	2	161			0
	Left-Through		0				0
	Through	2233	3	569			0
	Through-Right		1				0
	Right	43	0	43			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>EASTBOUND</b>	Left	208	2	114			0
	Left-Through		0				0
	Through	275	3	92			0
	Through-Right		0				0
	Right	159	1	82			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>WESTBOUND</b>	Left	235	2	129			0
	Left-Through		0				0
	Through	277	3	92			0
	Through-Right		0				0
	Right	359	1	198			0
	Left-Through-Right		0				0
	Left-Right		0				0
	<b>CRITICAL VOLUMES</b>			<b>North-South:</b> 723			<b>North-South:</b> 0
				<b>East-West:</b> 312			<b>East-West:</b> 0
				<b>SUM:</b> 1035			<b>SUM:</b> 0
	<b>VOLUME/CAPACITY (V/C) RATIO:</b>			0.753			0.000
	<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>			0.653			0.000
	<b>LEVEL OF SERVICE (LOS):</b>			B			A

REMARKS:



# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
		North-South		East-West		Total	
No. of Phases				2		0	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0	0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0	0	
Override Capacity				2		0	
				0		0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	155	1	85			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	73	1	11			0
	Left-Through-Right		0				
	Left-Right		1				
EASTBOUND	Left	125	1	125			0
	Left-Through		0				
	Through	951	2	476			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
WESTBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	1199	2	600			0
	Through-Right		0				
	Right	70	1	28			0
	Left-Through-Right		0				
	Left-Right		0				
CRITICAL VOLUMES		North-South:		85	North-South:		0
		East-West:		725	East-West:		0
		SUM:		810	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.540			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.440			0.000
LEVEL OF SERVICE (LOS):				A			A

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				3			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	76	1	76			0
	↵↔ Left-Through		0				
	→ Through	19	1	19			0
	→↔ Through-Right		0				
	↘ Right	88	1	50			0
	↵↔↘ Left-Through-Right		0				
	↵↘ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	53	1	53			0
	↵↔ Left-Through		0				
	→ Through	23	1	23			0
	→↔ Through-Right		0				
	↘ Right	100	1	0			0
	↵↔↘ Left-Through-Right		0				
	↵↘ Left-Right		0				
<b>EASTBOUND</b>	↵ Left	392	2	216			0
	↵↔ Left-Through		0				
	→ Through	1560	4	325			0
	→↔ Through-Right		1				
	↘ Right	66	0	66			0
	↵↔↘ Left-Through-Right		0				
	↵↘ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	76	1	76			0
	↵↔ Left-Through		0				
	→ Through	1859	3	485			0
	→↔ Through-Right		1				
	↘ Right	81	0	81			0
	↵↔↘ Left-Through-Right		0				
	↵↘ Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 103			<i>North-South:</i> 0
				<i>East-West:</i> 701			<i>East-West:</i> 0
				<b>SUM:</b> 804			<b>SUM:</b> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.564			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.464</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)

<b>I/S #:</b>	<b>PROJECT TITLE:</b>	Landside Access Modernization Program at LAX - Addendum			
12	<b>North-South Street:</b>	Airport Boulevard	<b>East-West Street:</b>	Arbor Vitae St / Westchester Parkw	
	<b>Scenario:</b>	Future (2035) with Project (including SBO Relocation) Conditions			
	<b>Count Date:</b>		<b>Analyst:</b>	RA	<b>Date:</b> 2/8/2018

		MD PEAK HOUR					
				4			0
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	3	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↶ Left	216	1	216			0
	↷ Left-Through		0				0
	→ Through	657	2	329			0
	↷ Through-Right		0				0
	↘ Right	88	1	8			0
	↷ Left-Through-Right		0				0
	↷ Left-Right		0				0
SOUTHBOUND	↶ Left	126	1	126			0
	↷ Left-Through		0				0
	→ Through	565	3	188			0
	↷ Through-Right		0				0
	↘ Right	319	1	67			0
	↷ Left-Through-Right		0				0
	↷ Left-Right		0				0
EASTBOUND	↶ Left	252	1	252			0
	↷ Left-Through		0				0
	→ Through	545	2	273			0
	↷ Through-Right		0				0
	↘ Right	232	1	16			0
	↷ Left-Through-Right		0				0
	↷ Left-Right		0				0
WESTBOUND	↶ Left	160	1	160			0
	↷ Left-Through		0				0
	→ Through	725	2	363			0
	↷ Through-Right		0				0
	↘ Right	145	1	82			0
	↷ Left-Through-Right		0				0
	↷ Left-Right		0				0
<b>CRITICAL VOLUMES</b>				North-South: 455			North-South: 0
				East-West: 615			East-West: 0
				SUM: 1070			SUM: 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.778			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.678			0.000
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>A</b>

**REMARKS:**

### Level of Service Worksheet (Circular 212 Method)



**I/S #:** **13**      **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 96th Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAAC-1 or ATSAAC+ATCS-2? Override Capacity		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	0	0	0			0
	Left-Through		0				0
	Through	690	2	271			0
	Through-Right		1				0
	Right	122	0	122			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>SOUTHBOUND</b>	Left	157	1	157			0
	Left-Through		0				0
	Through	720	3	240			0
	Through-Right		0				0
	Right	0	0	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>EASTBOUND</b>	Left	276	1	276			0
	Left-Through		0				0
	Through	198	0	318			0
	Through-Right		0				0
	Right	438	1	0			0
	Left-Through-Right		1				0
<b>WESTBOUND</b>	Left	93	1	90			0
	Left-Through		0				0
	Through	0	0	0			0
	Through-Right		0				0
	Right	176	1	12			0
	Left-Through-Right		0				0
			1				0
CRITICAL VOLUMES				428	North-South:		0
				408	East-West:		0
				836	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.608			0.000
V/C LESS ATSAAC/ATCS ADJUSTMENT:				<b>0.508</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**



# Level of Service Worksheet (Circular 212 Method)



I/S #: **14**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard **East-West Street:** 98th Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:** **Analyst:** RA **Date:** 2/8/2018

		MD PEAK HOUR					
No. of Phases				2			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	NB -- 0	SB -- 0		0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0		0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	190	1	190			0
	Left-Through		0				
	Through	532	2	213			0
	Through-Right		1				
	Right	106	0	106			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	93	1	93			0
	Left-Through		0				
	Through	621	3	207			0
	Through-Right		0				
	Right	491	1	284			0
	Left-Through-Right		0				
	Left-Right		0				
EASTBOUND	Left	207	1	207			0
	Left-Through		0				
	Through	379	1	379			0
	Through-Right		1				
	Right	389	0	294			0
	Left-Through-Right		0				
	Left-Right		0				
WESTBOUND	Left	98	1	98			0
	Left-Through		0				
	Through	304	0	404			0
	Through-Right		1				
	Right	100	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
CRITICAL VOLUMES		North-South: 474			North-South: 0		
		East-West: 611			East-West: 0		
		SUM: 1085			SUM: 0		
VOLUME/CAPACITY (V/C) RATIO:		0.723			0.000		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.623			0.000		
LEVEL OF SERVICE (LOS):		B			A		

REMARKS:



# Level of Service Worksheet (Circular 212 Method)



I/S #: 15

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Airport Boulevard East-West Street: Century Boulevard  
 Scenario: Future (2035) with Project (including SBO Relocation) Conditions  
 Count Date: Analyst: RA Date: 2/8/2018

		MD PEAK HOUR					
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB --	0	NB -- 0	SB --	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB --	3	EB -- 0	WB --	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	46	1	46			0
	Left-Through		0				
	Through	34	2	17			0
	Through-Right		0				
	Right	90	1	43			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	534	2	187			0
	Left-Through		1				
	Through	76	1	76			0
	Through-Right		0				
	Right	509	1	378			0
	Left-Through-Right		0				
	Left-Right		0				
EASTBOUND	Left	478	2	263			0
	Left-Through		0				
	Through	1186	4	245			0
	Through-Right		1				
	Right	37	0	37			0
	Left-Through-Right		0				
	Left-Right		0				
WESTBOUND	Left	95	1	95			0
	Left-Through		0				
	Through	1468	4	367			0
	Through-Right		0				
	Right	318	1	131			0
	Left-Through-Right		0				
	Left-Right		0				
CRITICAL VOLUMES			North-South:	424	North-South:		0
			East-West:	630	East-West:		0
			SUM:	1054	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.767			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.667			0.000
LEVEL OF SERVICE (LOS):				B			A

# Level of Service Worksheet (Circular 212 Method)



**I/S #:** 19     
 **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard     
 **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**     
 **Analyst:** RA     
 **Date:** 2/8/2018

		MD PEAK HOUR								
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?		ATSAC-1 or ATSAC+ATCS-2?		Override Capacity		
		No. of Phases		4		0		0		
		NB -- 0		SB -- 0		NB -- 0		SB -- 0		
		EB -- 3		WB -- 0		EB -- 0		WB -- 0		
				2				0		
				0				0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	397	1	397						0
	Left-Through		0							0
	Through	573	2	287						0
	Through-Right		0							0
	Right	83	1	0						0
	Left-Through-Right		0							0
	Left-Right		0							0
SOUTHBOUND	Left	73	1	73						0
	Left-Through		0							0
	Through	691	1	420						0
	Through-Right		1							0
	Right	149	0	149						0
	Left-Through-Right		0							0
	Left-Right		0							0
EASTBOUND	Left	157	1	157						0
	Left-Through		0							0
	Through	378	3	126						0
	Through-Right		0							0
	Right	380	1	0						0
	Left-Through-Right		0							0
	Left-Right		0							0
WESTBOUND	Left	260	1	260						0
	Left-Through		0							0
	Through	367	2	146						0
	Through-Right		1							0
	Right	71	0	71						0
	Left-Through-Right		0							0
	Left-Right		0							0
<b>CRITICAL VOLUMES</b>		<b>North-South:</b>		817	<b>North-South:</b>		0			0
		<b>East-West:</b>		386	<b>East-West:</b>		0			0
		<b>SUM:</b>		1203	<b>SUM:</b>		0			0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.875			0.000			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.775</b>			<b>0.000</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>A</b>			<b>A</b>

**REMARKS:**



# Level of Service Workheet (Circular 212 Method)



I/S #: **21**

PROJECT TITLE: **Landside Access Modernization Program at LAX - Addendum**  
 North-South Street: **Aviation Boulevard** East-West Street: **104th Street**  
 Scenario: **Future (2035) with Project (including SBO Relocation) Conditions**  
 Count Date: \_\_\_\_\_ Analyst: **RA** Date: **2/8/2018**

MOVEMENT		MD PEAK HOUR			MD PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
		No. of Phases		4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
NORTHBOUND	Left	91	1	91			0
	Left-Through		0				0
	Through	1466	1	754			0
	Through-Right		1				0
	Right	41	0	41			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	124	1	124			0
	Left-Through		0				0
	Through	1225	1	621			0
	Through-Right		1				0
	Right	17	0	17			0
	Left-Through-Right		0				0
	Left-Right		0				0
EASTBOUND	Left	16	0	16			0
	Left-Through		0				0
	Through	45	0	174			0
	Through-Right		0				0
	Right	113	0	0			0
	Left-Through-Right		1				0
	Left-Right		0				0
WESTBOUND	Left	64	1	64			0
	Left-Through		0				0
	Through	19	0	156			0
	Through-Right		1				0
	Right	137	0	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
CRITICAL VOLUMES		<i>North-South:</i>		878	<i>North-South:</i>		0
		<i>East-West:</i>		330	<i>East-West:</i>		0
		<b>SUM:</b>		1208	<b>SUM:</b>		0
VOLUME/CAPACITY (V/C) RATIO:				0.879			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.779</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>C</b>			<b>A</b>

REMARKS:



# Level of Service Worksheet (Circular 212 Method)



I/S #: 22

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Aviation Boulevard East-West Street: 111th Street  
 Scenario: Future (2035) with Project (including SBO Relocation) Conditions  
 Count Date: Analyst: RA Date: 2/8/2018

		MD PEAK HOUR					
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	4	2	0	0	
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB -- 0	SB -- 0	NB -- 0	SB -- 0	
		ATSAC-1 or ATSAC+ATCS-2?	EB -- 0	WB -- 3	EB -- 0	WB -- 0	
		Override Capacity	2	2	0	0	
		0	0	0	0	0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↶	Left	77	1	77		0
	↶→	Left-Through		0			0
	→	Through	920	1	537		0
	↶→	Through-Right		1			0
	→	Right	153	0	153		0
	↶→	Left-Through-Right		0			0
	↶↷	Left-Right		0			0
SOUTHBOUND	↷	Left	565	1	565		0
	↷→	Left-Through		0			0
	→	Through	657	1	402		0
	↷→	Through-Right		1			0
	→	Right	146	0	146		0
	↷→	Left-Through-Right		0			0
	↷↶	Left-Right		0			0
EASTBOUND	↷	Left	95	1	95		0
	↷→	Left-Through		0			0
	→	Through	76	0	84		0
	↷→	Through-Right		1			0
	→	Right	8	0	0		0
	↷→	Left-Through-Right		0			0
	↷↶	Left-Right		0			0
WESTBOUND	↶	Left	52	1	52		0
	↶→	Left-Through		0			0
	→	Through	26	1	26		0
	↶→	Through-Right		0			0
	→	Right	635	1	70		0
	↶→	Left-Through-Right		0			0
	↶↷	Left-Right		0			0
CRITICAL VOLUMES			<i>North-South:</i>	1102	<i>North-South:</i>	0	0
			<i>East-West:</i>	165	<i>East-West:</i>	0	0
			<i>SUM:</i>	1267	<i>SUM:</i>	0	0
VOLUME/CAPACITY (V/C) RATIO:				0.921		0.000	
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.821</b>		<b>0.000</b>	
LEVEL OF SERVICE (LOS):				<b>D</b>		<b>A</b>	

REMARKS:







## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**24**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Hindry Avenue      **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
				2			0
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2? Override Capacity		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	277	1	277			0
	↵↔ Left-Through		0				0
	→ Through	0	0	0			0
	↵↔ Through-Right		0				0
	→ Right	566	1	311			0
	↵↔ Left-Through-Right		0				0
	↵↔ Left-Right		1				0
<b>SOUTHBOUND</b>	↵ Left	112	0	112			0
	↵↔ Left-Through		0				0
	→ Through	0	0	0			0
	↵↔ Through-Right		0				0
	→ Right	32	0	144			0
	↵↔ Left-Through-Right		0				0
	↵↔ Left-Right		1				0
<b>EASTBOUND</b>	↵ Left	64	1	64			0
	↵↔ Left-Through		0				0
	→ Through	569	2	285			0
	↵↔ Through-Right		0				0
	→ Right	0	0	0			0
	↵↔ Left-Through-Right		0				0
	↵↔ Left-Right		0				0
<b>WESTBOUND</b>	↵ Left	0	0	0			0
	↵↔ Left-Through		0				0
	→ Through	370	1	247			0
	↵↔ Through-Right		1				0
	→ Right	123	0	123			0
	↵↔ Left-Through-Right		0				0
	↵↔ Left-Right		0				0
<b>CRITICAL VOLUMES</b>				North-South: 423			North-South: 0
				East-West: 311			East-West: 0
				SUM: 734			SUM: 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.489			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.389			0.000
<b>LEVEL OF SERVICE (LOS):</b>				A			A

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	319	2	175			0
	↵↔ Left-Through		0				
	→ Through	448	1	304			0
	↵↔ Through-Right		1				
	→ Right	160	0	160			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	253	2	139			0
	↵↔ Left-Through		0				
	→ Through	394	1	346			0
	↵↔ Through-Right		1				
	→ Right	297	0	297			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>EASTBOUND</b>	↵ Left	274	2	151			0
	↵↔ Left-Through		0				
	→ Through	307	3	102			0
	↵↔ Through-Right		0				
	→ Right	221	1	46			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	214	2	118			0
	↵↔ Left-Through		0				
	→ Through	561	2	281			0
	↵↔ Through-Right		0				
	→ Right	208	1	69			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 521			<i>North-South:</i> 0
				<i>East-West:</i> 432			<i>East-West:</i> 0
				<i>SUM:</i> 953			<i>SUM:</i> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.693			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.593</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 27**  
**North/South Street:** LA CIENEGA BOULEVARD  
**East/West Street:** ARBOR VITAE STREET  
**Scenario:** FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period: MD PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	91	0	0.000	N-S(1): 0.241
	TH	2.00	859	3,200	0.297 *	N-S(2): 0.345 *
	LT	1.00	111	1,600	0.069	E-W(1): 0.327
Westbound	RT	1.00	99	1,600	0.062	E-W(2): 0.361 *
	TH	2.00	344	3,200	0.108 *	
	LT	1.00	104	1,600	0.065	V/C: 0.706
Northbound	RT	0.00	26	0	0.000	Lost Time: 0.100
	TH	2.00	523	3,200	0.172	
	LT	1.00	77	1,600	0.048 *	
Eastbound	RT	1.00	330	0	0.000	ICU: 0.806
	TH	2.00	508	3,200	0.262	
	LT	1.00	404	1,600	0.253 *	LOS: D

\* = Critical Movement





**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 30**  
**North/South Street:** I-405 NORTHBOUND RAMPS  
**East/West Street:** CENTURY BOULEVARD  
**Scenario:** FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period: MD PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	36	1,600	0.004 *	N-S(1): 0.099
	TH	0.00	0	0	0.000	N-S(2): 0.328 *
	LT	0.00	1	1,600	0.001	E-W(1): 0.325 *
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.315
	TH	3.00	1,417	4,800	0.296	V/C: 0.653
	LT	0.00	0	0	0.000 *	Lost Time: 0.100
Northbound	RT	1.00	156	1,600	0.098	
	TH	0.00	0	0	0.000	
	LT	2.00	933	2,880	0.324 *	
Eastbound	RT	1.61	840	2,583	0.145	ICU: 0.753
	TH	2.39	1,241	3,817	0.325 *	
	LT	1.00	30	1,600	0.019	LOS: C

\* = Critical Movement  
 EBR is free-flow movement.

**ATTACHMENT D**

**LEVEL OF SERVICE WORKSHEETS**

**Future (2035) with Project (including SBO Relocation) and Related Development  
Conditions**





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**1**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				3 0 0 3 2 0			3 0 0 3 2 0
		<i>NB --</i>	<i>SB --</i>		<i>NB --</i>	<i>SB --</i>	
		3	0		3	0	
		<i>EB --</i>	<i>WB --</i>		<i>EB --</i>	<i>WB --</i>	
		0	3		0	3	
				2 0			2 0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through		0			0	
	→ Through	1000	2	500	681	2	341
	↵↔ Through-Right		0			0	
	↵ Right	456	1	268	330	1	180
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
SOUTHBOUND	↵ Left	87	1	87	133	1	133
	↵↔ Left-Through		0			0	
	→ Through	554	2	277	735	2	368
	↵↔ Through-Right		0			0	
	↵ Right	0	0	0	0	0	0
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
EASTBOUND	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	↵↔ Through-Right		0			0	
	↵ Right	0	0	0	0	0	0
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
WESTBOUND	↵ Left	342	2	188	273	2	150
	↵↔ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	↵↔ Through-Right		0			0	
	↵ Right	75	1	0	140	1	7
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 587 <i>East-West:</i> 188 <i>SUM:</i> 775			<i>North-South:</i> 474 <i>East-West:</i> 150 <i>SUM:</i> 624
VOLUME/CAPACITY (V/C) RATIO:				0.544			0.438
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.444</b>			<b>0.338</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**

### Level of Service Workheet (Circular 212 Method)



I/S #: **2**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:** **Analyst:** RA **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	3	NB -- 0	SB -- 3	3
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	1	0	1	1	0	1
	Left-Through		1			1	
	Through	0	0	1	1	0	2
	Through-Right		1			1	
	Right	1	0	0	5	0	4
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	830	1	416	870	1	435
	Left-Through		1			1	
	Through	1	0	416	0	0	435
	Through-Right		0			0	
	Right	116	1	0	308	1	227
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	285	2	157	148	2	81
	Left-Through		0			0	
	Through	397	1	199	464	1	232
	Through-Right		1			1	
	Right	1	0	1	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	4	1	4	2	1	2
	Left-Through		0			0	
	Through	358	2	179	526	2	263
	Through-Right		0			0	
	Right	1272	2	284	798	2	4
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South:		417	North-South:		439
		East-West:		441	East-West:		344
		SUM:		858	SUM:		783
VOLUME/CAPACITY (V/C) RATIO:		0.624			0.569		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.524			0.469		
LEVEL OF SERVICE (LOS):		A			A		

REMARKS:



### Level of Service Worksheet (Circular 212 Method)



I/S #:  
3

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
North-South Street: Main Street East-West Street: Imperial Highway  
Scenario: Future (2035) w/Project (incl. SBO Relocation) and Related Development  
Count Date: Analyst: RA Date: 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	474	1	238	375	1	188
	Left-Through		1			1	
	Through	1	0	238	0	0	188
	Through-Right		0			0	
	Right	474	1	341	405	1	268
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	9	0	0	0
	Through-Right		0			0	
	Right	9	0	0	0	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	938	2	469	884	2	442
	Through-Right		0			0	
	Right	290	1	171	473	1	379
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	485	2	267	498	2	274
	Left-Through		0			0	
	Through	1233	1	618	913	1	457
	Through-Right		1			1	
	Right	2	0	2	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South:		350	North-South:		268
		East-West:		736	East-West:		716
		SUM:		1086	SUM:		984
VOLUME/CAPACITY (V/C) RATIO:				0.790			0.716
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.690			0.616
LEVEL OF SERVICE (LOS):				B			B

REMARKS:



### Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**4**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSA-1 or ATSA+ATCS-2? Override Capacity				4 0 3 0			4 0 3 0
		<i>NB --</i>	<i>SB --</i>		<i>NB --</i>	<i>SB --</i>	
		<i>EB --</i>	<i>WB --</i>		<i>EB --</i>	<i>WB --</i>	
				2 0			2 0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↷ Left	159	1	159	225	1	225
	↷↪ Left-Through		0			0	
	↪ Through	1,711	3	570	1,863	3	621
	↷↪↪ Through-Right		0			0	
	↪ Right	34	1	0	74	1	0
	↷↪↪ Left-Through-Right		0			0	
	↷↪↪ Left-Right		0			0	
<b>SOUTHBOUND</b>	↷ Left	192	1	192	245	1	245
	↷↪ Left-Through		0			0	
	↪ Through	1,910	3	637	2,015	3	672
	↷↪↪ Through-Right		0			0	
	↪ Right	43	1	25	65	1	15
	↷↪↪ Left-Through-Right		0			0	
	↷↪↪ Left-Right		0			0	
<b>EASTBOUND</b>	↷ Left	18	1	18	50	1	50
	↷↪ Left-Through		0			0	
	↪ Through	232	1	165	342	1	251
	↷↪↪ Through-Right		1			1	
	↪ Right	98	0	98	160	0	160
	↷↪↪ Left-Through-Right		0			0	
	↷↪↪ Left-Right		0			0	
<b>WESTBOUND</b>	↷ Left	210	1	210	255	1	255
	↷↪ Left-Through		0			0	
	↪ Through	708	1	472	535	1	415
	↷↪↪ Through-Right		1			1	
	↪ Right	236	0	236	295	0	295
	↷↪↪ Left-Through-Right		0			0	
	↷↪↪ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> <i>East-West:</i> <b>SUM:</b>	796 490 1286		<i>North-South:</i> <i>East-West:</i> <b>SUM:</b> 897 506 1403
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.935			1.020
<b>V/C LESS ATSA/ATCS ADJUSTMENT:</b>				<b>0.835</b>			<b>0.920</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>E</b>

**REMARKS:**















## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>No. of Phases</b> Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				3			3
				0			0
		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	78	1	78	80	1	80
	Left-Through		0			0	
	Through	24	1	24	27	1	27
	Through-Right		0			0	
	Right	45	1	45	135	1	135
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	67	1	67	136	1	136
	Left-Through		0			0	
	Through	43	1	43	20	1	20
	Through-Right		0			0	
	Right	86	1	86	99	1	99
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	563	2	1126	315	2	630
	Left-Through		0			0	
	Through	887	4	3548	1933	4	7732
	Through-Right		1			1	
	Right	93	0	93	57	0	57
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	88	1	88	53	1	53
	Left-Through		0			0	
	Through	1461	3	4383	1940	3	5820
	Through-Right		1			1	
	Right	151	0	151	83	0	83
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 121			<i>North-South:</i> 245
				<i>East-West:</i> 713			<i>East-West:</i> 679
				<b>SUM:</b> 834			<b>SUM:</b> 924
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.585			0.648
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.485</b>			<b>0.548</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**12**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Arbor Vitae St / Westchester Parkw  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	3	NB -- 0	SB -- 3	3
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0	0	EB -- 3	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↔ Left	186	1	186	302	1	302
	↔↔ Left-Through	0	0	0	0	0	0
	→ Through	604	2	302	1000	2	500
	→↔ Through-Right	0	0	0	0	0	0
	↔ Right	133	1	10	217	1	140
	↔↔↔ Left-Through-Right	0	0	0	0	0	0
	↔↔ Left-Right	0	0	0	0	0	0
SOUTHBOUND	↔ Left	146	1	146	233	1	233
	↔↔ Left-Through	0	0	0	0	0	0
	→ Through	569	3	190	626	3	209
	→↔ Through-Right	0	0	0	0	0	0
	↔ Right	292	1	156	212	1	1
	↔↔↔ Left-Through-Right	0	0	0	0	0	0
	↔↔ Left-Right	0	0	0	0	0	0
EASTBOUND	↔ Left	136	1	136	211	1	211
	↔↔ Left-Through	0	0	0	0	0	0
	→ Through	331	2	166	806	2	403
	→↔ Through-Right	0	0	0	0	0	0
	↔ Right	228	1	42	307	1	5
	↔↔↔ Left-Through-Right	0	0	0	0	0	0
	↔↔ Left-Right	0	0	0	0	0	0
WESTBOUND	↔ Left	246	1	246	155	1	155
	↔↔ Left-Through	0	0	0	0	0	0
	→ Through	1241	2	621	1095	2	548
	→↔ Through-Right	0	0	0	0	0	0
	↔ Right	278	1	205	182	1	66
	↔↔↔ Left-Through-Right	0	0	0	0	0	0
	↔↔ Left-Right	0	0	0	0	0	0
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 448			<i>North-South:</i> 733
				<i>East-West:</i> 757			<i>East-West:</i> 759
				<b>SUM:</b> 1205			<b>SUM:</b> 1492
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.876			1.085
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.776</b>			<b>0.985</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>E</b>

**REMARKS:**

# Level of Service Worksheet (Circular 212 Method)



I/S #:
13

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 96th Street  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

MOVEMENT		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		4			4		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		2			2		
		0			0		
ATSAC-1 or ATSAC+ATCS-2?		2			2		
Override Capacity		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	674	2	245	749	2	290
	Through-Right		1			1	
	Right	62	0	62	120	0	120
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	211	1	211	247	1	247
	Left-Through		0			0	
	Through	723	3	241	748	3	249
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	100	1	100	276	1	276
	Left-Through		0			0	
	Through	119	0	288	406	0	366
	Through-Right		0			0	
	Right	457	1	0	325	1	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
WESTBOUND	Left	110	1	87	41	1	41
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	151	1	0	319	1	52
	Left-Through-Right		0			0	
	Left-Right		1			1	
CRITICAL VOLUMES		North-South: 456			North-South: 537		
		East-West: 375			East-West: 418		
		SUM: 831			SUM: 955		
VOLUME/CAPACITY (V/C) RATIO:		0.604			0.695		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.504			0.595		
LEVEL OF SERVICE (LOS):		A			A		

REMARKS:







# Level of Service Worksheet (Circular 212 Method)



I/S #: **15** PROJECT TITLE: **Landside Access Modernization Program at LAX - Addendum**  
 North-South Street: **Airport Boulevard** East-West Street: **Century Boulevard**  
 Scenario: **Future (2035) w/Project (incl. SBO Relocation) and Related Development**  
 Count Date: **Analyst: RA** Date: **1/29/2018**

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				<b>4</b>			<b>4</b>
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				<b>1</b>			<b>1</b>
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<b>NB -- 0</b>	<b>SB -- 0</b>	<b>0</b>	<b>NB -- 0</b>	<b>SB -- 0</b>	<b>0</b>
ATSAC-1 or ATSAC+ATCS-2?		<b>EB -- 0</b>	<b>WB -- 3</b>	<b>3</b>	<b>EB -- 0</b>	<b>WB -- 3</b>	<b>3</b>
Override Capacity				<b>2</b>			<b>2</b>
				<b>0</b>			<b>0</b>
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	17	1	17	51	1	51
	Left-Through		0			0	
	Through	57	2	29	92	2	46
	Through-Right		0			0	
	Right	47	1	22	52	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	562	2	197	272	2	95
	Left-Through		1			1	
	Through	91	1	91	43	1	43
	Through-Right		0			0	
	Right	554	1	442	592	1	448
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	409	2	225	524	2	288
	Left-Through		0			0	
	Through	576	4	118	1589	4	340
	Through-Right		1			1	
	Right	13	0	13	110	0	110
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	51	1	51	153	1	153
	Left-Through		0			0	
	Through	1397	4	349	1413	4	353
	Through-Right		0			0	
	Right	472	1	275	324	1	229
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		<i>North-South:</i> 471			<i>North-South:</i> 499		
		<i>East-West:</i> 574			<i>East-West:</i> 641		
		<i>SUM:</i> 1045			<i>SUM:</i> 1140		
VOLUME/CAPACITY (V/C) RATIO:		0.760			0.829		
V/C LESS ATSAC/ATCS ADJUSTMENT:		<b>0.660</b>			<b>0.729</b>		
LEVEL OF SERVICE (LOS):		<b>B</b>			<b>C</b>		

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**16**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Nash St/I-105 WB Ramp **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:** **Analyst:** RA **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases					4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					1		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?					2		
Override Capacity					0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	55	1	55	182	1	182
	↵↔ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	→↔ Through-Right		0			0	
	↘ Right	61	2	0	246	2	70
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	408	1	338	127	1	127
	↵↔ Left-Through		1			1	
	→ Through	942	0	338	188	0	188
	→↔ Through-Right		1			1	
	↘ Right	469	1	338	158	1	87
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through		0			0	
	→ Through	644	2	273	1060	2	384
	→↔ Through-Right		1			1	
	↘ Right	176	0	176	92	0	92
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	412	2	227	118	2	65
	↵↔ Left-Through		0			0	
	→ Through	1005	3	335	917	3	306
	→↔ Through-Right		0			0	
	↘ Right	0	0	0	0	0	0
	↵↔↘ Left-Through-Right		0			0	
	↵↘ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i> 393			<i>North-South:</i> 370		
		<i>East-West:</i> 500			<i>East-West:</i> 449		
		<i>SUM:</i> 893			<i>SUM:</i> 819		
VOLUME/CAPACITY (V/C) RATIO:		0.649			0.596		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.549			0.496		
LEVEL OF SERVICE (LOS):		A			A		

REMARKS:

# Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b>	<b>PROJECT TITLE:</b>	Landside Access Modernization Program at LAX - Addendum		
17	<b>North-South Street:</b>	Douglas Street	<b>East-West Street:</b>	Imperial Highway
	<b>Scenario:</b>	Future (2035) w/Project (incl. SBO Relocation) and Related Development		
	<b>Count Date:</b>	Analyst: RA	Date: 1/29/2018	

		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity	AM PEAK HOUR			PM PEAK HOUR		
			<b>NB --</b>	<b>SB --</b>	<b>EB --</b>	<b>NB --</b>	<b>SB --</b>	<b>WB --</b>
				4			4	
				1			1	
			3	0	3	0	0	
			0	0	0	0	0	
				2			2	
				0			0	
MOVEMENT			Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵	Left	152	1	152	205	1	205
	↵↔	Left-Through		0			0	
	→	Through	33	1	33	33	1	33
	→↔	Through-Right		0			0	
	↘	Right	175	2	0	721	2	306
	↘↔	Left-Through-Right		0			0	
	↘↔↘	Left-Right		0			0	
<b>SOUTHBOUND</b>	↵	Left	64	1	50	53	1	53
	↵↔	Left-Through		0			0	
	→	Through	36	0	50	58	0	58
	→↔	Through-Right		0			0	
	↘	Right	12	1	0	33	1	11
	↘↔	Left-Through-Right		1			1	
	↘↔↘	Left-Right		0			0	
<b>EASTBOUND</b>	↵	Left	30	1	30	44	1	44
	↵↔	Left-Through		0			0	
	→	Through	588	2	274	1718	2	666
	→↔	Through-Right		1			1	
	↘	Right	233	0	233	281	0	281
	↘↔	Left-Through-Right		0			0	
	↘↔↘	Left-Right		0			0	
<b>WESTBOUND</b>	↵	Left	481	2	265	166	2	91
	↵↔	Left-Through		0			0	
	→	Through	1270	2	449	768	2	271
	→↔	Through-Right		1			1	
	↘	Right	76	0	76	46	0	46
	↘↔	Left-Through-Right		0			0	
	↘↔↘	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>					<b>North-South:</b>		<b>North-South:</b>	364
					<b>East-West:</b>		<b>East-West:</b>	757
					<b>SUM:</b>		<b>SUM:</b>	1121
<b>VOLUME/CAPACITY (V/C) RATIO:</b>					0.539			0.815
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>					<b>0.439</b>			<b>0.715</b>
<b>LEVEL OF SERVICE (LOS):</b>					<b>A</b>			<b>C</b>

**REMARKS:**



<b>I/S #:</b>	<b>PROJECT TITLE:</b>	Landside Access Modernization Program at LAX - Addendum	
	<b>North-South Street:</b>	Bellanca Avenue	<b>East-West Street:</b> Century Boulevard
<b>18</b>	<b>Scenario:</b>	Future (2035) w/Project (incl. SBO Relocation) and Related Development	
	<b>Count Date:</b>	Analyst: RA	Date: 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?  Right Turns: FREE-1, NRTOR-2 or OLA-3?  ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2 0 0 0 2 0			2 0 0 0 2 0
		NB -- 0	SB -- 0		NB -- 0	SB -- 0	
		EB -- 0	WB -- 0		EB -- 0	WB -- 0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	102	2	56	525	2	289
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	179	1	159	230	1	204
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	41	1	41	52	1	52
	Left-Through		0			0	
	Through	1306	5	261	2591	5	518
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	2363	3	644	1950	3	564
	Through-Right		1			1	
	Right	214	0	214	307	0	307
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				North-South: 159 East-West: 685 SUM: 844			North-South: 289 East-West: 616 SUM: 905
VOLUME/CAPACITY (V/C) RATIO: V/C LESS ATSAC/ATCS ADJUSTMENT:				0.563 <b>0.463</b>			0.603 <b>0.503</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**





# Level of Service Worksheet (Circular 212 Method)



I/S #: 21

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard **East-West Street:** 104th Street  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:** **Analyst:** RA **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	111	1	111	84	1	84
	Left-Through		0			0	
	Through	1600	1	836	1601	1	835
	Through-Right		1			1	
	Right	72	0	72	68	0	68
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	139	1	139	84	1	84
	Left-Through		0			0	
	Through	1066	1	552	1581	1	795
	Through-Right		1			1	
	Right	38	0	38	8	0	8
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	17	0	17	6	0	6
	Left-Through		0			0	
	Through	13	0	125	130	0	268
	Through-Right		0			0	
	Right	95	0	0	132	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
WESTBOUND	Left	82	1	82	65	1	65
	Left-Through		0			0	
	Through	60	0	134	24	0	158
	Through-Right		1			1	
	Right	74	0	0	134	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				North-South: 975			North-South: 919
				East-West: 259			East-West: 426
				SUM: 1234			SUM: 1345
VOLUME/CAPACITY (V/C) RATIO:				0.897			0.978
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.797			0.878
LEVEL OF SERVICE (LOS):				C			D

REMARKS:



**Level of Service Worksheet  
(Circular 212 Method)**



I/S #: 22

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Aviation Boulevard East-West Street: 111th Street  
 Scenario: Future (2035) w/Project (incl. SBO Relocation) and Related Development  
 Count Date: Analyst: RA Date: 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4 2 0 3 2 0			4 2 0 3 2 0
NB --	0	SB --	0	NB --	0	SB --	0
EB --	0	WB --	3	EB --	0	WB --	3
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	11	1	11	24	1	24
	Left-Through		0			0	
	Through	1268	1	661	908	1	477
	Through-Right		1			1	
	Right	54	0	54	46	0	46
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	482	1	482	484	1	484
	Left-Through		0			0	
	Through	596	1	346	1255	1	653
	Through-Right		1			1	
	Right	96	0	96	50	0	50
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	88	1	88	128	1	128
	Left-Through		0			0	
	Through	31	0	43	52	0	68
	Through-Right		1			1	
	Right	12	0	0	16	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	30	1	30	35	1	35
	Left-Through		0			0	
	Through	84	1	84	65	1	65
	Through-Right		0			0	
	Right	476	1	0	676	1	192
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				North-South: 1143 East-West: 172 SUM: 1315			North-South: 961 East-West: 320 SUM: 1281
VOLUME/CAPACITY (V/C) RATIO:				0.956			0.932
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.856			0.832
LEVEL OF SERVICE (LOS):				D			D

