4.6 On-Airport Transportation

4.6.1 Introduction

This section addresses the on-Airport surface transportation system within the Central Terminal Area (CTA) relative to potential traffic-related impacts associated with new facilities proposed as a part of the Midfield Satellite Concourse (MSC) and the Central Terminal Processor (CTP). The MSC North Project would have minimal effect on operational traffic within the CTA because the MSC North Project would not lead to increased passenger activity levels and passengers would access airline terminals the same way they do today. Passengers would check-in, drop off baggage, and go through security screening at one of the existing terminals in the CTA before boarding a bus to access an aircraft gate at the MSC North building. Similarly, arriving passengers would board a bus at the MSC North building, claim their bags at one of the existing terminals in the CTA, and then exit to World Way as they do today. These operations would be distributed throughout the existing terminals; therefore, no significant change in surface traffic is anticipated to occur under the MSC North Project. Thus, operational traffic for the MSC North Project is not further analyzed in this EIR, as identified in the Initial Study (see **Appendix A**). Construction traffic impacts are addressed in Section 4.7.

The LAX Master Plan EIR assumed that no private vehicles would circulate through the CTA. However, the future phase(s) of the MSC Program assumes that circulation by private vehicles through the CTA could remain and that passengers would access the CTP via private vehicle or commercial vehicle. Thus, trips associated with operation of the future phase(s) of the MSC Program are analyzed at a program level in this EIR. This on-Airport surface transportation analysis was conducted to estimate MSC and CTP impacts on the operation of the CTA curbsides, intersections, and roadway links. The construction of the MSC and the CTP would result in changes in traffic flow and activity within the CTA relative to Existing (2012)[1] conditions as defined below in Section 4.6.3.

The analysis presented herein addresses both how the physical improvements resulting from the addition of the MSC and CTP would affect current traffic and curbside conditions within the CTA and also how those improvements would affect future (2025) traffic and curbside conditions within the CTA. The analysis of "Future (2025) Without Program" condition includes a delineation of physical conditions anticipated to exist in 2025 relative to the on-Airport transportation system without construction of the MSC Program. Assumptions incorporated into that future condition include: (1) the Existing (2012) physical conditions and configuration of the CTA plus reasonably foreseeable on-Airport ground access system improvements anticipated to occur by 2025, independent of, and separate from, the MSC Program; and (2) reasonably foreseeable regional (non-Airport) programmed improvements and ambient growth in off-Airport traffic, as they may affect on-Airport traffic.

[1] As described in Section 4.6.3, “existing conditions” used in the analysis were based on existing intersection counts, automated loop counts and Automated Vehicle Identifier counts, and passenger activity levels during August 2012 and best delineate the relevant existing operational characteristics of the Airport. The time period used to define the “baseline conditions” does not account for fluctuations in Airport activity that typically occur during holidays, however, the analysis is conducted for a typical day in the peak month of August.

The Future (2025) Without Program condition includes the ground access improvements as described in Section 4.6.7, and also includes an increase in on-Airport traffic from natural growth in passenger activity levels anticipated to occur at LAX by 2025. The Future (2025) With Program conditions consists of: (1) reconfiguration of the roadways as a result of construction of the MSC and CTP; (2) the Existing (2012) physical conditions and configuration for the rest of the CTA plus reasonably foreseeable on-Airport ground access system improvements anticipated to occur by 2025; (3) the 2025 passenger levels and daily flight schedules; and (4) reasonably foreseeable regional (non-Airport) programmed improvements and ambient growth in off-Airport traffic.

4.6.2 Methodology

As noted above, this analysis focuses on the Program-related impacts to the CTA curbsides, intersections, and roadway links resulting from the anticipated variations in traffic accompanying the changes in passenger demand and peaking characteristics, as well as the curbside loading and unloading locations associated with the elements of the MSC Program.

The traffic demand estimates prepared for this study were developed using a trip generation and trip distribution model that provides traffic volume estimates for all roadway links and curbside links within the CTA roadway system during multiple peak hour conditions for both the Existing (2012) conditions and the Future (2025) Without Program and With Program conditions. These traffic volume estimates were then used in a micro-simulation model of the Airport's roadway and curbside systems that was developed to evaluate the on-Airport traffic operations. The CTA traffic conditions were simulated using commercially available traffic micro-simulation software called VISSIM®. For purposes of consistency with the types of on-Airport traffic analyses conducted for the LAX Master Plan, the following general analyses were conducted.

4.6.2.1 Curbside Capacity Analysis

Airport curbside facilities serve as the primary destination for vehicular traffic accessing the CTA departures (upper) and arrivals (lower) level roadways. The linear length of these curbside facilities available to accommodate stopped vehicles and provide adequate room to maneuver into and out of a stopping position is a critical measure in assessing the capacity of the Airport roadway system. Curbside capacity at each of the CTA terminal’s arrivals (lower level) and departures (upper level) curbsides were directly assessed for this analysis. The methodology for assessment of these curbside facilities is unique to the airport environment and requires the use of analytical methodologies that differ from the standard intersection and roadway capacity analyses used in a non-airport surface transportation analysis. For this study, the trip generation model was used to determine the number of vehicles by vehicle mode that would access each terminal's curbside during the peak hour. These vehicle data were then used to simulate the on-Airport traffic conditions using micro-simulation modeling. The simulated vehicles accessing the curbside were then compared to the length of the curbside to assess the ability of the curbside to accommodate the anticipated vehicular demand.

4.6.2.2 CTA Intersection Analysis

CTA intersections were analyzed to assess the effects of changes in vehicle activity and physical facilities throughout the CTA. It is critical to analyze vehicular intersections because these facilities meter traffic throughout the CTA roadway system and because they are key factors for vehicle throughput on the on-Airport roadways. Intersections with two or more directions of vehicular travel were evaluated. For the purpose of this discussion, intersection movements are defined as through, left-turn, or right-turn movements.

4.6.2.3 CTA Roadway Link Analysis

Key CTA roadway links were also analyzed to assess potential implications on overall CTA throughput. The simulation model described above was used to determine the curbside utilization rates and the throughput performance of the roadways. The evaluation of the roadways throughput performance accounted for any loss of vehicle throughput as a result of the curbside operations. For this analysis, vehicle congestion created by stopped vehicles at the adjacent curbside is accounted for when evaluating the impacts on the roadway's throughput capacity. Key roadway links were analyzed to assess potential congestion along both the upper level and lower levels of the CTA roadway system. For roadways that are not located adjacent to the curbsides, the hourly roadway capacity per lane was based on industry standards for the type of facility.

For purposes of quantifying levels of service and potential impacts associated with curbsides, intersections, and roadway links, this study uses the impact thresholds used for the LAX Master Plan Final EIR surface transportation analysis[2], which is also consistent with the thresholds defined in the City of Los Angeles Department of Transportation (LADOT) Traffic Study Policies and Procedures[3].

4.6.2.4 Delineation of Existing (2012) Traffic Conditions

The delineation of Existing (2012) on-Airport traffic conditions was based on CTA traffic volumes, Automated Vehicle Identification (AVI) counts, in-pavement loop detector and intersection turning movement counts collected in August 2012. Further, these data were supplemented with dwell time counts and other data such as commercial vehicle behavior from the LAX Ground Transportation Study[4] and the SPAS EIR[5]. Using August, which represents the peak month for roadway traffic accessing the CTA, the following methodology and data were used to determine the Existing (2012) traffic conditions.

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2 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.3.

3 Los Angeles Department of Transportation, Traffic Study Policies and Procedures, revised March 2002.

4 City of Los Angeles, Los Angeles World Airports, LAX Ground Transportation Study, July 2012.

5 City of Los Angeles, Draft Environmental Impact Report for Los Angeles International Airport (LAX) Specific Plan Amendment Study, July 2012.

Determine Arrivals and Departures Airport Peak Hours

Passenger early arrival and late departure profiles were determined based on data obtained from the Los Angeles International Airport 2011 Passenger Survey and were applied to the Airport's domestic and international airline passenger schedules for August 2012 to predict when passengers arrive on the curbside. This data was reviewed to determine the Airport peak departure and arrival hours based on air passenger activity. The peak CTA vehicle traffic hours were assumed to coincide with the peak air passenger activity hours.

On-Airport Traffic Data Collected in 2012

Information from the Airport's in-pavement vehicle loop detector and the AVI systems was used to obtain roadway traffic count data within the CTA. These counts representing Existing (2012) conditions were collected for multiple Fridays in August 2012. Fridays were selected as the design day as it is typically the busiest overall day of the week for the Airport roadway system. The intersection turning movement counts were collected during a.m., mid-day, and p.m. commuter peak hours during August 2012.

To further supplement the existing data sets, additional data collected during field surveys conducted as a part of the SPAS EIR and the LAX Ground Transportation Study were used to determine the vehicle dwell times on the curbsides, classification of vehicles as a control point for AVI data and license plate data to determine the recirculation patterns and percentages.

Determine Existing (2012) Balanced Roadway Traffic Volumes

Traffic volumes for the peak hours identified from the 2012 air passenger activity data were reviewed for this study. To estimate the balanced CTA roadway traffic for a typical Friday during August 2012, the intersection turning movement, loop detector, and AVI counts provided by LAWA were used to create the balanced traffic volumes for the CTA roadway network. The balanced roadway network included estimated vehicle volumes for all individual roadway links, as well as each intersection within the CTA. Balanced roadway volumes were used to provide a snapshot of traffic activity within the CTA and as a measure to calibrate the existing conditions Trip Distribution and micro-simulation models. A more detailed discussion of the balanced roadway traffic volumes is provided in Section 4.6.3.9 below.

Prepare Model of Study Area Roadways and Intersections

A micro-simulation traffic model of study area roadways and intersections was developed to assist with curbside, intersection, and roadway link capacity analysis. The roadway model provides a quantitative representation of the traffic operations associated with the CTA curbsides, roadways, and intersections as needed to assess the potential effects of Program traffic. As discussed above, the Airport roadway model was developed using VISSIM®, a commercially available micro-simulation time step and behavior based model developed to analyze urban traffic and public transit operations. However, with the addition of new logic modules, such as vehicle parking and vehicle pedestrian interaction, the software capabilities have been expanded to include assessment of Airport curbside operations. VISSIM® simulation outputs were post-processed to calculate curbside levels of service (LOS) for each peak period. This process involved obtaining model output providing the number of vehicles stopped at the curbside on a minute-by-minute basis. The linear distance representing these stopped vehicles was then divided by the linear curbside length to calculate a ratio that is used to define curbside LOS which is further discussed in Section 4.6.2.6 below. The CTA intersections were analyzed using TRAFFIX®[6], a traffic analysis program designed for preparing traffic forecasts and analyzing intersection and roadway capacity. The model uses widely accepted traffic engineering methodologies and procedures, including the Transportation Research Board Critical Movement Analysis (CMA) Circular 212 Planning Method[7], to calculate intersection LOS which is the required intersection analysis methodology for traffic impact studies conducted within the City of Los Angeles.

4.6.2.5 Delineation of Future (2025) Traffic Conditions

For this study, future traffic conditions were analyzed to address the impact of change in future traffic patterns as a result of the MSC Program, as well as potential changes in peak traffic characteristics resulting from the natural growth of traffic generated by the other terminals within the CTA predicted to occur by 2025. Since all on-Airport traffic is essentially associated with access to the CTP and the other terminals within the CTA, the increases in future traffic volumes would be cumulative in nature. Cumulative traffic conditions are defined, pursuant to Section 15355 of the *CEQA Guidelines*, as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." For this traffic study, the cumulative traffic conditions are accounted for at all CTA curbsides, roadways, and intersections relative to two time periods under two conditions during the course of a day, as follows:

- Future (2025) Traffic during the Airport Departures Peak Without Program - This condition represents the anticipated traffic activity during the peak period for Airport passenger departures. This condition also includes growth from background traffic.
- Future (2025) Traffic during the Airport Arrivals Peak Without Program - This condition represents the anticipated traffic activity during the peak period for passenger arrivals. This condition also includes growth from background traffic.
- Future (2025) Traffic during the Airport Departures Peak With Program - This condition represents the anticipated traffic activity during the peak period for Airport passenger departures with the Program, including a portion of passengers redistributed to the CTP.
- Future (2025) Traffic during the Airport Arrivals Peak With Program - This condition represents the anticipated traffic activity during the peak period for Airport passenger arrivals with the Program, including a portion of passengers redistributed to the CTP.

4.6.2.6 Delineation of Impacts and Mitigation Measures

The following steps were conducted to calculate curbside, roadway, and intersection levels of service for existing and future conditions, identify impacts, and identify potential mitigation measures, if necessary:

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6 Dowling Associates, TRAFFIX Version 7.7. Based on information provided by Dowling Associates in May 2, 2008, over 425 site TRAFFIX licenses are owned by public and private entities, including licenses owned by 44 cities, 5 countries, and Caltrans within the state of California.

7 Transportation Research Board, Transportation Research Circular No. 212, Interim Materials on Highway Capacity, January 1980.

Prepare Curbside Level of Service Analysis

Level of service analyses for the CTA curbsides were prepared using the VISSIM® simulation models and post processing the outputs to calculate a curbside utilization factor. Curbside utilization factor is the calculated ratio of curbside demand in linear feet divided by the existing curbside length. The utilization factor provides an indication of the amount of double and triple parking that would result for a given space demand, and the level of service associated with a given utilization rate recognizes that drivers do not park vehicles uniformly along the curbside. Curbside levels of service were analyzed for the following conditions:

- Existing (2012) Airport Departures Peak Hour
- Existing (2012) Airport Arrivals Peak Hour
- Future (2025) Airport Departures Peak Hour Without Program
- Future (2025) Airport Arrivals Peak Hour Without Program
- Future (2025) Airport Departures Peak Hour With Program
- Future (2025) Airport Arrivals Peak Hour With Program

Prepare CTA Intersection Level of Service Analysis

Levels of service analyses for the CTA intersections were prepared using TRAFFIX®. Intersection LOS was estimated using the Critical Movements Analysis (CMA) planning level methodology as defined in Transportation Research Board Circular 212, in accordance with LADOT Traffic Studies Policies and Procedures guidelines, and the L.A. CEQA Thresholds Guide. Intersection LOS was analyzed for the same peak hour conditions described above in the Curbside analysis section.

Prepare CTA Roadway Link Level of Service Analysis

Level of service analyses for the key roadway links within the CTA were prepared by calculating the ratio of roadway volume to capacity. Traffic volumes were determined from the roadway model described previously. CTA roadway capacities are consistent with the assumptions used for the on-Airport roadway link analysis prepared for the LAX Master Plan Final EIR. Roadway links were analyzed for the same peak hour conditions listed above in "Prepare Curbside Level of Service Analysis".

Identify Program Impacts

Program-related impacts associated with operation of the MSC and the CTP were identified. Major intersections within the CTA were identified and analyzed according to the criteria established in the L.A. CEQA Thresholds Guide. Impacts were determined based on a comparison between Future (2025) Without Program Conditions and Future (2025) With Program Conditions.