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**24**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Hindry Avenue      **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2			2
				0			0
		<i>NB</i> --	<i>SB</i> --	0	<i>NB</i> --	<i>SB</i> --	0
		<i>EB</i> --	<i>WB</i> --	0	<i>EB</i> --	<i>WB</i> --	0
				2			2
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	225	1	181	262	1	262
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	318	1	181	810	1	446
	Left-Through-Right		0			0	
	Left-Right		1			1	
<b>SOUTHBOUND</b>	Left	80	0	80	79	0	79
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	90	0	170	85	0	164
	Left-Through-Right		0			0	
	Left-Right		1			1	
<b>EASTBOUND</b>	Left	45	1	45	75	1	75
	Left-Through		0			0	
	Through	322	2	161	1251	2	626
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1390	1	768	620	1	355
	Through-Right		1			1	
	Right	146	0	146	90	0	90
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 351			<i>North-South:</i> 525
				<i>East-West:</i> 813			<i>East-West:</i> 626
				<b>SUM:</b> 1164			<b>SUM:</b> 1151
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.776			0.767
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.676</b>			<b>0.667</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>B</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**25**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Concourse Way      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4			4
				0			0
		<i>NB</i> --		0	<i>NB</i> --		0
		<i>EB</i> --		0	<i>EB</i> --		0
				0			0
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	43	1	43	37	1	37
	Left-Through		0			0	
	Through	0	0	97	0	0	108
	Through-Right		1			1	
	Right	97	0	0	108	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	430	2	237	616	2	339
	Left-Through		0			0	
	Through	0	0	180	0	0	299
	Through-Right		1			1	
	Right	180	0	0	299	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	210	1	210	147	1	147
	Left-Through		0			0	
	Through	740	3	198	1889	3	476
	Through-Right		1			1	
	Right	52	0	52	15	0	15
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	88	1	88	161	1	161
	Left-Through		0			0	
	Through	1651	4	413	1443	4	361
	Through-Right		0			0	
	Right	551	1	433	360	1	191
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 334			<i>North-South:</i> 447
				<i>East-West:</i> 643			<i>East-West:</i> 637
				<b>SUM:</b> 977			<b>SUM:</b> 1084
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.711			0.788
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.611</b>			<b>0.688</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>B</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:**      **Analyst:** RA      **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>No. of Phases</b> Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4 0 0 3 3 2 0			4 0 0 3 3 2 0
				NB -- 3      SB -- 0 EB -- 3      WB -- 3			NB -- 3      SB -- 0 EB -- 3      WB -- 3
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	514	2	283	277	2	152
	Left-Through		0			0	
	Through	512	1	374	307	1	227
	Through-Right		1			1	
	Right	235	0	235	147	0	147
	Left-Through-Right		0			0	
<b>SOUTHBOUND</b>	Left	263	2	145	491	2	270
	Left-Through		0			0	
	Through	305	1	237	521	1	401
	Through-Right		1			1	
	Right	168	0	168	280	0	280
	Left-Through-Right		0			0	
<b>EASTBOUND</b>	Left	256	2	141	239	2	131
	Left-Through		0			0	
	Through	192	3	64	1778	3	593
	Through-Right		0			0	
	Right	183	1	0	213	1	61
	Left-Through-Right		0			0	
<b>WESTBOUND</b>	Left	155	2	85	144	2	79
	Left-Through		0			0	
	Through	1216	2	608	387	2	194
	Through-Right		0			0	
	Right	447	1	302	391	1	121
	Left-Through-Right		0			0	
				0		0	
<b>CRITICAL VOLUMES</b>				North-South: 520 East-West: 749 SUM: 1269			North-South: 553 East-West: 672 SUM: 1225
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.923			0.891
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.823</b>			<b>0.791</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>C</b>

**REMARKS:**

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 27**  
**North/South Street:** LA CIENEGA BOULEVARD  
**East/West Street:** ARBOR VITAE STREET  
**Scenario:** FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND RELATED DEVELOPMENT CONDITONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

**Peak Period: AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	212	0	0.000	N-S(1): 0.384
	TH	2.00	759	3,200	0.303 *	N-S(2): 0.551 *
	LT	1.00	68	1,600	0.043	E-W(1): 0.220
Westbound	RT	1.00	326	1,600	0.204	E-W(2): 0.500 *
	TH	2.00	889	3,200	0.278 *	
	LT	1.00	144	1,600	0.090	V/C: 1.051
Northbound	RT	0.00	44	0	0.000	Lost Time: 0.100
	TH	2.00	1,046	3,200	0.341	
	LT	1.00	396	1,600	0.248 *	
Eastbound	RT	1.00	194	0	0.000	ICU: 1.151
	TH	2.00	223	3,200	0.130	
	LT	1.00	355	1,600	0.222 *	LOS: F

**Peak Period: PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	180	0	0.000	N-S(1): 0.316
	TH	2.00	926	3,200	0.346 *	N-S(2): 0.460 *
	LT	1.00	137	1,600	0.086	E-W(1): 0.530 *
Westbound	RT	1.00	91	1,600	0.057	E-W(2): 0.488
	TH	2.00	234	3,200	0.073	
	LT	1.00	160	1,600	0.100 *	V/C: 0.990
Northbound	RT	0.00	94	0	0.000	Lost Time: 0.100
	TH	2.00	641	3,200	0.230	
	LT	1.00	182	1,600	0.114 *	
Eastbound	RT	1.00	538	0	0.000	ICU: 1.090
	TH	2.00	838	3,200	0.430 *	
	LT	1.00	664	1,600	0.415	LOS: F

\* = Critical Movement



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**28**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** La Cienega Boulevard    **East-West Street:** I-405 Ramps (n/o Century Bl)  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:**     **Analyst:** RA     **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?  Right Turns: FREE-1, NRTOR-2 or OLA-3?  ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4 0 3 0 2 0			4 0 3 0 2 0
		<i>NB</i> -- 3		<i>SB</i> -- 3	<i>NB</i> -- 3		<i>SB</i> -- 3
		<i>EB</i> -- 0		<i>WB</i> -- 0	<i>EB</i> -- 0		<i>WB</i> -- 0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	327	2	180	328	2	180
	↵↶ Left-Through		0			0	
	→ Through	1569	1	785	452	1	226
	↘ Through-Right		1			1	
	↵ Right	65	1	0	102	1	0
	↵↶ Left-Through-Right		0			0	
	↵↶ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	129	2	71	248	2	136
	↵↶ Left-Through		0			0	
	→ Through	496	3	165	1040	3	347
	↘ Through-Right		0			0	
	↵ Right	545	1	523	392	1	202
	↵↶ Left-Through-Right		0			0	
	↵↶ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	40	2	22	345	2	190
	↵↶ Left-Through		0			0	
	→ Through	263	2	132	331	2	166
	↘ Through-Right		0			0	
	↵ Right	90	1	0	288	1	198
	↵↶ Left-Through-Right		0			0	
	↵↶ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	171	2	94	467	2	257
	↵↶ Left-Through		0			0	
	→ Through	381	1	202	379	1	291
	↘ Through-Right		1			1	
	↵ Right	22	0	22	203	0	203
	↵↶ Left-Through-Right		0			0	
	↵↶ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 856 <i>East-West:</i> 226 <i>SUM:</i> 1082			<i>North-South:</i> 527 <i>East-West:</i> 481 <i>SUM:</i> 1008
VOLUME/CAPACITY (V/C) RATIO:				0.787			0.733
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.687</b>			<b>0.633</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>B</b>

**REMARKS:**





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**29**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** La Cienega Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation) and Related Development  
**Count Date:**    **Analyst:** RA    **Date:** 1/29/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
		<b>No. of Phases</b>			<b>4</b>		
		<b>Opposed Ø'ing: N/S-1, E/W-2 or Both-3?</b>			<b>0</b>		
		<b>NB --</b>	<b>3</b>	<b>SB --</b>	<b>3</b>	<b>3</b>	<b>3</b>
		<b>EB --</b>	<b>3</b>	<b>WB --</b>	<b>0</b>	<b>0</b>	<b>0</b>
		<b>Right Turns: FREE-1, NRTOR-2 or OLA-3?</b>			<b>0</b>		
		<b>ATSAC-1 or ATSAC+ATCS-2?</b>			<b>2</b>		
		<b>Override Capacity</b>			<b>0</b>		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	298	1	298	226	1	226
	Left-Through		0			0	
	Through	700	2	350	452	2	226
	Through-Right		0			0	
	Right	230	2	0	539	2	138
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	243	1	243	740	1	740
	Left-Through		0			0	
	Through	422	2	211	836	2	418
	Through-Right		0			0	
	Right	253	2	45	350	2	1
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	94	1	94	192	1	192
	Left-Through		0			0	
	Through	605	3	202	1928	3	643
	Through-Right		0			0	
	Right	399	1	101	675	1	449
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	397	1	397	158	1	158
	Left-Through		0			0	
	Through	1915	3	638	1271	3	358
	Through-Right		1			1	
	Right	997	0	876	160	0	160
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<b>North-South:</b>			<b>North-South:</b>		
		<b>East-West:</b>			<b>East-West:</b>		
		<b>SUM:</b>			<b>SUM:</b>		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>		1.137			1.285		
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>		1.037			1.185		
<b>LEVEL OF SERVICE (LOS):</b>		F			F		

**REMARKS:**

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 30**  
**North/South Street:** I-405 NORTHBOUND RAMPS  
**East/West Street:** CENTURY BOULEVARD  
**Scenario:** FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND RELATED DEVELOPMENT CONDITONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

**Peak Period: AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	33	1,600	0.018 *	N-S(1): 0.249
	TH	0.00	0	0	0.000	N-S(2): 0.450 *
	LT	0.00	0	0	0.000	E-W(1): 0.158
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.476 *
	TH	3.00	2,266	4,800	0.473 *	V/C: 0.926
	LT	0.00	0	0	0.000	Lost Time: 0.100
Northbound	RT	1.00	399	1,600	0.249	
	TH	0.00	0	0	0.000	
	LT	2.00	1,245	2,880	0.432 *	
Eastbound	RT	1.00	196	1,600	0.000	ICU: 1.026
	TH	3.00	756	4,800	0.158	
	LT	1.00	4	1,600	0.003 *	LOS: F

**Peak Period: PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	27	1,600	0.005 *	N-S(1): 0.241
	TH	0.00	0	0	0.000	N-S(2): 0.321 *
	LT	0.00	1	1,600	0.001	E-W(1): 0.511 *
Westbound	RT	0.00	19	0	0.000	E-W(2): 0.234
	TH	3.00	1,047	4,800	0.222	V/C: 0.832
	LT	0.00	0	0	0.000 *	Lost Time: 0.100
Northbound	RT	1.00	384	1,600	0.240	
	TH	0.00	0	0	0.000	
	LT	2.00	910	2,880	0.316 *	
Eastbound	RT	1.00	688	1,600	0.146	ICU: 0.932
	TH	3.00	2,455	4,800	0.511 *	
	LT	1.00	19	1,600	0.012	LOS: E

\* = Critical Movement  
 EBR is free-flow movement.



## Level of Service Worksheet (Circular 212 Method)



I/S #: **4**

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Sepulveda Boulevard      East-West Street: Westchester Parkway  
 Scenario: Future (2035) with Project (incl. SBO Relocation) and Related Development  
 Count Date:    Analyst: RA    Date: 2/8/2018

		MD PEAK HOUR						
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
No. of Phases		4						
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0						
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB --	3	SB --	3	NB --	0	SB --	0
	EB --	0	WB --	0	EB --	0	WB --	0
ATSAC-1 or ATSAC+ATCS-2?		2						
Override Capacity		0						
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	306	1	306			0	
	Left-Through		0					
	Through	1,383	3	461			0	
	Through-Right		0					
	Right	79	1	0			0	
	Left-Through-Right		0					
	Left-Right		0					
SOUTHBOUND	Left	173	1	173			0	
	Left-Through		0					
	Through	1,645	3	548			0	
	Through-Right		0					
	Right	83	1	0			0	
	Left-Through-Right		0					
	Left-Right		0					
EASTBOUND	Left	88	1	88			0	
	Left-Through		0					
	Through	237	1	237			0	
	Through-Right		1					
	Right	245	0	92			0	
	Left-Through-Right		0					
	Left-Right		0					
WESTBOUND	Left	371	1	371			0	
	Left-Through		0					
	Through	367	1	283			0	
	Through-Right		1					
	Right	199	0	199			0	
	Left-Through-Right		0					
	Left-Right		0					
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		854	<i>North-South:</i>		0	
		<i>East-West:</i>		608	<i>East-West:</i>		0	
		<b>SUM:</b>		1462	<b>SUM:</b>		0	
VOLUME/CAPACITY (V/C) RATIO:				1.063			0.000	
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.963			0.000	
LEVEL OF SERVICE (LOS):				E			A	

REMARKS:



I/S #: 5

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Sepulveda Boulevard East-West Street: Lincoln Boulevard  
 Scenario: Future (2035) with Project (incl. SBO Relocation) and Related Development  
 Count Date: Analyst: RA Date: 2/8/2018

		MD PEAK HOUR					
No. of Phases					2		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0	0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0	0	0
Override Capacity					2		
					0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↰ Left	0	0	0			0
	↰↱ Left-Through		0				
	→ Through	1617	3	539			0
	↰↱ Through-Right		0				
	→ Right	0	0	0			0
	↰↱↱ Left-Through-Right		0				
	↰↱ Left-Right		0				
SOUTHBOUND	↰ Left	0	0	0			0
	↰↱ Left-Through		0				
	→ Through	1262	4	316			0
	↰↱ Through-Right		0				
	→ Right	0	0	0			0
	↰↱↱ Left-Through-Right		0				
	↰↱ Left-Right		0				
EASTBOUND	↰ Left	0	0	0			0
	↰↱ Left-Through		0				
	→ Through	0	0	0			0
	↰↱ Through-Right		0				
	→ Right	0	0	0			0
	↰↱↱ Left-Through-Right		0				
	↰↱ Left-Right		0				
WESTBOUND	↰ Left	0	0	0			0
	↰↱ Left-Through		0				
	→ Through	2240	4	560			0
	↰↱ Through-Right		0				
	→ Right	53	1	53			0
	↰↱↱ Left-Through-Right		0				
	↰↱ Left-Right		0				
CRITICAL VOLUMES		North-South:		539	North-South:		0
		East-West:		560	East-West:		0
		SUM:		1099	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:					0.733		
V/C LESS ATSAC/ATCS ADJUSTMENT:					0.633		
LEVEL OF SERVICE (LOS):					B		
					A		

REMARKS:











# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) with Project (incl. SBO Relocation) and Related Development  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/8/2018

		MD PEAK HOUR					
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?		ATSAC-1 or ATSAC+ATCS-2? Override Capacity	
		NB --	SB --	NB --	SB --	EB --	WB --
		0	0	0	0	0	0
		0	0	0	0	0	0
		0	0	0	0	0	0
		0	0	0	0	0	0
		0	0	0	0	0	0
		0	0	0	0	0	0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	0	0	0			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
<b>SOUTHBOUND</b>	Left	155	1	85			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	73	1	11			0
	Left-Through-Right		0				
	Left-Right		1				
<b>EASTBOUND</b>	Left	125	1	125			0
	Left-Through		0				
	Through	986	2	493			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
<b>WESTBOUND</b>	Left	0	0	0			0
	Left-Through		0				
	Through	1226	2	613			0
	Through-Right		0				
	Right	70	1	28			0
	Left-Through-Right		0				
	Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 85	<i>North-South:</i>	0	0
				<i>East-West:</i> 738	<i>East-West:</i>	0	0
				<b>SUM:</b> 823	<b>SUM:</b>	0	0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.549		0.000	
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.449</b>		<b>0.000</b>	
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>		<b>A</b>	

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (incl. SBO Relocation) and Related Development  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				3			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	76	1	76			0
	↵↔ Left-Through		0				
	→ Through	19	1	19			0
	↵↔ Through-Right		0				
	↵ Right	88	1	50			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	65	1	65			0
	↵↔ Left-Through		0				
	→ Through	35	1	35			0
	↵↔ Through-Right		0				
	↵ Right	100	1	0			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>EASTBOUND</b>	↵ Left	392	2	216			0
	↵↔ Left-Through		0				
	→ Through	1561	4	325			0
	↵↔ Through-Right		1				
	↵ Right	66	0	66			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	76	1	76			0
	↵↔ Left-Through		0				
	→ Through	1869	3	488			0
	↵↔ Through-Right		1				
	↵ Right	81	0	81			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>CRITICAL VOLUMES</b>				North-South: 115			North-South: 0
				East-West: 704			East-West: 0
				SUM: 819			SUM: 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.575			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.475			0.000
<b>LEVEL OF SERVICE (LOS):</b>				A			A

**REMARKS:**

### Level of Service Worksheet (Circular 212 Method)



I/S #: **12**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Arbor Vitae St / Westchester Parkw  
**Scenario:** Future (2035) with Project (incl. SBO Relocation) and Related Development  
**Count Date:**    **Analyst:** RA    **Date:** 2/8/2018

		MD PEAK HOUR					
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	4				
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	3	3	0	0	0
		ATSAC-1 or ATSAC+ATCS-2?	0	0	0	0	0
		Override Capacity	0	0	0	0	0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	←	241	1	241			0
	←→		0				
	→	717	2	359			0
	→↘		0				
	↘	112	1	11			0
	↘→		0				
	↘↘		0				
<b>SOUTHBOUND</b>	←	126	1	126			0
	←→		0				
	→	631	3	210			0
	→↘		0				
	↘	319	1	67			0
	↘→		0				
	↘↘		0				
<b>EASTBOUND</b>	←	252	1	252			0
	←→		0				
	→	553	2	277			0
	→↘		0				
	↘	259	1	18			0
	↘→		0				
	↘↘		0				
<b>WESTBOUND</b>	←	202	1	202			0
	←→		0				
	→	727	2	364			0
	→↘		0				
	↘	145	1	82			0
	↘→		0				
	↘↘		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 485	<i>North-South:</i>		0
				<i>East-West:</i> 616	<i>East-West:</i>		0
				<b>SUM:</b> 1101	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.801			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.701			0.000
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**13**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 96th Street  
**Scenario:** Future (2035) with Project (incl. SBO Relocation) and Related Development  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↶ Left	0	0	0			0
	↶↷ Left-Through		0				
	→ Through	691	2	274			0
	↶↷ Through-Right		1				
	→ Right	131	0	131			0
	↶↷ Left-Through-Right		0				
	↶↷ Left-Right		0				
SOUTHBOUND	↷ Left	167	1	167			0
	↷↶ Left-Through		0				
	→ Through	735	3	245			0
	↷↶ Through-Right		0				
	→ Right	0	0	0			0
	↷↶ Left-Through-Right		0				
	↷↶ Left-Right		0				
EASTBOUND	↶ Left	276	1	276			0
	↶↷ Left-Through		0				
	→ Through	198	0	318			0
	↶↷ Through-Right		0				
	→ Right	438	1	0			0
	↶↷ Left-Through-Right		1				
	↶↷ Left-Right		0				
WESTBOUND	↷ Left	93	1	93			0
	↷↶ Left-Through		0				
	→ Through	0	0	0			0
	↷↶ Through-Right		0				
	→ Right	200	1	27			0
	↷↶ Left-Through-Right		0				
	↷↶ Left-Right		1				
<b>CRITICAL VOLUMES</b>				North-South: 441			North-South: 0
				East-West: 411			East-West: 0
				SUM: 852			SUM: 0
VOLUME/CAPACITY (V/C) RATIO:				0.620			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.520</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**14**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 98th Street  
**Scenario:** Future (2035) with Project (incl. SBO Relocation) and Related Development  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
				2			0
		No. of Phases		0			0
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0      SB -- 3	NB -- 0	SB --	0
		ATSAC-1 or ATSAC+ATCS-2?		EB -- 0      WB -- 0	EB -- 0	WB --	0
		Override Capacity		2			0
		0				0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↲ Left	190	1	190			0
	↲↘ Left-Through		0				0
	→ Through	543	2	218			0
	↘↘ Through-Right		1				0
	→ Right	112	0	112			0
	↘↘↘ Left-Through-Right		0				0
	↘↘↘ Left-Right		0				0
<b>SOUTHBOUND</b>	↲ Left	133	1	133			0
	↲↘ Left-Through		0				0
	→ Through	640	3	213			0
	↘↘ Through-Right		0				0
	→ Right	496	1	278			0
	↘↘↘ Left-Through-Right		0				0
	↘↘↘ Left-Right		0				0
<b>EASTBOUND</b>	↲ Left	218	1	218			0
	↲↘ Left-Through		0				0
	→ Through	379	1	379			0
	↘↘ Through-Right		1				0
	→ Right	389	0	294			0
	↘↘↘ Left-Through-Right		0				0
	↘↘↘ Left-Right		0				0
<b>WESTBOUND</b>	↲ Left	98	1	98			0
	↲↘ Left-Through		0				0
	→ Through	304	0	450			0
	↘↘ Through-Right		1				0
	→ Right	146	0	0			0
	↘↘↘ Left-Through-Right		0				0
	↘↘↘ Left-Right		0				0
<b>CRITICAL VOLUMES</b>				North-South: 468			North-South: 0
				East-West: 668			East-West: 0
				SUM: 1136			SUM: 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.757			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.657</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>A</b>

**REMARKS:**

Level of Service Worksheet  
(Circular 212 Method)



**I/S #:**  
15

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (incl. SBO Relocation) and Related Development  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?		ATSAC-1 or ATSAC+ATCS-2?	
No. of Phases							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?						4	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0      SB -- 0				1	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0      WB -- 0				0	
Override Capacity						3	
						2	
						0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	46	1	46			0
	Left-Through		0				0
	Through	34	2	17			0
	Through-Right		0				0
	Right	90	1	43			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	534	2	187			0
	Left-Through		1				0
	Through	76	1	76			0
	Through-Right		0				0
	Right	528	1	395			0
	Left-Through-Right		0				0
	Left-Right		0				0
EASTBOUND	Left	486	2	267			0
	Left-Through		0				0
	Through	1191	4	246			0
	Through-Right		1				0
	Right	37	0	37			0
	Left-Through-Right		0				0
	Left-Right		0				0
WESTBOUND	Left	95	1	95			0
	Left-Through		0				0
	Through	1471	4	368			0
	Through-Right		0				0
	Right	327	1	140			0
	Left-Through-Right		0				0
	Left-Right		0				0
CRITICAL VOLUMES		North-South:		441	North-South:		0
		East-West:		635	East-West:		0
		SUM:		1076	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.783			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.683</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>A</b>

## Level of Service Worksheet (Circular 212 Method)



I/S #: 19

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Aviation Boulevard East-West Street: Arbor Vitae Street  
 Scenario: Future (2035) with Project (incl. SBO Relocation) and Related Development  
 Count Date: Analyst: RA Date: 2/8/2018

		MD PEAK HOUR					
		No. of Phases		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?	
		4			0		
		0			0		
		0			0		
		0			0		
		2			0		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↶ Left	407	1	407			0
	↶↷ Left-Through		0				0
	↷ Through	581	2	291			0
	↷↶ Through-Right		0				0
	↷ Right	83	1	0			0
	↷↶ Left-Through-Right		0				0
	↷↶ Left-Right		0				0
SOUTHBOUND	↷ Left	73	1	73			0
	↷↶ Left-Through		0				0
	↷ Through	699	1	424			0
	↷↶ Through-Right		1				0
	↷ Right	149	0	149			0
	↷↶ Left-Through-Right		0				0
	↷↶ Left-Right		0				0
EASTBOUND	↷ Left	159	1	159			0
	↷↶ Left-Through		0				0
	↷ Through	400	3	133			0
	↷↶ Through-Right		0				0
	↷ Right	384	1	0			0
	↷↶ Left-Through-Right		0				0
	↷↶ Left-Right		0				0
WESTBOUND	↷ Left	260	1	260			0
	↷↶ Left-Through		0				0
	↷ Through	396	2	156			0
	↷↶ Through-Right		1				0
	↷ Right	71	0	71			0
	↷↶ Left-Through-Right		0				0
	↷↶ Left-Right		0				0
CRITICAL VOLUMES			North-South: 831		North-South:		0
			East-West: 393		East-West:		0
			SUM: 1224		SUM:		0
VOLUME/CAPACITY (V/C) RATIO:			0.890				0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.790				0.000
LEVEL OF SERVICE (LOS):			C				A

REMARKS:



I/S #: 20

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (incl. SBO Relocation) and Related Development  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
		No. of Phases		4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	NB -- 0	SB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0	EB -- 0	WB -- 0		
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↵ Left	514	2	283			0
	↵↔ Left-Through		0				0
	→ Through	1044	1	592			0
	→↔ Through-Right		1				0
	↘ Right	140	0	140			0
	↘↔ Left-Through-Right		0				0
	↔↘ Left-Right		0				0
SOUTHBOUND	↵ Left	245	2	135			0
	↵↔ Left-Through		0				0
	→ Through	747	2	374			0
	→↔ Through-Right		0				0
	↘ Right	126	1	0			0
	↘↔ Left-Through-Right		0				0
	↔↘ Left-Right		0				0
EASTBOUND	↵ Left	190	1	190			0
	↵↔ Left-Through		0				0
	→ Through	1743	4	436			0
	→↔ Through-Right		0				0
	↘ Right	330	1	47			0
	↘↔ Left-Through-Right		0				0
	↔↘ Left-Right		0				0
WESTBOUND	↵ Left	203	1	203			0
	↵↔ Left-Through		0				0
	→ Through	1440	3	408			0
	→↔ Through-Right		1				0
	↘ Right	193	0	193			0
	↘↔ Left-Through-Right		0				0
	↔↘ Left-Right		0				0
CRITICAL VOLUMES				<i>North-South:</i> 727			<i>North-South:</i> 0
				<i>East-West:</i> 639			<i>East-West:</i> 0
				<i>SUM:</i> 1366			<i>SUM:</i> 0
VOLUME/CAPACITY (V/C) RATIO:				0.993			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.893			0.000
LEVEL OF SERVICE (LOS):				D			A

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b> <b>22</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum
	<b>North-South Street:</b> Aviation Boulevard <b>East-West Street:</b> 111th Street
	<b>Scenario:</b> Future (2035) with Project (incl. SBO Relocation) and Related Development
	<b>Count Date:</b> <b>Analyst:</b> RA <b>Date:</b> 2/8/2018

		MD PEAK HOUR					
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	77	1	77			0
	Left-Through		0				
	Through	938	1	546			0
	Through-Right		1				
	Right	153	0	153			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	571	1	571			0
	Left-Through		0				
	Through	672	1	409			0
	Through-Right		1				
	Right	146	0	146			0
	Left-Through-Right		0				
	Left-Right		0				
EASTBOUND	Left	95	1	95			0
	Left-Through		0				
	Through	76	0	84			0
	Through-Right		1				
	Right	8	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
WESTBOUND	Left	52	1	52			0
	Left-Through		0				
	Through	26	1	26			0
	Through-Right		0				
	Right	640	1	69			0
	Left-Through-Right		0				
	Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 1117			<i>North-South:</i> 0
				<i>East-West:</i> 164			<i>East-West:</i> 0
				<i>SUM:</i> 1281			<i>SUM:</i> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.932			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.832</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>A</b>

REMARKS:

**I/S #:**  
**23**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (incl. SBO Relocation) and Related Development  
**Count Date:** **Analyst:** RA **Date:** 2/8/2018

MOVEMENT		MD PEAK HOUR					
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	3	NB -- 0	SB -- 0	0
		EB -- 0	WB -- 3	3	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?				2			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	140	2	77			0
	Left-Through		0				0
	Through	767	2	384			0
	Through-Right		0				0
	Right	123	1	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	117	2	64			0
	Left-Through		0				0
	Through	418	2	209			0
	Through-Right		0				0
	Right	207	1	27			0
	Left-Through-Right		0				0
	Left-Right		0				0
EASTBOUND	Left	328	2	180			0
	Left-Through		0				0
	Through	744	2	295			0
	Through-Right		1				0
	Right	141	0	141			0
	Left-Through-Right		0				0
	Left-Right		0				0
WESTBOUND	Left	510	2	281			0
	Left-Through		0				0
	Through	480	3	160			0
	Through-Right		0				0
	Right	75	1	11			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>CRITICAL VOLUMES</b>				448			0
				576			0
				1024			0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.745			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.645			0.000
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**24**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Hindry Avenue      **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2035) with Project (incl. SBO Relocation) and Related Development  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
		No. of Phases					
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		2		0	
		Right Turns: FREE-1, NRTOR-2 or OLA-3?		0		0	
		ATSAC-1 or ATSAC+ATCS-2?		0		0	
		Override Capacity		2		0	
				NB -- 0      SB -- 0		NB -- 0      SB -- 0	
				EB -- 0      WB -- 0		EB -- 0      WB -- 0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↵	Left	1	277			0
	↵↶	Left-Through	0				0
	↶	Through	0	0			0
	↶↶	Through-Right	0				0
	↷	Right	566	1	311		0
	↶↷	Left-Through-Right		0			0
	↷↶	Left-Right		1			0
SOUTHBOUND	↶	Left	0	112			0
	↶↶	Left-Through	0				0
	↶	Through	0	0			0
	↶↶	Through-Right	0				0
	↷	Right	37	0	149		0
	↶↷	Left-Through-Right		0			0
	↷↶	Left-Right		1			0
EASTBOUND	↵	Left	1	68			0
	↵↶	Left-Through	0				0
	↶	Through	2	588	294		0
	↶↶	Through-Right	0				0
	↷	Right	0	0	0		0
	↶↷	Left-Through-Right		0			0
	↷↶	Left-Right		0			0
WESTBOUND	↵	Left	0	0			0
	↵↶	Left-Through	0				0
	↶	Through	1	394	259		0
	↶↶	Through-Right	1				0
	↷	Right	0	123	123		0
	↶↷	Left-Through-Right		0			0
	↷↶	Left-Right		0			0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		426	<i>North-South:</i>		0
		<i>East-West:</i>		327	<i>East-West:</i>		0
		<i>SUM:</i>		753	<i>SUM:</i>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.502			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.402</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (incl. SBO Relocation) and Related Development  
**Count Date:**      **Analyst:** RA      **Date:** 2/8/2018

		MD PEAK HOUR					
		No. of Phases		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?	
		ATSAC-1 or ATSAC+ATCS-2?		Override Capacity			
				4			0
				0			0
		NB -- 3	SB -- 0	NB -- 0	SB -- 0		
		EB -- 3	WB -- 3	EB -- 0	WB -- 0		
				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	319	2	175			0
	↵↔ Left-Through		0				
	→ Through	451	1	306			0
	↵↔ Through-Right		1				
	→ Right	160	0	160			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	253	2	139			0
	↵↔ Left-Through		0				
	→ Through	398	1	348			0
	↵↔ Through-Right		1				
	→ Right	297	0	297			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>EASTBOUND</b>	↵ Left	274	2	151			0
	↵↔ Left-Through		0				
	→ Through	307	3	102			0
	↵↔ Through-Right		0				
	→ Right	222	1	47			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	214	2	118			0
	↵↔ Left-Through		0				
	→ Through	561	2	281			0
	↵↔ Through-Right		0				
	→ Right	208	1	69			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 523			<i>North-South:</i> 0
				<i>East-West:</i> 432			<i>East-West:</i> 0
				<b>SUM:</b> 955			<b>SUM:</b> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.695			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.595</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

<b>Project: LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM INT # 27</b>						
<b>North/South Street: LA CIENEGA BOULEVARD</b>						
<b>East/West Street: ARBOR VITAE STREET</b>						
<b>Scenario: FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND RELATED DEVELOPMENT CONDITIONS</b>						
Thru Lane: 1600 vph			N-S Split Phase : N			
Left-Turn Lane: 1600 vph			E-W Split Phase : N			
Dual LT Penalty: 10 %			Lost Time (% of cycle): 10			
<b>Peak Period: MD PEAK HOUR</b>						
<b>Approach</b>	<b>Movement</b>	<b>Lanes</b>	<b>Volume</b>	<b>Capacity</b>	<b>V/C</b>	<b>ICU ANALYSIS</b>
Southbound	RT	0.00	94	0	0.000	N-S(1): 0.245
	TH	2.00	882	3,200	0.305 *	N-S(2): 0.353 *
	LT	1.00	111	1,600	0.069	E-W(1): 0.331
Westbound	RT	1.00	99	1,600	0.062	E-W(2): 0.370 *
	TH	2.00	365	3,200	0.114 *	
	LT	1.00	104	1,600	0.065	V/C: 0.723
Northbound	RT	0.00	26	0	0.000	Lost Time: 0.100
	TH	2.00	537	3,200	0.176	
	LT	1.00	77	1,600	0.048 *	
Eastbound	RT	1.00	330	0	0.000	ICU: 0.823
	TH	2.00	522	3,200	0.266	
	LT	1.00	409	1,600	0.256 *	LOS: D

\* = Critical Movement







# Level of Service Worksheet (Circular 212 Method)



I/S #: **29**

PROJECT TITLE: **Landside Access Modernization Program at LAX - Addendum**  
 North-South Street: **La Cienega Boulevard** East-West Street: **Century Boulevard**  
 Scenario: **Future (2035) with Project (incl. SBO Relocation) and Related Development**  
 Count Date:  Analyst: **RA** Date: **2/8/2018**

		MD PEAK HOUR					
		No. of Phases		4		0	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3 SB -- 3		3		NB -- 0 SB -- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3 WB -- 0		0		EB -- 0 WB -- 0	
Override Capacity				2		0	
				0		0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	181	1	181			0
	Left-Through		0				0
	Through	494	2	247			0
	Through-Right		0				0
	Right	388	2	24			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	348	1	348			0
	Left-Through		0				0
	Through	257	2	129			0
	Through-Right		0				0
	Right	655	2	107			0
	Left-Through-Right		0				0
	Left-Right		0				0
EASTBOUND	Left	253	1	253			0
	Left-Through		0				0
	Through	1435	3	478			0
	Through-Right		0				0
	Right	740	1	559			0
	Left-Through-Right		0				0
	Left-Right		0				0
WESTBOUND	Left	189	1	189			0
	Left-Through		0				0
	Through	1517	3	431			0
	Through-Right		1				0
	Right	206	0	206			0
	Left-Through-Right		0				0
	Left-Right		0				0
CRITICAL VOLUMES		<i>North-South:</i>		595	<i>North-South:</i>		0
		<i>East-West:</i>		748	<i>East-West:</i>		0
		<i>SUM:</i>		1343	<i>SUM:</i>		0
VOLUME/CAPACITY (V/C) RATIO:				0.977			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.877</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>D</b>			<b>A</b>

REMARKS:

<b>Project: LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM INT # 30</b>						
<b>North/South Street: I-405 NORTHBOUND RAMPS</b>						
<b>East/West Street: CENTURY BOULEVARD</b>						
<b>Scenario: FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND RELATED DEVELOPMENT CONDITIONS</b>						
Thru Lane: 1600 vph			N-S Split Phase : N			
Left-Turn Lane: 1600 vph			E-W Split Phase : N			
Dual LT Penalty: 10 %			Lost Time (% of cycle): 10			
<b>Peak Period: MD PEAK HOUR</b>						
<b>Approach</b>	<b>Movement</b>	<b>Lanes</b>	<b>Volume</b>	<b>Capacity</b>	<b>V/C</b>	<b>ICU ANALYSIS</b>
Southbound	RT	1.00	36	1,600	0.004 *	N-S(1): 0.099
	TH	0.00	0	0	0.000	N-S(2): 0.333 *
	LT	0.00	1	1,600	0.001	E-W(1): 0.331 *
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.322
	TH	3.00	1,449	4,800	0.303	
	LT	0.00	0	0	0.000 *	V/C: 0.664
Northbound	RT	1.00	156	1,600	0.098	Lost Time: 0.100
	TH	0.00	0	0	0.000	
	LT	2.00	948	2,880	0.329 *	
Eastbound	RT	1.59	841	2,540	0.144	ICU: 0.764
	TH	2.41	1,278	3,860	0.331 *	
	LT	1.00	30	1,600	0.019	LOS: C

\* = Critical Movement  
EBR is free-flow movement.

**ATTACHMENT E**

**LEVEL OF SERVICE WORKSHEETS**

**Baseline (2015) with Project (including SBO Relocation) and Mitigation Measures  
Conditions**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**1**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive **East-West Street:** Westchester Parkway  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
				3			3
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> -- 3	<i>SB</i> -- 0	0	<i>NB</i> -- 3	<i>SB</i> -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		<i>EB</i> -- 0	<i>WB</i> -- 3	3	<i>EB</i> -- 0	<i>WB</i> -- 3	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1038	2	519	552	2	276
	Through-Right		0			0	
	Right	384	1	241	217	1	134
	Left-Through-Right		0			0	
<b>SOUTHBOUND</b>	Left	74	1	74	127	1	127
	Left-Through		0			0	
	Through	441	2	221	683	2	342
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
<b>EASTBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
<b>WESTBOUND</b>	Left	260	2	143	150	2	83
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	76	1	2	132	1	5
	Left-Through-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 593			<i>North-South:</i> 403
				<i>East-West:</i> 143			<i>East-West:</i> 83
				<b>SUM:</b> 736			<b>SUM:</b> 486
VOLUME/CAPACITY (V/C) RATIO:				0.516			0.341
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.416</b>			<b>0.241</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**

# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**2**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive      **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

	AM PEAK HOUR			PM PEAK HOUR						
	No. of Phases	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	Right Turns: FREE-1, NRTOR-2 or OLA-3?	ATSAC-1 or ATSAC+ATCS-2?	Override Capacity	No. of Phases	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	Right Turns: FREE-1, NRTOR-2 or OLA-3?	ATSAC-1 or ATSAC+ATCS-2?	Override Capacity
	4	1	3	2	0	4	1	3	2	0
	1	3	3	2	0	1	3	3	2	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	1	0	1	1	0	1	0	1	
	Left-Through		1			1		1		
	Through	0	0	1	1	0		0	2	
	Through-Right		1			1		1		
	Right	1	0	0	5	0		0	4	
	Left-Through-Right		0			0		0		
SOUTHBOUND										
Left	674	1	338	702	1	351				
Left-Through		1			1					
Through	1	0	338	0	0	351				
Through-Right		0			0					
Right	85	1	0	266	1	202				
Left-Through-Right		0			0					
Left-Right		0			0					
EASTBOUND										
Left	269	2	148	117	2	64				
Left-Through		0			0					
Through	330	1	166	408	1	204				
Through-Right		1			1					
Right	1	0	1	0	0	0				
Left-Through-Right		0			0					
Left-Right		0			0					
WESTBOUND										
Left	4	1	4	2	1	2				
Left-Through		0			0					
Through	309	2	155	463	2	232				
Through-Right		0			0					
Right	1218	2	332	590	2	0				
Left-Through-Right		0			0					
Left-Right		0			0					
CRITICAL VOLUMES		North-South:	339	North-South:		355				
		East-West:	480	East-West:		296				
		SUM:	819	SUM:		651				
VOLUME/CAPACITY (V/C) RATIO:			0.596			0.473				
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.496			0.373				
LEVEL OF SERVICE (LOS):			A			A				

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**IS #:**  
**3**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Main Street      **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

			AM PEAK HOUR			PM PEAK HOUR		
			No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4	
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?			EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2	
				0			0	
MOVEMENT			Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶	Left	466	1	234	276	1	138
	↷	Left-Through		1			1	
	↔	Through	1	0	234	0	0	138
	↷	Through-Right		0			0	
	↶	Right	539	1	410	426	1	271
	↷↶	Left-Through-Right		0			0	
↷↶	Left-Right		0			0		
<b>SOUTHBOUND</b>	↶	Left	0	0	0	0	0	0
	↷	Left-Through		0			0	
	↔	Through	0	0	9	0	0	0
	↷	Through-Right		0			0	
	↶	Right	9	0	0	0	0	0
	↷↶	Left-Through-Right		1			1	
↷↶	Left-Right		0			0		
<b>EASTBOUND</b>	↶	Left	0	0	0	0	0	0
	↷	Left-Through		0			0	
	↔	Through	784	2	392	743	2	372
	↷	Through-Right		0			0	
	↶	Right	221	1	104	389	1	320
	↷↶	Left-Through-Right		0			0	
↷↶	Left-Right		0			0		
<b>WESTBOUND</b>	↶	Left	471	2	259	565	2	311
	↷	Left-Through		0			0	
	↔	Through	1139	1	571	744	1	372
	↷	Through-Right		1			1	
	↶	Right	2	0	2	0	0	0
	↷↶	Left-Through-Right		0			0	
↷↶	Left-Right		0			0		
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 419		<i>North-South:</i> 271		<i>East-West:</i> 683
				<i>East-West:</i> 651		<i>East-West:</i> 683		<i>SUM:</i> 954
				<i>SUM:</i> 1070		<i>SUM:</i> 954		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.778				0.694
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.678				0.594
<b>LEVEL OF SERVICE (LOS):</b>				B				A

**REMARKS:**



### Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**4**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard     **East-West Street:** Westchester Parkway  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**     **Analyst:** RA     **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> -- 3	<i>SB</i> -- 3	3	<i>NB</i> -- 3	<i>SB</i> -- 3	3
ATSAC-1 or ATSAC+ATCS-2?		<i>EB</i> -- 0	<i>WB</i> -- 0	0	<i>EB</i> -- 0	<i>WB</i> -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	← Left	165	1	165	180	1	180
	↙ Left-Through		0			0	
	→ Through	1,773	3	591	1,458	3	486
	↘ Through-Right		0			0	
	→ Right	32	1	0	69	1	0
	↙ Left-Through-Right		0			0	
	↘ Left-Right		0			0	
SOUTHBOUND	→ Left	132	1	132	212	1	212
	↘ Left-Through		0			0	
	← Through	1,655	3	552	1,840	3	613
	↙ Through-Right		0			0	
	← Right	39	1	27	52	1	23
	↘ Left-Through-Right		0			0	
	↙ Left-Right		0			0	
EASTBOUND	→ Left	12	1	12	29	1	29
	↙ Left-Through		0			0	
	→ Through	143	1	104	255	1	191
	↘ Through-Right		1			1	
	→ Right	64	0	64	126	0	126
	↙ Left-Through-Right		0			0	
	↘ Left-Right		0			0	
WESTBOUND	← Left	174	1	174	223	1	223
	↙ Left-Through		0			0	
	→ Through	570	1	406	377	1	290
	↘ Through-Right		1			1	
	→ Right	241	0	241	203	0	203
	↙ Left-Through-Right		0			0	
	↘ Left-Right		0			0	
CRITICAL VOLUMES				<i>North-South:</i> 723			<i>North-South:</i> 793
				<i>East-West:</i> 418			<i>East-West:</i> 414
				<b><i>SUM:</i></b> 1141			<b><i>SUM:</i></b> 1207
VOLUME/CAPACITY (V/C) RATIO:				0.830			0.878
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.730</b>			<b>0.778</b>
LEVEL OF SERVICE (LOS):				<b>C</b>			<b>C</b>

REMARKS:







<b>I/S #:</b>
<b>8</b>

<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum			
<b>North-South Street:</b> Sepulveda Boulevard		<b>East-West Street:</b> Imperial Highway	
<b>Scenario:</b> Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions			
<b>Count Date:</b>	<b>Analyst:</b> RA	<b>Date:</b> 2/12/2018	

		AM PEAK HOUR			PM PEAK HOUR		
				4			4
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> --	<i>SB</i> --	0	<i>NB</i> --	<i>SB</i> --	0
		<i>EB</i> --	<i>WB</i> --	0	<i>EB</i> --	<i>WB</i> --	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	108	1	108	160	1	160
	↱ Left-Through		0			0	
	→ Through	1972	3	657	1874	3	625
	↘ Through-Right		0			0	
	↵ Right	624	1	573	1041	1	985
	↗ Left-Through-Right		0			0	
	↘ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	445	2	245	616	2	339
	↱ Left-Through		0			0	
	→ Through	2534	3	635	2518	3	630
	↘ Through-Right		1			1	
	↵ Right	7	0	7	3	0	3
	↗ Left-Through-Right		0			0	
	↘ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	220	2	121	251	2	138
	↱ Left-Through		0			0	
	→ Through	243	3	81	382	3	127
	↘ Through-Right		0			0	
	↵ Right	100	1	46	176	1	96
	↗ Left-Through-Right		0			0	
	↘ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	186	2	102	206	2	113
	↱ Left-Through		0			0	
	→ Through	246	3	82	339	3	113
	↘ Through-Right		0			0	
	↵ Right	341	1	96	469	1	130
	↗ Left-Through-Right		0			0	
	↘ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		902	<i>North-South:</i>		1324
		<i>East-West:</i>		217	<i>East-West:</i>		268
		<b>SUM:</b>		1119	<b>SUM:</b>		1592
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.814			1.158
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.714			1.058
<b>LEVEL OF SERVICE (LOS):</b>				C			F

**REMARKS:**

**Level of Service Worksheet  
(Circular 212 Method)**



IS #: **9**

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Sepulveda Eastway East-West Street: Westchester Parkway  
 Scenario: Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
 Count Date: Analyst: RA Date: 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	10	0	10	55	0	55
	Left-Through		1			1	
	Through	121	0	131	249	0	304
	Through-Right		0			0	
	Right	106	1	103	172	1	161
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	108	0	108	294	0	294
	Left-Through		0			0	
	Through	11	0	195	12	0	445
	Through-Right		0			0	
	Right	76	0	0	139	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	35	1	35	86	1	86
	Left-Through		0			0	
	Through	264	1	133	513	1	260
	Through-Right		1			1	
	Right	1	0	1	7	0	7
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	7	1	7	22	1	22
	Left-Through		0			0	
	Through	890	1	521	638	1	390
	Through-Right		1			1	
	Right	152	0	152	142	0	142
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				North-South: 239			North-South: 598
				East-West: 556			East-West: 476
				SUM: 795			SUM: 1074
VOLUME/CAPACITY (V/C) RATIO:				0.530			0.716
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.430			0.616
LEVEL OF SERVICE (LOS):				A			B

REMARKS:

**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity	NB --	SB --	EB --	NB --	SB --
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	← Left	0	0	0	0	0	0
	← Left-Through	0	0	0	0	0	0
	→ Through	0	0	0	0	0	0
	→ Through-Right	0	0	0	0	0	0
	↘ Right	0	0	0	0	0	0
	↘ Left-Through-Right	0	0	0	0	0	0
<b>SOUTHBOUND</b>	← Left	22	1	22	163	1	90
	← Left-Through	0	0	0	0	0	0
	→ Through	0	0	0	0	0	0
	→ Through-Right	54	1	0	68	1	27
	↘ Left-Through-Right	0	0	0	0	0	0
	↘ Left-Right	0	1	0	0	1	0
<b>EASTBOUND</b>	← Left	96	1	96	82	1	82
	← Left-Through	0	0	0	0	0	0
	→ Through	358	2	179	979	2	490
	→ Through-Right	0	0	0	0	0	0
	↘ Right	0	0	0	0	0	0
	↘ Left-Through-Right	0	0	0	0	0	0
<b>WESTBOUND</b>	← Left	0	0	0	0	0	0
	← Left-Through	0	0	0	0	0	0
	→ Through	954	2	477	797	2	399
	→ Through-Right	0	0	0	0	0	0
	↘ Right	160	1	149	111	1	66
	↘ Left-Through-Right	0	0	0	0	0	0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		22	<i>North-South:</i>		90
		<i>East-West:</i>		573	<i>East-West:</i>		490
		<b>SUM:</b>		595	<b>SUM:</b>		580
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.397			0.387
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.297			0.287
<b>LEVEL OF SERVICE (LOS):</b>				A			A

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**IS #:** 11     
 **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive     
 **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**     
 **Analyst:** RA     
 **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					
			3			3	
			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0		NB -- 0	SB -- 0	
		EB -- 0	WB -- 0		EB -- 0	WB -- 0	
ATSAC-1 or ATSAC+ATCS-2?			2			2	
Override Capacity			0			0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↶ Left	73	1	73	79	1	79
	↶↷ Left-Through		0			0	
	→ Through	9	1	9	13	1	13
	↷ Through-Right		0			0	
	↷ Right	9	1	0	54	1	43
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
SOUTHBOUND	↷ Left	13	1	13	71	1	71
	↷↶ Left-Through		0			0	
	→ Through	13	1	13	7	1	7
	↶ Through-Right		0			0	
	↶ Right	82	1	0	136	1	95
	↶↷ Left-Through-Right		0			0	
	↶↷ Left-Right		0			0	
EASTBOUND	↶ Left	433	2	238	151	2	83
	↶↷ Left-Through		0			0	
	→ Through	690	4	157	1137	4	240
	↷ Through-Right		1			1	
	↷ Right	96	0	96	62	0	62
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
WESTBOUND	↷ Left	36	1	36	22	1	22
	↷↶ Left-Through		0			0	
	→ Through	1262	3	329	928	3	252
	↶ Through-Right		1			1	
	↶ Right	54	0	54	81	0	81
	↶↷ Left-Through-Right		0			0	
	↶↷ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				North-South: 86			North-South: 174
				East-West: 567			East-West: 335
				SUM: 653			SUM: 509
VOLUME/CAPACITY (V/C) RATIO:				0.458			0.357
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.358			0.257
LEVEL OF SERVICE (LOS):				A			A

REMARKS:

# Level of Service Worksheet (Circular 212 Method)



**IS #:**  
**12**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Arbor Vitae St / Westchester Parkwa  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<b>NB -- 0</b>	<b>SB -- 3</b>		<b>NB -- 0</b>	<b>SB -- 3</b>	
ATSAC-1 or ATSAC+ATCS-2?		<b>EB -- 3</b>	<b>WB -- 0</b>		<b>EB -- 3</b>	<b>WB -- 0</b>	
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↯ Left	151	1	151	169	1	169
	↯↯ Left-Through		0			0	
	↯↯ Through	559	2	280	721	2	361
	↯↯↯ Through-Right		0			0	
	↯↯↯ Right	86	1	21	226	1	172
	↯↯↯↯ Left-Through-Right ↯↯↯↯ Left-Right		0 0			0 0	
<b>SOUTHBOUND</b>	↯ Left	116	1	116	198	1	198
	↯↯ Left-Through		0			0	
	↯↯ Through	417	3	139	428	3	143
	↯↯↯ Through-Right		0			0	
	↯↯↯ Right	231	1	139	266	1	59
	↯↯↯↯ Left-Through-Right ↯↯↯↯ Left-Right		0 0			0 0	
<b>EASTBOUND</b>	↯ Left	92	1	92	207	1	207
	↯↯ Left-Through		0			0	
	↯↯ Through	224	2	112	566	2	283
	↯↯↯ Through-Right		0			0	
	↯↯↯ Right	107	1	0	319	1	150
	↯↯↯↯ Left-Through-Right ↯↯↯↯ Left-Right		0 0			0 0	
<b>WESTBOUND</b>	↯ Left	131	1	131	108	1	108
	↯↯ Left-Through		0			0	
	↯↯ Through	999	2	500	566	2	283
	↯↯↯ Through-Right		0			0	
	↯↯↯ Right	301	1	243	122	1	23
	↯↯↯↯ Left-Through-Right ↯↯↯↯ Left-Right		0 0			0 0	
<b>CRITICAL VOLUMES</b>			<b>North-South:</b> <b>East-West:</b> <b>SUM:</b>	396 592 988		<b>North-South:</b> <b>East-West:</b> <b>SUM:</b>	559 490 1049
VOLUME/CAPACITY (V/C) RATIO:				0.719			0.763
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.619</b>			<b>0.663</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>B</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
14

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 98th Street  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	3	NB -- 0	SB -- 3	3
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↵ Left	209	1	209	98	1	98
	↵↘ Left-Through		0			0	
	→ Through	547	2	210	349	2	147
	↘↔ Through-Right		1			1	
	↘ Right	84	0	84	91	0	91
	↘↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
SOUTHBOUND	↵ Left	223	1	223	142	1	142
	↵↘ Left-Through		0			0	
	→ Through	199	3	66	471	3	157
	↘↔ Through-Right		0			0	
	↘ Right	357	1	227	326	1	0
	↘↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
EASTBOUND	↵ Left	130	1	130	360	1	360
	↵↘ Left-Through		0			0	
	→ Through	220	1	220	195	1	195
	↘↔ Through-Right		1			1	
	↘ Right	311	0	207	358	0	309
	↘↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
WESTBOUND	↵ Left	92	1	92	123	1	123
	↵↘ Left-Through		0			0	
	→ Through	270	0	343	400	0	547
	↘↔ Through-Right		1			1	
	↘ Right	73	0	0	147	0	0
	↘↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
CRITICAL VOLUMES		<i>North-South:</i>		436	<i>North-South:</i>		289
		<i>East-West:</i>		473	<i>East-West:</i>		907
		<i>SUM:</i>		909	<i>SUM:</i>		1196
VOLUME/CAPACITY (V/C) RATIO:				0.606			0.797
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.506</b>			<b>0.697</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>B</b>

**REMARKS:**



# Level of Service Worksheet (Circular 212 Method)



IS #: **15**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases		4			4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		1			1		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0		NB -- 0	SB -- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3		EB -- 0	WB -- 3	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	13	1	13	55	1	55
	Left-Through		0			0	
	Through	45	2	23	47	2	24
	Through-Right		0			0	
	Right	22	1	0	26	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	363	2	127	373	2	131
	Left-Through		1			1	
	Through	54	1	54	40	1	40
	Through-Right		0			0	
	Right	314	1	221	505	1	437
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	338	2	186	248	2	136
	Left-Through		0			0	
	Through	394	4	82	936	4	203
	Through-Right		1			1	
	Right	16	0	16	79	0	79
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	63	1	63	90	1	90
	Left-Through		0			0	
	Through	1119	4	280	547	4	137
	Through-Right		0			0	
	Right	547	1	420	282	1	151
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		<i>North-South:</i>		244	<i>North-South:</i>		492
		<i>East-West:</i>		606	<i>East-West:</i>		293
		<i>SUM:</i>		850	<i>SUM:</i>		785
VOLUME/CAPACITY (V/C) RATIO:		0.618			0.571		
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.518			0.471		
LEVEL OF SERVICE (LOS):		A			A		

## Level of Service Worksheet (Circular 212 Method)



**IS #:**  
**16**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Nash St/I-105 WB Ramp **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	19	1	19	55	1	55
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	23	2	0	231	2	99
	Left-Through-Right Left-Right		0 0			0 0	
SOUTHBOUND	Left	417	1	326	145	1	77
	Left-Through		1			1	
	Through	886	0	326	164	0	77
	Through-Right		1			1	
	Right	454	1	326	120	1	77
	Left-Through-Right Left-Right		0 0			0 0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	557	2	214	815	2	286
	Through-Right		1			1	
	Right	84	0	84	43	0	43
	Left-Through-Right Left-Right		0 0			0 0	
WESTBOUND	Left	239	2	131	50	2	28
	Left-Through		0			0	
	Through	879	3	293	755	3	252
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right Left-Right		0 0			0 0	
CRITICAL VOLUMES			<i>North-South:</i> 345 <i>East-West:</i> 345 <i>SUM:</i> 690		<i>North-South:</i> 176 <i>East-West:</i> 314 <i>SUM:</i> 490		
VOLUME/CAPACITY (V/C) RATIO:			0.502		0.356		
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.402		0.256		
LEVEL OF SERVICE (LOS):			A		A		

**REMARKS:**

# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**17**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Douglas Street      **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	114	1	114	197	1	197
	Left-Through		0			0	
	Through	24	1	24	25	1	25
	Through-Right		0			0	
	Right	152	2	0	548	2	216
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	32	1	32	48	1	38
	Left-Through		0			0	
	Through	35	0	35	28	0	38
	Through-Right		0			0	
	Right	3	1	0	22	1	3
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	22	1	22	38	1	38
	Left-Through		0			0	
	Through	444	2	222	1502	2	592
	Through-Right		1			1	
	Right	266	0	209	275	0	275
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	446	2	245	154	2	85
	Left-Through		0			0	
	Through	1003	2	352	563	2	198
	Through-Right		1			1	
	Right	52	0	52	30	0	30
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		<i>North-South:</i>		149	<i>North-South:</i>		254
		<i>East-West:</i>		467	<i>East-West:</i>		677
		<i>SUM:</i>		616	<i>SUM:</i>		931
VOLUME/CAPACITY (V/C) RATIO:				0.448			0.677
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.348			0.577
LEVEL OF SERVICE (LOS):				A			A

**REMARKS:**



# Level of Service Worksheet (Circular 212 Method)


**IS #:**  
**18**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Bellanca Avenue      **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	59	2	32	376	2	207
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	60	1	33	125	1	103
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	54	1	54	44	1	44
	Left-Through		0			0	
	Through	766	5	153	1628	5	326
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	2002	3	525	1127	3	303
	Through-Right		1			1	
	Right	99	0	99	85	0	85
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South:		33	North-South:		207
		East-West:		579	East-West:		347
		SUM:		612	SUM:		554
VOLUME/CAPACITY (V/C) RATIO:				0.408			0.369
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.308</b>			<b>0.269</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**19**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard     **East-West Street:** Arbor Vitae Street  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**     **Analyst:** RA     **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases		4			4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
		EB -- 3	WB -- 0	0	EB -- 3	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		2			2		
Override Capacity		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶ Left	391	1	391	159	1	159
	↶↷ Left-Through		0			0	
	↷ Through	719	2	360	611	2	306
	↷↶ Through-Right		0			0	
	↷ Right	64	1	22	145	1	40
	↷↶↷ Left-Through-Right		0			0	
	↷↶↷ Left-Right		0			0	
<b>SOUTHBOUND</b>	↷ Left	13	1	13	35	1	35
	↷↶ Left-Through		0			0	
	↷ Through	459	1	280	548	1	297
	↷↶ Through-Right		1			1	
	↷ Right	100	0	100	45	0	45
	↷↶↷ Left-Through-Right		0			0	
	↷↶↷ Left-Right		0			0	
<b>EASTBOUND</b>	↷ Left	74	1	74	130	1	130
	↷↶ Left-Through		0			0	
	↷ Through	85	3	28	496	3	165
	↷↶ Through-Right		0			0	
	↷ Right	202	1	0	529	1	370
	↷↶↷ Left-Through-Right		0			0	
	↷↶↷ Left-Right		0			0	
<b>WESTBOUND</b>	↷ Left	85	1	85	210	1	210
	↷↶ Left-Through		0			0	
	↷ Through	1085	2	379	438	2	168
	↷↶ Through-Right		1			1	
	↷ Right	51	0	51	66	0	66
	↷↶↷ Left-Through-Right		0			0	
	↷↶↷ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>			North-South: 671		North-South: 456		456
			East-West: 453		East-West: 580		580
			SUM: 1124		SUM: 1036		1036
<b>VOLUME/CAPACITY (V/C) RATIO:</b>			0.817				0.753
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>			<b>0.717</b>				<b>0.653</b>
<b>LEVEL OF SERVICE (LOS):</b>			<b>C</b>				<b>B</b>

*REMARKS:*

**I/S #:**  
**20**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
				4			4
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	3	NB -- 0	SB -- 3	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0	0	EB -- 3	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↶ Left	618	2	340	338	2	186
	↶↷ Left-Through		0			0	
	→ Through	807	1	455	689	1	376
	↷ Through-Right		1			1	
	↷ Right	103	0	103	62	0	62
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
SOUTHBOUND	↷ Left	166	2	91	205	2	113
	↷↶ Left-Through		0			0	
	→ Through	450	2	225	799	2	400
	↷ Through-Right		0			0	
	↷ Right	233	1	171	175	1	17
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
EASTBOUND	↷ Left	62	1	62	158	1	158
	↷↶ Left-Through		0			0	
	→ Through	554	4	139	1523	4	381
	↷ Through-Right		0			0	
	↷ Right	247	1	0	323	1	137
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
WESTBOUND	↷ Left	121	1	121	90	1	90
	↷↶ Left-Through		0			0	
	→ Through	1249	3	394	691	3	211
	↷ Through-Right		1			1	
	↷ Right	326	0	326	151	0	151
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<b>North-South:</b> 565			<b>North-South:</b> 586
				<b>East-West:</b> 456			<b>East-West:</b> 471
				<b>SUM:</b> 1021			<b>SUM:</b> 1057
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.743			0.769
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.643</b>			<b>0.669</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>B</b>

**REMARKS:**



I/S #: **22**      PROJECT TITLE: **Landside Access Modernization Program at LAX - Addendum**  
 North-South Street: **Aviation Boulevard**      East-West Street: **111th Street**  
 Scenario: **Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions**  
 Count Date:      Analyst: **RA**      Date: **2/12/2018**

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0      SB -- 0		0	NB -- 0      SB -- 0		0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0      WB -- 3		3	EB -- 0      WB -- 3		3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	13	1	13	19	1	19
	Left-Through		0			0	
	Through	1100	1	553	870	1	446
	Through-Right		1			1	
	Right	6	0	6	21	0	21
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	338	1	338	461	1	461
	Left-Through		0			0	
	Through	436	1	295	1014	1	529
	Through-Right		1			1	
	Right	154	0	154	44	0	44
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	71	1	71	71	1	71
	Left-Through		0			0	
	Through	2	1	13	32	0	71
	Through-Right		1			1	
	Right	11	0	0	39	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	1	1	1	15	1	15
	Left-Through		0			0	
	Through	3	1	3	32	1	32
	Through-Right		0			0	
	Right	407	1	69	258	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>			<i>North-South:</i>	891	<i>North-South:</i>		907
			<i>East-West:</i>	140	<i>East-West:</i>		103
			<i>SUM:</i>	1031	<i>SUM:</i>		1010
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.750			0.735
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.650</b>			<b>0.635</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>B</b>

REMARKS:





# Level of Service Worksheet (Circular 212 Method)



**IS #:**  
**24**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Hindry Avenue      **East-West Street:** Arbor Vitae Street  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>No. of Phases</b> Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity			2			2	
			0			0	
		<b>NB --</b> 0	<b>SB --</b> 0		<b>NB --</b> 0	<b>SB --</b> 0	
		<b>EB --</b> 0	<b>WB --</b> 0		<b>EB --</b> 0	<b>WB --</b> 0	
			2			2	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶ Left	172	1	172	164	1	164
	↶↷ Left-Through		0			0	
	↷ Through	0	0	0	0	0	0
	↶↷↶ Through-Right		0			0	
	↷ Right	357	1	196	475	1	261
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		1			1	
<b>SOUTHBOUND</b>	↷ Left	6	0	6	40	0	40
	↷↶ Left-Through		0			0	
	↷ Through	0	0	0	0	0	0
	↷↶ Through-Right		0			0	
	↷ Right	10	0	16	39	0	79
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		1			1	
<b>EASTBOUND</b>	↶ Left	37	1	37	63	1	63
	↶↷ Left-Through		0			0	
	↷ Through	158	2	79	883	2	442
	↶↷↶ Through-Right		0			0	
	↷ Right	0	0	0	0	0	0
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
<b>WESTBOUND</b>	↷ Left	0	0	0	0	0	0
	↷↶ Left-Through		0			0	
	↷ Through	1220	1	679	447	1	247
	↷↶ Through-Right		1			1	
	↷ Right	138	0	138	47	0	47
	↷↶ Left-Through-Right		0			0	
	↷↶ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 202			<i>North-South:</i> 301
				<i>East-West:</i> 716			<i>East-West:</i> 442
				<b>SUM:</b> 918			<b>SUM:</b> 743
VOLUME/CAPACITY (V/C) RATIO:				0.612			0.495
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.512</b>			<b>0.395</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**





## Level of Service Worksheet (Circular 212 Method)



**IS #:**  
26

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
				4			4
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 3	WB -- 3	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	620	2	188	243	2	134
	Left-Through		0			0	
	Through	244	1	244	157	1	151
	Through-Right		1			1	
	Right	263	0	183	145	0	145
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	278	2	153	209	2	115
	Left-Through		0			0	
	Through	275	1	211	327	1	202
	Through-Right		1			1	
	Right	147	0	147	77	0	77
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	140	2	77	75	2	41
	Left-Through		0			0	
	Through	124	3	41	1472	3	491
	Through-Right		0			0	
	Right	171	1	0	254	1	120
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	146	2	80	148	2	81
	Left-Through		0			0	
	Through	885	2	443	416	2	208
	Through-Right		0			0	
	Right	262	1	109	71	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 399			<i>North-South:</i> 336
				<i>East-West:</i> 520			<i>East-West:</i> 572
				<b>SUM:</b> 919			<b>SUM:</b> 908
VOLUME/CAPACITY (V/C) RATIO:				0.668			0.660
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.568</b>			<b>0.560</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

REMARKS:

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 27**  
**North/South Street:** LA CIENEGA BOULEVARD  
**East/West Street:** ARBOR VITAE STREET  
**Scenario:** BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
**MITIGATION CONDITIONS**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

**Peak Period: AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	128	0	0.000	N-S(1): 0.385
	TH	2.00	529	3,200	0.205 *	N-S(2): 0.425 *
	LT	1.00	40	1,600	0.025	E-W(1): 0.196
Westbound	RT	1.00	292	1,600	0.183	E-W(2): 0.387 *
	TH	2.00	788	3,200	0.246 *	
	LT	1.00	135	1,600	0.084	V/C: 0.812
Northbound	RT	0.00	29	0	0.000	Lost Time: 0.100
	TH	2.00	1,122	3,200	0.360	
	LT	1.00	352	1,600	0.220 *	
Eastbound	RT	1.00	145	0	0.000	ICU: 0.912
	TH	2.00	213	3,200	0.112	
	LT	1.00	225	1,600	0.141 *	LOS: E

**Peak Period: PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	75	0	0.000	N-S(1): 0.265
	TH	2.00	801	3,200	0.274 *	N-S(2): 0.360 *
	LT	1.00	126	1,600	0.079	E-W(1): 0.316 *
Westbound	RT	1.00	75	1,600	0.047	E-W(2): 0.270
	TH	2.00	263	3,200	0.082	
	LT	1.00	37	1,600	0.023 *	V/C: 0.676
Northbound	RT	0.00	77	0	0.000	Lost Time: 0.100
	TH	2.00	518	3,200	0.186	
	LT	1.00	137	1,600	0.086 *	
Eastbound	RT	1.00	263	0	0.000	ICU: 0.776
	TH	2.00	673	3,200	0.293 *	
	LT	1.00	300	1,600	0.188	LOS: C

\* = Critical Movement

### Level of Service Worksheet (Circular 212 Method)



**I/S #:** 28     **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** La Cienega Boulevard     **East-West Street:** I-405 Ramps (n/o Century BI)  
**Scenario:** Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
**Count Date:**     **Analyst:** RA     **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
				4			4
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	3	NB -- 3	SB -- 3	3
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	← Left	303	2	167	225	2	124
	↙ Left-Through		0			0	
	→ Through	1599	1	800	396	1	198
	↘ Through-Right		1			1	
	→ Right	78	1	0	67	1	0
	↘ Left-Through-Right		0			0	
	↙ Left-Right		0			0	
SOUTHBOUND	← Left	129	2	71	174	2	96
	↙ Left-Through		0			0	
	→ Through	345	3	115	860	3	287
	↘ Through-Right		0			0	
	→ Right	356	1	342	126	1	60
	↘ Left-Through-Right		0			0	
	↙ Left-Right		0			0	
EASTBOUND	← Left	26	2	14	120	2	66
	↙ Left-Through		0			0	
	→ Through	184	2	92	262	2	131
	↘ Through-Right		0			0	
	→ Right	84	1	1	161	1	99
	↘ Left-Through-Right		0			0	
	↙ Left-Right		0			0	
WESTBOUND	← Left	184	2	101	483	2	266
	↙ Left-Through		0			0	
	→ Through	236	1	129	380	1	240
	↘ Through-Right		1			1	
	→ Right	21	0	21	99	0	99
	↘ Left-Through-Right		0			0	
	↙ Left-Right		0			0	
CRITICAL VOLUMES				North-South: 871			North-South: 411
				East-West: 193			East-West: 397
				SUM: 1064			SUM: 808
VOLUME/CAPACITY (V/C) RATIO:				0.774			0.588
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.674			0.488
LEVEL OF SERVICE (LOS):				B			A

REMARKS:



### Level of Service Worksheet (Circular 212 Method)



IS #: **29**

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
North-South Street: La Cienega Boulevard East-West Street: Century Boulevard  
Scenario: Baseline (2015) with Project (incl .SBO Relocation) and Mitigation Conditions  
Count Date: Analyst: RA Date: 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases					No. of Phases
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	0	NB -- 3	SB -- 3	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 3	WB -- 3	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	222	2	122	124	2	68
	Left-Through		0			0	
	Through	690	2	345	326	2	163
	Through-Right		0			0	
	Right	192	2	0	525	2	211
	Left-Through-Right Left-Right		0 0			0 0	
SOUTHBOUND	Left	167	2	92	638	2	351
	Left-Through		0			0	
	Through	352	2	176	784	2	392
	Through-Right		0			0	
	Right	107	1	46	165	1	77
	Left-Through-Right Left-Right		0 0			0 0	
EASTBOUND	Left	61	1	61	88	1	88
	Left-Through		0			0	
	Through	508	3	169	1197	3	399
	Through-Right		0			0	
	Right	262	1	140	396	1	328
	Left-Through-Right Left-Right		0 0			0 0	
WESTBOUND	Left	322	1	322	78	1	78
	Left-Through		0			0	
	Through	1589	3	530	873	3	291
	Through-Right		0			0	
	Right	914	1	822	148	1	0
	Left-Through-Right Left-Right		0 0			0 0	
<b>CRITICAL VOLUMES</b>				North-South: 437			North-South: 562
				East-West: 883			East-West: 477
				<b>SUM: 1320</b>			<b>SUM: 1039</b>
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.960			0.756
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.860</b>			<b>0.656</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>B</b>

REMARKS:

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 30**  
**North/South Street:** I-405 NORTHBOUND RAMPS  
**East/West Street:** CENTURY BOULEVARD  
**Scenario:** BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
**MITIGATION CONDITIONS**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period: AM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	33	1,600	0.018 *	N-S(1): 0.256 N-S(2): 0.406 * E-W(1): 0.118 E-W(2): 0.412 *  V/C: 0.818 Lost Time: 0.100
	TH	0.00	0	0	0.000	
	LT	0.00	0	0	0.000	
Westbound	RT	0.00	6	0	0.000	
	TH	3.00	1,955	4,800	0.409 *	
	LT	0.00	0	0	0.000	
Northbound	RT	1.00	409	1,600	0.256	
	TH	0.00	0	0	0.000	
	LT	2.00	1,118	2,880	0.388 *	
Eastbound	RT	1.00	173	1,600	0.000	ICU: 0.918  LOS: E
	TH	3.00	568	4,800	0.118	
	LT	1.00	4	1,600	0.003 *	

<b>Peak Period: PM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	27	1,600	0.005	N-S(1): 0.257 * N-S(2): 0.245 E-W(1): 0.367 * E-W(2): 0.187  V/C: 0.624 Lost Time: 0.100
	TH	0.00	0	0	0.000	
	LT	0.00	1	1,600	0.001 *	
Westbound	RT	0.00	19	0	0.000	
	TH	3.00	822	4,800	0.175	
	LT	0.00	0	0	0.000 *	
Northbound	RT	1.00	410	1,600	0.256 *	
	TH	0.00	0	0	0.000	
	LT	2.00	692	2,880	0.240	
Eastbound	RT	1.00	533	1,600	0.117	ICU: 0.724  LOS: C
	TH	3.00	1,762	4,800	0.367 *	
	LT	1.00	19	1,600	0.012	

\* = Critical Movement  
 EBR is free-flow movement.

## Level of Service Worksheet (Circular 212 Method)



**I/S #:** 4     
 **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard     
 **East-West Street:** Westchester Parkway  
**Scenario:** Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
**Count Date:**                     
 **Analyst:** RA                     
 **Date:** 2/12/2018

		MD PEAK HOUR					
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	3	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	227	1	227			0
	Left-Through		0				0
	Through	1,135	3	378			0
	Through-Right		0				0
	Right	54	1	0			0
	Left-Through-Right		0				0
Left-Right		0				0	
SOUTHBOUND	Left	123	1	123			0
	Left-Through		0				0
	Through	1,383	3	461			0
	Through-Right		0				0
	Right	72	1	16			0
	Left-Through-Right		0				0
Left-Right		0				0	
EASTBOUND	Left	56	1	56			0
	Left-Through		0				0
	Through	147	1	147			0
	Through-Right		1				0
	Right	173	0	60			0
	Left-Through-Right		0				0
Left-Right		0				0	
WESTBOUND	Left	327	1	327			0
	Left-Through		0				0
	Through	271	1	221			0
	Through-Right		1				0
	Right	170	0	170			0
	Left-Through-Right		0				0
Left-Right		0				0	
CRITICAL VOLUMES		North-South:		688	North-South:		0
		East-West:		474	East-West:		0
		SUM:		1162	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.845			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.745			0.000
LEVEL OF SERVICE (LOS):				C			A

**REMARKS:**





IS #: **5**

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Sepulveda Boulevard East-West Street: Lincoln Boulevard  
 Scenario: Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
 Count Date: Analyst: RA Date: 2/12/2018

		MD PEAK HOUR					
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					
			2			0	
			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0	0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0	0	
Override Capacity			2			0	
			0			0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	1220	3	407			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0	0			
SOUTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	988	4	247			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0	0			
EASTBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0	0			
WESTBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	1827	4	457			0
	Through-Right		0				
	Right	48	1	48			0
	Left-Through-Right		0	0			
<b>CRITICAL VOLUMES</b>			<i>North-South:</i> 407	407	<i>North-South:</i> 0		0
			<i>East-West:</i> 457	457	<i>East-West:</i> 0		0
			<i>SUM:</i> 864	864	<i>SUM:</i> 0		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.576			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.476			0.000
<b>LEVEL OF SERVICE (LOS):</b>				A			A

**REMARKS:**





# Level of Service Worksheet (Circular 212 Method)



IS #:   
 7

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Sepulveda Boulevard East-West Street: I-105 Ramps (n/o Imperial Hwy)  
 Scenario: Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
 Count Date: Analyst: RA Date: 2/12/2018

		MD PEAK HOUR					
No. of Phases				2			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB --	0	NB -- 0	SB --	0
		EB -- 0	WB --	0	EB -- 0	WB --	0
ATSAC-1 or ATSAC+ATCS-2?				2			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	1986	3	662			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
SOUTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through [1]	1482	1	0			0
	Through-Right		1				
	Right [1]	1819	1	0			0
	Left-Through-Right		0				
EASTBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right [1]	0	0	0			0
	Left-Through-Right		0				
WESTBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	2262	3	792			0
	Left-Through-Right		0				
CRITICAL VOLUMES		North-South:		662	North-South:		0
		East-West:		792	East-West:		0
		SUM:		1454	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.969			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.869			0.000
LEVEL OF SERVICE (LOS):				D			A

REMARKS: [1] Free-flow movement.

# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**8**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		MD PEAK HOUR				
No. of Phases		4				
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0				
Right Turns: FREE-1, NRTOR-2 or OLA-3?	<i>NB</i> --	0	<i>SB</i> --	0	<i>NB</i> --	0
	<i>EB</i> --	0	<i>WB</i> --	3	<i>EB</i> --	0
ATSAC-1 or ATSAC+ATCS-2?		2				
Override Capacity		0				
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	Lane Volume
<b>NORTHBOUND</b>	Left	135	1	135		0
	Left-Through		0			0
	Through	1463	3	488		0
	Through-Right		0			0
	Right	709	1	660		0
	Left-Through-Right		0			0
<b>SOUTHBOUND</b>	Left	219	2	120		0
	Left-Through		0			0
	Through	1852	3	472		0
	Through-Right		1			0
	Right	35	0	35		0
	Left-Through-Right		0			0
<b>EASTBOUND</b>	Left	191	2	105		0
	Left-Through		0			0
	Through	235	3	78		0
	Through-Right		0			0
	Right	148	1	81		0
	Left-Through-Right		0			0
<b>WESTBOUND</b>	Left	179	2	98		0
	Left-Through		0			0
	Through	214	3	71		0
	Through-Right		0			0
	Right	269	1	149		0
	Left-Through-Right		0			0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		780	<i>North-South:</i>	
		<i>East-West:</i>		254	<i>East-West:</i>	
		<i>SUM:</i>		1034	<i>SUM:</i>	
VOLUME/CAPACITY (V/C) RATIO:				0.752		0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.652		0.000
LEVEL OF SERVICE (LOS):				B		A

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		MD PEAK HOUR						
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?		ATSAC-1 or ATSAC+ATCS-2?		
		No. of Phases			2			0
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
		ATSAC-1 or ATSAC+ATCS-2?	EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
		Override Capacity			2			0
				0			0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
NORTHBOUND	↶ Left	0	0	0			0	
	↶↷ Left-Through		0					
	↷ Through	0	0	0			0	
	↷↶ Through-Right		0					
	↷ Right	0	0	0			0	
	↷↷ Left-Through-Right		0					
↷↷ Left-Right			0					
SOUTHBOUND	↷ Left	153	1	85			0	
	↷↷ Left-Through		0				0	
	↷ Through	0	0	0			0	
	↷↶ Through-Right		0					
	↷ Right	101	1	22			0	
	↷↷ Left-Through-Right		0					
↷↷ Left-Right			1					
EASTBOUND	↶ Left	126	1	126			0	
	↶↷ Left-Through		0				0	
	↷ Through	566	2	283			0	
	↷↶ Through-Right		0				0	
	↷ Right	0	0	0			0	
	↷↷ Left-Through-Right		0					
↷↷ Left-Right			0					
WESTBOUND	↷ Left	0	0	0			0	
	↷↷ Left-Through		0				0	
	↷ Through	858	2	429			0	
	↷↶ Through-Right		0				0	
	↷ Right	95	1	53			0	
	↷↷ Left-Through-Right		0					
↷↷ Left-Right			0					
CRITICAL VOLUMES				<i>North-South:</i> 85			<i>North-South:</i> 0	
				<i>East-West:</i> 555			<i>East-West:</i> 0	
				<i>SUM:</i> 640			<i>SUM:</i> 0	
VOLUME/CAPACITY (V/C) RATIO:				0.427			0.000	
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.327</b>			<b>0.000</b>	
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>	

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**IS #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					
			3			0	
			0			0	
		<b>Right Turns: FREE-1, NRTOR-2 or OLA-3?</b>	<b>NB -- 0</b>	<b>SB -- 0</b>	<b>NB -- 0</b>	<b>SB -- 0</b>	
			0	0	0	0	
		<b>ATSAC-1 or ATSAC+ATCS-2?</b>					0
		<b>Override Capacity</b>					0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	79	1	79			0
	Left-Through		0				0
	Through	5	1	5			0
	Through-Right		0				0
	Right	32	1	20			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>SOUTHBOUND</b>	Left	47	1	47			0
	Left-Through		0				0
	Through	10	1	10			0
	Through-Right		0				0
	Right	94	1	32			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>EASTBOUND</b>	Left	227	2	125			0
	Left-Through		0				0
	Through	1108	4	238			0
	Through-Right		1				0
	Right	80	0	80			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>WESTBOUND</b>	Left	25	1	25			0
	Left-Through		0				0
	Through	930	3	251			0
	Through-Right		1				0
	Right	75	0	75			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>CRITICAL VOLUMES</b>			<b>North-South:</b>	111	<b>North-South:</b>		0
			<b>East-West:</b>	376	<b>East-West:</b>		0
			<b>SUM:</b>	487	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.342			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.242</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**







**I/S #:**  
**13**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard **East-West Street:** 96th Street  
**Scenario:** Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		MD PEAK HOUR					
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	747	2	272			0
	Through-Right		1				
	Right	70	0	70			0
	Left-Through-Right		0				
	Left-Right		0				0
SOUTHBOUND	Left	59	1	59			0
	Left-Through		0				
	Through	746	3	249			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				0
EASTBOUND	Left	128	1	128			0
	Left-Through		0				
	Through	155	0	192			0
	Through-Right		0				
	Right	228	1	0			0
	Left-Through-Right		1				
	Left-Right		0				0
WESTBOUND	Left	89	1	63			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	99	1	34			0
	Left-Through-Right		0				
	Left-Right		1				0
CRITICAL VOLUMES		<i>North-South:</i>		331	<i>North-South:</i>		0
		<i>East-West:</i>		255	<i>East-West:</i>		0
		<b>SUM:</b>		586	<b>SUM:</b>		0
VOLUME/CAPACITY (V/C) RATIO:				0.426			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.326			0.000
LEVEL OF SERVICE (LOS):				A			A

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**IS #:**  
**14**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard **East-West Street:** 98th Street  
**Scenario:** Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					
			2			0	
			0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> -- 0	<i>SB</i> -- 3	<i>NB</i> -- 0	<i>SB</i> -- 0		
		<i>EB</i> -- 0	<i>WB</i> -- 0	<i>EB</i> -- 0	<i>WB</i> -- 0		
ATSAC-1 or ATSAC+ATCS-2?			2			0	
Override Capacity			0			0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶ Left	129	1	129			0
	↶↷ Left-Through		0				0
	↷ Through	447	2	168			0
	↷↶ Through-Right		1				0
	↷ Right	56	0	56			0
	↷↷ Left-Through-Right		0				0
	↷↷ Left-Right		0				0
<b>SOUTHBOUND</b>	↷ Left	77	1	77			0
	↷↷ Left-Through		0				0
	↷ Through	533	3	178			0
	↷↶ Through-Right		0				0
	↷ Right	385	1	34			0
	↷↷ Left-Through-Right		0				0
	↷↷ Left-Right		0				0
<b>EASTBOUND</b>	↶ Left	351	1	351			0
	↶↷ Left-Through		0				0
	↶ Through	108	1	108			0
	↶↷ Through-Right		1				0
	↶ Right	146	0	82			0
	↶↷ Left-Through-Right		0				0
	↶↷ Left-Right		0				0
<b>WESTBOUND</b>	↷ Left	45	1	45			0
	↷↷ Left-Through		0				0
	↷ Through	336	0	403			0
	↷↶ Through-Right		1				0
	↷ Right	67	0	0			0
	↷↷ Left-Through-Right		0				0
	↷↷ Left-Right		0				0
<b>CRITICAL VOLUMES</b>			<i>North-South:</i> 307		<i>North-South:</i> 0		
			<i>East-West:</i> 754		<i>East-West:</i> 0		
			<i>SUM:</i> 1061		<i>SUM:</i> 0		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.707			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.607			0.000
<b>LEVEL OF SERVICE (LOS):</b>				B			A

*REMARKS:*



**Level of Service Worksheet**  
(Circular 212 Method)



**I/S #:**  
**19**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Arbor Vitae Street  
**Scenario:** Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 2/12/2018

		MD PEAK HOUR					
No. of Phases		4			0		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB --	0	NB -- 0	SB --	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB --	0	EB -- 0	WB --	0
Override Capacity		2			0		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	163	1	163			0
	Left-Through		0				0
	Through	449	2	225			0
	Through-Right		0				0
	Right	62	1	9			0
	Left-Through-Right		0				0
SOUTHBOUND	Left	36	1	36			0
	Left-Through		0				0
	Through	491	1	286			0
	Through-Right		1				0
	Right	81	0	81			0
	Left-Through-Right		0				0
EASTBOUND	Left	89	1	89			0
	Left-Through		0				0
	Through	313	3	104			0
	Through-Right		0				0
	Right	228	1	65			0
	Left-Through-Right		0				0
WESTBOUND	Left	106	1	106			0
	Left-Through		0				0
	Through	326	2	139			0
	Through-Right		1				0
	Right	91	0	91			0
	Left-Through-Right		0				0
			0				0
<b>CRITICAL VOLUMES</b>		<b>North-South:</b>		449	<b>North-South:</b>		0
		<b>East-West:</b>		228	<b>East-West:</b>		0
		<b>SUM:</b>		677	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.492			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.392</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:** 21      **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** 104th Street  
**Scenario:** Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?		ATSAC-1 or ATSAC+ATCS-2?	
		No. of Phases		4		0	
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		2		0	
		Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0      SB -- 0 EB -- 0      WB -- 0		NB -- 0      SB -- 0 EB -- 0      WB -- 0	
		ATSAC-1 or ATSAC+ATCS-2?		2		0	
		Override Capacity		0		0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	69	1	69			0
	Left-Through		0				0
	Through	971	1	497			0
	Through-Right		1				0
	Right	23	0	23			0
	Left-Through-Right		0				0
Left-Right		0				0	
<b>SOUTHBOUND</b>	Left	12	1	12			0
	Left-Through		0				0
	Through	833	1	418			0
	Through-Right		1				0
	Right	2	0	2			0
	Left-Through-Right		0				0
Left-Right		0				0	
<b>EASTBOUND</b>	Left	5	0	5			0
	Left-Through		0				0
	Through	9	0	124			0
	Through-Right		0				0
	Right	110	0	0			0
	Left-Through-Right		1				0
Left-Right		0				0	
<b>WESTBOUND</b>	Left	58	1	58			0
	Left-Through		0				0
	Through	11	0	40			0
	Through-Right		1				0
	Right	29	0	0			0
	Left-Through-Right		0				0
Left-Right		0				0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		509	<i>North-South:</i>		0
		<i>East-West:</i>		182	<i>East-West:</i>		0
		<b>SUM:</b>		691	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.503			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<span style="color: red;">0.403</span>			<span style="color: red;">0.000</span>
<b>LEVEL OF SERVICE (LOS):</b>				<span style="color: red;">A</span>			<span style="color: red;">A</span>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**IS #:**  
**22**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard **East-West Street:** 111th Street  
**Scenario:** Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases				4	0
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2	0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB -- 0	SB -- 0	0	NB -- 0	SB -- 0
		ATSAC-1 or ATSAC+ATCS-2?	EB -- 0	WB -- 3	3	EB -- 0	WB -- 0
		Override Capacity				2	0
						0	0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	← Left	25	1	25			0
	↔ Left-Through		0				
	→ Through	773	1	401			0
	↔ Through-Right		1				
	→ Right	28	0	28			0
	↔ Left-Through-Right		0				
↔ Left-Right			0				
<b>SOUTHBOUND</b>	← Left	310	1	310			0
	↔ Left-Through		0				
	→ Through	545	1	328			0
	↔ Through-Right		1				
	→ Right	111	0	111			0
	↔ Left-Through-Right		0				
↔ Left-Right			0				
<b>EASTBOUND</b>	← Left	87	1	87			0
	↔ Left-Through		0				
	→ Through	39	0	54			0
	↔ Through-Right		1				
	→ Right	15	0	0			0
	↔ Left-Through-Right		0				
↔ Left-Right			0				
<b>WESTBOUND</b>	← Left	24	1	24			0
	↔ Left-Through		0				
	→ Through	14	1	14			0
	↔ Through-Right		0				
	→ Right	248	1	0			0
	↔ Left-Through-Right		0				
↔ Left-Right			0				
<b>CRITICAL VOLUMES</b>			<i>North-South:</i>	711	<i>North-South:</i>		0
			<i>East-West:</i>	111	<i>East-West:</i>		0
			<i>SUM:</i>	822	<i>SUM:</i>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.598			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.498</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**23**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
**Count Date:**    **Analyst:** RA    **Date:** 2/12/2018

		MD PEAK HOUR						
					4			0
No. of Phases					0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB --	3	SB --	3	NB --	0	SB --	0
	EB --	0	WB --	3	EB --	0	WB --	0
ATSAC-1 or ATSAC+ATCS-2?					2			0
Override Capacity					0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
<b>NORTHBOUND</b>	Left	125	2	69			0	
	Left-Through		0				0	
	Through	613	2	307			0	
	Through-Right		0				0	
	Right	133	1	0			0	
	Left-Through-Right		0				0	
	Left-Right		0				0	
<b>SOUTHBOUND</b>	Left	46	2	25			0	
	Left-Through		0				0	
	Through	384	2	192			0	
	Through-Right		0				0	
	Right	162	1	72			0	
	Left-Through-Right		0				0	
	Left-Right		0				0	
<b>EASTBOUND</b>	Left	164	2	90			0	
	Left-Through		0				0	
	Through	547	2	216			0	
	Through-Right		1				0	
	Right	102	0	102			0	
	Left-Through-Right		0				0	
	Left-Right		0				0	
<b>WESTBOUND</b>	Left	324	2	178			0	
	Left-Through		0				0	
	Through	320	3	107			0	
	Through-Right		0				0	
	Right	52	1	27			0	
	Left-Through-Right		0				0	
	Left-Right		0				0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		332	<i>North-South:</i>		0	
		<i>East-West:</i>		394	<i>East-West:</i>		0	
		<i>SUM:</i>		726	<i>SUM:</i>		0	
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.528			0.000	
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.428			0.000	
<b>LEVEL OF SERVICE (LOS):</b>				A			A	

**REMARKS:**

# Level of Service Worksheet (Circular 212 Method)



<b>IS #:</b> <b>24</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum <b>North-South Street:</b> Hindry Avenue <b>East-West Street:</b> Arbor Vitae Street <b>Scenario:</b> Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions <b>Count Date:</b>	<b>Analyst:</b> RA <b>Date:</b> 2/12/2018	
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		MD PEAK HOUR					
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		2			0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0
		ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0
		Override Capacity		2			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	256	1	256			0
	↵↵ Left-Through		0				0
	↔ Through	0	0	0			0
	↵↵ Through-Right		0				0
	↵ Right	643	1	354			0
	↵↵ Left-Through-Right		0				0
	↵↵ Left-Right		1				0
<b>SOUTHBOUND</b>	↵ Left	39	0	39			0
	↵↵ Left-Through		0				0
	↔ Through	0	0	0			0
	↵↵ Through-Right		0				0
	↵ Right	6	0	45			0
	↵↵ Left-Through-Right		0				0
	↵↵ Left-Right		1				0
<b>EASTBOUND</b>	↵ Left	55	1	55			0
	↵↵ Left-Through		0				0
	↔ Through	394	2	197			0
	↵↵ Through-Right		0				0
	↵ Right	0	0	0			0
	↵↵ Left-Through-Right		0				0
	↵↵ Left-Right		0				0
<b>WESTBOUND</b>	↵ Left	0	0	0			0
	↵↵ Left-Through		0				0
	↔ Through	265	1	147			0
	↵↵ Through-Right		1				0
	↵ Right	29	0	29			0
	↵↵ Left-Through-Right		0				0
	↵↵ Left-Right		0				0
<b>CRITICAL VOLUMES</b>				North-South: 393			North-South: 0
				East-West: 202			East-West: 0
				SUM: 595			SUM: 0
VOLUME/CAPACITY (V/C) RATIO:				0.397			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.297</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**IS #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Baseline (2015) with Project (incl. SBO Relocation) and Mitigation Conditions  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
				4			0
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	268	2	147			0
	↵↵ Left-Through		0				0
	↔ Through	244	1	212			0
	↵↵ Through-Right		1				0
	↵ Right	180	0	180			0
	↵↵ Left-Through-Right		0				0
↵↵ Left-Right		0				0	
<b>SOUTHBOUND</b>	↵ Left	128	2	70			0
	↵↵ Left-Through		0				0
	↔ Through	265	1	177			0
	↵↵ Through-Right		1				0
	↵ Right	89	0	89			0
	↵↵ Left-Through-Right		0				0
↵↵ Left-Right		0				0	
<b>EASTBOUND</b>	↵ Left	91	2	50			0
	↵↵ Left-Through		0				0
	↔ Through	269	3	90			0
	↵↵ Through-Right		0				0
	↵ Right	186	1	39			0
	↵↵ Left-Through-Right		0				0
↵↵ Left-Right		0				0	
<b>WESTBOUND</b>	↵ Left	228	2	125			0
	↵↵ Left-Through		0				0
	↔ Through	454	2	227			0
	↵↵ Through-Right		0				0
	↵ Right	107	1	37			0
	↵↵ Left-Through-Right		0				0
↵↵ Left-Right		0				0	
<b>CRITICAL VOLUMES</b>				North-South: 324			North-South: 0
				East-West: 277			East-West: 0
				SUM: 601			SUM: 0
VOLUME/CAPACITY (V/C) RATIO:				0.437			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.337</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**

<b>Project: LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM INT # 27</b>						
<b>North/South Street: LA CIENEGA BOULEVARD</b>						
<b>East/West Street: ARBOR VITAE STREET</b>						
<b>Scenario: BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS</b>						
Thru Lane: 1600 vph			N-S Split Phase : N			
Left-Turn Lane: 1600 vph			E-W Split Phase : N			
Dual LT Penalty: 10 %			Lost Time (% of cycle): 10			
<b>Peak Period: MD PEAK HOUR</b>						
<b>Approach</b>	<b>Movement</b>	<b>Lanes</b>	<b>Volume</b>	<b>Capacity</b>	<b>V/C</b>	<b>ICU ANALYSIS</b>
Southbound	RT	0.00	68	0	0.000	N-S(1): 0.167
	TH	2.00	567	3,200	0.198 *	N-S(2): 0.232 *
	LT	1.00	75	1,600	0.047	E-W(1): 0.267
Westbound	RT	1.00	61	1,600	0.038	E-W(2): 0.329 *
	TH	2.00	192	3,200	0.060 *	
	LT	1.00	129	1,600	0.081	V/C: 0.561
Northbound	RT	0.00	48	0	0.000	Lost Time: 0.100
	TH	2.00	335	3,200	0.120	
	LT	1.00	54	1,600	0.034 *	
Eastbound	RT	1.00	196	0	0.000	ICU: 0.661
	TH	2.00	399	3,200	0.186	
	LT	1.00	431	1,600	0.269 *	LOS: B

\* = Critical Movement





<b>Project: LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM INT # 30</b>						
<b>North/South Street: I-405 NORTHBOUND RAMPS</b>						
<b>East/West Street: CENTURY BOULEVARD</b>						
<b>Scenario: BASELINE (2015) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS</b>						
Thru Lane: 1600 vph			N-S Split Phase : N			
Left-Turn Lane: 1600 vph			E-W Split Phase : N			
Dual LT Penalty: 10 %			Lost Time (% of cycle): 10			
<b>Peak Period: MD PEAK HOUR</b>						
<b>Approach</b>	<b>Movement</b>	<b>Lanes</b>	<b>Volume</b>	<b>Capacity</b>	<b>V/C</b>	<b>ICU ANALYSIS</b>
Southbound	RT	1.00	36	1,600	0.004 *	N-S(1): 0.097
	TH	0.00	0	0	0.000	N-S(2): 0.251 *
	LT	0.00	1	1,600	0.001	E-W(1): 0.237
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.242 *
	TH	3.00	1,066	4,800	0.223 *	V/C: 0.493
	LT	0.00	0	0	0.000	Lost Time: 0.100
Northbound	RT	1.00	154	1,600	0.096	
	TH	0.00	0	0	0.000	
	LT	2.00	712	2,880	0.247 *	
Eastbound	RT	2.00	796	3,200	0.138	ICU: 0.593
	TH	2.00	757	3,200	0.237	
	LT	1.00	30	1,600	0.019 *	LOS: A

\* = Critical Movement  
EBR is free-flow movement.



**ATTACHMENT F**

**LEVEL OF SERVICE WORKSHEETS**

**Future (2024) with Phase 1 Project (including SBO Relocation) and Mitigation Measures  
Conditions**



**I/S #:** 1  
**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases			3		
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0		
		NB --	3	SB --	0	NB --	3
		EB --	0	WB --	3	EB --	0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?			3		
		ATSAC-1 or ATSAC+ATCS-2?			2		
		Override Capacity			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	0	0	0	0	0	0
	↡ Left-Through		0			0	
	→ Through	1018	2	509	631	2	316
	↘ Through-Right		0			0	
	↵ Right	395	1	217	304	1	194
	↡↵ Left-Through-Right		0			0	
	↡↘ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	88	1	88	130	1	130
	↡ Left-Through		0			0	
	→ Through	513	2	257	723	2	362
	↘ Through-Right		0			0	
	↵ Right	0	0	0	0	0	0
	↡↵ Left-Through-Right		0			0	
	↡↘ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	0	0	0	0	0	0
	↡ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	↘ Through-Right		0			0	
	↵ Right	0	0	0	0	0	0
	↡↵ Left-Through-Right		0			0	
	↡↘ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	323	2	178	200	2	110
	↡ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	↘ Through-Right		0			0	
	↵ Right	76	1	0	147	1	17
	↡↵ Left-Through-Right		0			0	
	↡↘ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		North-South:		597	North-South:		446
		East-West:		178	East-West:		110
		<b>SUM:</b>		775	<b>SUM:</b>		556
VOLUME/CAPACITY (V/C) RATIO:				0.544			0.390
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.444			0.290
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**2**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive      **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4			4
				1			1
		NB -- 0	SB -- 3	3	NB -- 0	SB -- 3	3
		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	1	0	1	1	0	1
	↵↔ Left-Through		1			1	
	→ Through	0	0	1	1	0	2
	→↔ Through-Right		1			1	
	↘ Right	1	0	0	5	0	4
	↵↔↗ Left-Through-Right		0			0	
	↘↗ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	786	1	394	788	1	394
	↵↔ Left-Through		1			1	
	→ Through	1	0	394	0	0	394
	→↔ Through-Right		0			0	
	↘ Right	107	1	0	286	1	212
	↵↔↗ Left-Through-Right		0			0	
	↘↗ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	284	2	156	134	2	74
	↵↔ Left-Through		0			0	
	→ Through	388	1	195	429	1	215
	→↔ Through-Right		1			1	
	↘ Right	1	0	1	0	0	0
	↵↔↗ Left-Through-Right		0			0	
	↘↗ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	4	1	4	2	1	2
	↵↔ Left-Through		0			0	
	→ Through	326	2	163	503	2	252
	→↔ Through-Right		0			0	
	↘ Right	1210	2	272	736	2	11
	↵↔↗ Left-Through-Right		0			0	
	↘↗ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				North-South: 395 East-West: 428 SUM: 823			North-South: 398 East-West: 326 SUM: 724
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.599			0.527
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.499</b>			<b>0.427</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**3**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Main Street      **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0      SB -- 0		0      0	NB -- 0      SB -- 0		0      0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0      WB -- 0		0      0	EB -- 0      WB -- 0		0      0
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	480	1	241	358	1	179
	Left-Through		1			1	
	Through	1	0	241	0	0	179
	Through-Right		0			0	
	Right	485	1	352	433	1	294
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	9	0	0	0
	Through-Right		0			0	
	Right	9	0	0	0	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	870	2	435	795	2	398
	Through-Right		0			0	
	Right	294	1	174	445	1	356
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	486	2	267	508	2	279
	Left-Through		0			0	
	Through	1186	1	594	865	1	433
	Through-Right		1			1	
	Right	2	0	2	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 361			<i>North-South:</i> 294
				<i>East-West:</i> 702			<i>East-West:</i> 677
				<i>SUM:</i> 1063			<i>SUM:</i> 971
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.773			0.706
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.673</b>			<b>0.606</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>B</b>

**REMARKS:**











**Level of Service Workheet  
(Circular 212 Method)**



**I/S #:**  
**8**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:** Analyst: RA **Date:** 2/12/2018

MOVEMENT		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4			4
		NB -- 0		SB -- 0	NB -- 0		SB -- 0
		EB -- 0		WB -- 3	EB -- 0		WB -- 3
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	107	1	107	191	1	191
	Left-Through		0			0	
	Through	1858	3	619	1929	3	643
	Through-Right		0			0	
	Right	683	2	304	1236	2	616
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	432	2	238	686	2	377
	Left-Through		0			0	
	Through	2830	3	709	2513	3	630
	Through-Right		1			1	
	Right	7	0	7	7	0	7
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	230	2	127	249	2	137
	Left-Through		0			0	
	Through	282	3	94	399	3	133
	Through-Right		0			0	
	Right	158	1	105	175	1	80
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	263	2	145	233	2	128
	Left-Through		0			0	
	Through	242	3	81	394	3	131
	Through-Right		0			0	
	Right	345	1	107	497	1	120
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 857	<i>North-South:</i> 1020		
				<i>East-West:</i> 250	<i>East-West:</i> 268		
				<i>SUM:</i> 1107	<i>SUM:</i> 1288		
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.805			0.937
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.705</b>			<b>0.837</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>D</b>

**REMARKS:**



# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**9**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Eastway      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>No. of Phases</b> Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2			2
				0			0
		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	14	0	14	59	0	59
	Left-Through		1			1	
	Through	119	0	133	289	0	348
	Through-Right		0			0	
	Right	111	1	107	199	1	186
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	122	0	122	321	0	321
	Left-Through		0			0	
	Through	15	0	233	13	0	480
	Through-Right		0			0	
	Right	96	0	0	146	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
EASTBOUND	Left	42	1	42	88	1	88
	Left-Through		0			0	
	Through	335	1	168	597	1	302
	Through-Right		1			1	
	Right	1	0	1	7	0	7
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	9	1	9	27	1	27
	Left-Through		0			0	
	Through	961	1	559	786	1	475
	Through-Right		1			1	
	Right	156	0	156	164	0	164
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				North-South: 255			North-South: 669
				East-West: 601			East-West: 563
				SUM: 856			SUM: 1232
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.571			0.821
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.471</b>			<b>0.721</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>C</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2			2
				0			0
		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	14	1	14	133	1	81
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	56	1	56	110	1	33
	Left-Through-Right		0			0	
	Left-Right		1			1	
EASTBOUND	Left	100	1	100	96	1	96
	Left-Through		0			0	
	Through	442	2	221	932	2	466
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1043	2	522	1129	2	565
	Through-Right		0			0	
	Right	162	1	162	95	1	95
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 14			<i>North-South:</i> 81
				<i>East-West:</i> 622			<i>East-West:</i> 661
				<i>SUM:</i> 636			<i>SUM:</i> 742
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.424			0.495
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.324</b>			<b>0.395</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				3 0 0 0 2 0			3 0 0 0 2 0
		<i>NB --</i>	<i>SB --</i>		<i>NB --</i>	<i>SB --</i>	
		<i>EB --</i>	<i>WB --</i>		<i>EB --</i>	<i>WB --</i>	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	63	1	63	51	1	51
	↵↔ Left-Through		0			0	
	→ Through	21	1	21	21	1	21
	→↔ Through-Right		0			0	
	↘ Right	23	1	0	105	1	87
	↘↔ Left-Through-Right		0			0	
	↙↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	37	1	37	205	1	205
	↵↔ Left-Through		0			0	
	→ Through	24	1	24	12	1	12
	→↔ Through-Right		0			0	
	↘ Right	71	1	0	176	1	133
	↘↔ Left-Through-Right		0			0	
	↙↔ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	450	2	248	156	2	86
	↵↔ Left-Through		0			0	
	→ Through	1234	4	261	2467	4	504
	→↔ Through-Right		1			1	
	↘ Right	69	0	69	53	0	53
	↘↔ Left-Through-Right		0			0	
	↙↔ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	76	1	76	37	1	37
	↵↔ Left-Through		0			0	
	→ Through	1574	3	436	1788	3	486
	→↔ Through-Right		1			1	
	↘ Right	168	0	168	154	0	154
	↘↔ Left-Through-Right		0			0	
	↙↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 87 <i>East-West:</i> 684 <i>SUM:</i> 771			<i>North-South:</i> 292 <i>East-West:</i> 572 <i>SUM:</i> 864
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.541			0.606
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.441</b>			<b>0.506</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**12**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Arbor Vitae St / Westchester Parkw  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4 0 3 0 2 0			4 0 3 0 2 0
		<i>NB</i> -- 0	<i>SB</i> -- 3		<i>NB</i> -- 0	<i>SB</i> -- 3	
		<i>EB</i> -- 3	<i>WB</i> -- 0		<i>EB</i> -- 3	<i>WB</i> -- 0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	173	1	173	222	1	222
	↵↔ Left-Through		0			0	
	→ Through	666	2	333	903	2	452
	↘ Through-Right		0			0	
	↘ Right	131	1	16	357	1	256
	↘↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	122	1	122	246	1	246
	↵↔ Left-Through		0			0	
	→ Through	494	3	165	478	3	159
	↘ Through-Right		0			0	
	↘ Right	235	1	186	268	1	93
	↘↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	49	1	49	175	1	175
	↵↔ Left-Through		0			0	
	→ Through	282	2	141	582	2	291
	↘ Through-Right		0			0	
	↘ Right	174	1	1	255	1	33
	↘↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	231	1	231	203	1	203
	↵↔ Left-Through		0			0	
	→ Through	1067	2	534	829	2	415
	↘ Through-Right		0			0	
	↘ Right	255	1	194	170	1	47
	↘↔ Left-Through-Right		0			0	
	↘↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 455 <i>East-West:</i> 583 <i>SUM:</i> 1038			<i>North-South:</i> 698 <i>East-West:</i> 590 <i>SUM:</i> 1288
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.755			0.937
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.655</b>			<b>0.837</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>D</b>

**REMARKS:**

# Level of Service Worksheet (Circular 212 Method)



**I/S #:** 13     
**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard     
**East-West Street:** 96th Street  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**   
**Analyst:** RA   
**Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4			4
				2			2
		<i>NB</i> -- 0	<i>SB</i> -- 0	0	<i>NB</i> -- 0	<i>SB</i> -- 0	0
		<i>EB</i> -- 0	<i>WB</i> -- 0	0	<i>EB</i> -- 0	<i>WB</i> -- 0	0
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through	742	2	371	960	2	480
	→ Through	125	1	89	178	1	128
	↘ Through-Right	0	0	0	0	0	0
	↘↔ Left-Through-Right	0	0	0	0	0	0
	↘↔ Left-Through-Right	0	0	0	0	0	0
	↘↔ Left-Through-Right	0	0	0	0	0	0
<b>SOUTHBOUND</b>	↵ Left	158	1	158	195	1	195
	↵↔ Left-Through	687	3	229	785	3	262
	→ Through	0	0	0	0	0	0
	↘ Through-Right	0	0	0	0	0	0
	↘↔ Left-Through-Right	0	0	0	0	0	0
	↘↔ Left-Through-Right	0	0	0	0	0	0
	↘↔ Left-Through-Right	0	0	0	0	0	0
<b>EASTBOUND</b>	↵ Left	109	1	109	170	1	170
	↵↔ Left-Through	127	0	239	329	0	311
	→ Through	350	1	0	292	1	0
	↘ Through-Right	0	0	0	0	0	0
	↘↔ Left-Through-Right	0	1	0	0	1	0
	↘↔ Left-Through-Right	0	0	0	0	0	0
	↘↔ Left-Through-Right	0	0	0	0	0	0
<b>WESTBOUND</b>	↵ Left	86	1	73	112	1	101
	↵↔ Left-Through	0	0	0	0	0	0
	→ Through	134	1	0	191	1	4
	↘ Through-Right	0	0	0	0	0	0
	↘↔ Left-Through-Right	0	0	0	0	0	0
	↘↔ Left-Through-Right	0	0	0	0	0	0
	↘↔ Left-Through-Right	0	1	0	0	1	0
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 529			<i>North-South:</i> 675
				<i>East-West:</i> 312			<i>East-West:</i> 412
				<i>SUM:</i> 841			<i>SUM:</i> 1087
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.612			0.791
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.512</b>			<b>0.691</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>B</b>

**REMARKS:**





# Level of Service Worksheet (Circular 212 Method)

**I/S #:**  
14

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 98th Street  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

No. of Phases			AM PEAK HOUR			PM PEAK HOUR						
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?												
Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB --	0	SB --	3	NB --	0	3	SB --	0	3
ATSAC-1 or ATSAC+ATCS-2?			EB --	0	WB --	0	EB --	0	WB --	0	0	0
Override Capacity												
MOVEMENT			Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume				
NORTHBOUND	Left		253	1	253	197	1	197				
	Left-Through			0			0					
	Through		574	2	287	753	2	377				
	Through-Right			0			0					
	Right		168	1	105	268	1	186				
	Left-Through-Right			0			0					
	Left-Right			0			0					
SOUTHBOUND	Left		260	1	260	185	1	185				
	Left-Through			0			0					
	Through		500	2	250	502	2	251				
	Through-Right			0			0					
	Right		421	1	260	534	1	326				
	Left-Through-Right			0			0					
	Left-Right			0			0					
EASTBOUND	Left		161	1	161	208	1	208				
	Left-Through			0			0					
	Through		112	0	192	236	0	462				
	Through-Right			1			1					
	Right		80	0	0	226	0	0				
	Left-Through-Right			0			0					
	Left-Right			0			0					
WESTBOUND	Left		126	1	126	164	1	164				
	Left-Through			0			0					
	Through		303	0	404	202	0	413				
	Through-Right			1			1					
	Right		101	0	0	211	0	0				
	Left-Through-Right			0			0					
	Left-Right			0			0					
<b>CRITICAL VOLUMES</b>			North-South: 547			North-South: 562						
			East-West: 565			East-West: 626						
			<b>SUM:</b> 1112			<b>SUM:</b> 1188						
<b>VOLUME/CAPACITY (V/C) RATIO:</b>			0.741			0.792						
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>			0.641			0.692						
<b>LEVEL OF SERVICE (LOS):</b>			<b>B</b>			<b>B</b>						

**REMARKS:**



### Level of Service Workheet (Circular 212 Method)



**I/S #:**  
15

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	1	NB -- 0	SB -- 3	1
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	13	1	13	75	1	75
	Left-Through		0			0	
	Through	52	2	26	51	2	26
	Through-Right		0			0	
	Right	28	1	5	25	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	171	2	60	148	2	52
	Left-Through		1			1	
	Through	69	1	60	34	1	34
	Through-Right		0			0	
	Right	495	1	170	677	1	134
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	591	2	325	987	2	543
	Left-Through		0			0	
	Through	727	4	148	1691	4	358
	Through-Right		1			1	
	Right	13	0	13	100	0	100
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	46	1	46	99	1	99
	Left-Through		0			0	
	Through	1373	4	343	1263	4	316
	Through-Right		0			0	
	Right	446	1	386	222	1	170
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				North-South: 196			North-South: 209
				East-West: 711			East-West: 859
				SUM: 907			SUM: 1068
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.660			0.777
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.560			0.677
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>B</b>



Level of Service Worksheet  
(Circular 212 Method)



I/S #: 16

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
North-South Street: Nash St/I-105 WB Ramp East-West Street: Imperial Highway  
Scenario: Future (2024) with Project (including SBO Relocation) and Mitigation  
Count Date: Analyst: RA Date: 2/12/2018

MOVEMENT	AM PEAK HOUR			PM PEAK HOUR		
	No. of Phases			No. of Phases		
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB -- 3 EB -- 0	SB -- 0 WB -- 0	0	NB -- 3 EB -- 0	SB -- 0 WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		2			2	
Override Capacity		0			0	
	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND						
Left	25	1	25	113	1	113
Left-Through		0			0	
Through	0	0	0	0	0	0
Through-Right		0			0	
Right	42	2	0	284	2	96
Left-Through-Right		0			0	
Left-Right		0			0	
SOUTHBOUND						
Left	412	1	339	105	1	105
Left-Through		1			1	
Through	945	0	339	168	0	168
Through-Right		1			1	
Right	453	1	339	182	1	100
Left-Through-Right		0			0	
Left-Right		0			0	
EASTBOUND						
Left	0	0	0	0	0	0
Left-Through		0			0	
Through	602	2	253	992	2	358
Through-Right		1			1	
Right	158	0	158	82	0	82
Left-Through-Right		0			0	
Left-Right		0			0	
WESTBOUND						
Left	424	2	233	109	2	60
Left-Through		0			0	
Through	966	3	322	772	3	257
Through-Right		0			0	
Right	0	0	0	0	0	0
Left-Through-Right		0			0	
Left-Right		0			0	
CRITICAL VOLUMES			<i>North-South:</i> 364 <i>East-West:</i> 486 <i>SUM:</i> 850			<i>North-South:</i> 281 <i>East-West:</i> 418 <i>SUM:</i> 699
VOLUME/CAPACITY (V/C) RATIO:			0.618			0.508
V/C LESS ATSAC/ATCS ADJUSTMENT:			<b>0.518</b>			<b>0.408</b>
LEVEL OF SERVICE (LOS):			<b>A</b>			<b>A</b>

REMARKS:



### Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**18**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Bellanca Avenue      **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2			2
				0			0
		0		0	0		0
		0		0	0		0
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	← Left	0	0	0	0	0	0
	↙ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	↘ Through-Right		0			0	
	→ Right	0	0	0	0	0	0
	↘ Left-Through-Right		0			0	
	↙ Left-Right		0			0	
SOUTHBOUND	← Left	67	2	37	503	2	277
	↙ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	↘ Through-Right		0			0	
	→ Right	90	1	55	72	1	13
	↘ Left-Through-Right		0			0	
	↙ Left-Right		0			0	
EASTBOUND	← Left	71	1	71	119	1	119
	↙ Left-Through		0			0	
	→ Through	1042	5	208	2399	5	480
	↘ Through-Right		0			0	
	→ Right	0	0	0	0	0	0
	↘ Left-Through-Right		0			0	
	↙ Left-Right		0			0	
WESTBOUND	← Left	0	0	0	0	0	0
	↙ Left-Through		0			0	
	→ Through	2244	3	603	1879	3	501
	↘ Through-Right		1			1	
	→ Right	167	0	167	126	0	126
	↘ Left-Through-Right		0			0	
	↙ Left-Right		0			0	
CRITICAL VOLUMES				55			277
				674			620
<b>SUM:</b>				729			897
VOLUME/CAPACITY (V/C) RATIO:				0.486		0.598	
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.386</b>		<b>0.498</b>	
LEVEL OF SERVICE (LOS):				<b>A</b>		<b>A</b>	