Identify Potential Mitigation Measures

For impacts determined to be significant, mitigation measures to avoid or reduce such impacts were considered, including measures that may call for operational and physical modifications to the on-Airport roadway network.

4.6.3 Existing Conditions

The existing (Existing) conditions are characterized by the facilities and general conditions that existed in August 2012. August is historically the peak month for travel at LAX; thus, August 2012 was selected to represent Existing (2012) conditions (see Section 4.6.3.6 below).

4.6.3.1 Traffic Analysis Study Area

The on-Airport traffic analysis study area is depicted in **Figure 4.6-1**. The CTA curbside and roadway system consists of a two-level roadway; the upper level is dedicated to departing passenger activities, and the lower level is primarily dedicated to arriving passenger activities. The CTA roadway network provides access to the Airport's CTA public parking garages, which are intended to accommodate short-term and daily parking customers.

4.6.3.2 On-Airport Landside Facilities

The on-Airport landside facilities are composed of the CTA curbsides, roadways, and public parking facilities. The two-level on-Airport curbside and roadway network is accessed from the following three off-Airport roadways: (1) Century Boulevard, (2) Sepulveda Boulevard, and (3) 96th Street Bridge/Sky Way.

Each of these roadways provides vehicular access to both the departures level and the arrivals level curbsides and roadways. On-Airport access from the departures level to the arrivals level is provided via a recirculation ramp located at the eastern end of the CTA and a ramp at the western end of Center Way connecting to West Way on the departures level. Access from the arrivals level to the departures level is provided via this same ramp at the western end of Center Way connecting to West Way on the departures level. Both the departures level and arrivals level outer roadways are signed for a speed limit of 25 miles per hour (mph) while the arrivals level inner roadway is signed for a speed limit of 15 mph.

4.6.3.3 Departures Level Curbsides and Roadways

The departures level curbside and roadway consists predominantly of a striped 22-foot-wide stopping lane for vehicles dropping off passengers, and three 10- to 12-foot-wide travel lanes for bypassing vehicles. There are five traffic signals on the departures level roadways; the first is at the intersection of World Way North and Sky Way, the second is on World Way North between the Tom Bradley International Terminal (TBIT) and CTA public parking structure 3 (P3), the third is on World Way South between the TBIT and parking structure 4 (P4), while the fourth and fifth signals are at the intersections of World Way South with West Way and East Way, respectively. The second and third traffic signals are pedestrian signals used to control vehicular traffic in front of the TBIT and allow pedestrians to cross between TBIT and P3 and P4. TBIT is the only terminal at LAX where pedestrian crossing between the terminal building and the public parking facilities are permitted on the departures level roadway. For each of the other Airport terminals, overhead walkways provide a grade-separated travel path between the terminals and the respective parking structures.

Direct access to the departures level of the CTA roadway network from the off-Airport roadway network is provided by northbound Sepulveda Boulevard, southbound Sepulveda Boulevard (via Sky Way), and Century Boulevard. Direct access from the departures level roadway to southbound Sepulveda Boulevard and eastbound Century Boulevard is available, but northbound Sepulveda Boulevard traffic must use the ramp to Center Way and exit the Airport with arrivals level traffic to access the northbound Sepulveda Boulevard ramp.

4.6.3.4 Arrivals Level Curbsides and Roadways

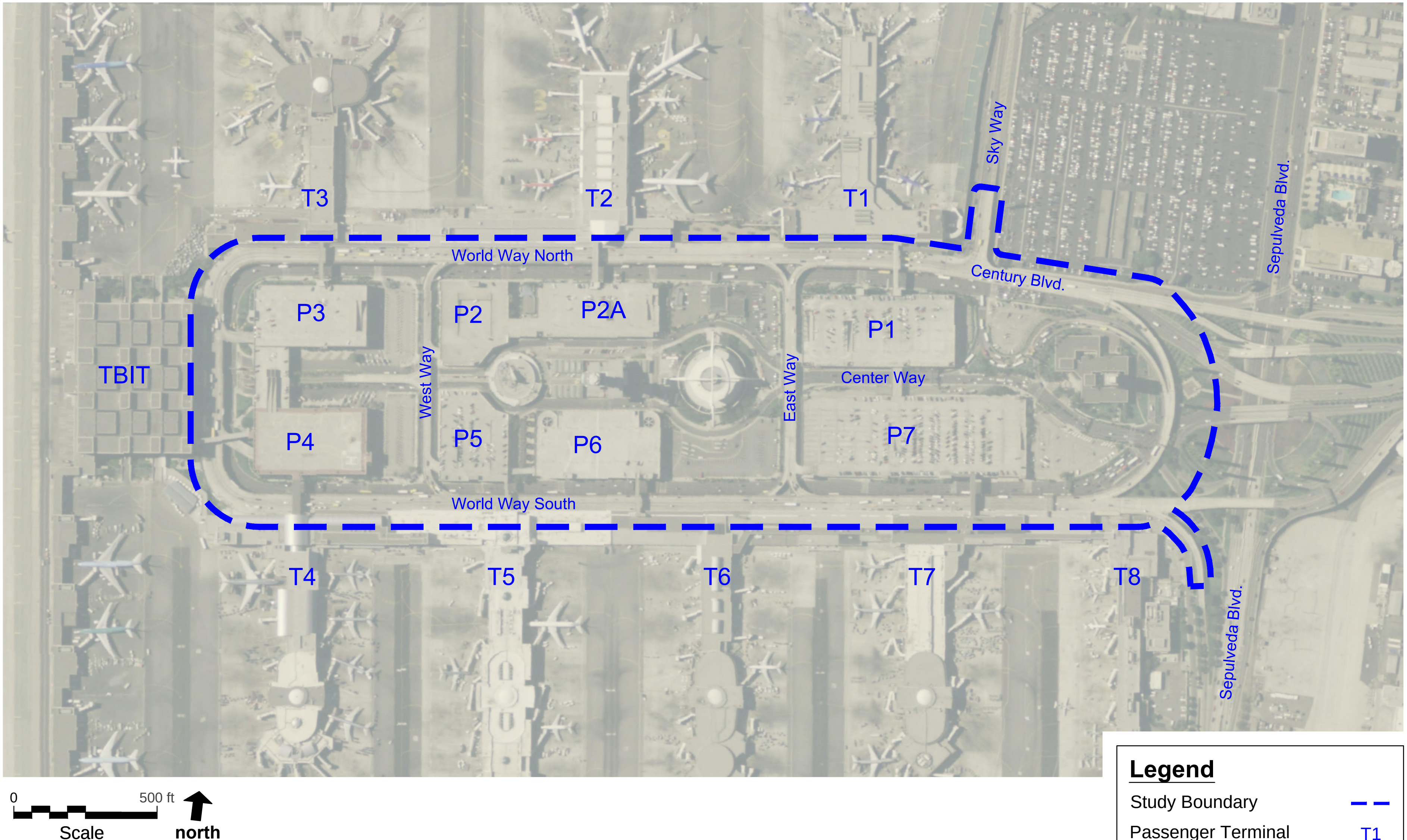
The arrivals level is served by two curbside and roadway systems, separated by a 10-foot-wide concrete pedestrian median. The inner curbside and roadway are reserved for private vehicles, shared ride and taxicab pick-up, while the outer curbside and roadway are reserved for commercial vehicle passenger pick up and for use by other vehicles bypassing a terminal. The inner curbside roadway consists of a single 10-foot-wide loading lane and two 10-foot-wide travel lanes. The outer roadway consists of a 20-foot-wide loading lane adjacent to the commercial loading median and three to five additional travel lanes. There are five traffic signals and 16 pedestrian crossing signals on the outer roadway connecting the terminal buildings with the parking facilities.

Direct access to the arrivals level of the CTA roadway network from the off-Airport roadway network is provided by northbound and southbound Sepulveda Boulevard, and westbound Century Boulevard. Direct access from the arrivals level roadway to northbound and southbound Sepulveda Boulevard, as well as eastbound Century Boulevard, is also provided.

4.6.3.5 Curbside Allocation

While the departures level curbside is signed with the names of the airlines located in each of the respective terminals, vehicles are permitted to drop-off passengers at any point along the curbside. There are six designated employee bus stop locations on the departures level.

On the arrivals level, space along the inner or outer curbside is allocated by vehicle mode. In 2012, the inner curbside was allocated to private vehicles, shared ride vans, and taxicabs picking up passengers, while the outer curbside was allocated to the remaining commercial vehicles (e.g., parking shuttles, hotel and rental car shuttles, shared ride vans, LAX shuttles, and FlyAway and long-distance buses). **Figure 4.6-2** illustrates the vehicle mode allocations along both the inner and outer arrivals level curbsides at LAX.



Legend

Study Boundary	– –
Passenger Terminal	T1
Parking Garage	P1

Source: LAWA, 2010; Ricondo & Associates, Inc., January 2012.
Prepared by: Ricondo & Associates, Inc., February 2014.

LAX Midfield Satellite Concourse Draft EIR

Traffic Analysis Study Area Overview

Figure **4.6-1**

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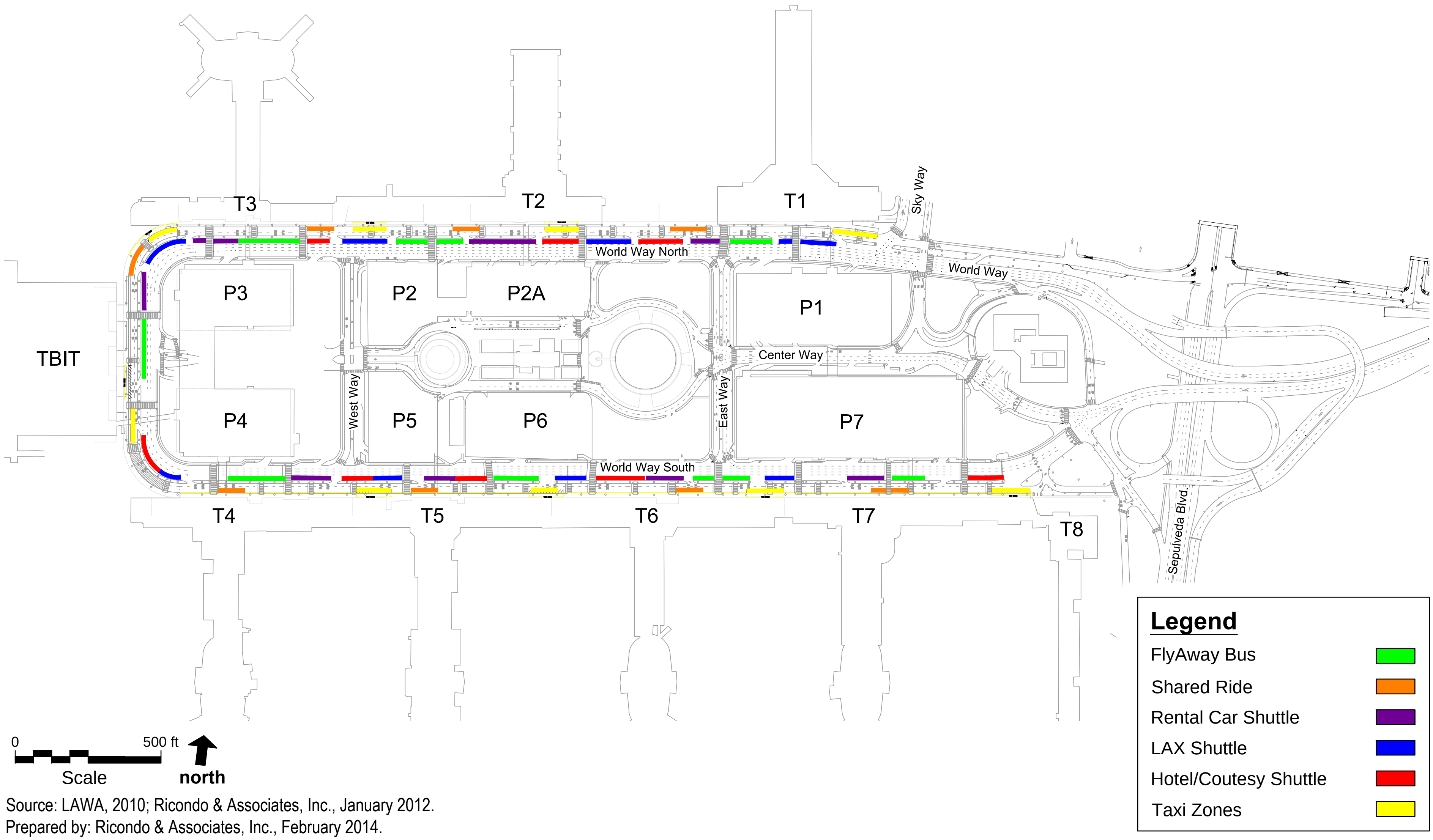

Source: LAWA, 2010; Ricondo & Associates, Inc., January 2012.
Prepared by: Ricondo & Associates, Inc., February 2014.

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Curbside Vehicle Allocation
Arrivals Level

Figure
4.6-2

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4.6.3.6 Peak Month Activity

Monthly traffic data in the vicinity of LAX over the past nine years were reviewed to identify the typical peak month of traffic activity associated with Airport operations. The average daily traffic (ADT) volumes accessing the CTA by month for 2004 through 2012 are provided in **Table 4.6-1**. As shown in bold within Table 4.6-1, CTA traffic reached peak activity during the summer months of July and August. August is typically the peak month for Airport roadway traffic followed closely by July. For the purpose of this analysis, August 2012 was used as the peak month for traffic data.

Table 4.6-1

CTA Average Daily Traffic Volumes

Monthly Traffic	2004[1]	2005	2006	2007	2008[1]	2009	2010	2011	2012
January	61,775	69,554	67,727	66,999	67,483	63,012	64,431	66,477	N/A[2/]
February	59,802	60,930	63,715	65,339	64,924	61,899	60,857	62,322	N/A[2/]
March	64,431	63,748	69,034	68,380	69,819	64,504	65,057	66,115	N/A[2/]
April	68,164	64,771	69,230	70,268	69,184	67,410	65,825	67,487	N/A[2/]
May	68,155	68,982	70,303	71,599	72,022	68,964	67,787	71,588	N/A[2/]
June	74,650	75,699	72,647	73,669	75,118	73,221	74,578	76,035	N/A[2/]
July	78,674	75,635	75,895	78,342	75,640	74,975	75,881	71,552	N/A[2/]
August	77,986	79,046	78,236	82,193	76,434	77,062	74,758	73,930	73,990
September	66,276	68,151	67,171	68,316	65,227	66,106	67,354	65,578	66,353
October	66,395	66,607	66,981	68,152	64,260	66,173	66,674	62,080	67,713
November	65,525	68,200	70,326	72,098	64,128	66,116	66,805	N/A[2/]	69,325
December	73,107	70,700	71,978	71,900	70,972	71,006	69,205	N/A[2/]	70,483
Average Daily Traffic [1]	**68,948**	**69,406**	**70,329**	**71,492**	**69,639**	**68,426**	**68,324**	**N/A[2]**	**N/A[2]**
% Annual Change		**0.70%**	**1.30%**	**1.70%**	**-2.60%**	**-1.70%**	**-0.10%**	**N/A[2]**	**N/A[2]**
Million Annual Passengers	**60.7**	**61.5**	**61.0**	**62.4**	**59.8**	**56.5**	**59.1**	**61.9**	**63.73**
% Annual Change		**1.30%**	**-0.80%**	**1.50%**	**-4.20%**	**-5.50%**	**4.60%**	**4.70%**	**2.90%**

Notes:
1 Estimates for average daily traffic are calculated by weighting the monthly average daily traffic volumes by the number of days in the month. The month of February had 29 days in 2004, 2008, and 2012.
2 Accurate average daily volumes were not available for November 2011 through July 2012 due to transition to new vehicle detection equipment.