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**20**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> -- 0	<i>SB</i> -- 3	3	<i>NB</i> -- 0	<i>SB</i> -- 3	3
ATSAC-1 or ATSAC+ATCS-2?		<i>EB</i> -- 3	<i>WB</i> -- 0	0	<i>EB</i> -- 3	<i>WB</i> -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	566	2	311	491	2	270
	Left-Through		0			0	
	Through	869	1	467	938	1	509
	Through-Right		1			1	
	Right	64	0	64	80	0	80
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	139	2	76	208	2	114
	Left-Through		0			0	
	Through	553	2	277	668	2	334
	Through-Right		0			0	
	Right	159	1	78	139	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	81	1	81	326	1	326
	Left-Through		0			0	
	Through	711	4	178	1946	4	487
	Through-Right		0			0	
	Right	355	1	44	628	1	358
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	174	1	174	116	1	116
	Left-Through		0			0	
	Through	1684	3	501	1362	3	379
	Through-Right		1			1	
	Right	321	0	321	153	0	153
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				<i>North-South:</i> 588			<i>North-South:</i> 623
				<i>East-West:</i> 582			<i>East-West:</i> 705
				<b>SUM:</b> 1170			<b>SUM:</b> 1328
VOLUME/CAPACITY (V/C) RATIO:				0.851			0.966
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.751			0.866
LEVEL OF SERVICE (LOS):				C			D

**REMARKS:**





# Level of Service Worksheet (Circular 212 Method)



I/S #: **21**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard **East-West Street:** 104th Street  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	107	1	107	74	1	74
	Left-Through		0			0	
	Through	1354	1	707	1396	1	729
	Through-Right		1			1	
	Right	59	0	59	62	0	62
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	35	1	35	61	1	61
	Left-Through		0			0	
	Through	1060	1	541	1413	1	709
	Through-Right		1			1	
	Right	21	0	21	5	0	5
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	5	0	5	4	0	4
	Left-Through		0			0	
	Through	17	0	98	40	0	206
	Through-Right		0			0	
	Right	76	0	0	162	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
WESTBOUND	Left	50	1	50	81	1	81
	Left-Through		0			0	
	Through	58	0	100	18	0	108
	Through-Right		1			1	
	Right	42	0	0	90	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				North-South: 742 East-West: 198 SUM: 940			North-South: 790 East-West: 314 SUM: 1104
VOLUME/CAPACITY (V/C) RATIO:				0.684			0.803
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.584			0.703
LEVEL OF SERVICE (LOS):				A			C

REMARKS:

## Level of Service Worksheet (Circular 212 Method)



**I/S #:** 22      **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** 111th Street  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	2	NB -- 0	SB -- 0	2
ATSA-1 or ATSA+ATCS-2? Override Capacity		EB -- 0	WB -- 0	3	EB -- 0	WB -- 0	3
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	22	1	22	21	1	21
	Left-Through		0			0	
	Through	1057	1	541	816	1	439
	Through-Right		1			1	
	Right	25	0	25	61	0	61
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	345	1	345	431	1	431
	Left-Through		0			0	
	Through	639	1	387	1136	1	616
	Through-Right		1			1	
	Right	135	0	135	95	0	95
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	81	1	81	115	1	115
	Left-Through		0			0	
	Through	23	0	33	50	0	81
	Through-Right		1			1	
	Right	10	0	0	31	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	45	1	45	51	1	51
	Left-Through		0			0	
	Through	28	1	28	18	1	18
	Through-Right		0			0	
	Right	433	1	88	552	1	121
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 886 <i>East-West:</i> 169 <i>SUM:</i> 1055			<i>North-South:</i> 870 <i>East-West:</i> 236 <i>SUM:</i> 1106
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.767			0.804
<b>V/C LESS ATSA/ATCS ADJUSTMENT:</b>				0.667			0.704
<b>LEVEL OF SERVICE (LOS):</b>				B			C

**REMARKS:**





**Level of Service Worksheet  
(Circular 212 Method)**



**I/S #:**  
**25**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Concourse Way      **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases		4			4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0      SB -- 0	0		NB -- 0      SB -- 0	0	
		EB -- 0      WB -- 0	0		EB -- 0      WB -- 0	0	
ATSAC-1 or ATSAC+ATCS-2?		2			2		
Override Capacity		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	10	1	10	25	1	25
	Left-Through		0			0	
	Through	0	0	129	0	0	109
	Through-Right		1			1	
	Right	129	0	0	109	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	443	2	244	559	2	307
	Left-Through		0			0	
	Through	0	0	225	0	0	277
	Through-Right		1			1	
	Right	225	0	0	277	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	124	1	124	109	1	109
	Left-Through		0			0	
	Through	576	3	155	1556	3	395
	Through-Right		1			1	
	Right	42	0	42	25	0	25
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	149	1	149	164	1	164
	Left-Through		0			0	
	Through	1577	4	394	1364	4	341
	Through-Right		0			0	
	Right	639	1	517	369	1	216
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South: 373 East-West: 641 SUM: 1014			North-South: 416 East-West: 559 SUM: 975		
VOLUME/CAPACITY (V/C) RATIO:		0.737			0.709		
V/C LESS ATSAC/ATCS ADJUSTMENT:		<b>0.637</b>			<b>0.609</b>		
LEVEL OF SERVICE (LOS):		<b>B</b>			<b>B</b>		

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 3	WB -- 3	3
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	505	2	278	210	2	116
	↵↔ Left-Through		0			0	
	→ Through	452	1	342	349	1	259
	↵↔ Through-Right		1			1	
	↘ Right	232	0	232	168	0	168
	↵↔↘ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	203	2	112	302	2	166
	↵↔ Left-Through		0			0	
	→ Through	232	1	201	303	1	256
	↵↔ Through-Right		1			1	
	↘ Right	170	0	170	208	0	208
	↵↔↘ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	203	2	112	198	2	109
	↵↔ Left-Through		0			0	
	→ Through	166	3	55	1767	3	589
	↵↔ Through-Right		0			0	
	↘ Right	217	1	0	386	1	270
	↵↔↘ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	141	2	78	128	2	70
	↵↔ Left-Through		0			0	
	→ Through	1183	2	592	341	2	171
	↵↔ Through-Right		0			0	
	↘ Right	388	1	276	200	1	34
	↵↔↘ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 479			<i>North-South:</i> 425
				<i>East-West:</i> 704			<i>East-West:</i> 659
				<b>SUM:</b> 1183			<b>SUM:</b> 1084
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.860			0.788
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.760</b>			<b>0.688</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>B</b>

**REMARKS:**

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX  
**INT # 27**  
**North/South Street:** LA CIENEGA BOULEVARD  
**East/West Street:** ARBOR VITAE STREET  
**Scenario:** FUTURE (2024) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
**MITIGATION CONDITIONS**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

**Peak Period: AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	136	0	0.000	N-S(1): 0.380
	TH	2.00	676	3,200	0.254 *	N-S(2): 0.468 *
	LT	1.00	47	1,600	0.029	E-W(1): 0.216
Westbound	RT	1.00	318	1,600	0.199	E-W(2): 0.440 *
	TH	2.00	836	3,200	0.261 *	
	LT	1.00	139	1,600	0.087	V/C: 0.908
Northbound	RT	0.00	35	0	0.000	Lost Time: 0.100
	TH	2.00	1,087	3,200	0.351	ITS: -0.100
	LT	1.00	342	1,600	0.214 *	
Eastbound	RT	1.00	170	0	0.000	ICU: 0.908
	TH	2.00	244	3,200	0.129	
	LT	1.00	286	1,600	0.179 *	LOS: E

**Peak Period: PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	150	0	0.000	N-S(1): 0.308
	TH	2.00	842	3,200	0.310 *	N-S(2): 0.421 *
	LT	1.00	136	1,600	0.085	E-W(1): 0.444 *
Westbound	RT	1.00	90	1,600	0.056	E-W(2): 0.378
	TH	2.00	230	3,200	0.072	
	LT	1.00	144	1,600	0.090 *	V/C: 0.865
Northbound	RT	0.00	69	0	0.000	Lost Time: 0.100
	TH	2.00	643	3,200	0.223	ITS: -0.100
	LT	1.00	177	1,600	0.111 *	
Eastbound	RT	1.00	373	0	0.000	ICU: 0.865
	TH	2.00	760	3,200	0.354 *	
	LT	1.00	489	1,600	0.306	LOS: D

\* = Critical Movement







<b>I/S #:</b>
<b>29</b>

<b>PROJECT TITLE:</b>	Landside Access Modernization Program at LAX - Addendum	
<b>North-South Street:</b>	La Cienega Boulevard	<b>East-West Street:</b> Century Boulevard
<b>Scenario:</b>	Future (2024) with Project (including SBO Relocation) and Mitigation	
<b>Count Date:</b>	<b>Analyst:</b> RA	<b>Date:</b> 2/12/2018

MOVEMENT		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>No. of Phases</b>				4			4
<b>Opposed Ø'ing: N/S-1, E/W-2 or Both-3?</b>				0			0
<b>Right Turns: FREE-1, NRTOR-2 or OLA-3?</b>		<b>NB --</b> 3	<b>SB --</b>	3	<b>NB --</b> 3	<b>SB --</b>	3
<b>ATSAC-1 or ATSAC+ATCS-2?</b>		<b>EB --</b> 3	<b>WB --</b>	3	<b>EB --</b> 3	<b>WB --</b>	3
<b>Override Capacity</b>				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	270	2	149	469	2	258
	Left-Through		0			0	
	Through	924	2	462	533	2	267
	Through-Right		0			0	
	Right	276	2	0	569	2	164
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	164	2	90	628	2	345
	Left-Through		0			0	
	Through	434	2	217	898	2	449
	Through-Right		0			0	
	Right	242	1	192	251	1	39
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	50	1	50	212	1	212
	Left-Through		0			0	
	Through	567	3	189	1657	3	552
	Through-Right		0			0	
	Right	364	1	215	463	1	205
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	367	1	367	149	1	149
	Left-Through		0			0	
	Through	1746	3	582	908	3	303
	Through-Right		0			0	
	Right	805	1	715	45	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				North-South: 552			North-South: 707
				East-West: 765			East-West: 701
				<b>SUM:</b> 1317			<b>SUM:</b> 1408
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.958			1.024
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.858</b>			<b>0.924</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>E</b>

**REMARKS:**

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX  
**INT # 30**  
**North/South Street:** I-405 NORTHBOUND RAMPS  
**East/West Street:** CENTURY BOULEVARD  
**Scenario:** FUTURE (2024) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
**MITIGATION CONDITIONS**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

**Peak Period: AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	33	1,600	0.018 *	N-S(1): 0.251
	TH	0.00	0	0	0.000	N-S(2): 0.410 *
	LT	0.00	0	0	0.000	E-W(1): 0.147
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.424 *
	TH	3.00	2,015	4,800	0.421 *	V/C: 0.834
	LT	0.00	0	0	0.000	Lost Time: 0.100
Northbound	RT	1.00	401	1,600	0.251	ITS: -0.100
	TH	0.00	0	0	0.000	
	LT	2.00	1,130	2,880	0.392 *	
Eastbound	RT	1.00	176	1,600	0.000	ICU: 0.834
	TH	3.00	707	4,800	0.147	
	LT	1.00	4	1,600	0.003 *	LOS: D

**Peak Period: PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	27	1,600	0.005 *	N-S(1): 0.241
	TH	0.00	0	0	0.000	N-S(2): 0.273 *
	LT	0.00	1	1,600	0.001	E-W(1): 0.457 *
Westbound	RT	0.00	19	0	0.000	E-W(2): 0.167
	TH	3.00	727	4,800	0.155	V/C: 0.730
	LT	0.00	0	0	0.000 *	Lost Time: 0.100
Northbound	RT	1.00	384	1,600	0.240	ITS: -0.100
	TH	0.00	0	0	0.000	
	LT	2.00	772	2,880	0.268 *	
Eastbound	RT	1.00	597	1,600	0.132	ICU: 0.730
	TH	3.00	2,192	4,800	0.457 *	
	LT	1.00	19	1,600	0.012	LOS: C

\* = Critical Movement  
 EBR is free-flow movement.



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**4**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		MD PEAK HOUR					
No. of Phases		4				0	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		0				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	NB -- 0	SB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0		
Override Capacity		2				0	
0		0				0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↔ ← Left	270	1	270			0
	↔ ↖ Left-Through		0				0
	↔ → Through	1,312	3	437			0
	↔ ↗ Through-Right		0				0
	↔ → Right	63	1	0			0
	↔ ↗ Left-Through-Right		0				0
↔ ↖ Left-Right		0				0	
<b>SOUTHBOUND</b>	↔ → Left	148	1	148			0
	↔ ↘ Left-Through		0				0
	↔ ← Through	1,599	3	533			0
	↔ ↙ Through-Right		0				0
	↔ ← Right	81	1	7			0
	↔ ↙ Left-Through-Right		0				0
↔ ↘ Left-Right		0				0	
<b>EASTBOUND</b>	↔ ↖ Left	74	1	74			0
	↔ ↙ Left-Through		0				0
	↔ → Through	200	1	200			0
	↔ ↘ Through-Right		1				0
	↔ → Right	224	0	89			0
	↔ ↘ Left-Through-Right		0				0
↔ ↖ Left-Right		0				0	
<b>WESTBOUND</b>	↔ ↘ Left	352	1	352			0
	↔ ↗ Left-Through		0				0
	↔ ← Through	319	1	254			0
	↔ ↙ Through-Right		1				0
	↔ ← Right	189	0	189			0
	↔ ↙ Left-Through-Right		0				0
↔ ↘ Left-Right		0				0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 803			<i>North-South:</i> 0
				<i>East-West:</i> 552			<i>East-West:</i> 0
				<i>SUM:</i> 1355			<i>SUM:</i> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.985			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.885</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>A</b>

*REMARKS:*



# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
5

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** Lincoln Boulevard  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**    **Analyst:** RA    **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity			2	0	0
		<i>NB</i> -- 0	<i>SB</i> -- 0	<i>NB</i> -- 0	<i>SB</i> -- 0		
		<i>EB</i> -- 0	<i>WB</i> -- 0	<i>EB</i> -- 0	<i>WB</i> -- 0		
				2		0	
				0		0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	0	0	0			0
	↠ Left-Through		0				
	→ Through	1540	3	513			0
	↘ Through-Right		0				
	↘ Right	0	0	0			0
	↗↠ Left-Through-Right		0				
	↗↘ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	0	0	0			0
	↠ Left-Through		0				
	→ Through	1244	4	311			0
	↘ Through-Right		0				
	↘ Right	0	0	0			0
	↗↠ Left-Through-Right		0				
	↗↘ Left-Right		0				
<b>EASTBOUND</b>	↵ Left	0	0	0			0
	↠ Left-Through		0				
	→ Through	0	0	0			0
	↘ Through-Right		0				
	↘ Right	0	0	0			0
	↗↠ Left-Through-Right		0				
	↗↘ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	0	0	0			0
	↠ Left-Through		0				
	→ Through	2126	4	532			0
	↘ Through-Right		0				
	↘ Right	48	1	48			0
	↗↠ Left-Through-Right		0				
	↗↘ Left-Right		0				
<b>CRITICAL VOLUMES</b>			<i>North-South:</i>	513	<i>North-South:</i>		0
			<i>East-West:</i>	532	<i>East-West:</i>		0
			<i>SUM:</i>	1045	<i>SUM:</i>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.697			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.597</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b>
<b>7</b>

<b>PROJECT TITLE:</b>	Landside Access Modernization Program at LAX - Addendum		
<b>North-South Street:</b>	Sepulveda Boulevard	<b>East-West Street:</b>	I-105 Ramps (n/o Imperial Hwy)
<b>Scenario:</b>	Future (2024) with Project (including SBO Relocation) and Mitigation		
<b>Count Date:</b>		<b>Analyst:</b>	RA
		<b>Date:</b>	2/12/2018

		MD PEAK HOUR					
		No. of Phases	2			0	
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?	0			0	
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	0	0	0	0	
		ATSAC-1 or ATSAC+ATCS-2?	2			0	
		Override Capacity	0			0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↖ Left	0	0	0			0
	↗ Left-Through		0				
	→ Through	2194	3	731			0
	↘ Through-Right		0				
	↗ Right	0	0	0			0
	↖↗ Left-Through-Right		0				
	↖↘ Left-Right		0				
<b>SOUTHBOUND</b>	↖ Left	0	0	0			0
	↗ Left-Through		0				
	→ Through [1]	1806	1	0			0
	↘ Through-Right		1				
	↗ Right [1]	1962	1	0			0
	↖↗ Left-Through-Right		0				
	↖↘ Left-Right		0				
<b>EASTBOUND</b>	↖ Left	0	0	0			0
	↗ Left-Through		0				
	→ Through	0	0	0			0
	↘ Through-Right		0				
	↗ Right [1]	0	0	0			0
	↖↗ Left-Through-Right		0				
	↖↘ Left-Right		0				
<b>WESTBOUND</b>	↖ Left	0	0	0			0
	↗ Left-Through		0				
	→ Through	0	0	0			0
	↘ Through-Right		0				
	↗ Right	2393	3	838			0
	↖↗ Left-Through-Right		0				
	↖↘ Left-Right		0				
<b>CRITICAL VOLUMES</b>				North-South: 731	North-South:		0
				East-West: 838	East-West:		0
				<b>SUM: 1569</b>	<b>SUM:</b>		<b>0</b>
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				1.046			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.946</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>E</b>			<b>A</b>

**REMARKS:** [1] Free-flow movement.





## Level of Service Worksheet (Circular 212 Method)



I/S #:	8
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**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**    **Analyst:** RA    **Date:** 2/12/2018

		MD PEAK HOUR					
No. of Phases				4		0	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	EB -- 0	WB -- 0		
Override Capacity				2		0	
				0		0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↙ Left	156	1	156			0
	↘ Left-Through		0				0
	→ Through	1604	3	535			0
	↗ Through-Right		0				0
	↘ Right	815	2	390			0
	↙↘ Left-Through-Right		0				0
	↗↘ Left-Right		0				0
<b>SOUTHBOUND</b>	↙ Left	262	2	144			0
	↘ Left-Through		0				0
	→ Through	2179	3	556			0
	↗ Through-Right		1				0
	↘ Right	43	0	43			0
	↙↘ Left-Through-Right		0				0
	↗↘ Left-Right		0				0
<b>EASTBOUND</b>	↙ Left	209	2	115			0
	↘ Left-Through		0				0
	→ Through	267	3	89			0
	↗ Through-Right		0				0
	↘ Right	164	1	86			0
	↙↘ Left-Through-Right		0				0
	↗↘ Left-Right		0				0
<b>WESTBOUND</b>	↙ Left	212	2	117			0
	↘ Left-Through		0				0
	→ Through	257	3	86			0
	↗ Through-Right		0				0
	↘ Right	317	1	173			0
	↙↘ Left-Through-Right		0				0
	↗↘ Left-Right		0				0
<b>CRITICAL VOLUMES</b>				<b>North-South:</b> 712			<b>North-South:</b> 0
				<b>East-West:</b> 288			<b>East-West:</b> 0
				<b>SUM:</b> 1000			<b>SUM:</b> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.727			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.627</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>A</b>

**REMARKS:**



# Level of Service Workheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0		
Override Capacity				2			
				0			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0			0
	Left-Through		0				0
	Through	0	0	0			0
	Through-Right		0				0
	Right	0	0	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	101	1	74			0
	Left-Through		0				0
	Through	0	0	0			0
	Through-Right		0				0
	Right	121	1	15			0
	Left-Through-Right		0				0
	Left-Right		1				0
EASTBOUND	Left	119	1	119			0
	Left-Through		0				0
	Through	625	2	313			0
	Through-Right		0				0
	Right	0	0	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
WESTBOUND	Left	0	0	0			0
	Left-Through		0				0
	Through	926	2	463			0
	Through-Right		0				0
	Right	98	1	61			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		74	<i>North-South:</i>		0
		<i>East-West:</i>		582	<i>East-West:</i>		0
		<b>SUM:</b>		656	<b>SUM:</b>		0
VOLUME/CAPACITY (V/C) RATIO:				0.437			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.337</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
				3			0
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	74	1	74			0
	↵↔ Left-Through		0				
	→ Through	9	1	9			0
	↵↔ Through-Right		0				
	↵ Right	55	1	31			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	69	1	69			0
	↵↔ Left-Through		0				
	→ Through	21	1	21			0
	↵↔ Through-Right		0				
	↵ Right	81	1	25			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>EASTBOUND</b>	↵ Left	206	2	113			0
	↵↔ Left-Through		0				
	→ Through	2043	4	422			0
	↵↔ Through-Right		1				
	↵ Right	68	0	68			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	49	1	49			0
	↵↔ Left-Through		0				
	→ Through	1756	3	468			0
	↵↔ Through-Right		1				
	↵ Right	116	0	116			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 100			<i>North-South:</i> 0
				<i>East-West:</i> 581			<i>East-West:</i> 0
				<i>SUM:</i> 681			<i>SUM:</i> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.478			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.378</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
13

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 96th Street  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**    **Analyst:** RA    **Date:** 2/12/2018

		MD PEAK HOUR					
No. of Phases				4			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> -- 0 <i>SB</i> -- 0		<i>NB</i> -- 0 <i>SB</i> -- 0			
ATSAC-1 or ATSAC+ATCS-2?		<i>EB</i> -- 0 <i>WB</i> -- 0		<i>EB</i> -- 0 <i>WB</i> -- 0			
Override Capacity				2			
				0			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>							
NORTHBOUND		0	0	0			0
			0				
		950	2	475			0
			0				
		102	1	60			0
			0				
			0				
<b>SOUTHBOUND</b>							
SOUTHBOUND		153	1	153			0
			0				
		848	3	283			0
			0				
		0	0	0			0
			0				
			0				
<b>EASTBOUND</b>							
EASTBOUND		267	1	267			0
			0				
		215	0	291			0
			0				
		366	1	0			0
			1				
			0				
<b>WESTBOUND</b>							
WESTBOUND		92	1	84			0
			0				
		0	0	0			0
			0				
		161	1	8			0
			0				
			1				
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		628	<i>North-South:</i>		0
		<i>East-West:</i>		375	<i>East-West:</i>		0
		<b>SUM:</b>		1003	<b>SUM:</b>		0
VOLUME/CAPACITY (V/C) RATIO:				0.729			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.629</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**14**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard **East-West Street:** 98th Street  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		MD PEAK HOUR							
		No. of Phases							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB --	0	SB --	3	NB --	0	SB --	0
ATSAC-1 or ATSAC+ATCS-2?		EB --	0	WB --	0	EB --	0	WB --	0
Override Capacity				2			0		
				0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume		
NORTHBOUND	← Left	242	1	242				0	
	↙ Left-Through		0						
	→ Through	791	2	396				0	
	↘ Through-Right		0						
	→ Right	88	1	39				0	
	↘ Left-Through-Right		0						
	↗ Left-Right		0						
SOUTHBOUND	← Left	115	1	115				0	
	↙ Left-Through		0						
	→ Through	786	2	393				0	
	↘ Through-Right		0						
	→ Right	527	1	367				0	
	↘ Left-Through-Right		0						
	↗ Left-Right		0						
EASTBOUND	← Left	160	1	160				0	
	↙ Left-Through		0						
	→ Through	125	0	380				0	
	↘ Through-Right		1						
	→ Right	255	0	0				0	
	↘ Left-Through-Right		0						
	↗ Left-Right		0						
WESTBOUND	← Left	98	1	98				0	
	↙ Left-Through		0						
	→ Through	289	0	395				0	
	↘ Through-Right		1						
	→ Right	106	0	0				0	
	↘ Left-Through-Right		0						
	↗ Left-Right		0						
<b>CRITICAL VOLUMES</b>				<b>North-South:</b> 635			<b>North-South:</b> 0		
				<b>East-West:</b> 555			<b>East-West:</b> 0		
				<b>SUM:</b> 1190			<b>SUM:</b> 0		
VOLUME/CAPACITY (V/C) RATIO:				0.793			0.000		
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.693</b>			<b>0.000</b>		
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>A</b>		

*REMARKS:*

### Level of Service Worksheet (Circular 212 Method)



I/S #: 15

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Airport Boulevard East-West Street: Century Boulevard  
 Scenario: Future (2024) with Project (including SBO Relocation) and Mitigation  
 Count Date: Analyst: RA Date: 2/12/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	NB -- 0	SB -- 0	0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	EB -- 0	WB -- 0	0	
Override Capacity				2		0	
				0		0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	33	1	33			0
	Left-Through		0				0
	Through	48	2	24			0
	Through-Right		0				0
	Right	54	1	13			0
	Left-Through-Right		0				0
SOUTHBOUND	Left	348	2	122			0
	Left-Through		1				0
	Through	69	1	69			0
	Through-Right		0				0
	Right	723	1	287			0
	Left-Through-Right		0				0
EASTBOUND	Left	792	2	436			0
	Left-Through		0				0
	Through	1340	4	275			0
	Through-Right		1				0
	Right	34	0	34			0
	Left-Through-Right		0				0
WESTBOUND	Left	82	1	82			0
	Left-Through		0				0
	Through	1181	4	295			0
	Through-Right		0				0
	Right	288	1	166			0
	Left-Through-Right		0				0
CRITICAL VOLUMES		North-South:		320	North-South:		0
		East-West:		731	East-West:		0
		SUM:		1051	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.764			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.664			0.000
LEVEL OF SERVICE (LOS):				B			A





## Level of Service Worksheet (Circular 212 Method)



**I/S #:** 19      **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> -- 0	<i>SB</i> --	0	<i>NB</i> -- 0	<i>SB</i> --	0
ATSAC-1 or ATSAC+ATCS-2?		<i>EB</i> -- 3	<i>WB</i> --	0	<i>EB</i> -- 0	<i>WB</i> --	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	307	1	307			0
	Left-Through		0				0
	Through	556	2	278			0
	Through-Right		0				0
	Right	56	1	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>SOUTHBOUND</b>	Left	64	1	64			0
	Left-Through		0				0
	Through	666	1	389			0
	Through-Right		1				0
	Right	112	0	112			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>EASTBOUND</b>	Left	113	1	113			0
	Left-Through		0				0
	Through	334	3	111			0
	Through-Right		0				0
	Right	389	1	82			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>WESTBOUND</b>	Left	148	1	148			0
	Left-Through		0				0
	Through	366	2	151			0
	Through-Right		1				0
	Right	88	0	88			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 696			<i>North-South:</i> 0
				<i>East-West:</i> 264			<i>East-West:</i> 0
				<i>SUM:</i> 960			<i>SUM:</i> 0
VOLUME/CAPACITY (V/C) RATIO:				0.698			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.598</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**











### Level of Service Workheet (Circular 212 Method)



I/S #: 24

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
North-South Street: Hindry Avenue East-West Street: Arbor Vitae Street  
Scenario: Future (2024) with Project (including SBO Relocation) and Mitigation  
Count Date: Analyst: RA Date: 2/12/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0		
Override Capacity				2			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	252	1	252			0
	Left-Through		0				0
	Through	0	0	0			0
	Through-Right		0				0
	Right	582	1	320			0
	Left-Through-Right		0				0
	Left-Right		1				0
SOUTHBOUND	Left	88	0	88			0
	Left-Through		0				0
	Through	0	0	0			0
	Through-Right		0				0
	Right	34	0	122			0
	Left-Through-Right		0				0
	Left-Right		1				0
EASTBOUND	Left	47	1	47			0
	Left-Through		0				0
	Through	513	2	257			0
	Through-Right		0				0
	Right	0	0	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
WESTBOUND	Left	0	0	0			0
	Left-Through		0				0
	Through	327	1	216			0
	Through-Right		1				0
	Right	104	0	104			0
	Left-Through-Right		0				0
	Left-Right		0				0
CRITICAL VOLUMES		North-South:		408	North-South:		0
		East-West:		263	East-West:		0
		SUM:		671	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.447			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.347			0.000
LEVEL OF SERVICE (LOS):				A			A

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2024) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶ Left	361	2	199			0
	↶↷ Left-Through		0				
	→ Through	391	1	277			0
	↶↷ Through-Right		1				
	→ Right	162	0	162			0
	↶↷ Left-Through-Right		0				
	↶↷ Left-Right		0				
<b>SOUTHBOUND</b>	↷ Left	290	2	160			0
	↷↶ Left-Through		0				
	→ Through	182	1	163			0
	↷↶ Through-Right		1				
	→ Right	144	0	144			0
	↷↶ Left-Through-Right		0				
	↷↶ Left-Right		0				
<b>EASTBOUND</b>	↷ Left	247	2	136			0
	↷↶ Left-Through		0				
	→ Through	236	3	79			0
	↷↶ Through-Right		0				
	→ Right	316	1	117			0
	↷↶ Left-Through-Right		0				
	↷↶ Left-Right		0				
<b>WESTBOUND</b>	↷ Left	221	2	122			0
	↷↶ Left-Through		0				
	→ Through	638	2	319			0
	↷↶ Through-Right		0				
	→ Right	242	1	82			0
	↷↶ Left-Through-Right		0				
	↷↶ Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 437			<i>North-South:</i> 0
				<i>East-West:</i> 455			<i>East-West:</i> 0
				<i>SUM:</i> 892			<i>SUM:</i> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.649			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.549</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



<b>Project: LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM INT # 27</b>						
<b>North/South Street: LA CIENEGA BOULEVARD</b>						
<b>East/West Street: ARBOR VITAE STREET</b>						
<b>Scenario: FUTURE (2024) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS</b>						
Thru Lane: 1600 vph			N-S Split Phase : N			
Left-Turn Lane: 1600 vph			E-W Split Phase : N			
Dual LT Penalty: 10 %			Lost Time (% of cycle): 10			
<b>Peak Period: MD PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	65	0	0.000	N-S(1): 0.211
	TH	2.00	770	3,200	0.261 *	N-S(2): 0.295 *
	LT	1.00	98	1,600	0.061	E-W(1): 0.285
Westbound	RT	1.00	91	1,600	0.057	E-W(2): 0.358 *
	TH	2.00	328	3,200	0.103 *	
	LT	1.00	91	1,600	0.057	V/C: 0.653
Northbound	RT	0.00	21	0	0.000	Lost Time: 0.100
	TH	2.00	458	3,200	0.150	ITS: -0.100
	LT	1.00	54	1,600	0.034 *	
Eastbound	RT	1.00	243	0	0.000	ICU: 0.653
	TH	2.00	485	3,200	0.228	
	LT	1.00	408	1,600	0.255 *	LOS: B

\* = Critical Movement





<b>Project: LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM INT # 30</b>						
<b>North/South Street: I-405 NORTHBOUND RAMPS</b>						
<b>East/West Street: CENTURY BOULEVARD</b>						
<b>Scenario: FUTURE (2024) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS</b>						
Thru Lane: 1600 vph			N-S Split Phase : N			
Left-Turn Lane: 1600 vph			E-W Split Phase : N			
Dual LT Penalty: 10 %			Lost Time (% of cycle): 10			
<b>Peak Period: MD PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	36	1,600	0.004 *	N-S(1): 0.097
	TH	0.00	0	0	0.000	N-S(2): 0.286 *
	LT	0.00	1	1,600	0.001	E-W(1): 0.304 *
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.285
	TH	3.00	1,271	4,800	0.266	
	LT	0.00	0	0	0.000 *	V/C: 0.590
Northbound	RT	1.00	154	1,600	0.096	Lost Time: 0.100
	TH	0.00	0	0	0.000	ITS: -0.100
	LT	2.00	813	2,880	0.282 *	
Eastbound	RT	1.72	836	2,748	0.156	ICU: 0.590
	TH	2.28	1,111	3,652	0.304 *	
	LT	1.00	30	1,600	0.019	LOS: A

\* = Critical Movement  
EBR is free-flow movement.

**ATTACHMENT G**

**LEVEL OF SERVICE WORKSHEETS**

**Future (2035) with Project (including SBO Relocation) and Mitigation Measures  
Conditions**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**1**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

MOVEMENT		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
		No. of Phases		3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB --	0	NB -- 3	SB --	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB --	3	EB -- 0	WB --	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	997	2	499	678	2	339
	Through-Right		0			0	
	Right	455	1	268	329	1	179
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	86	1	86	132	1	132
	Left-Through		0			0	
	Through	549	2	275	734	2	367
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	340	2	187	273	2	150
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	75	1	0	138	1	6
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<b>North-South:</b>		585	<b>North-South:</b>		471
		<b>East-West:</b>		187	<b>East-West:</b>		150
		<b>SUM:</b>		772	<b>SUM:</b>		621
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.542			0.436
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.442			0.336
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**2**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB --</i> 0	<i>SB --</i>	3	<i>NB --</i> 0	<i>SB --</i>	3
ATSAC-1 or ATSAC+ATCS-2?		<i>EB --</i> 0	<i>WB --</i>	3	<i>EB --</i> 0	<i>WB --</i>	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	1	0	1	1	0	1
	↵↔ Left-Through		1			1	
	→ Through	0	0	1	1	0	2
	↔→ Through-Right		1			1	
	↘ Right	1	0	0	5	0	4
	↘↔ Left-Through-Right		0			0	
	↙↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	824	1	413	860	1	430
	↵↔ Left-Through		1			1	
	→ Through	1	0	413	0	0	430
	↔→ Through-Right		0			0	
	↘ Right	116	1	0	307	1	226
	↘↔ Left-Through-Right		0			0	
	↙↔ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	284	2	156	148	2	81
	↵↔ Left-Through		0			0	
	→ Through	397	1	199	464	1	232
	↔→ Through-Right		1			1	
	↘ Right	1	0	1	0	0	0
	↘↔ Left-Through-Right		0			0	
	↙↔ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	4	1	4	2	1	2
	↵↔ Left-Through		0			0	
	→ Through	358	2	179	526	2	263
	↔→ Through-Right		0			0	
	↘ Right	1259	2	279	794	2	7
	↘↔ Left-Through-Right		0			0	
	↙↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		414	<i>North-South:</i>		434
		<i>East-West:</i>		435	<i>East-West:</i>		344
		<b>SUM:</b>		849	<b>SUM:</b>		778
VOLUME/CAPACITY (V/C) RATIO:				0.617			0.566
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.517</b>			<b>0.466</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**3**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Main Street      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4 1 0 0 2 0			4 1 0 0 2 0
		<i>NB</i> -- 0	<i>SB</i> -- 0		<i>NB</i> -- 0	<i>SB</i> -- 0	
		<i>EB</i> -- 0	<i>WB</i> -- 0		<i>EB</i> -- 0	<i>WB</i> -- 0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	473	1	237	375	1	188
	Left-Through		1			1	
	Through	1	0	237	0	0	188
	Through-Right		0			0	
	Right	472	1	339	404	1	268
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	9	0	0	0
	Through-Right		0			0	
	Right	9	0	0	0	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	932	2	466	874	2	437
	Through-Right		0			0	
	Right	290	1	172	473	1	379
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	485	2	267	496	2	273
	Left-Through		0			0	
	Through	1221	1	612	909	1	455
	Through-Right		1			1	
	Right	2	0	2	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 348 <i>East-West:</i> 733 <i>SUM:</i> 1081			<i>North-South:</i> 268 <i>East-West:</i> 710 <i>SUM:</i> 978
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.786			0.711
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.686</b>			<b>0.611</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>B</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**4**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard     **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**     **Analyst:** RA     **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> --	<i>SB</i> --	3	<i>NB</i> --	<i>SB</i> --	3
		<i>EB</i> --	<i>WB</i> --	0	<i>EB</i> --	<i>WB</i> --	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	159	1	159	225	1	225
	↵↔ Left-Through		0			0	
	→↔ Through	1,707	3	569	1,833	3	611
	↵↔ Through-Right		0			0	
	↵ Right	34	1	0	74	1	0
	↵↔↔ Left-Through-Right		0			0	
	↵↔↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	183	1	183	239	1	239
	↵↔ Left-Through		0			0	
	→↔ Through	1,906	3	635	2,010	3	670
	↵↔ Through-Right		0			0	
	↵ Right	43	1	25	65	1	15
	↵↔↔ Left-Through-Right		0			0	
	↵↔↔ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	18	1	18	50	1	50
	↵↔ Left-Through		0			0	
	→↔ Through	203	1	151	320	1	240
	↵↔ Through-Right		1			1	
	↵ Right	98	0	98	160	0	160
	↵↔↔ Left-Through-Right		0			0	
	↵↔↔ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	210	1	210	255	1	255
	↵↔ Left-Through		0			0	
	→↔ Through	694	1	463	492	1	397
	↵↔ Through-Right		1			1	
	↵ Right	231	0	231	302	0	302
	↵↔↔ Left-Through-Right		0			0	
	↵↔↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 794			<i>North-South:</i> 895
				<i>East-West:</i> 481			<i>East-West:</i> 495
				<i>SUM:</i> 1275			<i>SUM:</i> 1390
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.927			1.011
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.827</b>			<b>0.911</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>E</b>

**REMARKS:**





Level of Service Worksheet  
(Circular 212 Method)



I/S #: 6

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Sepulveda Boulevard East-West Street: Century Boulevard  
 Scenario: Future (2035) with Project (including SBO Relocation) and Mitigation  
 Count Date: Analyst: RA Date: 2/12/2018

MOVEMENT		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			2 0 0		
		Right Turns: FREE-1, NRTOR-2 or OLA-3?			NB -- 0 SB -- 0 EB -- 0 WB -- 2 2		
		ATSAAC-1 or ATSAAC+ATCS-2? Override Capacity			2 2 0		
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	4708	4	1177	4546	4	1137
	Through-Right		0			0	
	Right	51	0	0	13	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1954	4	489	2381	4	595
	Through-Right		0			0	
	Right	0	1	0	0	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	607	3	212	545	3	191
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	254	1	254	361	1	361
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South: 1177 East-West: 254 SUM: 1431			North-South: 1137 East-West: 361 SUM: 1498		
VOLUME/CAPACITY (V/C) RATIO: V/C LESS ATSAAC/ATCS ADJUSTMENT:		0.954 <b>0.854</b>			0.999 <b>0.899</b>		
LEVEL OF SERVICE (LOS):		<b>D</b>			<b>D</b>		

REMARKS:

### Level of Service Worksheet (Circular 212 Method)



**I/S #:** 7     
 **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard     
 **East-West Street:** I-105 Ramps (n/o Imperial Hwy)  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**     
**Analyst:** RA     
**Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	2497	3	832	2745	3	915
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through [1]	2238	1	0	2598	1	0
	Through-Right		1			1	
	Right [1]	1672	1	0	1842	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right [1]	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	2563	3	897	1889	3	661
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		North-South:		832	North-South:		915
		East-West:		897	East-West:		661
		SUM:		1729	SUM:		1576
VOLUME/CAPACITY (V/C) RATIO:				1.153			1.051
V/C LESS ATSAC/ATCS ADJUSTMENT:				1.053			0.951
LEVEL OF SERVICE (LOS):				F			E

**REMARKS:** [1] Free-flow movement.







# Level of Service Worksheet (Circular 212 Method)


**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2 0 0 0 2 0			2 0 0 0 2 0
	NB --	0		0	NB --	0	0
	EB --	0		0	EB --	0	0
	SB --			0	SB --		0
	WB --			0	WB --		0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through	0	0	0	0	0	0
	→ Through	0	0	0	0	0	0
	↵↔ Through-Right	0	0	0	0	0	0
	↵ Right	0	0	0	0	0	0
	↵↔ Left-Through-Right	0	0	0	0	0	0
	↵↔ Left-Right	0	0	0	0	0	0
<b>SOUTHBOUND</b>	↵ Left	16	1	16	136	1	85
	↵↔ Left-Through	0	0	0	0	0	0
	→ Through	0	0	0	0	0	0
	↵↔ Through-Right	0	0	0	0	0	0
	↵ Right	54	1	8	119	1	31
	↵↔ Left-Through-Right	0	0	0	0	0	0
	↵↔ Left-Right	0	1	0	0	1	0
<b>EASTBOUND</b>	↵ Left	45	1	45	109	1	109
	↵↔ Left-Through	0	0	0	0	0	0
	→ Through	561	2	281	1182	2	591
	↵↔ Through-Right	0	0	0	0	0	0
	↵ Right	0	0	0	0	0	0
	↵↔ Left-Through-Right	0	0	0	0	0	0
	↵↔ Left-Right	0	0	0	0	0	0
<b>WESTBOUND</b>	↵ Left	0	0	0	0	0	0
	↵↔ Left-Through	0	0	0	0	0	0
	→ Through	1202	2	601	1331	2	666
	↵↔ Through-Right	0	0	0	0	0	0
	↵ Right	204	1	196	130	1	88
	↵↔ Left-Through-Right	0	0	0	0	0	0
	↵↔ Left-Right	0	0	0	0	0	0
<b>CRITICAL VOLUMES</b>				North-South: 16 East-West: 646 SUM: 662			North-South: 85 East-West: 775 SUM: 860
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.441			0.573
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.341			0.473
<b>LEVEL OF SERVICE (LOS):</b>				A			A

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				3 0 0 0 2 0			3 0 0 0 2 0
	<i>NB --</i> 0 <i>SB --</i> 0 <i>NB --</i> 0 <i>SB --</i> 0 <i>EB --</i> 0 <i>WB --</i> 0 <i>EB --</i> 0 <i>WB --</i> 0						
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	75	1	75	75	1	75
	Left-Through		0			0	
	Through	24	1	24	27	1	27
	Through-Right		0			0	
	Right	38	1	1	117	1	94
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	62	1	62	126	1	126
	Left-Through		0			0	
	Through	43	1	43	20	1	20
	Through-Right		0			0	
	Right	86	1	0	99	1	13
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	563	2	310	315	2	173
	Left-Through		0			0	
	Through	880	4	194	1925	4	396
	Through-Right		1			1	
	Right	89	0	89	55	0	55
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	74	1	74	47	1	47
	Left-Through		0			0	
	Through	1476	3	405	1942	3	504
	Through-Right		1			1	
	Right	145	0	145	74	0	74
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 118 <i>East-West:</i> 715 <i>SUM:</i> 833			<i>North-South:</i> 220 <i>East-West:</i> 677 <i>SUM:</i> 897
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.585			0.629
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.485</b>			<b>0.529</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**





# Level of Service Worksheet (Circular 212 Method)



**I/S #:** **14**      **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 98th Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2			2
				0			0
		NB --	0	3	NB --	0	3
		EB --	0	0	EB --	0	0
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↷ Left	135	1	135	202	1	202
	↷↷ Left-Through		0			0	
	↷↷ Through	475	2	233	559	2	255
	↷↷ Through-Right		1			1	
	↷↷ Right	224	0	224	205	0	205
	↷↷↷ Left-Through-Right		0			0	
	↷↷↷ Left-Right		0			0	
SOUTHBOUND	↶ Left	88	1	88	176	1	176
	↶↷ Left-Through		0			0	
	↶↷ Through	866	3	289	412	3	137
	↶↷ Through-Right		0			0	
	↶↷ Right	314	1	130	498	1	313
	↶↷↷ Left-Through-Right		0			0	
	↶↷↷ Left-Right		0			0	
EASTBOUND	↶ Left	184	1	184	185	1	185
	↶↷ Left-Through		0			0	
	↶↷ Through	283	1	251	467	1	420
	↶↷ Through-Right		1			1	
	↶↷ Right	219	0	219	373	0	373
	↶↷↷ Left-Through-Right		0			0	
	↶↷↷ Left-Right		0			0	
WESTBOUND	↶ Left	90	1	90	114	1	114
	↶↷ Left-Through		0			0	
	↶↷ Through	495	0	526	371	0	438
	↶↷ Through-Right		1			1	
	↶↷ Right	31	0	0	67	0	0
	↶↷↷ Left-Through-Right		0			0	
	↶↷↷ Left-Right		0			0	
CRITICAL VOLUMES				North-South: 424			North-South: 515
				East-West: 710			East-West: 623
				SUM: 1134			SUM: 1138
VOLUME/CAPACITY (V/C) RATIO:				0.756			0.759
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.656</b>			<b>0.659</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>B</b>

*REMARKS:*



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**15**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB --	0	NB -- 0	SB --	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB --	3	EB -- 0	WB --	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	15	1	15	47	1	47
	Left-Through		0			0	
	Through	54	2	27	85	2	43
	Through-Right		0			0	
	Right	44	1	21	44	1	0
	Left-Through-Right		0			0	
SOUTHBOUND	Left	550	2	193	266	2	93
	Left-Through		1			1	
	Through	87	1	87	39	1	39
	Through-Right		0			0	
	Right	539	1	428	562	1	422
	Left-Through-Right		0			0	
EASTBOUND	Left	403	2	222	509	2	280
	Left-Through		0			0	
	Through	566	4	115	1571	4	336
	Through-Right		1			1	
	Right	11	0	11	107	0	107
	Left-Through-Right		0			0	
WESTBOUND	Left	47	1	47	146	1	146
	Left-Through		0			0	
	Through	1409	4	352	1434	4	359
	Through-Right		0			0	
	Right	467	1	274	312	1	219
	Left-Through-Right		0			0	
				0			0
CRITICAL VOLUMES				North-South: East-West: SUM: 455 574 1029			North-South: East-West: SUM: 469 639 1108
VOLUME/CAPACITY (V/C) RATIO:				0.748			0.806
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.648			0.706
LEVEL OF SERVICE (LOS):				B			C



# Level of Service Worksheet (Circular 212 Method)



**I/S #:** 16     
 **PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Nash St/I-105 WB Ramp     
 **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**     
**Analyst:** RA     
**Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	1	NB -- 3	SB -- 0	1
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶ Left	55	1	55	182	1	182
	↶↷ Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	→↷ Through-Right		0			0	
	↷ Right	61	2	0	246	2	71
	↶↷↷ Left-Through-Right		0			0	
	↷↷ Left-Right		0			0	
<b>SOUTHBOUND</b>	↷ Left	408	1	338	127	1	127
	↷↷ Left-Through		1			1	
	→ Through	942	0	338	188	0	188
	→↷ Through-Right		1			1	
	↷ Right	469	1	338	158	1	87
	↷↷ Left-Through-Right		0			0	
	↷↷ Left-Right		0			0	
<b>EASTBOUND</b>	↷ Left	0	0	0	0	0	0
	↷↷ Left-Through		0			0	
	→ Through	640	2	272	1058	2	383
	→↷ Through-Right		1			1	
	↷ Right	176	0	176	92	0	92
	↷↷ Left-Through-Right		0			0	
	↷↷ Left-Right		0			0	
<b>WESTBOUND</b>	↷ Left	410	2	226	116	2	64
	↷↷ Left-Through		0			0	
	→ Through	986	3	329	886	3	295
	→↷ Through-Right		0			0	
	↷ Right	0	0	0	0	0	0
	↷↷ Left-Through-Right		0			0	
	↷↷ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 393			<i>North-South:</i> 370
				<i>East-West:</i> 498			<i>East-West:</i> 447
				<b>SUM:</b> 891			<b>SUM:</b> 817
VOLUME/CAPACITY (V/C) RATIO:				0.648			0.594
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.548</b>			<b>0.494</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

**REMARKS:**



### Level of Service Worksheet (Circular 212 Method)



**I/S #:** 17     
**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Douglas Street      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases			No. of Phases		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	1	NB -- 3	SB -- 0	1
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	152	1	152	205	1	205
	Left-Through		0			0	
	Through	33	1	33	33	1	33
	Through-Right		0			0	
	Right	168	2	0	716	2	303
	Left-Through-Right		0			0	
SOUTHBOUND	Left	64	1	50	53	1	53
	Left-Through		0			0	
	Through	36	0	50	58	0	58
	Through-Right		0			0	
	Right	12	1	0	33	1	11
	Left-Through-Right		1			1	
EASTBOUND	Left	30	1	30	44	1	44
	Left-Through		0			0	
	Through	584	2	272	1716	2	666
	Through-Right		1			1	
	Right	233	0	233	281	0	281
	Left-Through-Right		0			0	
WESTBOUND	Left	481	2	265	166	2	91
	Left-Through		0			0	
	Through	1250	2	442	734	2	260
	Through-Right		1			1	
	Right	76	0	76	46	0	46
	Left-Through-Right		0			0	
CRITICAL VOLUMES				202			361
				537			757
				739			1118
VOLUME/CAPACITY (V/C) RATIO:				0.537			0.813
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.437			0.713
LEVEL OF SERVICE (LOS):				A			C

**REMARKS:**

**Level of Service Worksheet  
(Circular 212 Method)**



I/S #: 18

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Bellanca Avenue      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**    **Analyst:** RA    **Date:** 2/12/2018

MOVEMENT		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				2 0 0 0 2 0			2 0 0 0 2 0
		NB -- 0 EB -- 0	SB -- 0 WB -- 0		NB -- 0 EB -- 0	SB -- 0 WB -- 0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	102	2	56	519	2	285
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	175	1	155	225	1	199
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	41	1	41	52	1	52
	Left-Through		0			0	
	Through	1281	5	256	2580	5	516
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	2365	3	645	1970	3	568
	Through-Right		1			1	
	Right	213	0	213	300	0	300
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				<i>North-South:</i> 155 <i>East-West:</i> 686 <i>SUM:</i> 841			<i>North-South:</i> 285 <i>East-West:</i> 620 <i>SUM:</i> 905
VOLUME/CAPACITY (V/C) RATIO:				0.561			0.603
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.461</b>			<b>0.503</b>
LEVEL OF SERVICE (LOS):				<b>A</b>			<b>A</b>

REMARKS:

**Level of Service Worksheet  
(Circular 212 Method)**



I/S #: **19**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0	0	EB -- 3	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	342	1	342	350	1	350
	Left-Through		0			0	
	Through	712	2	356	620	2	310
	Through-Right		0			0	
	Right	107	1	12	246	1	160
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	29	1	29	82	1	82
	Left-Through		0			0	
	Through	734	1	415	760	1	415
	Through-Right		1			1	
	Right	95	0	95	70	0	70
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	95	1	95	149	1	149
	Left-Through		0			0	
	Through	210	3	70	802	3	267
	Through-Right		0			0	
	Right	200	1	0	433	1	83
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	191	1	191	172	1	172
	Left-Through		0			0	
	Through	1422	2	499	776	2	281
	Through-Right		1			1	
	Right	76	0	76	68	0	68
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				North-South: 757 East-West: 594 SUM: 1351			North-South: 765 East-West: 439 SUM: 1204
VOLUME/CAPACITY (V/C) RATIO:				0.983			0.876
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.883			0.776
LEVEL OF SERVICE (LOS):				D			C

REMARKS:

# Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b> <b>20</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum			
	<b>North-South Street:</b> Aviation Boulevard		<b>East-West Street:</b> Century Boulevard	
	<b>Scenario:</b> Future (2035) with Project (including SBO Relocation) and Mitigation			
	<b>Count Date:</b>		<b>Analyst:</b> RA	
<b>Date:</b> 2/12/2018				

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<b>NB --</b>	<b>SB --</b>	3	<b>NB --</b>	<b>SB --</b>	3
ATSAC-1 or ATSAC+ATCS-2?		<b>EB --</b>	<b>WB --</b>	0	<b>EB --</b>	<b>WB --</b>	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↵ Left	622	2	342	600	2	330
	↵↵ Left-Through		0			0	
	↵↵↵ Through	937	1	497	1005	1	535
	↵↵↵↵ Through-Right		1			1	
	↵↵↵↵↵ Right	56	0	56	65	0	65
	↵↵↵↵↵↵ Left-Through-Right		0			0	
	↵↵↵↵↵↵↵ Left-Right		0			0	
SOUTHBOUND	↵ Left	160	2	88	246	2	135
	↵↵ Left-Through		0			0	
	↵↵↵ Through	647	2	324	764	2	382
	↵↵↵↵ Through-Right		0			0	
	↵↵↵↵↵ Right	160	1	82	141	1	0
	↵↵↵↵↵↵ Left-Through-Right		0			0	
	↵↵↵↵↵↵↵ Left-Right		0			0	
EASTBOUND	↵ Left	78	1	78	268	1	268
	↵↵ Left-Through		0			0	
	↵↵↵ Through	879	4	220	2225	4	556
	↵↵↵↵ Through-Right		0			0	
	↵↵↵↵↵ Right	459	1	117	601	1	271
	↵↵↵↵↵↵ Left-Through-Right		0			0	
	↵↵↵↵↵↵↵ Left-Right		0			0	
WESTBOUND	↵ Left	205	1	205	137	1	137
	↵↵ Left-Through		0			0	
	↵↵↵ Through	1794	3	531	1513	3	427
	↵↵↵↵ Through-Right		1			1	
	↵↵↵↵↵ Right	328	0	328	193	0	193
	↵↵↵↵↵↵ Left-Through-Right		0			0	
	↵↵↵↵↵↵↵ Left-Right		0			0	
CRITICAL VOLUMES				North-South: 666			North-South: 712
				East-West: 609			East-West: 695
				<b>SUM: 1275</b>			<b>SUM: 1407</b>
VOLUME/CAPACITY (V/C) RATIO:				0.927			1.023
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.827			0.923
LEVEL OF SERVICE (LOS):				<b>D</b>			<b>E</b>

*REMARKS:*



# Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b>	<b>PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum</b>			
22	<b>North-South Street: Aviation Boulevard</b>		<b>East-West Street: 111th Street</b>	
	<b>Scenario: Future (2035) with Project (including SBO Relocation) and Mitigation</b>			
	<b>Count Date:</b>		<b>Analyst: RA</b>	
				<b>Date: 2/12/2018</b>

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>No. of Phases</b> Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity				4 2 0 3 2 0			4 2 0 3 2 0
		<b>NB --</b>	<b>SB --</b>		<b>NB --</b>	<b>SB --</b>	
		0	0		0	0	
		<b>EB --</b>	<b>WB --</b>		<b>EB --</b>	<b>WB --</b>	
		0	0		0	0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↵ Left	11	1	11	24	1	24
	↵↔ Left-Through		0			0	
	→ Through	1194	1	624	835	1	448
	→↗ Through-Right		1			1	
	↘ Right	54	0	54	61	0	61
	↘↔ Left-Through-Right		0			0	
	↕ Left-Right		0			0	
SOUTHBOUND	↵ Left	478	1	478	469	1	469
	↵↔ Left-Through		0			0	
	→ Through	583	1	340	1220	1	635
	→↗ Through-Right		1			1	
	↘ Right	96	0	96	50	0	50
	↘↔ Left-Through-Right		0			0	
	↕ Left-Right		0			0	
EASTBOUND	↵ Left	88	1	88	128	1	128
	↵↔ Left-Through		0			0	
	→ Through	31	0	43	52	0	68
	→↗ Through-Right		1			1	
	↘ Right	12	0	0	16	0	0
	↘↔ Left-Through-Right		0			0	
	↕ Left-Right		0			0	
WESTBOUND	↵ Left	30	1	30	35	1	35
	↵↔ Left-Through		0			0	
	→ Through	84	1	84	65	1	65
	→↗ Through-Right		0			0	
	↘ Right	407	1	0	616	1	147
	↘↔ Left-Through-Right		0			0	
	↕ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<b>North-South: 1102</b>			<b>North-South: 917</b>
				<b>East-West: 172</b>			<b>East-West: 275</b>
				<b>SUM: 1274</b>			<b>SUM: 1192</b>
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.927			0.867
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.827			0.767
<b>LEVEL OF SERVICE (LOS):</b>				D			C

REMARKS:





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**24**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Hindry Avenue      **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR						
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume				
		<i>No. of Phases</i>									
		<i>Opposed Ø'ing: N/S-1, E/W-2 or Both-3?</i>									
		<i>Right Turns: FREE-1, NRTOR-2 or OLA-3?</i>									
		<i>ATSAC-1 or ATSAC+ATCS-2?</i>									
		<i>Override Capacity</i>									
	<i>NB --</i>	0		<i>SB --</i>	0		<i>NB --</i>	0		<i>SB --</i>	0
	<i>EB --</i>	0		<i>WB --</i>	0		<i>EB --</i>	0		<i>WB --</i>	0
		2			2						
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume				
NORTHBOUND	← Left	225	1	181	262	1	262				
	↙ Left-Through		0			0					
	→ Through	0	0	0	25	0	0				
	↘ Through-Right		0			0					
	→ Right	318	1	181	810	1	446				
	↘ Left-Through-Right		0			0					
	↙ Left-Right		1			1					
SOUTHBOUND	→ Left	80	0	80	79	0	79				
	↘ Left-Through		0			0					
	→ Through	0	0	0	0	0	0				
	↙ Through-Right		0			0					
	→ Right	87	0	167	78	0	157				
	↘ Left-Through-Right		0			0					
	↙ Left-Right		1			1					
EASTBOUND	← Left	42	1	42	71	1	71				
	↙ Left-Through		0			0					
	→ Through	299	2	150	1208	2	604				
	↘ Through-Right		0			0					
	→ Right	0	0	0	0	0	0				
	↘ Left-Through-Right		0			0					
	↙ Left-Right		0			0					
WESTBOUND	→ Left	0	0	0	0	0	0				
	↘ Left-Through		0			0					
	→ Through	1355	1	751	594	1	342				
	↙ Through-Right		1			1					
	→ Right	146	0	146	90	0	90				
	↘ Left-Through-Right		0			0					
	↙ Left-Right		0			0					
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>			<i>North-South:</i>						
		<i>East-West:</i>			<i>East-West:</i>						
		<i>SUM:</i>			<i>SUM:</i>						
				348			525				
				793			604				
				1141			1129				
<b>VOLUME/CAPACITY (V/C) RATIO:</b>											
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>											
<b>LEVEL OF SERVICE (LOS):</b>											
		0.761			0.753						
		<b>0.661</b>			<b>0.653</b>						
		<b>B</b>			<b>B</b>						

REMARKS:

# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**25**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Concourse Way      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB --</i> 0	<i>SB --</i>	0	<i>NB --</i> 0	<i>SB --</i>	0
		<i>EB --</i> 0	<i>WB --</i>	0	<i>EB --</i> 0	<i>WB --</i>	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	43	1	43	37	1	37
	↵↵ Left-Through		0			0	
	→ Through	0	0	97	0	0	108
	→↵ Through-Right		1			1	
	↵ Right	97	0	0	108	0	0
	↵↵ Left-Through-Right		0			0	
	↵↵ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	399	2	219	498	2	274
	↵↵ Left-Through		0			0	
	→ Through	0	0	227	0	0	286
	→↵ Through-Right		1			1	
	↵ Right	227	0	0	286	0	0
	↵↵ Left-Through-Right		0			0	
	↵↵ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	190	1	190	138	1	138
	↵↵ Left-Through		0			0	
	→ Through	685	3	184	1825	3	460
	→↵ Through-Right		1			1	
	↵ Right	52	0	52	15	0	15
	↵↵ Left-Through-Right		0			0	
	↵↵ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	88	1	88	161	1	161
	↵↵ Left-Through		0			0	
	→ Through	1715	4	429	1512	4	378
	→↵ Through-Right		0			0	
	↵ Right	434	1	325	288	1	151
	↵↵ Left-Through-Right		0			0	
	↵↵ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 316			<i>North-South:</i> 382
				<i>East-West:</i> 619			<i>East-West:</i> 621
				<i>SUM:</i> 935			<i>SUM:</i> 1003
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.680			0.729
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.580</b>			<b>0.629</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>B</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 3	WB -- 3	3
Override Capacity				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	514	2	283	277	2	152
	↵↔ Left-Through		0			0	
	→ Through	509	1	372	305	1	226
	↵↔ Through-Right		1			1	
	↘ Right	235	0	235	147	0	147
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>SOUTHBOUND</b>	↵ Left	263	2	145	491	2	270
	↵↔ Left-Through		0			0	
	→ Through	302	2	151	508	2	254
	↵↔ Through-Right		0			0	
	↘ Right	168	1	98	280	1	215
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>EASTBOUND</b>	↵ Left	256	2	141	239	2	131
	↵↔ Left-Through		0			0	
	→ Through	221	3	74	1778	3	593
	↵↔ Through-Right		0			0	
	↘ Right	183	1	0	213	1	61
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>WESTBOUND</b>	↵ Left	154	2	85	144	2	79
	↵↔ Left-Through		0			0	
	→ Through	1199	2	600	362	2	181
	↵↔ Through-Right		0			0	
	↘ Right	382	1	237	339	1	69
	↵↔ Left-Through-Right		0			0	
	↵↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 517			<i>North-South:</i> 496
				<i>East-West:</i> 741			<i>East-West:</i> 672
				<b>SUM:</b> 1258			<b>SUM:</b> 1168
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.915			0.849
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.815</b>			<b>0.749</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>C</b>

**REMARKS:**

**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 27**  
**North/South Street:** LA CIENEGA BOULEVARD  
**East/West Street:** ARBOR VITAE STREET  
**Scenario:** FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
**MITIGATION CONDITIONS**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	Y
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

**Peak Period: AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	206	0	0.000	N-S(1): 0.383
	TH	2.00	711	3,200	0.287 *	N-S(2): 0.530 *
	LT	1.00	68	1,600	0.043	E-W(1): 0.489 *
Westbound	RT	1.00	326	1,600	0.204	E-W(2): 0.000
	TH	2.00	868	3,200	0.271 *	V/C: 1.019
	LT	1.00	144	1,600	0.090	Lost Time: 0.100
Northbound	RT	0.00	44	0	0.000	ITS: -0.100
	TH	2.00	1,045	3,200	0.340	
	LT	1.00	388	1,600	0.243 *	
Eastbound	RT	1.00	192	0	0.000	ICU: 1.019
	TH	1.17	218	1,879	0.218 *	
	LT	1.83	339	2,629	0.129	LOS: F

**Peak Period: PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	172	0	0.000	N-S(1): 0.305
	TH	2.00	903	3,200	0.336 *	N-S(2): 0.464 *
	LT	1.00	137	1,600	0.086	E-W(1): 0.606 *
Westbound	RT	1.00	91	1,600	0.057	E-W(2): 0.000
	TH	2.00	219	3,200	0.068	V/C: 1.070
	LT	1.00	160	1,600	0.100 *	Lost Time: 0.100
Northbound	RT	0.00	94	0	0.000	ITS: -0.100
	TH	2.00	608	3,200	0.219	
	LT	1.00	204	1,600	0.128 *	
Eastbound	RT	1.00	531	0	0.000	ICU: 1.070
	TH	1.66	809	2,649	0.506 *	
	LT	1.34	657	1,936	0.339	LOS: F

\* = Critical Movement

**Level of Service Worksheet**  
**(Circular 212 Method)**



**I/S #:**  
**28**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** La Cienega Boulevard **East-West Street:** I-405 Ramps (n/o Century BI)  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity		AM PEAK HOUR			PM PEAK HOUR		
		NB --	SB --	Lane	NB --	SB --	Lane
				4			4
			0	0			0
		3	3	3	3		3
		0	0	0	0		0
				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	320	2	176	341	2	188
	Left-Through		0			0	
	Through	1561	1	781	494	1	247
	Through-Right		1			1	
	Right	65	1	0	102	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	127	2	70	241	2	133
	Left-Through		0			0	
	Through	496	3	165	1039	3	346
	Through-Right		0			0	
	Right	497	1	476	369	1	208
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	39	2	21	292	2	161
	Left-Through		0			0	
	Through	251	2	126	324	2	162
	Through-Right		0			0	
	Right	90	1	2	275	1	181
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	171	2	94	467	2	257
	Left-Through		0			0	
	Through	362	1	192	372	1	288
	Through-Right		1			1	
	Right	22	0	22	203	0	203
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		851	<i>North-South:</i>		534
		<i>East-West:</i>		220	<i>East-West:</i>		449
		<i>SUM:</i>		1071	<i>SUM:</i>		983
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.779			0.715
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.679</b>			<b>0.615</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>B</b>

**REMARKS:**



**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 30**  
**North/South Street:** I-405 NORTHBOUND RAMPS  
**East/West Street:** CENTURY BOULEVARD  
**Scenario:** FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND  
**MITIGATION CONDITIONS**

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

<b>Peak Period: AM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	33	1,600	0.018 *	N-S(1): 0.249
	TH	0.00	0	0	0.000	N-S(2): 0.418 *
	LT	0.00	0	0	0.000	E-W(1): 0.160
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.438 *
	TH	3.00	2,082	4,800	0.435 *	V/C: 0.856
	LT	0.00	0	0	0.000	Lost Time: 0.100
Northbound	RT	1.00	399	1,600	0.249	ITS: -0.100
	TH	0.00	0	0	0.000	
	LT	2.00	1,152	2,880	0.400 *	
Eastbound	RT	1.00	196	1,600	0.000	ICU: 0.856
	TH	3.00	769	4,800	0.160	
	LT	1.00	4	1,600	0.003 *	LOS: D

<b>Peak Period: PM PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	27	1,600	0.005 *	N-S(1): 0.241
	TH	0.00	0	0	0.000	N-S(2): 0.279 *
	LT	0.00	1	1,600	0.001	E-W(1): 0.494 *
Westbound	RT	0.00	19	0	0.000	E-W(2): 0.187
	TH	3.00	822	4,800	0.175	V/C: 0.773
	LT	0.00	0	0	0.000 *	Lost Time: 0.100
Northbound	RT	1.00	384	1,600	0.240	ITS: -0.100
	TH	0.00	0	0	0.000	
	LT	2.00	790	2,880	0.274 *	
Eastbound	RT	1.00	687	1,600	0.183	ICU: 0.773
	TH	3.00	2,371	4,800	0.494 *	
	LT	1.00	19	1,600	0.012	LOS: C

\* = Critical Movement  
 EBR is free-flow movement.







## Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b>
<b>5</b>

<b>PROJECT TITLE:</b>	Landside Access Modernization Program at LAX - Addendum		
<b>North-South Street:</b>	Sepulveda Boulevard	<b>East-West Street:</b>	Lincoln Boulevard
<b>Scenario:</b>	Future (2035) with Project (including SBO Relocation) and Mitigation		
<b>Count Date:</b>		<b>Analyst:</b>	RA
		<b>Date:</b>	2/12/2018

		MD PEAK HOUR					
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		2		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0		
Override Capacity		2		0			
		0		0			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	← Left	0	0	0			0
	↔ Left-Through		0				
	→ Through	1611	3	537			0
	↗ Through-Right		0				
	→ Right	0	0	0			0
	↘ Left-Through-Right		0				
	↖ Left-Right		0				
<b>SOUTHBOUND</b>	← Left	0	0	0			0
	↔ Left-Through		0				
	→ Through	1255	4	314			0
	↗ Through-Right		0				
	→ Right	0	0	0			0
	↘ Left-Through-Right		0				
	↖ Left-Right		0				
<b>EASTBOUND</b>	← Left	0	0	0			0
	↔ Left-Through		0				
	→ Through	0	0	0			0
	↗ Through-Right		0				
	→ Right	0	0	0			0
	↘ Left-Through-Right		0				
	↖ Left-Right		0				
<b>WESTBOUND</b>	← Left	0	0	0			0
	↔ Left-Through		0				
	→ Through	2236	4	559			0
	↗ Through-Right		0				
	→ Right	53	1	53			0
	↘ Left-Through-Right		0				
	↖ Left-Right		0				
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		537	<i>North-South:</i>		0
		<i>East-West:</i>		559	<i>East-West:</i>		0
		<i>SUM:</i>		1096	<i>SUM:</i>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.731			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.631</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**6**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**    **Analyst:** RA    **Date:** 2/12/2018

		MD PEAK HOUR					
				2			0
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 2	EB -- 0	WB -- 0		
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	4377	4	1094			0
	Through-Right		0				
	Right	22	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	1689	4	422			0
	Through-Right		0				
	Right	0	1	0			0
	Left-Through-Right		0				
	Left-Right		0				
EASTBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
WESTBOUND	Left	538	3	188			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	242	1	242			0
	Left-Through-Right		0				
	Left-Right		0				
CRITICAL VOLUMES		North-South:		1094	North-South:		0
		East-West:		242	East-West:		0
		SUM:		1336	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.891			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.791			0.000
LEVEL OF SERVICE (LOS):				<b>C</b>			<b>A</b>

**REMARKS:**

## Level of Service Workheet (Circular 212 Method)



<b>I/S #:</b>
<b>7</b>

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** I-105 Ramps (n/o Imperial Hwy)  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**    **Analyst:** RA    **Date:** 2/12/2018

MOVEMENT		MD PEAK HOUR			MD PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	0	0	0			0
	Left-Through		0				0
	Through	2217	3	739			0
	Through-Right		0				0
	Right	0	0	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>SOUTHBOUND</b>	Left	0	0	0			0
	Left-Through		0				0
	Through [1]	1874	1	0			0
	Through-Right		1				0
	Right [1]	2201	1	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>EASTBOUND</b>	Left	0	0	0			0
	Left-Through		0				0
	Through	0	0	0			0
	Through-Right		0				0
	Right [1]	0	0	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>WESTBOUND</b>	Left	0	0	0			0
	Left-Through		0				0
	Through	0	0	0			0
	Through-Right		0				0
	Right	2458	3	860			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>CRITICAL VOLUMES</b>		North-South:		739	North-South:		0
		East-West:		860	East-West:		0
		<b>SUM:</b>		1599	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				1.066			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.966			0.000
<b>LEVEL OF SERVICE (LOS):</b>				<b>E</b>			<b>A</b>

**REMARKS:** [1] Free-flow movement.



### Level of Service Worksheet (Circular 212 Method)



I/S #: **8**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		4		0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0	0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	EB -- 0	WB -- 0	0	
Override Capacity		2		0		0	
		0		0		0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	154	1	154			0
	Left-Through		0				0
	Through	1586	3	529			0
	Through-Right		0				0
	Right	838	2	397			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	293	2	161			0
	Left-Through		0				0
	Through	2231	3	569			0
	Through-Right		1				0
	Right	43	0	43			0
	Left-Through-Right		0				0
	Left-Right		0				0
EASTBOUND	Left	208	2	114			0
	Left-Through		0				0
	Through	275	3	92			0
	Through-Right		0				0
	Right	159	1	82			0
	Left-Through-Right		0				0
	Left-Right		0				0
WESTBOUND	Left	235	2	129			0
	Left-Through		0				0
	Through	277	3	92			0
	Through-Right		0				0
	Right	359	1	198			0
	Left-Through-Right		0				0
	Left-Right		0				0
CRITICAL VOLUMES		North-South: 723		North-South: 0		East-West: 0	
		East-West: 312		East-West: 0		SUM: 0	
		SUM: 1035		SUM: 0			
VOLUME/CAPACITY (V/C) RATIO:		0.753		0.000			
V/C LESS ATSAC/ATCS ADJUSTMENT:		0.653		0.000			
LEVEL OF SERVICE (LOS):		B		A			

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	0	0	0			0
	↵↔ Left-Through		0				
	→ Through	0	0	0			0
	↵↔ Through-Right		0				
	↵ Right	0	0	0			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	155	1	85			0
	↵↔ Left-Through		0				
	→ Through	0	0	0			0
	↵↔ Through-Right		0				
	↵ Right	73	1	11			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		1				
<b>EASTBOUND</b>	↵ Left	125	1	125			0
	↵↔ Left-Through		0				
	→ Through	937	2	469			0
	↵↔ Through-Right		0				
	↵ Right	0	0	0			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	0	0	0			0
	↵↔ Left-Through		0				
	→ Through	1177	2	589			0
	↵↔ Through-Right		0				
	↵ Right	70	1	28			0
	↵↔ Left-Through-Right		0				
	↵↔ Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 85			<i>North-South:</i> 0
				<i>East-West:</i> 714			<i>East-West:</i> 0
				<i>SUM:</i> 799			<i>SUM:</i> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.533			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.433</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
				3			0
No. of Phases				0			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	72	1	72			0
	↵↔ Left-Through		0				
	→ Through	19	1	19			0
	↗ Through-Right		0				
	→ Right	79	1	48			0
	↗↔ Left-Through-Right		0				
	↘ Left-Right		0				
<b>SOUTHBOUND</b>	↵ Left	53	1	53			0
	↵↔ Left-Through		0				
	→ Through	23	1	23			0
	↗ Through-Right		0				
	→ Right	100	1	0			0
	↗↔ Left-Through-Right		0				
	↘ Left-Right		0				
<b>EASTBOUND</b>	↵ Left	392	2	216			0
	↵↔ Left-Through		0				
	→ Through	1555	4	323			0
	↗ Through-Right		1				
	→ Right	62	0	62			0
	↗↔ Left-Through-Right		0				
	↘ Left-Right		0				
<b>WESTBOUND</b>	↵ Left	62	1	62			0
	↵↔ Left-Through		0				
	→ Through	1882	3	491			0
	↗ Through-Right		1				
	→ Right	81	0	81			0
	↗↔ Left-Through-Right		0				
	↘ Left-Right		0				
<b>CRITICAL VOLUMES</b>				North-South: 101			North-South: 0
				East-West: 707			East-West: 0
				SUM: 808			SUM: 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.567			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.467			0.000
<b>LEVEL OF SERVICE (LOS):</b>				A			A

**REMARKS:**







# Level of Service Workheet (Circular 212 Method)



I/S #: 13

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Airport Boulevard East-West Street: 96th Street  
 Scenario: Future (2035) with Project (including SBO Relocation) and Mitigation  
 Count Date: Analyst: RA Date: 2/12/2018

		MD PEAK HOUR					
				4			0
No. of Phases				2			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0	0		0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	679	2	267			0
	Through-Right		1				
	Right	122	0	122			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	157	1	157			0
	Left-Through		0				
	Through	706	3	235			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
EASTBOUND	Left	276	1	276			0
	Left-Through		0				
	Through	198	0	318			0
	Through-Right		0				
	Right	438	1	0			0
	Left-Through-Right		1				
	Left-Right		0				
WESTBOUND	Left	93	1	90			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	176	1	12			0
	Left-Through-Right		0				
	Left-Right		1				
CRITICAL VOLUMES		North-South:		424	North-South:		0
		East-West:		408	East-West:		0
		SUM:		832	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.605			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.505			0.000
LEVEL OF SERVICE (LOS):				A			A

REMARKS:

### Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum	
<b>14</b>	<b>North-South Street:</b> Airport Boulevard	<b>East-West Street:</b> 98th Street
	<b>Scenario:</b> Future (2035) with Project (including SBO Relocation) and Mitigation	
	<b>Count Date:</b>	<b>Analyst:</b> RA <span style="float: right;"><b>Date:</b> 2/12/2018</span>

		MD PEAK HOUR					
		NB --	SB --	Lane	NB --	SB --	Lane
No. of Phases					0		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		0	0	3	0	0	0
ATSAC-1 or ATSAC+ATCS-2?					0		
Override Capacity					0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↶	Left	190	1	190		0
	↶↷	Left-Through		0			
	→	Through	521	2	209		0
	↷	Through-Right		1			
	↷	Right	106	0	106		0
	↷↶	Left-Through-Right		0			
	↷↷	Left-Right		0			
SOUTHBOUND	↷	Left	93	1	93		0
	↷↶	Left-Through		0			
	→	Through	607	3	202		0
	↶	Through-Right		0			
	↷	Right	491	1	284		0
	↷↶	Left-Through-Right		0			
	↷↷	Left-Right		0			
EASTBOUND	↶	Left	207	1	207		0
	↶↷	Left-Through		0			
	→	Through	378	1	378		0
	↷	Through-Right		1			
	↷	Right	389	0	294		0
	↷↶	Left-Through-Right		0			
	↷↷	Left-Right		0			
WESTBOUND	↷	Left	98	1	98		0
	↷↶	Left-Through		0			
	→	Through	303	0	403		0
	↶	Through-Right		1			
	↷	Right	100	0	0		0
	↷↶	Left-Through-Right		0			
	↷↷	Left-Right		0			
CRITICAL VOLUMES			<i>North-South:</i>		474	<i>North-South:</i>	
			<i>East-West:</i>		610	<i>East-West:</i>	
			<b>SUM:</b>		1084	<b>SUM:</b>	
VOLUME/CAPACITY (V/C) RATIO:				0.723			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.623</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>A</b>