Source: City of Los Angeles, Los Angeles World Airports, Ground Transportation Report, Ground Transportation Planning and Design, 2011.

4.6.3.7 Data Collection and Data Sources

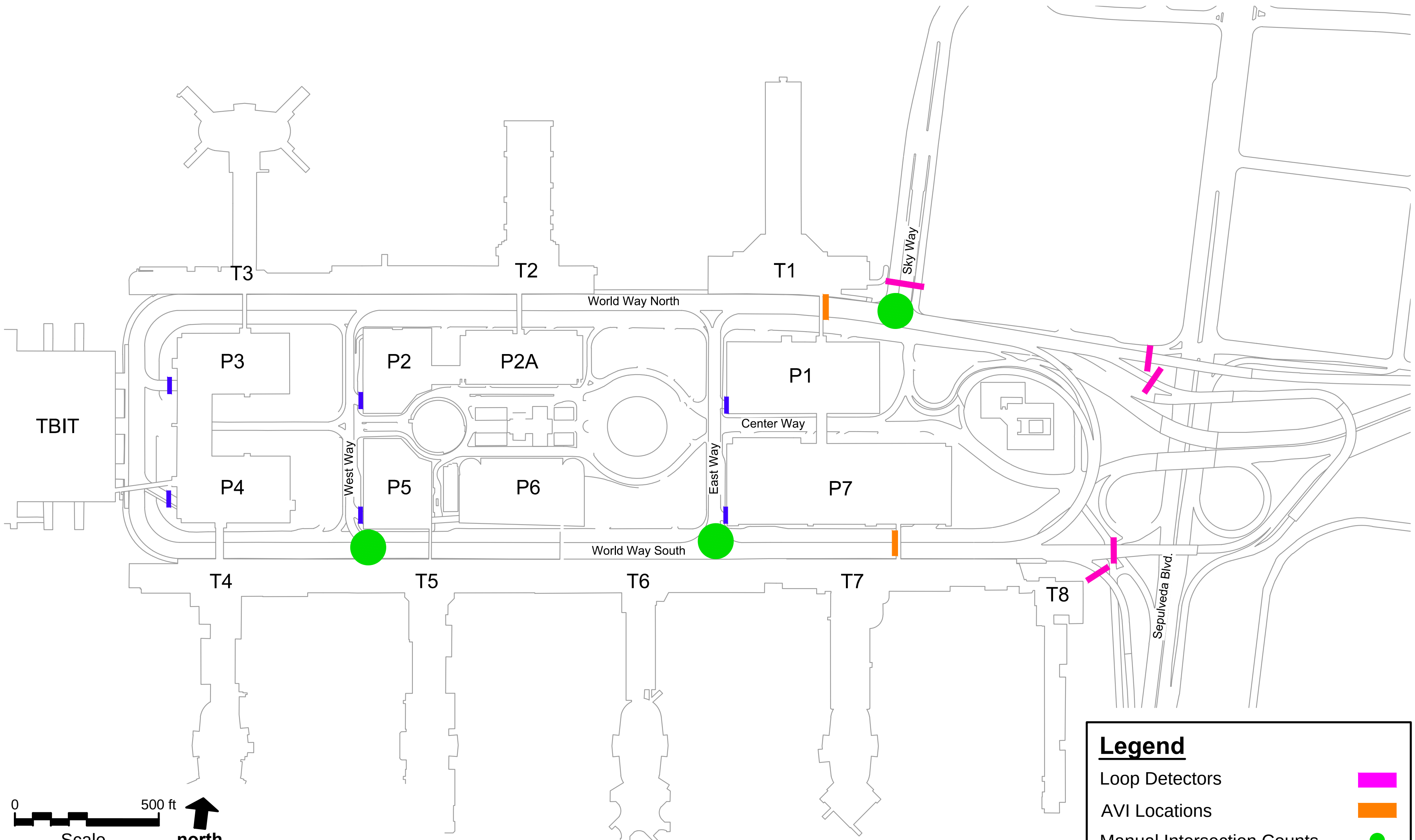
LAWA records were the primary source of the traffic data, facility drawings, and traffic signal timing plans for this study. To supplement this data, detailed field surveys of both the departures and arrivals level curbsides and roadway systems were conducted to ensure a clear understanding of the Existing (2012) conditions and commercial vehicle, private vehicle, and passenger operations. As described previously in Section 4.6.3.6 the data provided by LAWA staff were used to create a snapshot of vehicle and passenger activity for a typical Friday in August 2012. LAWA provided the following data:

- August 2012 Airline Passenger Schedule;
- Passenger Load Factors;
- Los Angeles International Airport 2011 Passenger Survey;
- CTA Vehicle Counts;
- CTA Vehicle Classification which includes other category counts comprised of private vehicles, rental cars, service vehicles, and any other vehicle not equipped with an AVI transmitter; and
- Parking Structure Vehicle Count Data

Figure 4.6-3 and **Figure 4.6-4** identify the locations where the traffic data were collected within the CTA. In addition to the above data, traffic tube counts were collected on the southbound Sepulveda Boulevard exit ramp and eastbound Century Boulevard exits. These tube counts were collected in June 2013 to serve as a control point to the automatic loop detector counts.

4.6.3.8 Determination of Traffic Analysis Peak Hours

The August 2012 airline schedule was used to estimate a rolling hour of departing (i.e., outbound flight) and arriving (i.e., inbound flight with LAX as the final destination) passenger volumes for each terminal. Departing (originating) passenger volumes throughout each hour of the day were adjusted to account for the time passengers arrived at the curbside prior to the departure time of their flight. These adjustments were made based on "early arrivals curves" derived from the 2011 air passenger survey. These curves took into account the differences in domestic and international passenger early arrival characteristics as well as the differences by the time of day. Similarly, arriving (terminating) passenger volumes from the airline schedule were adjusted to represent the time passengers arrived at the curbside following the arrival of their flight. Terminating passenger arrivals curves were used to reflect domestic passenger arrivals characteristics at LAX. The international arriving passenger arrival data used for this analysis for both the existing and future conditions was generated based on: (a) the geometric configuration and operational conditions in place in 2012; and (b) future configurations, aircraft fleet mixes, and operational conditions. Departing and arriving passenger volumes at the curbside were calculated for domestic and international passengers for a 24-hour period in 1-minute increments. Each sixty successive 1-minute passenger counts were added to generate a rolling hourly passenger count total. From these data, the departures and arrivals peak hour passenger volumes by time of day were determined. **Figure 4.6-5** depicts the rolling hourly departing and arriving passenger flows in Existing (2012) for the CTA curbside. **Table 4.6-2** summarizes the 2012 peak hour passenger arrivals and departures data presented in Figure 4.6-5.



Source: LAWA, 2010; Ricondo & Associates, Inc., January 2012.
Prepared by: Ricondo & Associates, Inc., February 2014.

LAX Midfield Satellite Concourse Draft EIR	Data Collection Locations Departures Level	Figure 4.6-3

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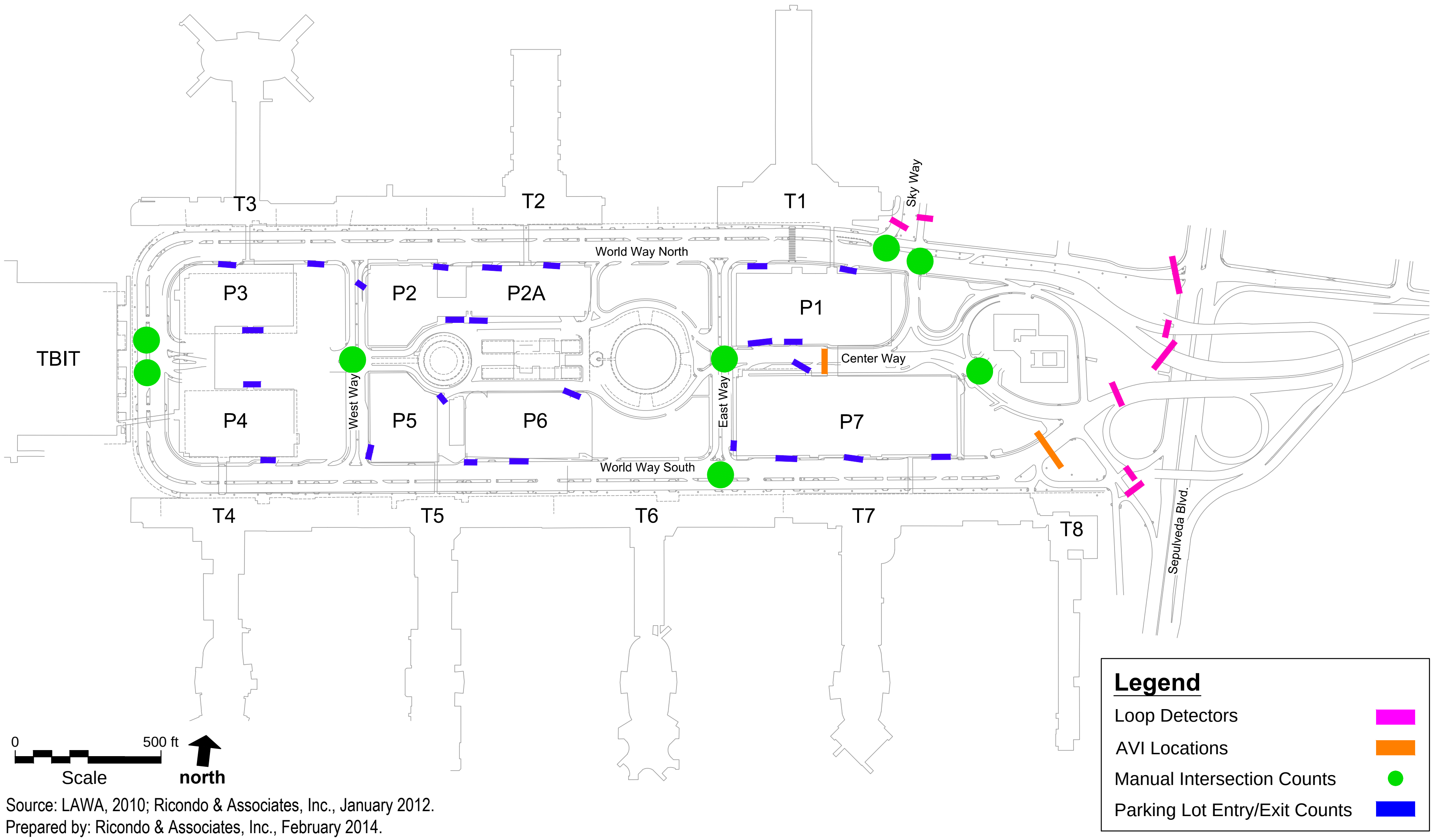

Source: LAWA, 2010; Ricondo & Associates, Inc., January 2012.
Prepared by: Ricondo & Associates, Inc., February 2014.

LAX Midfield Satellite Concourse Draft EIR

Data Collection Locations
Arrivals Level

Figure
4.6-4

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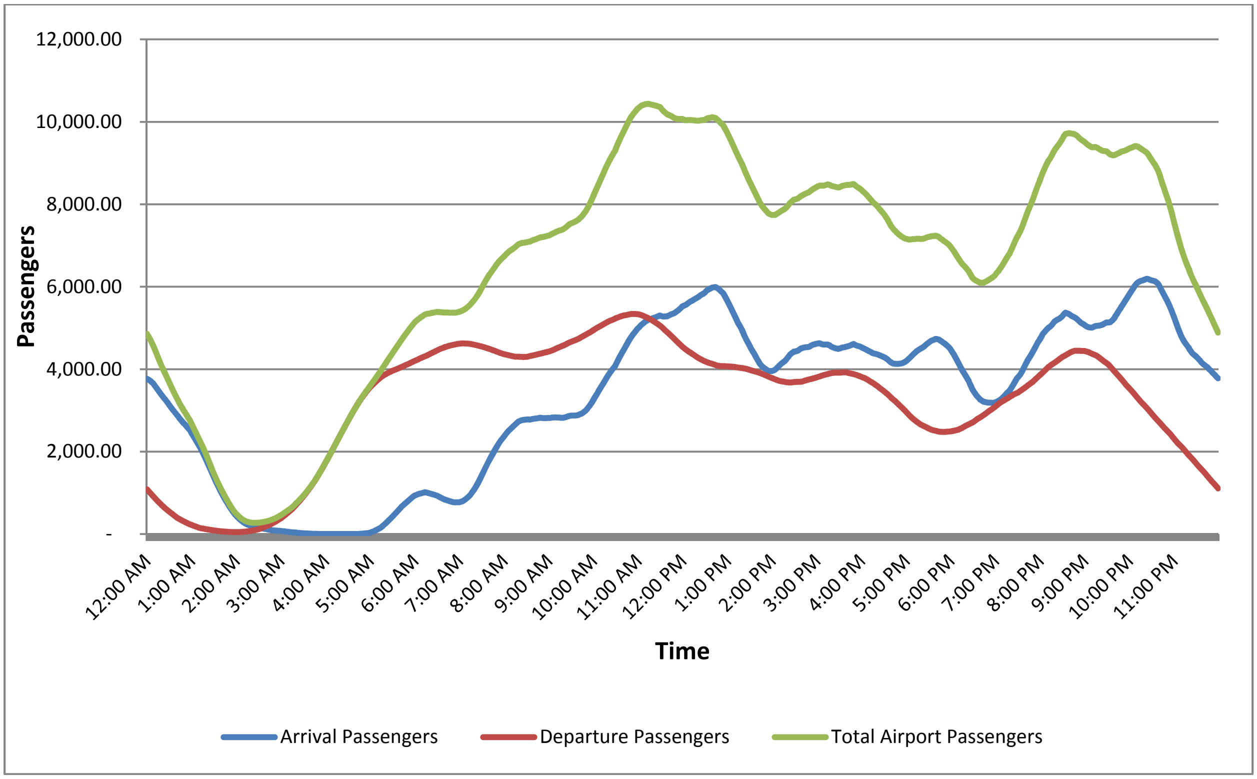
Figure 4.6-5 Existing (2012) Rolling Hour Departure and Arrival Passengers Volumes



Source: Ricondo & Associates, Inc., September 2013.