**REMARKS:**



# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**15**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
		No. of Phases		4		0	
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		1		0	
		<i>NB</i> --	0	<i>SB</i> --	0	0	
		<i>EB</i> --	0	<i>WB</i> --	0	0	
		Right Turns: FREE-1, NRTOR-2 or OLA-3?		3		0	
		ATSAC-1 or ATSAC+ATCS-2?		2		0	
		Override Capacity		0		0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	44	1	44			0
	Left-Through		0				0
	Through	30	2	15			0
	Through-Right		0				0
	Right	86	1	41			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>SOUTHBOUND</b>	Left	530	2	186			0
	Left-Through		1				0
	Through	72	1	72			0
	Through-Right		0				0
	Right	503	1	373			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>EASTBOUND</b>	Left	474	2	261			0
	Left-Through		0				0
	Through	1178	4	243			0
	Through-Right		1				0
	Right	35	0	35			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>WESTBOUND</b>	Left	91	1	91			0
	Left-Through		0				0
	Through	1485	4	371			0
	Through-Right		0				0
	Right	315	1	129			0
	Left-Through-Right		0				0
	Left-Right		0				0
CRITICAL VOLUMES		<i>North-South:</i>		417	<i>North-South:</i>		0
		<i>East-West:</i>		632	<i>East-West:</i>		0
		<i>SUM:</i>		1049	<i>SUM:</i>		0
VOLUME/CAPACITY (V/C) RATIO:				0.763			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.663</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>A</b>





# Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b> 20	<b>PROJECT TITLE:</b>	Landside Access Modernization Program at LAX - Addendum			
	<b>North-South Street:</b>	Aviation Boulevard	<b>East-West Street:</b>	Century Boulevard	
	<b>Scenario:</b>	Future (2035) with Project (including SBO Relocation) and Mitigation			
	<b>Count Date:</b>		<b>Analyst:</b>	RA	<b>Date:</b>

		MD PEAK HOUR					
		No. of Phases		4	0		0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	NB -- 0	SB -- 0	WB -- 0	WB -- 0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0	EB -- 0	WB -- 0	WB -- 0	WB -- 0
Override Capacity			2				0
			0				0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↖ Left	541	2	298			0
	↖↔ Left-Through		0				0
	→ Through	987	1	562			0
	↗ Through-Right		1				0
	→ Right	136	0	136			0
	↗↔ Left-Through-Right		0				0
	↖↔ Left-Right		0				0
<b>SOUTHBOUND</b>	↖ Left	244	2	134			0
	↖↔ Left-Through		0				0
	→ Through	727	2	364			0
	↗ Through-Right		0				0
	→ Right	123	1	0			0
	↗↔ Left-Through-Right		0				0
	↖↔ Left-Right		0				0
<b>EASTBOUND</b>	↖ Left	190	1	190			0
	↖↔ Left-Through		0				0
	→ Through	1724	4	431			0
	↗ Through-Right		0				0
	→ Right	324	1	26			0
	↗↔ Left-Through-Right		0				0
	↖↔ Left-Right		0				0
<b>WESTBOUND</b>	↖ Left	189	1	189			0
	↖↔ Left-Through		0				0
	→ Through	1417	3	403			0
	↗ Through-Right		1				0
	→ Right	193	0	193			0
	↗↔ Left-Through-Right		0				0
	↖↔ Left-Right		0				0
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 696	<i>North-South:</i>		0
				<i>East-West:</i> 620	<i>East-West:</i>		0
				<i>SUM:</i> 1316	<i>SUM:</i>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.957			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.857			0.000
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>A</b>

**REMARKS:**







## Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum	
<b>22</b>	<b>North-South Street:</b> Aviation Boulevard	<b>East-West Street:</b> 111th Street
	<b>Scenario:</b> Future (2035) with Project (including SBO Relocation) and Mitigation	
	<b>Count Date:</b>	<b>Analyst:</b> RA <span style="float: right;"><b>Date:</b> 2/12/2018</span>

		MD PEAK HOUR					
		No. of Phases					
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					
		Right Turns: FREE-1, NRTOR-2 or OLA-3?					
		ATSAC-1 or ATSAC+ATCS-2?					
		Override Capacity					
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>		Left	1	77			0
		Left-Through	0				0
		Through	886	1	520		0
		Through-Right		1			0
		Right	153	0	153		0
		Left-Through-Right		0			0
		Left-Right		0			0
<b>SOUTHBOUND</b>		Left	1	562			0
		Left-Through	0				0
		Through	655	1	401		0
		Through-Right		1			0
		Right	146	0	146		0
		Left-Through-Right		0			0
		Left-Right		0			0
<b>EASTBOUND</b>		Left	1	95			0
		Left-Through	0				0
		Through	76	0	84		0
		Through-Right		1			0
		Right	8	0	0		0
		Left-Through-Right		0			0
		Left-Right		0			0
<b>WESTBOUND</b>		Left	1	52			0
		Left-Through	0				0
		Through	26	1	26		0
		Through-Right		0			0
		Right	662	1	100		0
		Left-Through-Right		0			0
		Left-Right		0			0
<b>CRITICAL VOLUMES</b>			<b>North-South:</b>	1082	<b>North-South:</b>		0
			<b>East-West:</b>	195	<b>East-West:</b>		0
			<b>SUM:</b>	1277	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.929			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.829</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**23**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**    **Analyst:** RA                                  **Date:** 2/12/2018

		MD PEAK HOUR					
				4			0
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	3	NB -- 0	SB --	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB --	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↙ Left	140	2	77			0
	↘ Left-Through		0				
	→ Through	722	2	361			0
	↗ Through-Right		0				
	↘ Right	123	1	0			0
	↘↙ Left-Through-Right		0				
	↙↘ Left-Right		0				
<b>SOUTHBOUND</b>	↙ Left	115	2	63			0
	↘ Left-Through		0				
	→ Through	407	2	204			0
	↗ Through-Right		0				
	↘ Right	203	1	27			0
	↘↙ Left-Through-Right		0				
	↙↘ Left-Right		0				
<b>EASTBOUND</b>	↙ Left	320	2	176			0
	↘ Left-Through		0				
	→ Through	744	2	295			0
	↗ Through-Right		1				
	↘ Right	141	0	141			0
	↘↙ Left-Through-Right		0				
	↙↘ Left-Right		0				
<b>WESTBOUND</b>	↙ Left	510	2	281			0
	↘ Left-Through		0				
	→ Through	480	3	160			0
	↗ Through-Right		0				
	↘ Right	75	1	12			0
	↘↙ Left-Through-Right		0				
	↙↘ Left-Right		0				
<b>CRITICAL VOLUMES</b>			<i>North-South:</i>	424	<i>North-South:</i>		0
			<i>East-West:</i>	576	<i>East-West:</i>		0
			<b>SUM:</b>	1000	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.727			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.627</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>A</b>

**REMARKS:**



# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**24**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Hindry Avenue      **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR							
				2			0		
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0		
ATSAC-1 or ATSAC+ATCS-2? Override Capacity		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0		
				2			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume		
<b>NORTHBOUND</b>	← Left	277	1	277			0		
	↙ Left-Through		0				0		
	→ Through	0	0	0			0		
	↘ Through-Right		0				0		
	→ Right	566	1	311			0		
	↘ Left-Through-Right		0				0		
	↙ Left-Right		1				0		
<b>SOUTHBOUND</b>	← Left	112	0	112			0		
	↙ Left-Through		0				0		
	→ Through	0	0	0			0		
	↘ Through-Right		0				0		
	→ Right	32	0	144			0		
	↘ Left-Through-Right		0				0		
	↙ Left-Right		1				0		
<b>EASTBOUND</b>	← Left	64	1	64			0		
	↙ Left-Through		0				0		
	→ Through	565	2	283			0		
	↘ Through-Right		0				0		
	→ Right	0	0	0			0		
	↘ Left-Through-Right		0				0		
	↙ Left-Right		0				0		
<b>WESTBOUND</b>	← Left	0	0	0			0		
	↙ Left-Through		0				0		
	→ Through	359	1	241			0		
	↘ Through-Right		1				0		
	→ Right	123	0	123			0		
	↘ Left-Through-Right		0				0		
	↙ Left-Right		0				0		
CRITICAL VOLUMES			North-South:	423			North-South:	0	
				East-West:	305			East-West:	0
				SUM:	728			SUM:	0
VOLUME/CAPACITY (V/C) RATIO:				0.485				0.000	
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.385</b>				<b>0.000</b>	
LEVEL OF SERVICE (LOS):				<b>A</b>				<b>A</b>	

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) with Project (including SBO Relocation) and Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	3	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	3	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	319	2	175			0
	Left-Through		0				
	Through	447	1	304			0
	Through-Right		1				
	Right	160	0	160			0
	Left-Through-Right		0				
	Left-Right		0				
<b>SOUTHBOUND</b>	Left	253	2	139			0
	Left-Through		0				
	Through	391	2	196			0
	Through-Right		0				
	Right	297	1	146			0
	Left-Through-Right		0				
	Left-Right		0				
<b>EASTBOUND</b>	Left	274	2	151			0
	Left-Through		0				
	Through	306	3	102			0
	Through-Right		0				
	Right	221	1	46			0
	Left-Through-Right		0				
	Left-Right		0				
<b>WESTBOUND</b>	Left	214	2	118			0
	Left-Through		0				
	Through	561	2	281			0
	Through-Right		0				
	Right	236	1	97			0
	Left-Through-Right		0				
	Left-Right		0				
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 443			<i>North-South:</i> 0
				<i>East-West:</i> 432			<i>East-West:</i> 0
				<b>SUM:</b> 875			<b>SUM:</b> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.636			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.536</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

<b>Project: LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM INT # 27</b>						
<b>North/South Street: LA CIENEGA BOULEVARD</b>						
<b>East/West Street: ARBOR VITAE STREET</b>						
<b>Scenario: FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS</b>						
Thru Lane: 1600 vph			N-S Split Phase : N			
Left-Turn Lane: 1600 vph			E-W Split Phase : Y			
Dual LT Penalty: 10 %			Lost Time (% of cycle): 10			
<b>Peak Period: MD PEAK HOUR</b>						
<b>Approach</b>	<b>Movement</b>	<b>Lanes</b>	<b>Volume</b>	<b>Capacity</b>	<b>V/C</b>	<b>ICU ANALYSIS</b>
Southbound	RT	0.00	89	0	0.000	N-S(1): 0.241
	TH	2.00	859	3,200	0.296 *	N-S(2): 0.340 *
	LT	1.00	111	1,600	0.069	E-W(1): 0.419 *
Westbound	RT	1.00	99	1,600	0.062	E-W(2): 0.000
	TH	2.00	341	3,200	0.107 *	
	LT	1.00	104	1,600	0.065	V/C: 0.759
Northbound	RT	0.00	26	0	0.000	Lost Time: 0.100
	TH	2.00	523	3,200	0.172	ITS: -0.100
	LT	1.00	71	1,600	0.044 *	
Eastbound	RT	1.00	326	0	0.000	ICU: 0.759
	TH	1.67	507	2,671	0.312 *	
	LT	1.33	404	1,916	0.211	LOS: C

\* = Critical Movement



# Level of Service Worksheet (Circular 212 Method)



I/S #: 28

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: La Cienega Boulevard East-West Street: I-405 Ramps (n/o Century BI)  
 Scenario: Future (2035) with Project (including SBO Relocation) and Mitigation  
 Count Date: Analyst: RA Date: 2/12/2018

MOVEMENT		MD PEAK HOUR					
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			0
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	3	NB -- 0	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?				2			0
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	335	2	184			0
	Left-Through		0				0
	Through	549	1	275			0
	Through-Right		1				0
	Right	95	1	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	198	2	109			0
	Left-Through		0				0
	Through	673	3	224			0
	Through-Right		0				0
	Right	466	1	458			0
	Left-Through-Right		0				0
	Left-Right		0				0
EASTBOUND	Left	15	2	8			0
	Left-Through		0				0
	Through	318	2	159			0
	Through-Right		0				0
	Right	130	1	38			0
	Left-Through-Right		0				0
	Left-Right		0				0
WESTBOUND	Left	368	2	202			0
	Left-Through		0				0
	Through	661	1	352			0
	Through-Right		1				0
	Right	43	0	43			0
	Left-Through-Right		0				0
	Left-Right		0				0
CRITICAL VOLUMES				North-South: 642 East-West: 361 SUM: 1003			North-South: 0 East-West: 0 SUM: 0
VOLUME/CAPACITY (V/C) RATIO:				0.729			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.629			0.000
LEVEL OF SERVICE (LOS):				B			A

REMARKS:

## Level of Service Worksheet (Circular 212 Method)



<b>I/S #:</b>	<b>PROJECT TITLE:</b> Landside Access Modernization Program at LAX - Addendum
<b>29</b>	<b>North-South Street:</b> La Cienega Boulevard <b>East-West Street:</b> Century Boulevard <b>Scenario:</b> Future (2035) with Project (including SBO Relocation) and Mitigation <b>Count Date:</b> <b>Analyst:</b> RA <b>Date:</b> 2/12/2018

		MD PEAK HOUR					
		No. of Phases					
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		4		0	
		Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	NB -- 0	SB -- 0
		ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 3	EB -- 0	WB -- 0
		Override Capacity		2		0	
				0		0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	↪ Left	222	2	122			0
	↪ Left-Through		0				
	↪ Through	549	2	275			0
	↪ Through-Right		0				
	↪ Right	388	2	24			0
	↪ Left-Through-Right		0				
SOUTHBOUND	↪ Left	348	2	191			0
	↪ Left-Through		0				
	↪ Through	256	2	128			0
	↪ Through-Right		0				
	↪ Right	605	1	352			0
	↪ Left-Through-Right		0				
EASTBOUND	↪ Left	253	1	253			0
	↪ Left-Through		0				
	↪ Through	1395	3	465			0
	↪ Through-Right		0				
	↪ Right	719	1	597			0
	↪ Left-Through-Right		0				
WESTBOUND	↪ Left	189	1	189			0
	↪ Left-Through		0				
	↪ Through	1411	3	470			0
	↪ Through-Right		0				
	↪ Right	155	1	0			0
	↪ Left-Through-Right		0				
		<b>North-South:</b>		474	<b>North-South:</b>		0
		<b>East-West:</b>		786	<b>East-West:</b>		0
		<b>SUM:</b>		1260	<b>SUM:</b>		0
		<b>VOLUME/CAPACITY (V/C) RATIO:</b>		0.916			0.000
		<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>		<b>0.816</b>			<b>0.000</b>
		<b>LEVEL OF SERVICE (LOS):</b>		<b>D</b>			<b>A</b>

**REMARKS:**



<b>Project: LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM INT # 30</b>						
<b>North/South Street: I-405 NORTHBOUND RAMPS</b>						
<b>East/West Street: CENTURY BOULEVARD</b>						
<b>Scenario: FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION) AND MITIGATION CONDITIONS</b>						
Thru Lane: 1600 vph			N-S Split Phase : N			
Left-Turn Lane: 1600 vph			E-W Split Phase : N			
Dual LT Penalty: 10 %			Lost Time (% of cycle): 10			
<b>Peak Period: MD PEAK HOUR</b>						
Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	36	1,600	0.004 *	N-S(1): 0.099
	TH	0.00	0	0	0.000	N-S(2): 0.290 *
	LT	0.00	1	1,600	0.001	E-W(1): 0.325 *
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.315
	TH	3.00	1,413	4,800	0.296	V/C: 0.615
	LT	0.00	0	0	0.000 *	Lost Time: 0.100
Northbound	RT	1.00	156	1,600	0.098	ITS: -0.100
	TH	0.00	0	0	0.000	
	LT	2.00	825	2,880	0.286 *	
Eastbound	RT	1.62	840	2,586	0.165	ICU: 0.615
	TH	2.38	1,239	3,814	0.325 *	
	LT	1.00	30	1,600	0.019	LOS: B

\* = Critical Movement  
EBR is free-flow movement.

**ATTACHMENT H**

**LEVEL OF SERVICE WORKSHEETS**

**Future (2035) with Project (including SBO Relocation), Related Development and  
Mitigation Measures Conditions**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**1**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR			
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
No. of Phases				3			3	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 0	0	NB -- 3	SB -- 0	0	
		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3	
ATSAC-1 or ATSAC+ATCS-2?				2			2	
Override Capacity				0			0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
<b>NORTHBOUND</b>	Left	0	0	0	0	0	0	
	Left-Through		0			0		
	Through	997	2	499	678	2	339	
	Through-Right		0			0		
	Right	455	1	268	329	1	179	
	Left-Through-Right		0			0		
	Left-Right		0			0		
<b>SOUTHBOUND</b>	Left	87	1	87	133	1	133	
	Left-Through		0			0		
	Through	549	2	275	734	2	367	
	Through-Right		0			0		
	Right	0	0	0	0	0	0	
	Left-Through-Right		0			0		
	Left-Right		0			0		
<b>EASTBOUND</b>	Left	0	0	0	0	0	0	
	Left-Through		0			0		
	Through	0	0	0	0	0	0	
	Through-Right		0			0		
	Right	0	0	0	0	0	0	
	Left-Through-Right		0			0		
	Left-Right		0			0		
<b>WESTBOUND</b>	Left	340	2	187	273	2	150	
	Left-Through		0			0		
	Through	0	0	0	0	0	0	
	Through-Right		0			0		
	Right	75	1	0	140	1	7	
	Left-Through-Right		0			0		
	Left-Right		0			0		
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		586	<i>North-South:</i>		472	
		<i>East-West:</i>		187	<i>East-West:</i>		150	
		<b>SUM:</b>		773	<b>SUM:</b>		622	
<b>VOLUME/CAPACITY (V/C) RATIO:</b>					0.542			
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>					<b>0.442</b>			
<b>LEVEL OF SERVICE (LOS):</b>					<b>A</b>			
					<b>A</b>			

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**2**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Pershing Drive      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				1			1
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0      SB -- 3		3	NB -- 0      SB -- 3		3
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0      WB -- 3		3	EB -- 0      WB -- 3		3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	1	0	1	1	0	1
	Left-Through		1			1	
	Through	0	0	1	1	0	2
	Through-Right		1			1	
	Right	1	0	0	5	0	4
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	824	1	413	860	1	430
	Left-Through		1			1	
	Through	1	0	413	0	0	430
	Through-Right		0			0	
	Right	116	1	0	307	1	226
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	284	2	156	148	2	81
	Left-Through		0			0	
	Through	397	1	199	464	1	232
	Through-Right		1			1	
	Right	1	0	1	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	4	1	4	2	1	2
	Left-Through		0			0	
	Through	358	2	179	526	2	263
	Through-Right		0			0	
	Right	1259	2	279	794	2	7
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		414	<i>North-South:</i>		434
		<i>East-West:</i>		435	<i>East-West:</i>		344
		<b>SUM:</b>		849	<b>SUM:</b>		778
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.617			0.566
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.517</b>			<b>0.466</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**







# Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**5**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** Lincoln Boulevard  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB --</i> 0	<i>SB --</i> 0	0	<i>NB --</i> 0	<i>SB --</i> 0	0
		<i>EB --</i> 0	<i>WB --</i> 0	0	<i>EB --</i> 0	<i>WB --</i> 0	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through [1]	2130	3	710	1871	3	624
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right			0		0	
<b>SOUTHBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1568	4	392	1971	4	493
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right			0		0	
<b>EASTBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right			0		0	
<b>WESTBOUND</b>	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1996	4	499	2423	4	606
	Through-Right		0			0	
	Right	38	1	38	32	1	32
	Left-Through-Right		0			0	
	Left-Right			0		0	
<b>CRITICAL VOLUMES</b>			<i>North-South:</i>	710	<i>North-South:</i>		624
			<i>East-West:</i>	499	<i>East-West:</i>		606
			<b>SUM:</b>	1209	<b>SUM:</b>		1230
<b>VOLUME/CAPACITY (V/C) RATIO:</b>		0.806			0.820		
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>		0.706			0.720		
<b>LEVEL OF SERVICE (LOS):</b>		C			C		

**REMARKS:** [1] Northbound has a fourth through which is approx. 50 feet in length.





### Level of Service Worksheet (Circular 212 Method)



**I/S #:** PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
**7** North-South Street: Sepulveda Boulevard East-West Street: I-105 Ramps (n/o Imperial Hwy)  
 Scenario: Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
 Count Date: Analyst: RA Date: 2/12/2018

MOVEMENT		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	2507	3	836	2756	3	919
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	2246	1	0	2610	1	0
	Through-Right		1			1	
	Right	1672	1	0	1844	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	2563	3	897	1889	3	661
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	836		North-South:	919
			East-West:	897		East-West:	661
			SUM:	1733		SUM:	1580
VOLUME/CAPACITY (V/C) RATIO:				1.155			1.053
V/C LESS ATSAC/ATCS ADJUSTMENT:				1.055			0.953
LEVEL OF SERVICE (LOS):				F			E

REMARKS: [1] Free-flow movement.





# Level of Service Worksheet (Circular 212 Method)



I/S #:  
10

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Jenny Avenue East-West Street: Westchester Parkway  
 Scenario: Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
 Count Date: Analyst: RA Date: 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	16	1	16	136	1	85
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	54	1	8	119	1	31
	Left-Through-Right		0			0	
	Left-Right		1			1	
EASTBOUND	Left	45	1	45	109	1	109
	Left-Through		0			0	
	Through	603	2	302	1220	2	610
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1220	2	610	1393	2	697
	Through-Right		0			0	
	Right	204	1	196	130	1	88
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South: 16		North-South: 85		
			East-West: 655		East-West: 806		
			SUM: 671		SUM: 891		
VOLUME/CAPACITY (V/C) RATIO:				0.447			0.594
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.347			0.494
LEVEL OF SERVICE (LOS):				A			A

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB --</i> 0	<i>SB --</i>	0	<i>NB --</i> 0	<i>SB --</i>	0
		<i>EB --</i> 0	<i>WB --</i>	0	<i>EB --</i> 0	<i>WB --</i>	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	75	1	75	75	1	75
	Left-Through		0			0	
	Through	24	1	24	27	1	27
	Through-Right		0			0	
	Right	38	1	1	117	1	94
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	67	1	67	136	1	136
	Left-Through		0			0	
	Through	43	1	43	20	1	20
	Through-Right		0			0	
	Right	86	1	0	99	1	13
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	563	2	310	315	2	173
	Left-Through		0			0	
	Through	881	4	194	1926	4	396
	Through-Right		1			1	
	Right	89	0	89	55	0	55
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	74	1	74	47	1	47
	Left-Through		0			0	
	Through	1482	3	408	1954	3	509
	Through-Right		1			1	
	Right	151	0	151	83	0	83
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 118			<i>North-South:</i> 230
				<i>East-West:</i> 718			<i>East-West:</i> 682
				<b>SUM:</b> 836			<b>SUM:</b> 912
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.587			0.640
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.487</b>			<b>0.540</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

### Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**12**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard **East-West Street:** Arbor Vitae St / Westchester Parkway  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	3	NB -- 0	SB -- 3	3
ATSAC-1 or ATSAC+ATCS-2?		EB -- 3	WB -- 0	0	EB -- 3	WB -- 0	0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	← Left	185	1	185	300	1	300
	↔ Left-Through		0			0	
	→ Through	596	2	298	984	2	492
	↔ Through-Right		0			0	
	→ Right	133	1	11	216	1	139
	↔ Left-Through-Right		0			0	
	↔ Left-Right		0			0	
SOUTHBOUND	← Left	146	1	146	233	1	233
	↔ Left-Through		0			0	
	→ Through	559	3	186	609	3	203
	↔ Through-Right		0			0	
	→ Right	282	1	149	217	1	16
	↔ Left-Through-Right		0			0	
	↔ Left-Right		0			0	
EASTBOUND	← Left	133	1	133	201	1	201
	↔ Left-Through		0			0	
	→ Through	328	2	164	795	2	398
	↔ Through-Right		0			0	
	→ Right	228	1	43	304	1	4
	↔ Left-Through-Right		0			0	
	↔ Left-Right		0			0	
WESTBOUND	← Left	245	1	245	154	1	154
	↔ Left-Through		0			0	
	→ Through	1225	2	613	1113	2	557
	↔ Through-Right		0			0	
	→ Right	278	1	205	182	1	66
	↔ Left-Through-Right		0			0	
	↔ Left-Right		0			0	
<b>CRITICAL VOLUMES</b>			<i>North-South:</i>	444	<i>North-South:</i>		725
			<i>East-West:</i>	746	<i>East-West:</i>		758
			<b>SUM:</b>	1190	<b>SUM:</b>		1483
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.865			1.079
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.765</b>			<b>0.979</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>E</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



I/S #: 13

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** 96th Street  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			4		4		4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0	0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0	0	0
Override Capacity			2		2		2
			0		0		0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	665	2	242	730	2	283
	Through-Right		1			1	
	Right	62	0	62	120	0	120
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	211	1	211	247	1	247
	Left-Through		0			0	
	Through	709	3	236	727	3	242
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	100	1	100	276	1	276
	Left-Through		0			0	
	Through	119	0	288	406	0	366
	Through-Right		0			0	
	Right	457	1	0	325	1	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
WESTBOUND	Left	110	1	87	41	1	41
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	151	1	0	319	1	52
	Left-Through-Right		0			0	
	Left-Right		1			1	
<b>CRITICAL VOLUMES</b>			<i>North-South:</i>	453		<i>North-South:</i>	530
			<i>East-West:</i>	375		<i>East-West:</i>	418
			<i>SUM:</i>	828		<i>SUM:</i>	948
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.602			0.689
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.502			0.589
<b>LEVEL OF SERVICE (LOS):</b>				A			A

REMARKS:

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**14**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard **East-West Street:** 98th Street  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR			
		No. of Phases			No. of Phases			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3	3	NB -- 0	SB -- 3	3	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0	
Override Capacity				2			2	
				0			0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
<b>NORTHBOUND</b>	Left	135	1	135	202	1	202	
	Left-Through		0			0		
	Through	481	2	235	573	2	259	
	Through-Right		1			1		
	Right	224	0	224	205	0	205	
	Left-Through-Right		0			0		
	Left-Right		0			0		
<b>SOUTHBOUND</b>	Left	117	1	117	243	1	243	
	Left-Through		0			0		
	Through	883	3	294	431	3	144	
	Through-Right		0			0		
	Right	317	1	125	500	1	307	
	Left-Through-Right		0			0		
	Left-Right		0			0		
<b>EASTBOUND</b>	Left	192	1	192	193	1	193	
	Left-Through		0			0		
	Through	283	1	251	467	1	420	
	Through-Right		1			1		
	Right	219	0	219	373	0	373	
	Left-Through-Right		0			0		
	Left-Right		0			0		
<b>WESTBOUND</b>	Left	90	1	90	114	1	114	
	Left-Through		0			0		
	Through	498	0	571	379	0	487	
	Through-Right		1			1		
	Right	73	0	0	108	0	0	
	Left-Through-Right		0			0		
	Left-Right		0			0		
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		429	<i>North-South:</i>		509	
		<i>East-West:</i>		763	<i>East-West:</i>		680	
		<b>SUM:</b>		1192	<b>SUM:</b>		1189	
<b>VOLUME/CAPACITY (V/C) RATIO:</b>					0.795			0.793
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>					<b>0.695</b>			<b>0.693</b>
<b>LEVEL OF SERVICE (LOS):</b>					<b>B</b>			<b>B</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)

<b>I/S #:</b>
<b>15</b>

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases		4			4		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		1			1		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0		NB -- 0	SB -- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3		EB -- 0	WB -- 3	
Override Capacity		2			2		
		0			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	15	1	15	47	1	47
	Left-Through		0		0	0	
	Through	54	2	27	85	2	43
	Through-Right		0		0	0	
	Right	44	1	21	44	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	558	2	195	266	2	93
	Left-Through		1		1	1	
	Through	87	1	87	39	1	39
	Through-Right		0		0	0	
	Right	548	1	437	581	1	440
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	406	2	223	515	2	283
	Left-Through		0		0	0	
	Through	569	4	116	1576	4	337
	Through-Right		1		1	1	
	Right	11	0	11	107	0	107
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	47	1	47	146	1	146
	Left-Through		0		0	0	
	Through	1412	4	353	1437	4	359
	Through-Right		0		0	0	
	Right	470	1	275	320	1	227
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		<i>North-South:</i>		464	<i>North-South:</i>		487
		<i>East-West:</i>		576	<i>East-West:</i>		642
		<i>SUM:</i>		1040	<i>SUM:</i>		1129
VOLUME/CAPACITY (V/C) RATIO:				0.756			0.821
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.656			0.721
LEVEL OF SERVICE (LOS):				B			C



**I/S #:**  
**17**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Douglas Street      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
		No. of Phases			4		
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			1		
		<i>NB</i> --	<i>SB</i> --	0	<i>NB</i> --	<i>SB</i> --	0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?			0		
		<i>EB</i> --	<i>WB</i> --	0	<i>EB</i> --	<i>WB</i> --	0
		ATSAC-1 or ATSAC+ATCS-2?			2		
		Override Capacity			0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↖ Left	152	1	152	205	1	205
	↖↔ Left-Through	33	0	33	33	0	33
	↔ Through	175	1	175	721	1	721
	↗ Through-Right	0	0	0	0	0	0
	↗ Right	0	2	0	0	2	0
	↗↔ Left-Through-Right	0	0	0	0	0	0
	↗↔ Left-Right	0	0	0	0	0	0
<b>SOUTHBOUND</b>	↖ Left	64	1	64	53	1	53
	↖↔ Left-Through	36	0	36	58	0	58
	↔ Through	12	1	12	33	1	33
	↗ Through-Right	0	0	0	0	0	0
	↗ Right	0	1	0	0	1	0
	↗↔ Left-Through-Right	0	1	0	0	1	0
	↗↔ Left-Right	0	0	0	0	0	0
<b>EASTBOUND</b>	↖ Left	30	1	30	44	1	44
	↖↔ Left-Through	588	0	588	1718	0	1718
	↔ Through	233	2	466	281	2	562
	↗ Through-Right	0	1	0	0	1	0
	↗ Right	0	0	0	0	0	0
	↗↔ Left-Through-Right	0	0	0	0	0	0
	↗↔ Left-Right	0	0	0	0	0	0
<b>WESTBOUND</b>	↖ Left	481	2	962	166	2	332
	↖↔ Left-Through	1253	0	1253	743	0	743
	↔ Through	76	2	152	46	2	92
	↗ Through-Right	0	1	0	0	1	0
	↗ Right	0	0	0	0	0	0
	↗↔ Left-Through-Right	0	0	0	0	0	0
	↗↔ Left-Right	0	0	0	0	0	0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		202	<i>North-South:</i>		364
		<i>East-West:</i>		539	<i>East-West:</i>		757
		<b>SUM:</b>		741	<b>SUM:</b>		1121
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.539			0.815
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.439</b>			<b>0.715</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>C</b>

**REMARKS:**

### Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**18**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Bellanca Avenue      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:**                                      **Analyst:** RA                                      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0      SB -- 0		0	NB -- 0      SB -- 0		0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0      WB -- 0		0	EB -- 0      WB -- 0		0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	← Left	0	0	0	0	0	0
	← Left-Through		0			0	
	→ Through	0	0	0	0	0	0
	→ Through-Right		0			0	
	→ Right	0	0	0	0	0	0
	↔ Left-Through-Right		0			0	
	↔ Left-Right			0			0
SOUTHBOUND	→ Left	102	2	56	525	2	289
	→ Left-Through		0			0	
	← Through	0	0	0	0	0	0
	← Through-Right		0			0	
	← Right	179	1	159	230	1	204
	↔ Left-Through-Right		0			0	
	↔ Left-Right			0			0
EASTBOUND	← Left	41	1	41	52	1	52
	← Left-Through		0			0	
	→ Through	1295	5	259	2588	5	518
	→ Through-Right		0			0	
	→ Right	0	0	0	0	0	0
	↔ Left-Through-Right		0			0	
	↔ Left-Right			0			0
WESTBOUND	→ Left	0	0	0	0	0	0
	→ Left-Through		0			0	
	← Through	2371	3	646	1978	3	571
	← Through-Right		1			1	
	← Right	214	0	214	307	0	307
	↔ Left-Through-Right		0			0	
	↔ Left-Right			0			0
CRITICAL VOLUMES				<i>North-South:</i> 159	<i>North-South:</i> 289		
				<i>East-West:</i> 687	<i>East-West:</i> 623		
				<i>SUM:</i> 846	<i>SUM:</i> 912		
VOLUME/CAPACITY (V/C) RATIO:				0.564	0.608		
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.464	0.508		
LEVEL OF SERVICE (LOS):				A	A		

**REMARKS:**

# Level of Service Worksheet (Circular 212 Method)

**I/S #:**  
**19**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

MOVEMENT	AM PEAK HOUR			PM PEAK HOUR			
	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
<b>No. of Phases</b>			4			4	
<b>Opposed Ø'ing: N/S-1, E/W-2 or Both-3?</b>			0			0	
<b>Right Turns: FREE-1, NRTOR-2 or OLA-3?</b>	<b>NB -- 0</b>	<b>SB -- 0</b>	0	<b>NB -- 0</b>	<b>SB -- 0</b>	0	
	<b>EB -- 3</b>	<b>WB -- 0</b>	0	<b>EB -- 3</b>	<b>WB -- 0</b>	0	
<b>ATSAC-1 or ATSAC+ATCS-2?</b>			2			2	
<b>Override Capacity</b>			0			0	
MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	349	1	349	377	1	377
	Left-Through		0			0	
	Through	719	2	360	625	2	313
	Through-Right		0			0	
	Right	107	1	12	246	1	159
	Left-Through-Right		0			0	
SOUTHBOUND	Left	29	1	29	82	1	82
	Left-Through		0			0	
	Through	745	1	424	762	1	422
	Through-Right		1			1	
	Right	102	0	102	81	0	81
	Left-Through-Right		0			0	
EASTBOUND	Left	95	1	95	149	1	149
	Left-Through		0			0	
	Through	222	3	74	831	3	277
	Through-Right		0			0	
	Right	217	1	0	444	1	67
	Left-Through-Right		0			0	
WESTBOUND	Left	191	1	191	175	1	175
	Left-Through		0			0	
	Through	1447	2	508	799	2	289
	Through-Right		1			1	
	Right	76	0	76	68	0	68
	Left-Through-Right		0			0	
<b>CRITICAL VOLUMES</b>			<i>North-South:</i> 773	<i>North-South:</i> 799			
			<i>East-West:</i> 603	<i>East-West:</i> 452			
			<b>SUM:</b> 1376	<b>SUM:</b> 1251			
<b>VOLUME/CAPACITY (V/C) RATIO:</b>			1.001	0.910			
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>			<b>0.901</b>	<b>0.810</b>			
<b>LEVEL OF SERVICE (LOS):</b>			<b>E</b>	<b>D</b>			





























**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)

I/S #: **20**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
				4			4
No. of Phases							
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?							
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> -- 0	<i>SB</i> -- 3		<i>NB</i> -- 0	<i>SB</i> -- 3	
		<i>EB</i> -- 3	<i>WB</i> -- 0		<i>EB</i> -- 3	<i>WB</i> -- 0	
ATSAC-1 or ATSAC+ATCS-2?							
Override Capacity							
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	 Left	626	2	344	612	2	337
	 Left-Through		0			0	
	 Through	951	1	514	1018	1	546
	 Through-Right		1			1	
	 Right	76	0	76	74	0	74
	 Left-Through-Right		0			0	
	 Left-Right		0			0	
<b>SOUTHBOUND</b>	 Left	160	2	88	246	2	135
	 Left-Through		0			0	
	 Through	651	2	326	780	2	390
	 Through-Right		0			0	
	 Right	160	1	82	141	1	0
	 Left-Through-Right		0			0	
	 Left-Right		0			0	
<b>EASTBOUND</b>	 Left	78	1	78	268	1	268
	 Left-Through		0			0	
	 Through	891	4	223	2239	4	560
	 Through-Right		0			0	
	 Right	461	1	117	601	1	264
	 Left-Through-Right		0			0	
	 Left-Right		0			0	
<b>WESTBOUND</b>	 Left	219	1	219	177	1	177
	 Left-Through		0			0	
	 Through	1796	3	531	1516	3	427
	 Through-Right		1			1	
	 Right	328	0	328	193	0	193
	 Left-Through-Right		0			0	
	 Left-Right		0			0	
CRITICAL VOLUMES		<i>North-South:</i>		670	<i>North-South:</i>		727
		<i>East-West:</i>		609	<i>East-West:</i>		737
		<i>SUM:</i>		1279	<i>SUM:</i>		1464
VOLUME/CAPACITY (V/C) RATIO:					1.065		
V/C LESS ATSAC/ATCS ADJUSTMENT:					<b>0.830</b>		
LEVEL OF SERVICE (LOS):					<b>D</b>		

REMARKS:

### Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**21**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** 104th Street  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB --	0	NB -- 0	SB --	0
		EB -- 0	WB --	0	EB -- 0	WB --	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	111	1	111	84	1	84
	Left-Through		0			0	
	Through	1491	1	782	1491	1	780
	Through-Right		1			1	
	Right	72	0	72	68	0	68
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	139	1	139	84	1	84
	Left-Through		0			0	
	Through	1063	1	551	1577	1	793
	Through-Right		1			1	
	Right	38	0	38	8	0	8
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	17	0	17	6	0	6
	Left-Through		0			0	
	Through	13	0	125	130	0	268
	Through-Right		0			0	
	Right	95	0	0	132	0	0
	Left-Through-Right		1			1	
	Left-Right		0			0	
WESTBOUND	Left	82	1	82	65	1	65
	Left-Through		0			0	
	Through	60	0	134	24	0	158
	Through-Right		1			1	
	Right	74	0	0	134	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 921			<i>North-South:</i> 877
				<i>East-West:</i> 259			<i>East-West:</i> 426
				<b>SUM:</b> 1180			<b>SUM:</b> 1303
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.858			0.948
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.758</b>			<b>0.848</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>C</b>			<b>D</b>