Table 4.6-2

Summary of Existing (2012) Roadway and Curbside Peak Hours

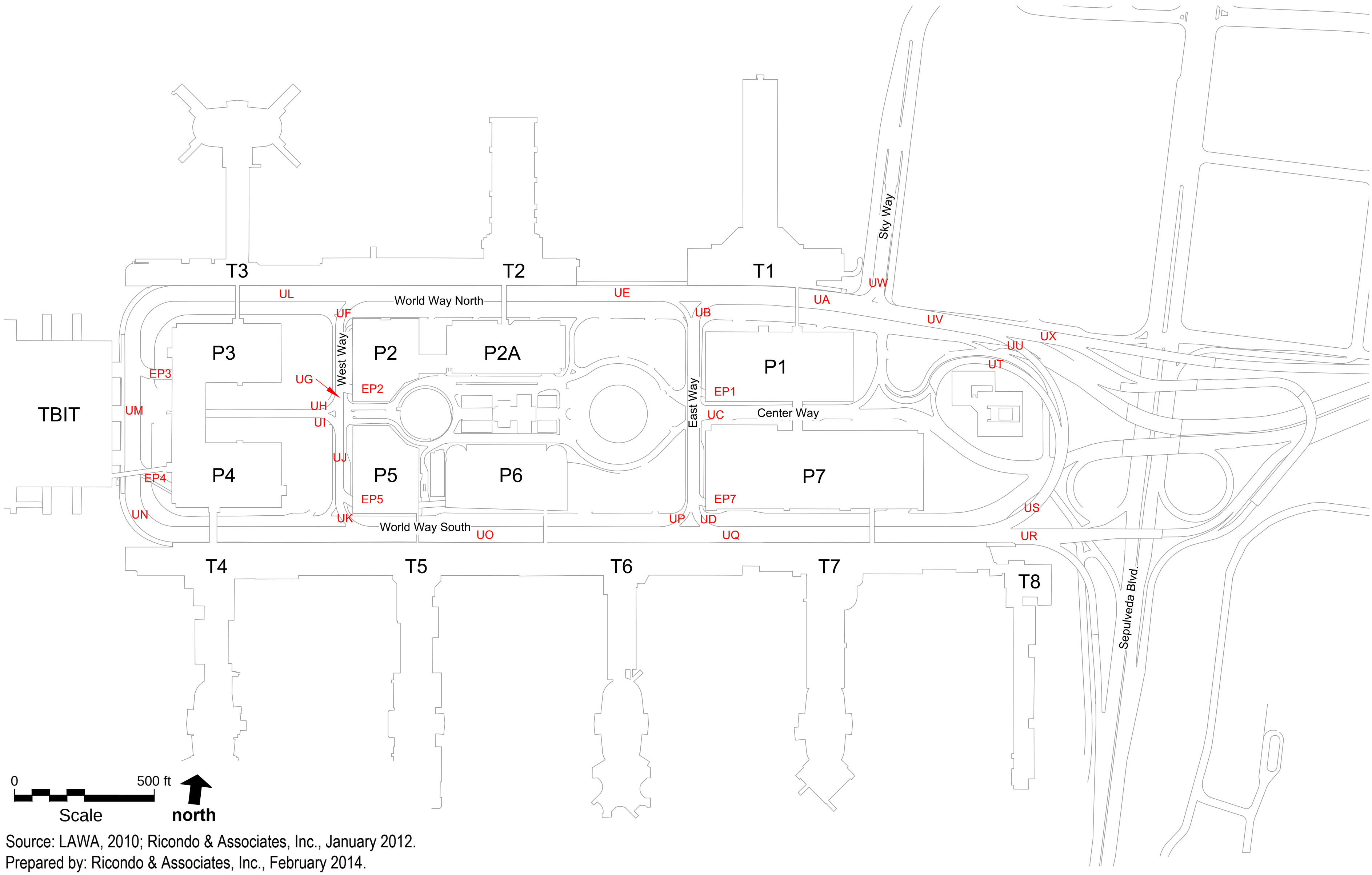
Existing (2012)	Total Airport Peak Hour	Total Passengers
Arrivals	9:24 p.m. - 10:24 p.m.	6,194
Departures	9:55 a.m. - 10:55 a.m.	5,339
Overall Airport	10:14 a.m. - 11:14 a.m.	10,437

Source: Ricondo & Associates, Inc., September 2013

4.6.3.9 Determination of Existing (2012) Traffic Volumes

Data collected and discussed in the previous section were compiled, reviewed, and analyzed. Given the multiple sources of data, it was necessary to compile these sources and conduct detailed analysis in order to prepare a "balanced" roadway network of traffic activity during the Existing (2012) peak hours. A balanced roadway network is simply a composite snapshot view of traffic activity throughout the CTA such that the addition or subtraction of traffic volumes remains in balance throughout the roadway system as lanes merge or diverge. In other words, there is an accounting and reconciliation of vehicles turning onto different routes within the CTA and arriving at and departing from the various curbside areas within the CTA. To estimate the balanced Existing (2012) CTA roadway traffic for a typical Friday during August 2012, the intersection turning movement, loop detector, and AVI counts provided by LAWA were compiled and analyzed to create the balanced traffic volumes for the CTA roadway network.

To estimate balanced Existing (2012) traffic volumes for the CTA roadway network on a typical Friday in August 2012, the peak hours for traffic using the CTA departures level and arrivals level curbsides were identified in order to represent the peak period for curbside activity in the CTA. For purposes of summarizing these data for analysis, both the departures and arrivals level roadways were subdivided and defined by individual links as depicted in **Figure 4.6-6** and **Figure 4.6-7**. The peak hour departures and arrivals Existing (2012) traffic volumes for each roadway link are presented in **Table 4.6-3**. The traffic volumes for roadway links on the upper level represent activity during the departures peak hour (9:55 a.m. - 10:55 a.m.) and the traffic volumes for roadway links on the lower level represent activity during the arrivals peak hour (9:24 p.m. - 10:24 p.m.).



Source: LAWA, 2010; Ricondo & Associates, Inc., January 2012.
Prepared by: Ricondo & Associates, Inc., February 2014.

LAX Midfield Satellite Concourse Draft EIR

CTA Roadway Links and Key Intersections Departures Level

Figure **4.6-6**

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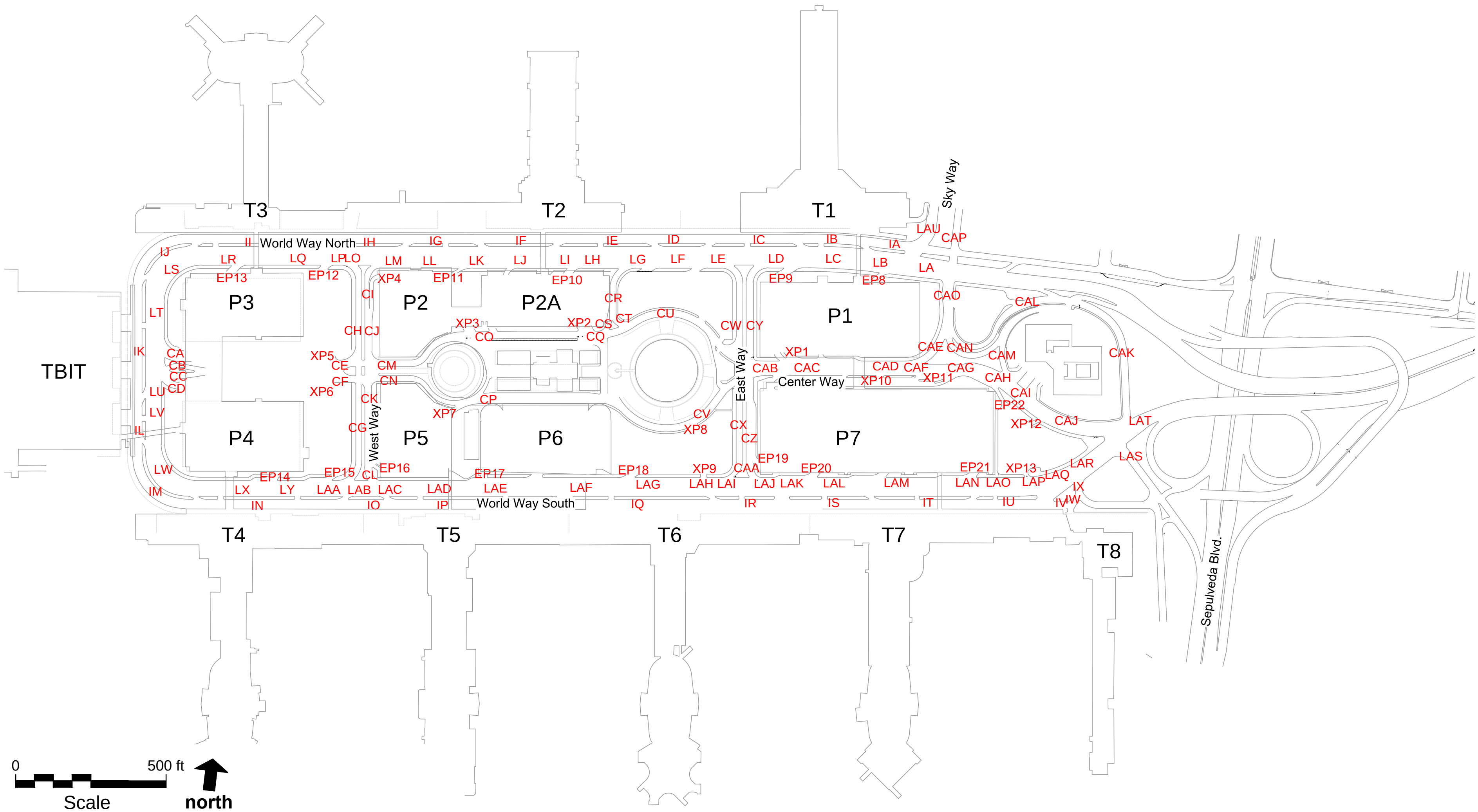

Source: LAWA, 2010; Ricondo & Associates, Inc., January 2012.
Prepared by: Ricondo & Associates, Inc., February 2014.

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CTA Roadway Links and Key Intersections
Arrivals Level

Figure
4.6-7

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Table 4.6-3

Existing (2012) CTA Traffic Volumes by Roadway Link

Roadway Link[1]	Description	Volumes[2]
Departures Level		
UA	Westbound World Way North, east of East Way (upper level roadway entrance)	2642
UB	Southbound East Way, exiting from World Way	635
UC	Southbound East Way, south of P1 entrance	434
UD	Southbound East Way, south of P7 entrance	388
UE	Westbound World Way North, west of East Way intersection	2114
UF	Southbound West Way, exiting from World Way	582
UG	Southbound West Way, south of P2 entrance	558
UH	Westbound exit ramp from West Way to Center Way	0
UI	Eastbound entrance ramp from Center Way to West Way	0
UJ	Southbound West Way, south of Center Way ramp	489
UK	Southbound West Way, south of P5 entrance - entering World Way South	489
UL	Westbound World Way, west of southbound West Way exit	1525
UM	Southbound World Way, south of P3 entrance	1507
UN	Southbound World Way, south of P4 entrance	1429
UO	Eastbound World Way South, east of West Way	1903
UP	Northbound East Way - exit from World Way South, entrance to World Way North	93
UQ	Eastbound World Way South, east of East Way	2351
UR	Upper level exit (south and east)	1453
US	Upper level recirculation/exit (north)	898
UT	Transfer to lower level and exit (north)	872
UU	Upper level recirculation	26
UV	Upper level recirculation and entrance	1820
UW	Entrance from Sky Way	822
UX	Entrance from east/south	1794
EP1	Upper level entrance to P1	46
EP2	Upper level entrance to P2/P2A	26
EP3	Upper level entrance to P3	15
EP4	Upper level entrance to P4	74
EP5	Upper level entrance to P5/P6	70
EP7	Upper level entrance to P7	44
Arrivals Level		
CA	Entrance from lower level north	68
CB	Ramp from upper level	0
CC	Ramp to upper level	0
CD	Entrance from lower level south	0
CE	Center Way North, east of P4 exit	322
CF	Center Way South, east of P6 exit	280
CG	Northbound West Way, south of Center Way	73
CH	Northbound West Way, north of Center Way	73
CI	Southbound West Way, south of lower level roadway	401

Table 4.6-3

Existing (2012) CTA Traffic Volumes by Roadway Link

Roadway Link[1]	Description	Volumes[2]
CJ	Southbound West Way, south of P4 exit	401
CK	Southbound West Way, south of Center Way	340
CL	Southbound West Way, south of P16 exit	261
CM	Center Way North, east of West Way intersection	384
CN	Center Way South, east of West Way intersection	280
CO	Center Way North, east of P3 exit	705
CP	Center Way South, east of P7 exit	0
CQ	Center Way North, east of P2 exit	705
CR	Theme Way from outer curb	0
CS	Theme Way to Center Way South	0
CT	Theme Way to Center Way North	0
CU	Center Way North, east of Theme Way intersection	747
CV	Center Way South, east of P8 exit	184
CW	East Way northbound, north of Center Way	144
CX	East Way northbound, south of Center Way	144
CY	East Way southbound, north of Center Way	218
CZ	East Way southbound, south of Center Way	218
CAA	East Way southbound, south of P19 exit	218
CAB	Center Way, east of East Way intersection	931
CAC	Center Way, east of P1 exit	1,072
CAD	Center Way, east of P10 exit	1,072
CAE	Return/exit roadway, north of Center Way	32
CAF	Center Way, east of exit to return/exit	1,039
CAG	Center Way, east of P11 exit	1,180
CAH	Center Way, east surface public parking lot P22 exit	1,180
CAI	Center Way, east of upper level ramp	1,474
CAJ	Center Way, east P12 exit	1,474
CAK	Return/exit roadway, north of Center Way	467
CAL	Return/exit roadway, west of Century Boulevard entrance/exit	153
CAM	Upper level ramp to eastbound Center Way	294
CAN	Upper level ramp to return/exit	423
CAO	Return/exit roadway, south of lower level roadway	495
CAP	Exit to Sky Way	185
EP8	Lower level entrance to P1 (entrance 1)	30
EP9	Lower level entrance to P1 (entrance 2)	57
EP10	Lower level entrance to P2A	26
EP11	Lower level entrance to P2	49
EP12	Lower level entrance to surface lot	n/a
EP13	Lower level entrance to P3	213
EP14	Lower level entrance to P4	201
EP15	Lower level entrance to surface lot	n/a
EP16	Lower level entrance to P5	78
EP17	Lower level entrance to P6	162