**REMARKS:**

I/S #: **22**

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Aviation Boulevard East-West Street: 111th Street  
 Scenario: Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
 Count Date: Analyst: RA Date: 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			2
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	3	EB -- 0	WB -- 3	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	11	1	11	24	1	24
	Left-Through		0			0	
	Through	1224	1	639	854	1	458
	Through-Right		1			1	
	Right	54	0	54	61	0	61
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	480	1	480	481	1	481
	Left-Through		0			0	
	Through	595	1	346	1254	1	652
	Through-Right		1			1	
	Right	96	0	96	50	0	50
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	88	1	88	128	1	128
	Left-Through		0			0	
	Through	31	0	43	52	0	68
	Through-Right		1			1	
	Right	12	0	0	16	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	30	1	30	35	1	35
	Left-Through		0			0	
	Through	84	1	84	65	1	65
	Through-Right		0			0	
	Right	410	1	0	620	1	139
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES				1119			939
				172			267
				SUM: 1291			SUM: 1206
VOLUME/CAPACITY (V/C) RATIO:				0.939			0.877
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.839</b>			<b>0.777</b>
LEVEL OF SERVICE (LOS):				<b>D</b>			<b>C</b>

REMARKS:







## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**25**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Concourse Way      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0      SB -- 0		0	NB -- 0      SB -- 0		0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0      WB -- 0		0	EB -- 0      WB -- 0		0
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	43	1	43	37	1	37
	Left-Through		0			0	
	Through	0	0	97	0	0	108
	Through-Right		1			1	
	Right	97	0	0	108	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	430	2	237	616	2	339
	Left-Through		0			0	
	Through	0	0	230	0	0	329
	Through-Right		1			1	
	Right	230	0	0	329	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	210	1	210	147	1	147
	Left-Through		0			0	
	Through	697	3	187	1839	3	464
	Through-Right		1			1	
	Right	52	0	52	15	0	15
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	88	1	88	161	1	161
	Left-Through		0			0	
	Through	1728	4	432	1512	4	378
	Through-Right		0			0	
	Right	551	1	433	360	1	191
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 334			<i>North-South:</i> 447
				<i>East-West:</i> 643			<i>East-West:</i> 625
				<b>SUM:</b> 977			<b>SUM:</b> 1072
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.711			0.780
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.611</b>			<b>0.680</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>B</b>			<b>B</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB --</i> 3	<i>SB --</i>	0	<i>NB --</i> 3	<i>SB --</i>	0
ATSAC-1 or ATSAC+ATCS-2?		<i>EB --</i> 3	<i>WB --</i>	3	<i>EB --</i> 3	<i>WB --</i>	3
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	514	2	283	277	2	152
	Left-Through		0			0	
	Through	511	1	373	306	1	227
	Through-Right		1			1	
	Right	235	0	235	147	0	147
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>SOUTHBOUND</b>	Left	263	2	145	491	2	270
	Left-Through		0			0	
	Through	303	2	152	518	2	259
	Through-Right		0			0	
	Right	168	1	98	280	1	215
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>EASTBOUND</b>	Left	256	2	141	239	2	131
	Left-Through		0			0	
	Through	221	3	74	1778	3	593
	Through-Right		0			0	
	Right	183	1	0	213	1	61
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>WESTBOUND</b>	Left	155	2	85	144	2	79
	Left-Through		0			0	
	Through	1199	2	600	362	2	181
	Through-Right		0			0	
	Right	382	1	237	340	1	70
	Left-Through-Right		0			0	
	Left-Right		0			0	
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 518			<i>North-South:</i> 497
				<i>East-West:</i> 741			<i>East-West:</i> 672
				<b>SUM:</b> 1259			<b>SUM:</b> 1169
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.916			0.850
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.816</b>			<b>0.750</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>C</b>

**REMARKS:**



**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 27**  
**North/South Street:** LA CIENEGA BOULEVARD  
**East/West Street:** ARBOR VITAE STREET  
**Scenario:** FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION),  
 RELATED DEVELOPMENT AND MITIGATION CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	Y
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

**Peak Period: AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	210	0	0.000	N-S(1): 0.384
	TH	2.00	759	3,200	0.303 *	N-S(2): 0.546 *
	LT	1.00	68	1,600	0.043	E-W(1): 0.501 *
Westbound	RT	1.00	326	1,600	0.204	E-W(2): 0.000
	TH	2.00	886	3,200	0.277 *	
	LT	1.00	144	1,600	0.090	V/C: 1.047
Northbound	RT	0.00	44	0	0.000	Lost Time: 0.100
	TH	2.00	1,046	3,200	0.341	ITS: -0.100
	LT	1.00	388	1,600	0.243 *	
Eastbound	RT	1.00	192	0	0.000	ICU: 1.047
	TH	1.16	223	1,852	0.224 *	
	LT	1.84	355	2,653	0.134	LOS: F

**Peak Period: PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	0.00	179	0	0.000	N-S(1): 0.322
	TH	2.00	926	3,200	0.345 *	N-S(2): 0.473 *
	LT	1.00	137	1,600	0.086	E-W(1): 0.611 *
Westbound	RT	1.00	91	1,600	0.057	E-W(2): 0.000
	TH	2.00	231	3,200	0.072	
	LT	1.00	160	1,600	0.100 *	V/C: 1.084
Northbound	RT	0.00	94	0	0.000	Lost Time: 0.100
	TH	2.00	661	3,200	0.236	ITS: -0.100
	LT	1.00	204	1,600	0.128 *	
Eastbound	RT	1.00	531	0	0.000	ICU: 1.084
	TH	1.67	835	2,674	0.511 *	
	LT	1.33	664	1,914	0.347	LOS: F

\* = Critical Movement



# Level of Service Worksheet (Circular 212 Method)



I/S #:  
28

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: La Cienega Boulevard East-West Street: I-405 Ramps (n/o Century BI)  
 Scenario: Future (2035) w/Project (incl. SBO Relocation), Rel. Development & Mitigation  
 Count Date: Analyst: RA Date: 2/12/2018

		AM PEAK HOUR			PM PEAK HOUR		
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			4
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3		NB -- 3	SB -- 3	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0		EB -- 0	WB -- 0	
Override Capacity				2			2
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	332	2	183	350	2	193
	Left-Through		0			0	
	Through	1561	1	781	494	1	247
	Through-Right		1			1	
	Right	65	1	0	102	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	127	2	70	241	2	133
	Left-Through		0			0	
	Through	496	3	165	1039	3	346
	Through-Right		0			0	
	Right	545	1	523	392	1	202
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	40	2	22	345	2	190
	Left-Through		0			0	
	Through	263	2	132	331	2	166
	Through-Right		0			0	
	Right	90	1	0	287	1	191
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	171	2	94	467	2	257
	Left-Through		0			0	
	Through	381	1	202	379	1	291
	Through-Right		1			1	
	Right	22	0	22	203	0	203
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES		<i>North-South:</i>		851	<i>North-South:</i>		539
		<i>East-West:</i>		226	<i>East-West:</i>		481
		<i>SUM:</i>		1077	<i>SUM:</i>		1020
VOLUME/CAPACITY (V/C) RATIO:				0.783			0.742
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.683			0.642
LEVEL OF SERVICE (LOS):				B			B

REMARKS:



**Project:** LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM  
**INT # 30**  
**North/South Street:** I-405 NORTHBOUND RAMPS  
**East/West Street:** CENTURY BOULEVARD  
**Scenario:** FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION),  
 RELATED DEVELOPMENT AND MITIGATION CONDITIONS

Thru Lane:	1600 vph	N-S Split Phase :	N
Left-Turn Lane:	1600 vph	E-W Split Phase :	N
Dual LT Penalty:	10 %	Lost Time (% of cycle):	10

**Peak Period: AM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	33	1,600	0.018 *	N-S(1): 0.249
	TH	0.00	0	0	0.000	N-S(2): 0.427 *
	LT	0.00	0	0	0.000	E-W(1): 0.164
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.453 *
	TH	3.00	2,154	4,800	0.450 *	V/C: 0.880
	LT	0.00	0	0	0.000	Lost Time: 0.100
Northbound	RT	1.00	399	1,600	0.249	ITS: -0.100
	TH	0.00	0	0	0.000	
	LT	2.00	1,177	2,880	0.409 *	
Eastbound	RT	1.00	196	1,600	0.000	ICU: 0.880
	TH	3.00	789	4,800	0.164	
	LT	1.00	4	1,600	0.003 *	LOS: D

**Peak Period: PM PEAK HOUR**

Approach	Movement	Lanes	Volume	Capacity	V/C	ICU ANALYSIS
Southbound	RT	1.00	27	1,600	0.005 *	N-S(1): 0.241
	TH	0.00	0	0	0.000	N-S(2): 0.285 *
	LT	0.00	1	1,600	0.001	E-W(1): 0.510 *
Westbound	RT	0.00	19	0	0.000	E-W(2): 0.196
	TH	3.00	865	4,800	0.184	V/C: 0.795
	LT	0.00	0	0	0.000 *	Lost Time: 0.100
Northbound	RT	1.00	384	1,600	0.240	ITS: -0.100
	TH	0.00	0	0	0.000	
	LT	2.00	807	2,880	0.280 *	
Eastbound	RT	1.00	688	1,600	0.178	ICU: 0.795
	TH	3.00	2,449	4,800	0.510 *	
	LT	1.00	19	1,600	0.012	LOS: C

\* = Critical Movement  
 EBR is free-flow movement.

I/S #: 4

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases		MD PEAK HOUR		MD PEAK HOUR	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		4		0		0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	NB -- 0	SB -- 0	NB -- 0	SB -- 0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0	EB -- 0	WB -- 0
Override Capacity		2		0		0	
		0		0		0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	306	1	306			0
	Left-Through		0				0
	Through	1,378	3	459			0
	Through-Right		0				0
	Right	79	1	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	166	1	166			0
	Left-Through		0				0
	Through	1,641	3	547			0
	Through-Right		0				0
	Right	83	1	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
EASTBOUND	Left	88	1	88			0
	Left-Through		0				0
	Through	234	1	234			0
	Through-Right		1				0
	Right	245	0	92			0
	Left-Through-Right		0				0
	Left-Right		0				0
WESTBOUND	Left	371	1	371			0
	Left-Through		0				0
	Through	366	1	280			0
	Through-Right		1				0
	Right	194	0	194			0
	Left-Through-Right		0				0
	Left-Right		0				0
CRITICAL VOLUMES		<i>North-South:</i> 853		<i>North-South:</i> 0		<i>East-West:</i> 0	
		<i>East-West:</i> 605		<i>East-West:</i> 0		SUM: 0	
		SUM: 1458				SUM: 0	
VOLUME/CAPACITY (V/C) RATIO:				1.060		0.000	
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.960		0.000	
LEVEL OF SERVICE (LOS):				E		A	

REMARKS: Provision of cctv cameras.





Level of Service Worksheet  
(Circular 212 Method)



I/S #: 6

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
North-South Street: Sepulveda Boulevard East-West Street: Century Boulevard  
Scenario: Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
Count Date: Analyst: RA Date: 2/12/2018

Table with columns for MOVEMENT, Volume, No. of Lanes, Lane Volume, and summary rows for CRITICAL VOLUMES, VOLUME/CAPACITY (V/C) RATIO, and LEVEL OF SERVICE (LOS).

REMARKS:



**Level of Service Worksheet**  
(Circular 212 Method)



**I/S #:** 7  
**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Sepulveda Boulevard     **East-West Street:** I-105 Ramps (n/o Imperial Hwy)  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:**     **Analyst:** RA     **Date:** 2/12/2018

No. of Phases		MD PEAK HOUR					
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?			
				2	0		0
				0	0		0
			<b>NB --</b> 0	<b>SB --</b> 0	<b>NB --</b> 0	<b>SB --</b> 0	0
			<b>EB --</b> 0	<b>WB --</b> 0	<b>EB --</b> 0	<b>WB --</b> 0	0
				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	2228	3	743			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
SOUTHBOUND	Left	0	0	0			0
	Left-Through		0				
	Through [1]	1883	1	0			0
	Through-Right		1				
	Right [1]	2202	1	0			0
	Left-Through-Right		0				
	Left-Right		0				
EASTBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right [1]	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
WESTBOUND	Left	0	0	0			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	2458	3	860			0
	Left-Through-Right		0				
	Left-Right		0				
CRITICAL VOLUMES			<i>North-South:</i> 743		<i>North-South:</i> 0		0
			<i>East-West:</i> 860		<i>East-West:</i> 0		0
			<b>SUM:</b> 1603		<b>SUM:</b> 0		0
VOLUME/CAPACITY (V/C) RATIO:				1.069			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.969			0.000
LEVEL OF SERVICE (LOS):				E			A

**REMARKS:** [1] Free-flow movement.





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**10**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Jenny Avenue      **East-West Street:** Westchester Parkway  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?		ATSAC-1 or ATSAC+ATCS-2? Override Capacity	
				2			0
				0			0
		<i>NB</i> -- 0	<i>SB</i> -- 0	<i>NB</i> -- 0	<i>SB</i> -- 0		
		<i>EB</i> -- 0	<i>WB</i> -- 0	<i>EB</i> -- 0	<i>WB</i> -- 0		
				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	0	0	0			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0	0			
	Left-Right		0				
<b>SOUTHBOUND</b>	Left	155	1	85			0
	Left-Through		0				
	Through	0	0	0			0
	Through-Right		0				
	Right	73	1	11			0
	Left-Through-Right		0				
	Left-Right		1				
<b>EASTBOUND</b>	Left	125	1	125			0
	Left-Through		0				
	Through	972	2	486			0
	Through-Right		0				
	Right	0	0	0			0
	Left-Through-Right		0				
	Left-Right		0				
<b>WESTBOUND</b>	Left	0	0	0			0
	Left-Through		0				
	Through	1204	2	602			0
	Through-Right		0				
	Right	70	1	28			0
	Left-Through-Right		0				
	Left-Right		0				
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		85	<i>North-South:</i>		0
		<i>East-West:</i>		727	<i>East-West:</i>		0
		<b>SUM:</b>		812	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.541			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.441</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**11**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Avion Drive      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				3			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	0	NB -- 0	SB -- 0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	0	EB -- 0	WB -- 0	0
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↶ Left	72	1	72			0
	↶↷ Left-Through		0				0
	→ Through	19	1	19			0
	↷ Through-Right		0				0
	↷ Right	79	1	48			0
	↷↶ Left-Through-Right		0				0
↷↶ Left-Right		0				0	
<b>SOUTHBOUND</b>	↷ Left	65	1	65			0
	↷↶ Left-Through		0				0
	← Through	35	1	35			0
	↶ Through-Right		0				0
	↶ Right	100	1	0			0
	↶↷ Left-Through-Right		0				0
↶↷ Left-Right		0				0	
<b>EASTBOUND</b>	↷ Left	392	2	216			0
	↷↶ Left-Through		0				0
	→ Through	1556	4	324			0
	↷ Through-Right		1				0
	↷ Right	62	0	62			0
	↷↶ Left-Through-Right		0				0
↷↶ Left-Right		0				0	
<b>WESTBOUND</b>	↷ Left	62	1	62			0
	↷↶ Left-Through		0				0
	← Through	1892	3	493			0
	↶ Through-Right		1				0
	↶ Right	81	0	81			0
	↶↷ Left-Through-Right		0				0
↶↷ Left-Right		0				0	
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		113	<i>North-South:</i>		0
		<i>East-West:</i>		709	<i>East-West:</i>		0
		<b>SUM:</b>		822	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.577			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.477</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**



## Level of Service Worksheet (Circular 212 Method)



**I/S #:** 13     
**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard     
**East-West Street:** 96th Street  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:**     
**Analyst:** RA     
**Date:** 2/12/2018

No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity		MD PEAK HOUR					
		NB --		SB --		WB --	
		0	0	0	0	0	0
		0	0	0	0	0	0
		0	0	0	0	0	0
		0	0	0	0	0	0
		0	0	0	0	0	0
		0	0	0	0	0	0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0			0
	Left-Through		0				0
	Through	680	2	270			0
	Through-Right		1				0
	Right	131	0	131			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	167	1	167			0
	Left-Through		0				0
	Through	721	3	240			0
	Through-Right		0				0
	Right	0	0	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
EASTBOUND	Left	276	1	276			0
	Left-Through		0				0
	Through	198	0	318			0
	Through-Right		0				0
	Right	438	1	0			0
	Left-Through-Right		1				0
	Left-Right		0				0
WESTBOUND	Left	93	1	93			0
	Left-Through		0				0
	Through	0	0	0			0
	Through-Right		0				0
	Right	200	1	27			0
	Left-Through-Right		0				0
	Left-Right		1				0
CRITICAL VOLUMES		<i>North-South:</i>		437	<i>North-South:</i>		0
		<i>East-West:</i>		411	<i>East-West:</i>		0
		<i>SUM:</i>		848	<i>SUM:</i>		0
VOLUME/CAPACITY (V/C) RATIO:				0.617			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.517			0.000
LEVEL OF SERVICE (LOS):				A			A

REMARKS:



## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**14**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Airport Boulevard **East-West Street:** 98th Street  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:** **Analyst:** RA **Date:** 2/12/2018

		MD PEAK HOUR					
No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 3		NB -- 0	SB -- 0	
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0		EB -- 0	WB -- 0	
Override Capacity				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↙	Left	1	190			0
	↔	Left-Through	0				
	→	Through	532	2	215		0
	↘	Through-Right		1			
	↔	Right	112	0	112		0
	↘	Left-Through-Right		0			
↔	Left-Right		0				
<b>SOUTHBOUND</b>	↙	Left	1	133			0
	↔	Left-Through	0				
	→	Through	626	3	209		0
	↘	Through-Right		0			
	↔	Right	496	1	278		0
	↘	Left-Through-Right		0			
↔	Left-Right		0				
<b>EASTBOUND</b>	↙	Left	1	218			0
	↔	Left-Through	0				
	→	Through	378	1	378		0
	↘	Through-Right		1			
	↔	Right	389	0	294		0
	↘	Left-Through-Right		0			
↔	Left-Right		0				
<b>WESTBOUND</b>	↙	Left	1	98			0
	↔	Left-Through	0				
	→	Through	303	0	449		0
	↘	Through-Right		1			
	↔	Right	146	0	0		0
	↘	Left-Through-Right		0			
↔	Left-Right		0				
CRITICAL VOLUMES				<i>North-South:</i> 468			<i>North-South:</i> 0
				<i>East-West:</i> 667			<i>East-West:</i> 0
				<i>SUM:</i> 1135			<i>SUM:</i> 0
VOLUME/CAPACITY (V/C) RATIO:				0.757			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.657</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>A</b>

REMARKS:





I/S #: 19

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: Aviation Boulevard East-West Street: Arbor Vitae Street  
 Scenario: Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
 Count Date: Analyst: RA Date: 2/12/2018

		MD PEAK HOUR					
		No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?		ATSAC-1 or ATSAC+ATCS-2? Override Capacity	
				4			0
				0			0
		NB -- 0	SB -- 0	NB -- 0	SB -- 0		0
		EB -- 3	WB -- 0	EB -- 0	WB -- 0		0
				2			0
				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	311	1	311			0
	Left-Through		0				0
	Through	544	2	272			0
	Through-Right		0				0
	Right	83	1	18			0
	Left-Through-Right		0				0
SOUTHBOUND	Left	73	1	73			0
	Left-Through		0				0
	Through	696	1	422			0
	Through-Right		1				0
	Right	147	0	147			0
	Left-Through-Right		0				0
EASTBOUND	Left	159	1	159			0
	Left-Through		0				0
	Through	396	3	132			0
	Through-Right		0				0
	Right	383	1	72			0
	Left-Through-Right		0				0
WESTBOUND	Left	130	1	130			0
	Left-Through		0				0
	Through	480	2	196			0
	Through-Right		1				0
	Right	108	0	108			0
	Left-Through-Right		0				0
CRITICAL VOLUMES		North-South:		733	North-South:		0
		East-West:		355	East-West:		0
		SUM:		1088	SUM:		0
VOLUME/CAPACITY (V/C) RATIO:				0.791			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.691			0.000
LEVEL OF SERVICE (LOS):				B			A

REMARKS:



**I/S #:**  
20

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Century Boulevard  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:**    **Analyst:** RA    **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		<i>NB</i> -- 0 <i>SB</i> -- 3		3		<i>NB</i> -- 0 <i>SB</i> -- 0	
ATSAC-1 or ATSAC+ATCS-2?		<i>EB</i> -- 3 <i>WB</i> -- 0		0		<i>EB</i> -- 0 <i>WB</i> -- 0	
Override Capacity				2			
				0			
				0			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↩ Left	541	2	298			0
	↩↗ Left-Through		0				0
	→ Through	1010	1	575			0
	↘ Through-Right		1				0
	↪ Right	140	0	140			0
	↩↗↘ Left-Through-Right		0				0
	↪↘ Left-Right		0				0
<b>SOUTHBOUND</b>	↩ Left	244	2	134			0
	↩↗ Left-Through		0				0
	→ Through	746	2	373			0
	↘ Through-Right		0				0
	↪ Right	123	1	0			0
	↩↗↘ Left-Through-Right		0				0
	↪↘ Left-Right		0				0
<b>EASTBOUND</b>	↩ Left	190	1	190			0
	↩↗ Left-Through		0				0
	→ Through	1733	4	433			0
	↘ Through-Right		0				0
	↪ Right	326	1	28			0
	↩↗↘ Left-Through-Right		0				0
	↪↘ Left-Right		0				0
<b>WESTBOUND</b>	↩ Left	203	1	203			0
	↩↗ Left-Through		0				0
	→ Through	1427	3	405			0
	↘ Through-Right		1				0
	↪ Right	193	0	193			0
	↩↗↘ Left-Through-Right		0				0
	↪↘ Left-Right		0				0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		709	<i>North-South:</i>		0
		<i>East-West:</i>		636	<i>East-West:</i>		0
		<b>SUM:</b>		1345	<b>SUM:</b>		0
VOLUME/CAPACITY (V/C) RATIO:				0.978			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.878			0.000
LEVEL OF SERVICE (LOS):				D			A

REMARKS:

## Level of Service Worksheet (Circular 212 Method)



I/S #: **21**

PROJECT TITLE: **Landside Access Modernization Program at LAX - Addendum**  
 North-South Street: **Aviation Boulevard**      East-West Street: **104th Street**  
 Scenario: **Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation**  
 Count Date:      Analyst: **RA**      Date: **2/12/2018**

		MD PEAK HOUR									
		No. of Phases		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		Right Turns: FREE-1, NRTOR-2 or OLA-3?		ATSAC-1 or ATSAC+ATCS-2?		Override Capacity	
		NB --	SB --	NB --	SB --	EB --	WB --	EB --	WB --		
		0	0	0	0	0	0	0	0	4	0
		0	0	0	0	0	0	0	0	2	0
		0	0	0	0	0	0	0	0	2	0
		0	0	0	0	0	0	0	0	0	0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	91	1	91							0
	Left-Through		0								0
	Through	1487	1	764							0
	Through-Right		1								0
	Right	41	0	41							0
	Left-Through-Right		0								0
	Left-Right		0								0
SOUTHBOUND	Left	124	1	124							0
	Left-Through		0								0
	Through	1245	1	631							0
	Through-Right		1								0
	Right	17	0	17							0
	Left-Through-Right		0								0
	Left-Right		0								0
EASTBOUND	Left	16	0	16							0
	Left-Through		0								0
	Through	45	0	174							0
	Through-Right		0								0
	Right	113	0	0							0
	Left-Through-Right		1								0
	Left-Right		0								0
WESTBOUND	Left	64	1	64							0
	Left-Through		0								0
	Through	19	0	156							0
	Through-Right		1								0
	Right	137	0	0							0
	Left-Through-Right		0								0
	Left-Right		0								0
CRITICAL VOLUMES		<i>North-South:</i>		888	<i>North-South:</i>		0	<i>East-West:</i>		0	
		<i>East-West:</i>		330	<i>East-West:</i>		0	<i>SUM:</i>		0	
		<i>SUM:</i>		1218	<i>SUM:</i>		0				
VOLUME/CAPACITY (V/C) RATIO:				0.886			0.000				
V/C LESS ATSAC/ATCS ADJUSTMENT:				0.786			0.000				
LEVEL OF SERVICE (LOS):				<b>C</b>			<b>A</b>				

REMARKS:

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**22**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** 111th Street  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
No. of Phases				4			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				2			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 3	EB -- 0	WB -- 0		
Override Capacity				2			
				0			
				0			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	77	1	77			0
	Left-Through		0				0
	Through	904	1	529			0
	Through-Right		1				0
	Right	153	0	153			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	568	1	568			0
	Left-Through		0				0
	Through	670	1	408			0
	Through-Right		1				0
	Right	146	0	146			0
	Left-Through-Right		0				0
	Left-Right		0				0
EASTBOUND	Left	95	1	95			0
	Left-Through		0				0
	Through	76	0	84			0
	Through-Right		1				0
	Right	8	0	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
WESTBOUND	Left	52	1	52			0
	Left-Through		0				0
	Through	26	1	26			0
	Through-Right		0				0
	Right	667	1	99			0
	Left-Through-Right		0				0
	Left-Right		0				0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		1097	<i>North-South:</i>		0
		<i>East-West:</i>		194	<i>East-West:</i>		0
		<b>SUM:</b>		1291	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.939			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.839</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>D</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



I/S #: 23

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Aviation Boulevard      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

No. of Phases Opposed Ø'ing: N/S-1, E/W-2 or Both-3? Right Turns: FREE-1, NRTOR-2 or OLA-3? ATSAC-1 or ATSAC+ATCS-2? Override Capacity		MD PEAK HOUR					
		NB -- 3	SB -- 3	NB -- 0	SB -- 0	EB -- 0	WB -- 0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	140	2	77			0
	Left-Through		0				0
	Through	733	2	367			0
	Through-Right		0				0
	Right	123	1	0			0
	Left-Through-Right		0				0
	Left-Right		0				0
SOUTHBOUND	Left	116	2	64			0
	Left-Through		0				0
	Through	417	2	209			0
	Through-Right		0				0
	Right	207	1	27			0
	Left-Through-Right		0				0
	Left-Right		0				0
EASTBOUND	Left	328	2	180			0
	Left-Through		0				0
	Through	744	2	295			0
	Through-Right		1				0
	Right	141	0	141			0
	Left-Through-Right		0				0
	Left-Right		0				0
WESTBOUND	Left	510	2	281			0
	Left-Through		0				0
	Through	480	3	160			0
	Through-Right		0				0
	Right	75	1	11			0
	Left-Through-Right		0				0
	Left-Right		0				0
CRITICAL VOLUMES				<b>North-South:</b> 431			<b>North-South:</b> 0
				<b>East-West:</b> 576			<b>East-West:</b> 0
				<b>SUM:</b> 1007			<b>SUM:</b> 0
VOLUME/CAPACITY (V/C) RATIO:				0.732			0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.632</b>			<b>0.000</b>
LEVEL OF SERVICE (LOS):				<b>B</b>			<b>A</b>

**REMARKS:**

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**24**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** Hindry Avenue      **East-West Street:** Arbor Vitae Street  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases					
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?		2				0	
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 0	SB -- 0	NB -- 0	SB -- 0	0	0
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0	0	0
Override Capacity		2				0	
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	↵ Left	277	1	277			0
	↵↵ Left-Through		0				0
	↵↵↵ Through	0	0	0			0
	↵↵↵↵ Through-Right		0				0
	↵↵↵↵↵ Right	566	1	311			0
	↵↵↵↵↵↵ Left-Through-Right		0				0
	↵↵↵↵↵↵ Left-Right		1				0
<b>SOUTHBOUND</b>	↵ Left	112	0	112			0
	↵↵ Left-Through		0				0
	↵↵↵ Through	0	0	0			0
	↵↵↵↵ Through-Right		0				0
	↵↵↵↵↵ Right	37	0	149			0
	↵↵↵↵↵↵ Left-Through-Right		0				0
	↵↵↵↵↵↵ Left-Right		1				0
<b>EASTBOUND</b>	↵ Left	68	1	68			0
	↵↵ Left-Through		0				0
	↵↵↵ Through	584	2	292			0
	↵↵↵↵ Through-Right		0				0
	↵↵↵↵↵ Right	0	0	0			0
	↵↵↵↵↵↵ Left-Through-Right		0				0
	↵↵↵↵↵↵ Left-Right		0				0
<b>WESTBOUND</b>	↵ Left	0	0	0			0
	↵↵ Left-Through		0				0
	↵↵↵ Through	383	1	253			0
	↵↵↵↵ Through-Right		1				0
	↵↵↵↵↵ Right	123	0	123			0
	↵↵↵↵↵↵ Left-Through-Right		0				0
	↵↵↵↵↵↵ Left-Right		0				0
<b>CRITICAL VOLUMES</b>		<i>North-South:</i>		426	<i>North-South:</i>		0
		<i>East-West:</i>		321	<i>East-West:</i>		0
		<b>SUM:</b>		747	<b>SUM:</b>		0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.498			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				0.398			0.000
<b>LEVEL OF SERVICE (LOS):</b>				A			A

**REMARKS:**





## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**26**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** I-105 Ramps      **East-West Street:** Imperial Highway  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:**      **Analyst:** RA      **Date:** 2/12/2018

		MD PEAK HOUR					
		No. of Phases		MD PEAK HOUR		MD PEAK HOUR	
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				4			
Right Turns: FREE-1, NRTOR-2 or OLA-3?				0			
ATSAC-1 or ATSAC+ATCS-2?				3			
Override Capacity				3			
				2			
				0			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
<b>NORTHBOUND</b>	Left	319	2	175			0
	Left-Through		0				0
	Through	450	1	305			0
	Through-Right		1				0
	Right	160	0	160			0
	Left-Through-Right		0				0
<b>SOUTHBOUND</b>	Left	253	2	139			0
	Left-Through		0				0
	Through	395	2	198			0
	Through-Right		0				0
	Right	297	1	146			0
	Left-Through-Right		0				0
<b>EASTBOUND</b>	Left	274	2	151			0
	Left-Through		0				0
	Through	306	3	102			0
	Through-Right		0				0
	Right	222	1	47			0
	Left-Through-Right		0				0
<b>WESTBOUND</b>	Left	214	2	118			0
	Left-Through		0				0
	Through	561	2	281			0
	Through-Right		0				0
	Right	236	1	97			0
	Left-Through-Right		0				0
<b>CRITICAL VOLUMES</b>				<i>North-South:</i> 444			<i>North-South:</i> 0
				<i>East-West:</i> 432			<i>East-West:</i> 0
				<b>SUM:</b> 876			<b>SUM:</b> 0
<b>VOLUME/CAPACITY (V/C) RATIO:</b>				0.637			0.000
<b>V/C LESS ATSAC/ATCS ADJUSTMENT:</b>				<b>0.537</b>			<b>0.000</b>
<b>LEVEL OF SERVICE (LOS):</b>				<b>A</b>			<b>A</b>

**REMARKS:**

<b>Project:</b> LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM INT # 27						
<b>North/South Street:</b> LA CIENEGA BOULEVARD						
<b>East/West Street:</b> ARBOR VITAE STREET						
<b>Scenario:</b> FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION), RELATED DEVELOPMENT AND MITIGATION CONDITIONS						
Thru Lane: 1600 vph			N-S Split Phase : N			
Left-Turn Lane: 1600 vph			E-W Split Phase : Y			
Dual LT Penalty: 10 %			Lost Time (% of cycle): 10			
<b>Peak Period: MD PEAK HOUR</b>						
<b>Approach</b>	<b>Movement</b>	<b>Lanes</b>	<b>Volume</b>	<b>Capacity</b>	<b>V/C</b>	<b>ICU ANALYSIS</b>
Southbound	RT	0.00	92	0	0.000	N-S(1): 0.245
	TH	2.00	882	3,200	0.304 *	N-S(2): 0.348 *
	LT	1.00	111	1,600	0.069	E-W(1): 0.428 *
Westbound	RT	1.00	99	1,600	0.062	E-W(2): 0.000
	TH	2.00	362	3,200	0.113 *	
	LT	1.00	104	1,600	0.065	V/C: 0.776
Northbound	RT	0.00	26	0	0.000	Lost Time: 0.100
	TH	2.00	537	3,200	0.176	ITS: -0.100
	LT	1.00	71	1,600	0.044 *	
Eastbound	RT	1.00	326	0	0.000	ICU: 0.776
	TH	1.68	521	2,689	0.315 *	
	LT	1.32	409	1,900	0.215	LOS: C

\* = Critical Movement

## Level of Service Worksheet (Circular 212 Method)



**I/S #:**  
**28**

**PROJECT TITLE:** Landside Access Modernization Program at LAX - Addendum  
**North-South Street:** La Cienega Boulevard     **East-West Street:** I-405 Ramps (n/o Century BI)  
**Scenario:** Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
**Count Date:**     **Analyst:** RA     **Date:** 2/12/2018

		MD PEAK HOUR					
No. of Phases				4			
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	SB -- 3	NB -- 0	SB -- 0		
ATSAC-1 or ATSAC+ATCS-2?		EB -- 0	WB -- 0	EB -- 0	WB -- 0		
Override Capacity				2			
				0			
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	357	2	196			0
	Left-Through		0				0
	Through	549	1	275			0
	Through-Right		1				0
	Right	95	1	0			0
	Left-Through-Right		0				0
SOUTHBOUND	Left	198	2	109			0
	Left-Through		0				0
	Through	673	3	224			0
	Through-Right		0				0
	Right	489	1	473			0
	Left-Through-Right		0				0
EASTBOUND	Left	29	2	16			0
	Left-Through		0				0
	Through	326	2	163			0
	Through-Right		0				0
	Right	130	1	32			0
	Left-Through-Right		0				0
WESTBOUND	Left	368	2	202			0
	Left-Through		0				0
	Through	671	1	357			0
	Through-Right		1				0
	Right	43	0	43			0
	Left-Through-Right		0				0
CRITICAL VOLUMES		<i>North-South:</i> 669		<i>North-South:</i> 0			
		<i>East-West:</i> 373		<i>East-West:</i> 0			
		<b>SUM:</b> 1042		<b>SUM:</b> 0			
VOLUME/CAPACITY (V/C) RATIO:				0.758		0.000	
V/C LESS ATSAC/ATCS ADJUSTMENT:				<b>0.658</b>		<b>0.000</b>	
LEVEL OF SERVICE (LOS):				<b>B</b>		<b>A</b>	

**REMARKS:**



# Level of Service Worksheet (Circular 212 Method)



I/S #: **29**

PROJECT TITLE: Landside Access Modernization Program at LAX - Addendum  
 North-South Street: La Cienega Boulevard East-West Street: Century Boulevard  
 Scenario: Future (2035) w/Project (incl. SBO Relcoation), Rel. Development & Mitigation  
 Count Date: Analyst: RA Date: 2/12/2018

		MD PEAK HOUR					
No. of Phases			4		0		
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0		0		
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB -- 3	3	NB -- 0	0		
		EB -- 3	3	EB -- 0	0		
ATSAC-1 or ATSAC+ATCS-2?			2		0		
Override Capacity			0		0		
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	228	2	125			0
	Left-Through		0				0
	Through	571	2	286			0
	Through-Right		0				0
	Right	388	2	24			0
	Left-Through-Right		0				0
SOUTHBOUND	Left	348	2	191			0
	Left-Through		0				0
	Through	256	2	128			0
	Through-Right		0				0
	Right	605	1	352			0
	Left-Through-Right		0				0
EASTBOUND	Left	253	1	253			0
	Left-Through		0				0
	Through	1433	3	478			0
	Through-Right		0				0
	Right	732	1	607			0
	Left-Through-Right		0				0
WESTBOUND	Left	189	1	189			0
	Left-Through		0				0
	Through	1457	3	486			0
	Through-Right		0				0
	Right	155	1	0			0
	Left-Through-Right		0				0
CRITICAL VOLUMES			North-South: 477		North-South: 0		0
			East-West: 796		East-West: 0		0
			SUM: 1273		SUM: 0		0
VOLUME/CAPACITY (V/C) RATIO:			0.926				0.000
V/C LESS ATSAC/ATCS ADJUSTMENT:			0.826				0.000
LEVEL OF SERVICE (LOS):			D				A

REMARKS:

<b>Project:</b> LANDSIDE ACCESS MODERNIZATION PROGRAM AT LAX - ADDENDUM INT # 30						
<b>North/South Street:</b> I-405 NORTHBOUND RAMPS						
<b>East/West Street:</b> CENTURY BOULEVARD						
<b>Scenario:</b> FUTURE (2035) WITH PROJECT (INCLUDING SBO RELOCATION), RELATED DEVELOPMENT AND MITIGATION CONDITIONS						
Thru Lane: 1600 vph			N-S Split Phase : N			
Left-Turn Lane: 1600 vph			E-W Split Phase : N			
Dual LT Penalty: 10 %			Lost Time (% of cycle): 10			
<b>Peak Period: MD PEAK HOUR</b>						
<b>Approach</b>	<b>Movement</b>	<b>Lanes</b>	<b>Volume</b>	<b>Capacity</b>	<b>V/C</b>	<b>ICU ANALYSIS</b>
Southbound	RT	1.00	36	1,600	0.004 *	N-S(1): 0.099
	TH	0.00	0	0	0.000	N-S(2): 0.296 *
	LT	0.00	1	1,600	0.001	E-W(1): 0.331 *
Westbound	RT	0.00	6	0	0.000	E-W(2): 0.321
	TH	3.00	1,445	4,800	0.302	
	LT	0.00	0	0	0.000 *	V/C: 0.627
Northbound	RT	1.00	156	1,600	0.098	Lost Time: 0.100
	TH	0.00	0	0	0.000	ITS: -0.100
	LT	2.00	840	2,880	0.292 *	
Eastbound	RT	1.59	841	2,542	0.166	ICU: 0.627
	TH	2.41	1,276	3,858	0.331 *	
	LT	1.00	30	1,600	0.019	LOS: B

\* = Critical Movement  
EBR is free-flow movement.