Table 4.6-3

Existing (2012) CTA Traffic Volumes by Roadway Link

Roadway Link[1]	Description	Volumes[2]
EP18	Lower level entrance to surface lot	n/a
EP19	Lower level entrance to P7 (entrance 1)	n/a
EP20	Lower level entrance to P7 (entrance 2)	34
EP21	Lower level entrance to P7 (entrance 3)	65
EP22	Lower level entrance to surface lot	n/a
XP1	Exit from P1 to Center Way	140
XP2	Exit from P2A to Center Way	41
XP3	Exit from P2 to Center Way	41
XP4	Exit from P2 to southbound West Way	n/a
XP5	Exit from P3/surface lot to Center Way	254
XP6	Exit from P4/surface lot to Center Way	280
XP7	Exit from P5 to Center Way	n/a
XP8	Exit from P6/surface lot to Center Way	184
XP9	Exit from surface lot to lower level roadway	n/a
XP10	Exit from P7 to Center Way (entrance 1)	n/a
XP11	Exit from P7 to Center Way (entrance 2)	141
XP12	Exit from surface lot to Center Way	n/a
LA	Lower level roadway entrance	2,253
LB	Terminal 1 outer curb, west of P8 exit	2,709
LC	Terminal 1 outer curb, after inner curb exit 1	2,517
LD	Terminal 1 outer curb, west of P9 exit and inner curb exit 2	2,487
LE	Terminal 1 outer curb, west of East Way intersection	2,412
LF	Outer curb, west of inner curb entrance from Terminal 1	2,736
LG	Terminal 2 outer curb, west of exit to inner curb	2,654
LH	Terminal 2 outer curb, west of Theme Way	2,654
LI	Terminal 2 outer curb, west of P10 exit	2,628
LJ	Terminal 2 outer curb, west of inner curb entrance from Terminal 2	2,643
LK	Terminal 2 outer curb, west of exit to inner curb	2,630
LL	Terminal 2 outer curb, west of P11 exit	2,581
LM	Terminal 2 outer curb, west of inner curb entrance from Terminal 2	2,635
LO	Terminal 2 outer curb, west of West Way intersection	2,308
LP	Terminal 2 outer curb, west of exit to inner curb	2,243
LQ	Terminal 3 outer curb, west of P12 exit	2,243
LR	Terminal 3 outer curb, west of P13 exit	2,030
LS	Terminal 3 outer curb, west of entrance from inner curb	2,108
LT	TBIT outer curb, south of exit to inner curb	1,780
LU	TBIT outer curb, south of Center Way intersection	1,712
LV	TBIT outer curb, south of exit to inner curb	1,666
LW	TBIT outer curb, south of entrance from inner curb	2,005
LX	Terminal 4 outer curb, east of exit to inner curb	1,722
LY	Terminal 4 outer curb, east of P14 exit	1,521
LAA	Terminal 4 outer curb, east of P15 exit	1,521
LAB	Terminal 4 outer curb, after entrance from inner curb	1,746

Table 4.6-3

Existing (2012) CTA Traffic Volumes by Roadway Link

Roadway Link[1]	Description	Volumes[2]
LAC	Outer curb, east of West Way intersection	1,878
LAD	Terminal 5 outer curb, after exit to inner curb	1,878
LAE	Terminal 5 outer curb, east of P17 exit	1,878
LAF	Terminal 5 outer curb, east of inner curb entrance/exit	1,641
LAG	Terminal 6 outer curb, east of P18 exit	1,641
LAH	Terminal 6 outer curb, east of P9 exit	1,641
LAI	Terminal 6 outer curb, east of exit to inner curb	1,465
LAJ	Outer curb, east of East Way intersection	1,683
LAK	Terminal 7 outer curb, east of inner curb entrance/exit	1,601
LAL	Terminal 7 outer curb, east of P20 exit	1,567
LAM	Terminal 7 outer curb, east of exit to inner curb	1,531
LAN	Terminal 7 outer curb, after P21 exit	1,465
LAO	Terminal 7 outer curb, after entrance from inner curb	1,497
LAP	Terminal 7 outer curb, after P13 exit	1,815
LAQ	Terminal 8 outer curb, east of inner curb entrance/exit	1,815
LAR	Terminal 8 outer curb, after inner curb entrance	1,851
LAS	Lower level exit 1 (south)	1,054
LAT	Lower level exit 2 (east)	1,803
LAU	Entrance from Sky Way	589
IA	Terminal 1 inner curb, east	188
IB	Terminal 1 inner curb, center	323
IC	Terminal 1 inner curb, west	323
ID	Inner curb between Terminal 1 and Terminal 2	n/a
IE	Terminal 2 inner curb, east	80
IF	Terminal 2 inner curb, center	65
IG	Terminal 2 inner curb, center west	80
IH	Terminal 2 inner curb, west	25
II	Terminal 3 inner curb, center	90
IJ	Terminal 3 inner curb, west	12
IK	TBIT inner curb, center	340
IL	TBIT inner curb, south	386
IM	Inner curb between TBIT and Terminal 4	46
IN	Terminal 4 inner curb	330
IO	Terminal 5 inner curb, west	31
IP	Terminal 5 inner curb, center	160
IQ	Terminal 6 inner curb, center	235
IR	Terminal 6 inner curb, east	267
IS	Terminal 7 inner curb, west	349
IT	Terminal 7 inner curb, center	385
IU	Terminal 8 inner curb	353
IV	Connection to outer curb, east of Terminal 8	36

Table 4.6-3

Existing (2012) CTA Traffic Volumes by Roadway Link

Roadway Link[1]	Description	Volumes[2]

Notes:
1 As identified in Figure 4.6-6 and Figure 4.6-7.
2 Traffic volumes on the upper level links represent activity during the departures peak hour (9:55 a.m. to 10:55 a.m.) and volumes on the lower level links represent activity during the arrivals peak hour (9:24 p.m. to 10:24 p.m.); both periods represent activity during a typical busy Friday in August 2012

Source: Ricondo & Associates, Inc., September 2013

4.6.3.10 Vehicle Trip Generation and Distribution Model

A vehicle trip generation and distribution model was developed to estimate future traffic volumes on the Airport's roadway system based on future passenger activities. The model was calibrated to the balanced Existing (2012) CTA roadway vehicle volumes to ensure the model was accurately replicating the Existing (2012) conditions. The trip generation models outputs were compared to Existing (2012) values to determine if the model-generated values were within an acceptable range. The trip generation model uses factors such as passenger arrival characteristics, vehicle volumes, mode split (i.e., the proportion of traffic volume composed of various modes including private vehicles, taxicabs, limousines, etc.), and vehicle occupancy characteristics to develop relationships between each of these factors to program vehicle volumes from a passenger volume input. The estimated passenger mode choice percentages and vehicle occupancies used in the trip generation model for both the passenger arrivals and departures peak periods were developed from data collected as part of this Program and the Los Angeles International Airport 2011 Passenger Survey. The estimated passenger mode choice percentages and vehicle occupancies used in this analysis are shown in **Table 4.6-4**.

The vehicle trip generation and distribution model assigns each vehicle an origin, a destination, and a route through the CTA. The model estimates vehicle volumes on each roadway link within the CTA to allow spot checks, which ensure that the appropriate volume and type of vehicles are assigned to each link. Once the model is calibrated to existing conditions for the departures and arrivals peak hours, future passenger activity levels can be input into the model to project traffic volumes and vehicle composition on each link of the CTA roadway network. The purpose of developing the vehicle trip generation and distribution model is to have a tool that accurately estimates future vehicle volumes based on a future passenger volume. Before the model could be used to estimate future peak hour traffic volumes, it was necessary to calibrate the model to ensure that the results would reliably predict actual observed traffic conditions as represented by the balanced roadway volumes. This process involved comparing model output for the departures peak hour and the arrivals peak hours with roadway and curbside traffic data from the balanced roadway network.

Mode split data and drop off/parking information for the departures peak hour, as well as the arrivals peak hours, were developed using data from both the 2011 Air Passenger Survey and data collected as part of this analysis. Both models also included originating/terminating passenger splits by arrival mode based on the estimated percentages of vehicles entering/exiting the Airport via the upper level and lower level roadways.

Table 4.6-4

Existing (2012) Passenger Mode Splits and Vehicle Occupancies

	Arrivals Level [1]		Departures Level [2]	
Passenger Transportation Mode	**Passenger Mode Split**	**Vehicle Occupancy (Pass/veh)**	**Passenger Mode Split**	**Vehicle Occupancy (Pass/veh)**
Charter Bus	6.78%	22.3	8.39%	10.6
FlyAway	1.90%	28.4	2.62%	22.9
Hotel Shuttles	3.58%	4.4	4.68%	3.1
LAX Shuttles	2.31%	6.6	2.76%	11.1
Limousines	3.44%	1.6	2.17%	1.3
Privately-Owned Vehicle (POV)	44.97%	1.5	51.31%	1.3
Private Parking Shuttles	5.33%	3.1	5.70%	1.9
Rental Car Shuttles	16.87%	9.4	9.53%	4.8
Shared Ride Vans	5.30%	5.0	4.47%	4.0
Taxi	8.63%	2.0	7.63%	1.3
Transit Bus	0.90%	3.9	0.73%	30
Total	100%		100%	

Notes:
1 Represents the assumed passenger mode split and vehicle occupancy during the arrivals peak period.
2 Represents the assumed passenger mode split and vehicle occupancy during the departures peak period.

Source: Ricondo & Associates, Inc., September 2013

The CTA roadway links used to compare the model results to the balanced roadway volumes are as follows:

- Gateway links (model entrance and exit links);
- Parking facility entry links;
- Entrance and exit volumes to both departures and arrivals levels; and
- Multiple locations around the CTA based on balanced CTA roadway volumes

The calibration process required a series of iterative adjustments to mode splits, passenger drop off versus direct to parking percentages, originating-terminating passenger splits, and passenger occupancies to further refine the model output relative to the actual counts and to improve the calibration. A comparison of the projected trips from the model compared with the balanced roadway network traffic volumes is provided in **Appendix E.1**.

4.6.3.11 VISSIM Model

As previously described in Section 4.6.2.4, a simulation model was developed using VISSIM® to provide a more detailed assessment of the curbside and roadway operations associated with Existing (2012) conditions and future conditions (2025 Without Program and 2025 With Program). The Existing (2012) VISSIM® model used in this analysis was a modified and updated version of a previous model created for LAWA for use in other Airport-related studies and analyses.

The passenger volumes associated with each peak hour condition considered in this analysis were input into the trip generation model, from which hourly vehicle volumes for each roadway link were generated. These hourly vehicle volumes were then used as input for the Existing (2012) conditions VISSIM model.

To define the vehicle characteristics and trip assignments to be input into the VISSIM model, the assumptions developed for the vehicle trip generation model described previously were used to ensure consistency between the analyses. These assumptions related to the types of vehicles accessing each terminal, the total number of vehicles by mode, and the associated paths used by each vehicle mode for the peak arrivals and peak departures conditions. These updated individual trip assignments were coded into the VISSIM model for each vehicle mode representing each destination along the travel path. For example, a typical path may consist of a vehicle entering the CTA roadway system, followed by a stop at one of the terminal curbsides to drop off a passenger, and then proceeding to that terminal's parking structures.

The location and configuration of vehicle curbside parking spaces adjacent to each terminal building in the CTA were also updated within the model to reflect recent changes in commercial vehicle operations.

4.6.3.12 VISSIM Model Calibration

The calibration process involved running the VISSIM model, observing the simulation's animation to visually confirm that the model was performing as expected, and comparing the output statistics to the balanced roadway volumes at numerous locations throughout the roadway network. Similar to the vehicle trip generation and distribution modeling process, key model inputs were calibrated to obtain volumes within the desired Root Mean Square Test (RMST) tolerance of the balanced roadway traffic volumes. The visual output of the model was also reviewed and compared to actual video and field observations to confirm that modeled and actual congestion points and levels of vehicle queuing were of similar magnitude. Upon satisfactory calibration of the model, it was determined that the model had been validated for use in developing future year analyses. This process was completed for peak arrivals and peak departures models.

4.6.4 Analysis of Existing Conditions

This section describes how the results from the vehicle trip generation and VISSIM models were used to characterize Existing (2012) traffic conditions for the CTA roadway system. Analyses of the on-Airport roadway system can be summarized into three functional areas consisting of an evaluation of (a) terminal curbside capacity, (b) intersection capacity of the key CTA intersections, and (c) roadway link capacity at key locations within the CTA.

4.6.4.1 Curbside Analysis

Airport curbside facilities serve as the primary destination for vehicular traffic accessing the CTA departures and arrivals level roadways. The linear lengths of these curbside facilities are critical measures in assessing the capacity of the Airport roadway system because the curbsides must accommodate stopped vehicles and provide room to maneuver into and out of a stopping position for passenger loading and unloading operations. The curbside analysis measures vehicle demand at the curbside compared to available curbside frontage. Curbside frontage demand is a theoretical measurement of the peak accumulation of vehicles waiting at the curbside if they were aligned nose-to-tail in a single queue. For existing conditions, a "utilization" factor can be derived, which is the calculated ratio of curbside demand in linear feet divided by the existing curbside length. The utilization factor provides an indication of the amount of double and triple parking that would result for a given curbside frontage demand; the level of service associated with a given utilization rate recognizes that drivers do not park vehicles uniformly along the curbside.

The curbside utilization factor is an indicator of the amount of congestion at the curbside, as well as the resulting level of service provided. This study analyzed curbsides where curbside pick-up and drop off activities are discouraged but occur in multiple lanes (arrivals inner curbside) and curbsides which restrict vehicle activity to a single lane (commercial vehicle zones using the arrivals outer curbside). Multi-lane activity typically occurs along curbsides accommodating private vehicle passenger loading/unloading, while curbsides accommodating commercial vehicle passenger loading/unloading is frequently restricted to allowing passenger pick up and drop off only in the lane next to the curbside sidewalk. Assumed utilization ranges for each type of curbside facility are different based on the number of functional curbside loading/unloading lanes. **Table 4.6-5** and **Table 4.6-6** provide the utilization ranges and levels of service for curbsides where passengers load/unload from multiple lanes and curbsides where passenger loading/unloading is restricted to a single lane, respectively.

Curbside level of service is a qualitative measure that describes traffic operating conditions along a curbside (e.g., delay, curbside utilization, congestion). In the case of curbsides where multi-lane loading/unloading occurs, a very low utilization indicates that vehicles are easily accommodated along the inner curbside lane without the need for double parking. This level of utilization would equate to an excellent level of service (e.g., LOS A). Conversely, very high utilization equates to double and triple parking along the entire curbside, restricting vehicle movements and resulting in a poor level of service (e.g., LOS E). The same is true for curbsides with single lane passenger loading/unloading where a very low utilization indicates vehicles can easily access and depart a curbside equating to an excellent level of service (e.g., LOS A). Curbsides with single lane loading/unloading are not considered to be operating at a poor level of service when all of their available curbside length is being fully used (100 percent utilization). This is because when a single lane curbside is 100 percent utilized, parked vehicles may still depart and access the curbside, and are not blocked by vehicles stopped in a second parking lane. For curbsides with single lane passenger loading/unloading, double parking or queuing along 30 percent of the adjacent travel lane constitutes a failing level of service (e.g., LOS F). For curbsides that permit either single or multi-lane passenger loading/unloading, LOS C is generally a desirable condition for peak period operations at major airports for most days of the year. LOS D conditions may be acceptable during peak seasonal periods.

Table 4.6-5

Curbside Demand LOS and Utilization Ranges for Curbsides with Dual Lane Passenger Loading/Unloading

Level of Service (LOS)	Utilization Range[1]	Equivalent Volume/Capacity Ratio[2]	Description
A	0% - 90%	0.000 - 0.450	EXCELLENT: Drivers experience no interference from pedestrians or other motorists
B	91% - 110%	0.451 - 0.550	VERY GOOD: Relatively free flow conditions with limited double parking
C	111% - 130%	0.551 - 0.650	GOOD: Double parking near doors is common with some intermittent triple parking
D	131% - 170%	0.651 - 0.850	FAIR: Vehicle maneuverability restricted due to frequent double/triple parking
E	171% - 200%	0.851 - 1.000	POOR: Significant delays and queues; double/triple parking throughout curbside
F	> 200%	1.001 or greater	FAILURE: Motorists unable to access/depart curbside; significant queuing along entry road

Notes:
1 Utilization is the ratio of curbside space demand in linear feet divided by available curbside length.
2 The equivalent volume to capacity (V/C) ratio is calculated as the utilization for a given LOS range divided by the maximum utilization at capacity, or LOS E. The equivalent V/C ratio is calculated for purposes of providing a compatible threshold measure for determining potential program impacts in accordance with LADOT significance thresholds.

Source: Ricondo & Associates, Inc., based on information published by the Transportation Research Board, Airport Cooperative Research Program (ACRP) Report 40, 2010, and Federal Aviation Administration Advisory Circular 150/5360-13, Planning and Design Guidelines, January 19, 1994.

The VISSIM models developed for this study provide a simulation of the anticipated traffic volumes accessing the curbside and the effects of the interaction of vehicles stopping and maneuvering within the terminal area curbside pick-up and drop off zones during the peak hour conditions analyzed. The model simulates the anticipated congestion and traffic operations that would be expected considering the effects of peaking around terminal building doorways, curbside check-in counters, traffic signal control occurring near the curbsides, and other physical features of the curbside.

Table 4.6-6

Curbside Demand Levels of Service and Utilization Ranges for Curbsides with Single Lane Passenger Loading/Unloading

Level of Service (LOS)	Utilization Range[1]	Equivalent Volume/Capacity Ratio [2]	Description
A	0% - 70%	0.000 - 0.540	EXCELLENT: Drivers experience no interference from pedestrians or other motorists
B	71% - 85%	0.541 - 0.650	VERY GOOD: Relatively free flow conditions with limited double parking
C	86% - 100%	0.651 - 0.770	GOOD: Double parking near doors is common with some intermittent triple parking
D	101% - 115%	0.771 - 0.880	FAIR: Vehicle maneuverability restricted due to frequent double/triple parking
E	116% - 130%	0.881 - 1.000	POOR: Significant delays and queues; double/triple parking throughout curbside
F	> 130%	1.001 or greater	FAILURE: Motorists unable to access/depart curbside; significant queuing along entry road

Notes:

1 Utilization is the ratio of curbside space demand in linear feet divided by available curbside length.

2 The equivalent volume to capacity (V/C) ratio is calculated as the utilization for a given LOS range divided by the maximum utilization at capacity, or LOS E. The equivalent V/C ratio is calculated for purposes of providing a compatible threshold measure for determining potential program impacts in accordance with LADOT significance thresholds.

Source: Ricondo & Associates, Inc., based on information published by the Transportation Research Board, Airport Cooperative Research Program (ACRP) Report 40, 2010, and Federal Aviation Administration Advisory Circular 150/5360-13, Planning and Design Guidelines, January 19, 1994.

Curbside operations were assessed to quantify the existing and future curbside levels of service. The assessment was based on a minute-by-minute count of the number of vehicles by mode that would be stopped at the curbside during the peak hour periods analyzed. For each count, the number of vehicles by mode were multiplied by the average length of the vehicles by vehicle type and then summed to provide an equivalent linear total on a minute-by-minute basis. The vehicle lengths used for the analysis include an allowance of space to account for normal separation of vehicles stopped at the curbside and parking inefficiencies observed at curbsides, which tends to provide a conservative assessment of total linear demand. The total linear demand was then divided by the available curbside length to provide a numerical calculation of the curbside utilization percentage. The simulations were run three times and the results were averaged to provide an estimate of curbside utilization on a minute-by-minute basis. These calculated utilization percentages were then compared to the curbside LOS utilization ranges defined in Table 4.6-5 and Table 4.6-6 of this section to provide an assessment of curbside level of service per minute during the peak hours analyzed for the Existing (2012) condition, as well as for the future conditions that are described later in this section.

Table 4.6-7 summarizes the results of the Existing (2012) arrivals and departures level curbside analyses during the departures level peak hour (9:55 a.m. to 10:55 a.m.), and the arrivals level peak hour (9:24 p.m. to 10:24 p.m.).

Table 4.6-7

Existing (2012) Peak Period Curbside Analysis Results

Terminal	Curbside	Zone[1]	Utilization Rate[2]	Equivalent Volume to Capacity Ratio	Level of Service
Departures Peak 9:55 a.m. to 10:55 a.m.					
Terminal 1	Departure Level	Common	93%	0.46	A
Terminal 2	Departure Level	Common	38%	0.19	A
Terminal 3	Departure Level	Common	41%	0.21	A
TBIT	Departure Level	Common	59%	0.3	A
Terminal 4	Departure Level	Common	137%	0.69	B
Terminal 5	Departure Level	Common	70%	0.35	A
Terminal 6	Departure Level	Common	70%	0.35	A
Terminal 7	Departure Level	Common	99%	0.5	A
Arrivals Peak 9:24 p.m. to 10:24 p.m.					
Terminal 1	Inner	Passenger Cars/Limousines/ Shared Ride Vans	65%	0.33	A
Terminal 1	Outer	Overall Average	42%	0.33	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	55%	0.42	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	16%	0.13	A
	Outer	Red Zone (Hotel/Courtesy)	69%	0.53	A
	Outer	Purple Zone (Rental Car Shuttles)	29%	0.23	A
Terminal 2	Inner	Passenger Cars/Limousines/ Shared Ride Vans	14%	0.07	A
Terminal 2	Outer	Overall Average	28%	0.21	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	41%	0.32	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	15%	0.12	A
	Outer	Red Zone (Hotel/Courtesy)	41%	0.32	A
	Outer	Purple Zone (Rental Car Shuttles)	14%	0.11	A

Table 4.6-7

Existing (2012) Peak Period Curbside Analysis Results

Terminal	Curbside	Zone[1]	Utilization Rate[2]	Equivalent Volume to Capacity Ratio	Level of Service
		Arrivals Peak 9:24 p.m. to 10:24 p.m.			
Terminal 3	Inner	Passenger Cars/Limousines/ Shared Ride Vans	39%	0.19	A
Terminal 3	Outer	Overall Average	34%	0.26	A
Terminal 3	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	49%	0.38	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	15%	0.12	A
	Outer	Red Zone (Hotel/Courtesy)	53%	0.41	A
	Outer	Purple Zone (Rental Car Shuttles)	17%	0.13	A
TBIT	Inner	Passenger Cars/Limousines/ Shared Ride Vans	42%	0.21	A
TBIT	Outer	Overall Average	34%	0.26	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	16%	0.12	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	54%	0.42	A
	Outer	Purple Zone (Rental Car Shuttles)	15%	0.12	A
	Outer	Red Zone (Hotel/Courtesy)	50%	0.39	A
Terminal 4	Inner	Passenger Cars/Limousines/ Shared Ride Vans	103%	0.52	A
Terminal 4	Outer	Overall Average	33%	0.25	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	25%	0.19	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	43%	0.33	A

Table 4.6-7

Existing (2012) Peak Period Curbside Analysis Results

Terminal	Curbside	Zone[1]	Utilization Rate[2]	Equivalent Volume to Capacity Ratio	Level of Service
		Arrivals Peak 9:24 p.m. to 10:24 p.m.			
Terminal 4	Outer	Purple Zone (Rental Car Shuttles)	14%	0.11	A
	Outer	Red Zone (Hotel/Courtesy)	49%	0.38	A
Terminal 5	Inner	Passenger Cars/Limousines/ Shared Ride Vans	85%	0.43	A
Terminal 5	Outer	Overall Average	49%	0.37	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	39%	0.30	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	63%	0.49	A
	Outer	Purple Zone (Rental Car Shuttles)	17%	0.13	A
	Outer	Red Zone (Hotel/Courtesy)	76%	0.58	B
Terminal 6	Inner	Passenger Cars/Limousines/ Shared Ride Vans	83%	0.42	A
Terminal 6	Outer	Overall Average	36%	0.28	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	20%	0.16	A
Terminal 6	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	60%	0.46	A
	Outer	Purple Zone (Rental Car Shuttles)	13%	0.10	A
	Outer	Red Zone (Hotel/Courtesy)	53%	0.40	A
Terminal 7	Inner	Passenger Cars/Limousines/ Shared Ride Vans	84%	0.42	A
Terminal 7	Outer	Overall Average	36%	0.28	A

Table 4.6-7

Existing (2012) Peak Period Curbside Analysis Results

Terminal	Curbside	Zone[1]	Utilization Rate[2]	Equivalent Volume to Capacity Ratio	Level of Service
		Arrivals Peak 9:24 p.m. to 10:24 p.m.A			
Terminal 7	Outer	Blue Zone (LAX Shuttle, Airline Connections)	20%	0.16	A
Terminal 7	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	60%	0.46	A
	Outer	Purple Zone (Rental Car Shuttles)	13%	0.10	A
	Outer	Red Zone (Hotel/Courtesy)	53%	0.40	A

Notes:
1 Parking Zones defined in Figure 4.6-2, Arrivals Level Curbside Allocations.
2 Note: At some terminals, the length of curbside assigned to passenger car and limousine operations on the arrivals level was conservatively assumed to be less than the maximum possible available length. For example, the full length of available curbside frontage between Terminals 1 and 2, the TBIT and Terminal 4, and Terminals 6 and 7 were not used in the analysis. While these portions of the arrivals level curbsides are available for passenger vehicle, and limousine passenger loading activities, their longer walking distances from the terminal exit doors located near the baggage claim devices results in much less use.

Source: Ricondo & Associates, Inc., September 2013.

Figure 4.6-2, presented previously, provides a detailed illustration of the existing commercial vehicle parking allocations along the arrivals level outer curbside. The departures level curbsides were analyzed using the departures level peak hour volumes, while the arrivals level curbsides were analyzed using the arrivals level peak hour volumes. Because the departures level curbsides does not provide dedicated curbside for specific vehicle types, the LOS calculations for the overall departures level curbsides are presented. The arrivals level curbsides however, consist of dedicated passenger loading zones serving specific vehicle modes. Therefore, the results are reported both on an overall average basis and for specific commercial vehicle zones to provide a more thorough assessment of the operations along the curbsides. This curbside analysis is conservative for the following reasons:

1. Certain commercial vehicle shuttle buses (inter-terminal circulation bus, Transit Bus, FlyAway) were assumed to stop at each terminal on both the departures and arrivals levels. This is a conservative approach as commercial vehicles typically will not stop at a given terminal on the departure level if no passengers are destined for that terminal.
2. VISSIM parking logic used to simulate vehicle behavior at the curbside is conservative as the model may force drivers to increase the time they wait to access a specific curbside space. In reality, drivers may choose to drop off or pick up their party further

down the curbside or in a lane farther from the curbside but adjacent to their desired terminal access location.

3. The curbside utilization calculation provides a conservative assessment of linear demand given that the assumed vehicle length includes a large proportion of distance that represents gaps between vehicles and non-uniform parking at the curbside. For example, passenger cars are typically on the order of 16.5 feet in length, which is the length used to simulate passenger cars. An additional 1.5 feet is assumed in the VISSIM model to represent the space between the adjacent vehicle in front or behind the parking vehicle which results in a total of 19.5 feet to complete the parking movement. However, to provide an additional level of conservatism and to address additional operational inefficiencies that occur in the curbside environment, the assumed equivalent vehicle length used to calculate the curbside utilization factor and equivalent volume/capacity ratio is based on an assumed 25 feet per vehicle.

The overall departures level curbside LOS presented in Table 4.6-7 is derived from each terminal's curbside utilization rate, which was determined by estimating the required curbside lengths for each vehicle mode, then comparing the total required curbside lengths for all modes to the total available curbside lengths at each individual terminal. Table 4.6-7 shows that each terminal's departures level curbside was found to operate at LOS B or better during the departures level overall peak hour of vehicle activity. It should be noted that the departures level activity at any of the individual terminals may peak during different hours of the day, resulting in corresponding levels of service which could differ from those present in Table 4.6-7 above for the overall departures level peak hour.

The results of the Existing (2012) arrivals level curbside LOS analysis are also presented in Table 4.6-7, and include the curbside utilization rates for each of the arrivals level curbsides during the arrivals level peak hour (9:24 p.m. to 10:24 p.m.). As discussed earlier, each terminal's arrivals level outer curbsides are allocated by commercial mode(s), and their curbside utilization rate was calculated by comparing the required curbside lengths for each of the assigned modes or a group of modes within a given zone to the available curbside lengths in that zone. The results show that the arrivals level outer curbsides operated at an overall LOS B or better with some zones performing better than others.

The curbside utilization rates on the inner curbsides for private vehicles (i.e., privately-owned vehicles and limousines) on the arrivals level show that the curbsides are operating with little congestion and at LOS A for the CTA peak period analyzed. This analysis assumes that these curb fronts are fully available for private vehicle and limousine use, and are not used for temporary parking by public safety, LAWA, or government vehicles. Individual terminals may experience spikes in arriving passenger traffic during other periods of the day that do not coincide with either the arrivals, departures, or overall Airport peak periods which could result in a lower LOS. Since taxis operate as managed mode and are dispatched to each terminal on an as-needed basis by operations personnel, a curbside LOS was not developed for this mode. Taxis currently stage outside the CTA in the Commercial Vehicle Staging Lot. Since the number of taxis arriving (supply) at the curbside is managed to limit the queue to the length of curb frontage available in each taxi loading zone, the curbside LOS at each taxi loading zones is limited to a curbside utilization of less than 100 percent.

Detailed minute-by-minute assessments of the Existing (2012) departures level and arrivals level curbside LOS results for each terminal are provided in **Appendix E.2** during both the departures level (9:55 a.m. to 10:55 a.m.) and arrivals level (9:24 p.m. to 10:24 p.m.) peak hours.

4.6.4.2 CTA Intersection Existing Conditions

The key on-Airport roadway intersections were evaluated to measure the effects Program-related traffic would have on intersection operations within the CTA. This section describes the operating conditions of key CTA intersections using the Existing (2012) traffic volumes as defined in Section 4.6.2.4. As indicated in Section 4.6.2.4 above, the on-Airport intersections were analyzed using TRAFFIX®, a widely accepted traffic analysis model that employs the use of the Transportation Research Board's Circular 212 CMA planning method. All of the study area intersections were analyzed with TRAFFIX®, except for the five-legged intersection of World Way South and Center Way which was analyzed using Synchro 7, another widely accepted transportation analysis model.

Intersection LOS is a qualitative measure that describes traffic operating conditions at an intersection (e.g., delay, queue lengths, congestion). Intersection levels of service range from A (i.e., excellent conditions with little or no vehicle delay) to F (i.e., excessive vehicle delays and queue lengths). Levels of service definitions for the CMA methodology are presented in **Table 4.6-8**. The analysis evaluated the intersection's volume to capacity and level of service conditions using the CTA roadway traffic volumes for the Existing (2012) conditions, as provided in **Table 4.6-9** for the Airport's peak departures and arrivals hours. With the exceptions of East Way and World Way South on the lower level, which operate at an LOS of C, all other intersections operated at LOS A.

Table 4.6-8

Level of Service Definitions for Signalized Intersections

Level of Service (LOS)	Volume/Capacity Ratio Threshold	Definition
A	0 - 0.600	EXCELLENT: No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 - 0.700	VERY GOOD: An occasional approach phase is fully used; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 - 0.800	GOOD: Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 - 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	0.901 - 1.000	POOR: Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	greater then 1.000	FAILURE: Backups from nearby intersections 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, January 1980.

Table 4.6-9

Peak Hour CTA Signalized Intersection Turning Movement Volumes and Level of Service Analysis - Existing (2012) Conditions

		Existing (2012)													
	Peak	Northbound			Southbound			Eastbound			Westbound				
Intersection	Hour[1]	L	T	R	L	T	R	L	T	R	L	T	R	V/C[2]	LOS[3]
World Way North and Sky Way (Upper Level)	Departure						822					1,794		0.429	A
World Way South and West Way (Upper Level)	Departure				489				1,429					0.403	A
World Way South and East Way (Upper Level)	Departure				388				1,810					0.375	A
World Way North and Sky Way (Lower Level)	Arrival	351	164				748					1,985		0.58	A
World Way South and Center Way (Exit) (Lower Level)[4]	Arrival	574	945	624					948	597				0.71	C
East Way and World Way South (Lower Level)	Arrival				350				1,518					0.179	A

Notes:
1 The departures peak hour occurred from 9:55 a.m. to 10:55 a.m. The arrivals peak hour occurred from 9:24 p.m. to 10:24 p.m.
2 Volume to capacity ratio.
3 Level of Service range: A (excellent) to F (failure).
4 For World Way South and Center Way intersection, World Way South volumes are noted in the Northbound column and Center Way volumes are noted in the Eastbound column of the table.

Source: Ricondo & Associates, Inc., using TRAFFIX® and Synchro 7, 2013.

4.6.4.3 CTA Roadway Analysis

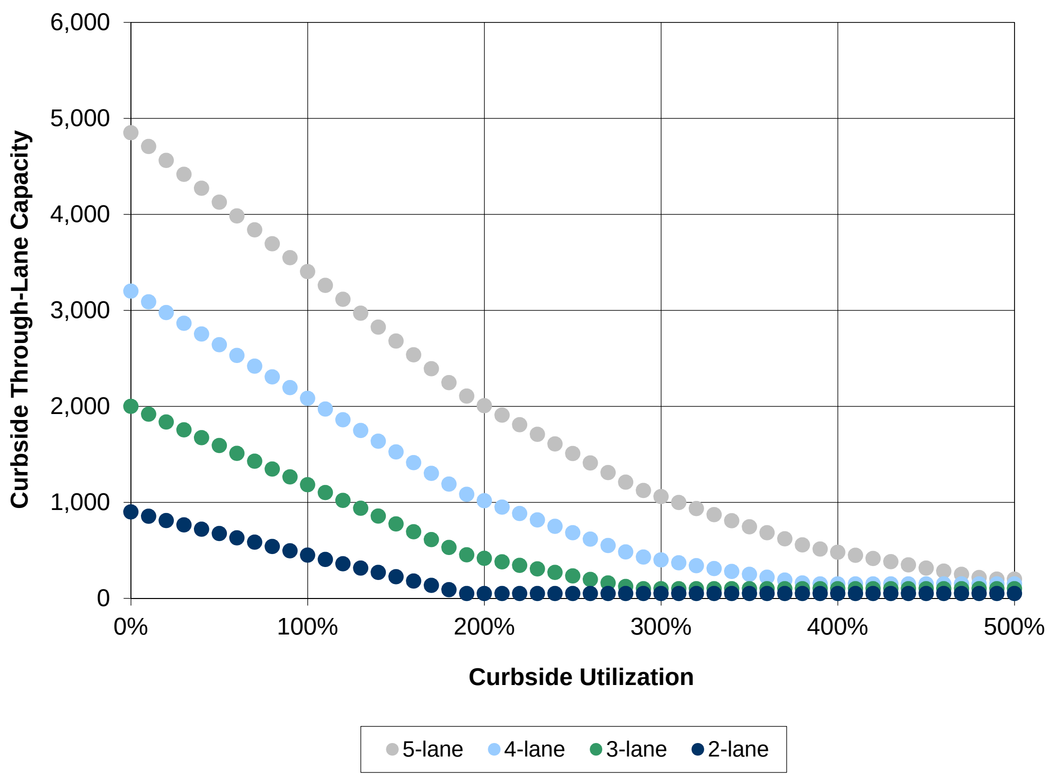
In addition to the intersection analysis described above, an analysis of the Airport's roadway system capacity was conducted to provide a basis for measuring the effect the future phase(s) of the MSC Program would have on the Airport's future roadway traffic volumes and on the CTA roadway system. In order to analyze the future operating conditions along the Airport's roadway system, the calculated volume using each roadway link was compared to the estimated capacity of the roadway at that particular location. The capacities of the roadway links were determined based on the characteristics of the roadway link and the number of travel lanes provided. Based on the Highway Capacity Manual, Special Report 209[8], the theoretical capacity of a roadway is the maximum hourly flow rate per lane under "ideal" conditions, specifically: (a) uninterrupted flow, (b) all passenger cars consisting of drivers that are frequent users of the roadway, (c) 12-foot minimum lane width, (d) relatively flat grades with minor curvature, and (e) optimal lateral clearance between the edge of lane and from nearby obstacles and walls.

For Airport roadways, however, capacities are assumed to be lower than the "ideal" conditions listed above. Because airport curbsides accommodate relatively intense activity in a compact

8 Transportation Research Board, *Highway Capacity Manual, Special Report 209*, 2000.

area, curbside roadway throughput capacities are much lower than on non-airport roadway systems. The throughput capacity of roadways adjacent to a curbside is a function of the number of lanes, effects of friction from stopped and maneuvering vehicles, pedestrian crossing activity, and other characteristics. In addition, the stopping lane adjacent to the curbside is assumed to have no throughput capacity. Consequently, curbside roadway throughput capacity decreases as curbside utilization increases (i.e., double and triple parking increases which slows vehicles trying to pass.) Therefore, the throughput capacity of each lane is related to the level of congestion at the adjacent curbside. **Figure 4.6-8** illustrates the relationship of curbside roadway throughput capacity as a function of curbside utilization.

Figure 4.6-8 Curbside Roadway Throughput Capacity as a Function of Curbside Utilization



Source: Ricondo & Associates, Inc., September 2013

Roadway capacity for all on-Airport roadways that are not adjacent to the curbsides are presented in **Table 4.6-10** and are based on ACRP Report 40[9]. For this analysis a capacity of 1,010 vehicles per hour per-lane (veh/hr/ln) was assumed for non-curbside CTA ramps, while for inbound and terminal access roadways, a capacity of 1,290 veh/hr/ln was used.

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[9] Airport Cooperative Research Program, Revised Preliminary Draft, Guide for Analysis of Airport Curbside and Terminal-Area Roadway Operations,, June 4, 2009.

To assess the ability of the Airport roadway system to accommodate future traffic volumes, the LOS of each roadway section was determined. **Table 4.6-11** provides the roadway volume to capacity (V/C) ratio thresholds used to determine a roadway link's LOS. LOS C is generally a desirable operating condition for design of new facilities; however, larger airports typically accept LOS D conditions during peak conditions. As discussed previously, the capacities of all travel lanes adjacent to a curbside are dependent on the adjacent curbside's utilization rate or level of congestion. However, for LOS determination the values given in Table 4.6-10 were used. The LOS results and V/C ratios for key CTA roadway links during the Existing (2012) arrivals and departures peak periods are summarized below in **Table 4.6-12**. The link capacities were calculated by multiplying the number of lanes with their estimated per lane capacities.

Table 4.6-10

Capacity and Level of Service Ranges for Terminal Area Roadways

		Maximum flow rates (vehicles/hour/lane)[1]				
Typical Roadway Classification	**Maximum free flow speed (mph)[2]**	**A**	**B**	**C**	**D**	**E**
Airport access highway	60	630	1,030	1,460	1,880	2,090
	55	520	850	1,220	1,580	1,800
Entry/exit roadway	50	450	730	1,050	1,390	1,620
	45	400	660	950	1,260	1,530
Terminal loop roadway	40	370	600	860	1,130	1,410
	35	340	540	790	1,030	1,290
Terminal access roadway	30	310	480	700	930	1,170
	25	250	400	600	800	1,010
Ramps (25 MPH or less)	15	250	400	600	800	1,010

Notes:
1 Flow rates were adjusted to account for heavy vehicles and the effects of unfamiliar drivers.
2 The roadway classification and associated speeds represent a typical range that varies by airport.

Sources: Ricondo & Associates, Inc., based on information presented in (a) Exhibit 21-2, Transportation Research Board, National Research Council, Highway Capacity Manual, December 2000, and (b) Airport Cooperative Research Program, Revised Preliminary Draft, Guide for Analysis of Airport Curbside and Terminal-Area Roadway Operations, Airport Cooperative Research Program, June 4, 2009.

Table 4.6-11

Roadway Level of Service and Volume to Capacity (V/C) Ratio Ranges

LOS	V/C Ratio	Conditions	Description
A	less than 0.60	EXCELLENT	Traffic is free flow, with low volumes and high speeds
B	0.61 - 0.70	VERY GOOD	Drivers have reasonable freedom to select their speed and lane of operation
C	0.71 - 0.80	GOOD	Drivers are becoming restricted in their ability to select their speed or to change lanes
D	0.81 - 0.90	FAIR	Drivers have little freedom to maneuver and driving comfort levels are low
E	0.91 - 1.00	POOR	Roadway is operating at or near capacity
F	greater than 1.00	FAILURE	Forced flow operation where excessive roadway queuing develops

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

Table 4.6-12

CTA Roadway Link Analysis - Existing (2012) Conditions

Link ID	Level/Link Location	Capacity (veh/hr)	Volume	V/C	LOS
	Departures				
UA	Westbound World Way North, east of East Way (upper level roadway entrance)	3,548	2,642	0.745	C
UB	Southbound East Way, exiting from World Way	2,580	635	0.246	A
UC	Southbound East Way, south of EP1	2,580	434	0.168	A
UD	Southbound East Way, south of EP7	2,580	388	0.15	A
UE	Westbound World Way North, west of East Way intersection	4,416	2,114	0.479	A
UF	Southbound West Way, exiting from World Way	2,580	582	0.226	A
UG	Southbound West Way, south of EP2	2,580	558	0.216	A
UH	Westbound Exit ramp from West Way to Center Way	N/A	N/A	N/A	N/A
UI	Eastbound Entrance ramp from Center Way to West Way	N/A	N/A	N/A	N/A
UJ	Southbound West Way, south of Center Way ramp	2,580	558	0.216	A
UK	Southbound West Way, south of EP5 - entering World Way South	2,580	489	0.19	A
UL	Westbound World Way, west of Southbound West Way exit	4,271	1,525	0.357	A
UM	Southbound World Way, south of EP3	4,127	1,507	0.365	A
UN	Southbound World Way, south of EP4	2,969	1,429	0.481	A
UO	Eastbound World Way South, east of West Way	3,837	1,903	0.496	A
UP	Northbound East Way - exit from World Way South, entrance to World Way North	1,290	93	0.072	A
UQ	Eastbound World Way South, east of East Way	3,548	2,351	0.663	B
UR	Upper level Exit (south and east)	3,870	1,453	0.375	A
US	Upper level recirculation/exit (north)	2,020	898	0.445	A
UT	Transfer to lower level & exit (north)	1,010	872	0.863	D

Table 4.6-12

CTA Roadway Link Analysis - Existing (2012) Conditions

Link ID	Level/Link Location	Capacity (veh/hr)	Volume	V/C	LOS
	Departures				
UU	Upper level recirculation	1,010	26	0.026	A
UV	Upper level recirculation & entrance	5,160	1,820	0.353	A
UW	Entrance from Sky Way	3,870	822	0.212	A
UX	Entrance from east/south	5,160	1,794	0.348	A
	Arrivals				
CA	Entrance from lower level north	1,290	21	0.02	A
CB	Ramp from upper level	1,290	N/A	0.00	A
CC	Ramp to upper level	1,290	N/A	0.00	A
CD	Entrance from lower level south	1,290	N/A	0.00	A
CE	Center Way North, east of P4 exit	2,580	171	0.07	A
CF	Center Way South, east of P6 exit	2,580	240	0.09	A
CG	Northbound West Way, south of Center Way	1,290	28	0.02	A
CH	Northbound West Way, north of Center Way	1,290	27	0.02	A
CI	Southbound West Way, south of lower level roadway	1,290	816	0.63	B
CJ	Southbound West Way, south of P4 exit	2,580	816	0.32	A
CK	Southbound West Way, south of Center Way	2,580	690	0.27	A
CL	Southbound West Way, south of P16 exit	1,290	552	0.43	A
CM	Center Way North, east of West Way intersection	2,580	311	0.12	A
CN	Center Way South, east of West Way intersection	2,580	240	0.09	A
CO	Center Way North, east of P3 exit	3,870	560	0.14	A
CP	Center Way South, east of P7 exit	1290	n/a	0.00	A
CQ	Center Way North, east of P2 exit	3,870	569	0.15	A
CR	Theme Way from outer curb	1,290	N/A	0.00	A
CS	Theme Way to Center Way South	1,290	N/A	0.00	A
CT	Theme Way to Center Way North	1,290	N/A	0.00	A
CU	Center Way North, east of Theme Way intersection	3,870	569	0.15	A
CV	Center Way South, east of P8 exit	1290	410	0.31	A
CW	East Way northbound, north of Center Way	2,580	216	0.08	A
CX	East Way northbound, south of Center Way	2,580	216	0.08	A
CY	East Way southbound, north of Center Way	2,580	366	0.14	A
CZ	East Way southbound, south of Center Way	2,580	366	0.14	A
CAA	East Way southbound, south of P19 exit	2,580	335	0.13	A
CAB	Center Way, east of East Way intersection	5,160	973	0.19	A
CAC	Center Way, east of P1 exit	5,160	1,095	0.21	A
CAD	Center Way, east of P10 exit	5,160	1,095	0.21	A
CAE	Return/exit roadway, north of Center Way	5,160	103	0.02	A
CAF	Center Way, east of exit to return/exit	3,870	992	0.26	A
CAG	Center Way, east of P11 exit	3,870	1,196	0.31	A
CAH	Center Way, east surface public parking lot P22 exit	3,870	1,196	0.31	A
CAI	Center Way, east of upper level ramp	5,160	1,568	0.30	A
CAJ	Center Way, east P12 exit	5,160	1,568	0.30	A

Table 4.6-12

CTA Roadway Link Analysis - Existing (2012) Conditions

Link ID	Level/Link Location	Capacity (veh/hr)	Volume	V/C	LOS
	Arrivals				
CAK	Return/exit roadway, north of Center Way	2,580	585	0.23	A
CAL	Return/exit roadway, west of Century Boulevard entrance/exit	1,290	130	0.10	A
CAM	Upper level ramp to eastbound Center Way	1,290	391	0.30	A
CAN	Upper level ramp to return/exit	1,290	292	0.23	A
CAO	Return/exit roadway, south of lower level roadway	3,870	531	0.14	A
CAP	Exit to Sky Way	1,290	164	0.13	A
LA	Lower level roadway entrance	7,740	2,335	0.30	A
LB	Terminal 1 outer curb, west of P8 exit	7,740	2,913	0.38	A
LC	Terminal 1 outer curb, after inner curb exit 1	7,045	2,770	0.39	A
LD	Terminal 1 outer curb, west of P9 exit and inner curb exit 2	6,227	2,686	0.43	A
LE	Terminal 1 outer curb, west of East Way intersection	6,841	2,531	0.37	A
LF	Outer curb, west of inner curb entrance from Terminal 1	6,022	2,807	0.47	A
LG	Terminal 2 outer curb, west of exit to inner curb	7,045	2,713	0.39	A
LH	Terminal 2 outer curb, west of Theme Way	6,431	2,707	0.42	A
LI	Terminal 2 outer curb, west of P10 exit	6,431	2,700	0.42	A
LJ	Terminal 2 outer curb, west of inner curb entrance from Terminal 2	7,045	2,699	0.38	A
LK	Terminal 2 outer curb, west of exit to inner curb	6,431	2,707	0.42	A
LL	Terminal 2 outer curb, west of P11 exit	5,351	2,661	0.50	A
LM	Terminal 2 outer curb, west of inner curb entrance from Terminal 2	5,875	2,738	0.47	A
LO	Terminal 2 outer curb, west of West Way intersection	5,875	1,924	0.33	A
LP	Terminal 2 outer curb, west of exit to inner curb	5,177	1,793	0.35	A
LQ	Terminal 3 outer curb, west of P12 exit	5,351	1,796	0.34	A
LR	Terminal 3 outer curb, west of P13 exit	4,705	1,701	0.36	A
LS	Terminal 3 outer curb, west of entrance from inner curb	4,705	1,863	0.40	A
LT	TBIT outer curb, south of exit to inner curb	4,705	1,599	0.34	A
LU	TBIT outer curb, south of Center Way intersection	2,642	1,572	0.60	A
LV	TBIT outer curb, south of exit to inner curb	2,642	1,541	0.58	A
LW	TBIT outer curb, south of entrance from inner curb	2,642	1,817	0.69	B
LX	Terminal 4 outer curb, east of exit to inner curb	4,271	1,443	0.34	A
LY	Terminal 4 outer curb, east of P14 exit	4,271	1,328	0.31	A
LAA	Terminal 4 outer curb, east of P15 exit	4,705	1,296	0.28	A
LAB	Terminal 4 outer curb, after entrance from inner curb	4,271	1,660	0.39	A
LAC	Outer curb, east of West Way intersection	4,416	2,210	0.50	A
LAD	Terminal 5 outer curb, after exit to inner curb	4,705	1,946	0.41	A
LAE	Terminal 5 outer curb, east of P17 exit	4,827	1,781	0.37	A
LAF	Terminal 5 outer curb, east of inner curb entrance/exit	5,701	1,769	0.31	A
LAG	Terminal 6 outer curb, east of P18 exit	5,177	1,764	0.34	A
LAH	Terminal 6 outer curb, east of P9 exit	5,875	1,764	0.30	A
LAI	Terminal 6 outer curb, east of exit to inner curb	5,002	1,719	0.34	A
LAJ	Outer curb, east of East Way intersection	5,002	1,848	0.37	A
LAK	Terminal 7 outer curb, east of inner curb entrance/exit	5,701	1,732	0.30	A

Table 4.6-12

CTA Roadway Link Analysis - Existing (2012) Conditions

Link ID	Level/Link Location	Capacity (veh/hr)	Volume	V/C	LOS
	Arrivals				
LAL	Terminal 7 outer curb, east of P20 exit	7,740	1,733	0.22	A
LAM	Terminal 7 outer curb, east of exit to inner curb	5,875	1,682	0.29	A
LAN	Terminal 7 outer curb, after P21 exit	5,002	1,591	0.32	A
LAO	Terminal 7 outer curb, after entrance from inner curb	4,127	1,637	0.40	A
LAP	Terminal 7 outer curb, after P13 exit	6,450	1,636	0.25	A
LAQ	Terminal 8 outer curb, east of inner curb entrance/exit	6,450	2,081	0.32	A
LAR	Terminal 8 outer curb, after inner curb entrance	6,450	2,132	0.33	A
LAS	Lower level exit 1 (south)	2,580	1,222	0.47	A
LAT	Lower level exit 2 (east)	3,870	1,893	0.49	A
LAU	Entrance from Sky Way	3,870	737	0.19	A
IA	Terminal 1 inner curb, east	1,183	213	0.18	A
IB	Terminal 1 inner curb, center	1,510	356	0.24	A
IC	Terminal 1 inner curb, west	1,510	351	0.23	A
ID	Inner curb between Terminal 1 and Terminal 2	1,918	62	0.03	A
IE	Terminal 2 inner curb, east	1,918	148	0.08	A
IF	Terminal 2 inner curb, center	1,918	149	0.08	A
IG	Terminal 2 inner curb, center west	1,918	149	0.08	A
IH	Terminal 2 inner curb, west	1,183	77	0.07	A
II	Terminal 3 inner curb, center	1,755	239	0.14	A
IJ	Terminal 3 inner curb, west	1,183	80	0.07	A
IK	TBIT inner curb, center	1,673	348	0.21	A
IL	TBIT inner curb, south	1,183	374	0.32	A
IM	Inner curb between TBIT and Terminal 4	3,870	31	0.01	A
IN	Terminal 4 inner curb	1,183	461	0.39	A
IO	Terminal 5 inner curb, west	1,183	98	0.08	A
IP	Terminal 5 inner curb, center	1,347	355	0.26	A
IQ	Terminal 6 inner curb, center	1,347	354	0.26	A
IR	Terminal 6 inner curb, east	1,347	394	0.29	A
IS	Terminal 7 inner curb, west	1,347	508	0.38	A
IT	Terminal 7 inner curb, center	1,347	555	0.41	A
IU	Terminal 8 inner curb	1,183	501	0.42	A
IV	Connection to outer curb, east of Terminal 8	1,290	51	0.04	A

Note: Certain low volume links, for e.g., "Theme Way" were not analyzed as a result of lack of sufficient data (shown as N/A).

Source: Ricondo & Associates, Inc., September 2013

4.6.5 CEQA Thresholds of Significance

To assess impacts at the CTA curbsides, intersections and roadway links, LOS thresholds defined in the LADOT Traffic Study Policies and Procedures were used to determine if an impact was generated by the Program. However, because thresholds of significance are not defined for airport curbsides, for the purpose of this analysis, these thresholds were adapted for use in assessing on-Airport impacts. Based on the LADOT definition, an impact is considered to be significant if one of the following thresholds is met or exceeded:

- The LOS is C, its final V/C ratio is 0.701 to 0.800, and the Program-related increase in V/C is 0.040 or greater, or
- The LOS is D, its final V/C ratio is 0.801 to 0.900, and the Program-related increase in V/C is 0.020 or greater, or
- The LOS is E or F, its final V/C ratio is 0.901 or greater, and the Program-related increase in V/C is 0.010 or greater.

The "final V/C ratio" as defined by LADOT consists of the future V/C ratio that includes traffic volumes from the Program, Existing (2012) traffic, ambient background growth, and other related projects, but without proposed traffic mitigation as potentially required for the future phase(s) of the MSC Program. The Program-related increase is defined as the change in V/C between the future V/C ratio under the Without Program and With Program conditions, without any proposed traffic mitigation as a result of the future phase(s) of the MSC Program (i.e., the change in the unmitigated LOS condition between [a] the V/C for Future (2025) Without Program conditions, and [b] the V/C for Future (2025) With Program conditions).

The LADOT thresholds listed above are designed for assessing impacts associated with intersections and roadways where the V/C ranges are based on an established scale between 0.000 and 1.000 (i.e., capacity), with the interim LOS ranges (e.g., LOS B to C, LOS C to D) increasing in increments of 0.1. LADOT does not have a defined methodology for analyzing airport curbsides. In addition, curbside level of service ranges are based on utilization factors (not V/C ranges) that do not increase at the same incremental rates as V/C rates for roadways and intersections. To maintain consistency with the LADOT impact criteria, an equivalent V/C scale was developed to present the results of the curbside analysis. **Table 4.6-13** provides the LOS impact thresholds for curbsides and their comparison to the V/C ranges for intersections and roadway links. As shown in Table 4.6-13, the V/C for curbside operations within a specific level of service range is lower than the V/C for intersections and roadway links. This is a conservative measure because potential curbside impacts would occur at a lower V/C level as compared with intersections and roadway links.

Table 4.6-13

Level of Service Impact Thresholds for On-Airport Curbside Operations

			Multi-lane passenger loading/unloading allowed		Single lane passenger loading/unloading	
			Curbside Utilization Range			
Level of Service			From	To	From	To
A			0	0.9	0	0.7
B			0.91	1.1	0.71	0.85
C			1.11	1.3	0.86	1
D			1.31	1.7	1.01	1.15
E			1.71	2	1.16	1.3
F			2.1	or greater	1.31	or greater
	Intersection and roadway link V/C		Curbside equivalent V/C ratios			
	From	To	From	To	From	To
A	0	0.6	0	0.45	0	0.54
B	0.601	0.7	0.46	0.55	0.55	0.65
C	0.701	0.8	0.56	0.65	0.66	0.77
D	0.801	0.9	0.66	0.85	0.78	0.88
E	0.901	1	0.86	1	0.89	1
F	1.001	or greater	1.01	or greater	1.01	or greater

Source: Transportation Research Board, Transportation Research Circular No. 212, Interim Materials on Highway Capacity, January 1980; Ricondo & Associates, Inc. developed based on information published by the Transportation Research Board and Federal Aviation Administration Advisory Circular 150/5360-13, Planning and Design Guidelines, January 19, 1994.

For the purpose of this study, Program impacts were determined for both the curbsides and the CTA intersections and roadway links by comparing the LOS results for Future (2025) Without Program conditions and Future (2025) With Program conditions.

4.6.6 Applicable LAX Master Plan Commitments and Mitigation Measures

The following transportation-related mitigation measures identified in the LAX MMRP are applicable to the future phase(s) of the MSC Program and thus are included as part of the Program for the purposes of environmental review:

- **MM-ST (BWP)-2. Improve the Intersection of Center Way and World Way South**.

  Widen World Way South approach on the east side of the roadway to provide an additional right turn lane. The resulting configuration would be a single left turn lane, one through-left turn lane, two through lanes, and two right turn lanes.

- **MM-ST (BWP)-3. Widen World Way Across from the TBIT**.

  Widen the arrivals level outer roadway across from the TBIT by changing the left-most lane that currently terminates at Center Way to a through/left lane and extending this lane to World Way South.

In addition, the SPAS EIR identified one mitigation measure to reduce traffic impacts within the CTA, which is also applicable to the future phase(s) of the MSC Program, and is included as part of the Program for the purposes of environmental review.

- **MM-ST (SPAS)-2. Change Departures and Arrivals Level Commercial Vehicle Curbside Operations Under Future (2025) Conditions.**

  Parking Shuttles were assumed to pick up and drop off on the departure level roadways.

4.6.7 On-Airport Transportation System Improvements

The following describes the on-Airport transportation system improvements included in the Future (2025) "Without Program" and "With Program" traffic analysis conditions, and how such improvements would affect passenger flow and vehicle operations. These improvements include: those associated with SPAS Alternative 9; future improvements anticipated to occur separate from SPAS (i.e., "non-SPAS improvements"); and proposed mitigations arising as a result of the impacts measured in the SPAS EIR and the Bradley West EIR. These improvements are not included in the Existing (2012) condition.

4.6.7.1 SPAS Alternative 9 Improvements

The following identifies the key elements of SPAS Alternative 9 related to on-Airport transportation, and briefly describes how they were accounted for in this impacts analysis.

Terminal Improvements

- Construction of new Terminal/Concourse 0
- The demolition of 177 feet of the Terminal 1 concourse
- Modifications to the Terminal 3 concourse
- The replacement of the north end of the TBIT concourse and associated gates

These terminal improvements required the development of separate aircraft gating schedules to account for differences in the North Terminal concourse's configurations assumed for the analysis. The differences between the aircraft gating schedule for the North Terminals used in this analysis compared to those used in the SPAS EIR did not alter the total daily number of flights or passengers assigned to these terminals but did affect how the flights and passengers were distributed between each of the North Terminals. See Section 4.6.3.8, for a discussion on how the improvements listed above would affect passenger lead time and lag time at the curbsides.

Ground Transportation

- Private vehicle access within the CTA maintained
- Relocation of Sky Way (the primary access roadway connecting southbound Sepulveda Boulevard and the 96th Street bridge to the CTA)
- Addition of new curbside at Terminal 0
- Relocation of the commercial vehicle holding lot to the south, between Sepulveda Boulevard and the relocated Sky Way
- Construct new Intermodal Transportation Facility (ITF) between 96th and 98th Streets and between Vicksburg Avenue and Airport Boulevard. The ITF is proposed to include space for public parking and a remote passenger pick up/drop off or "kiss-and-ride" area to provide drivers the option of not entering the CTA. Arriving passengers would travel to the ITF to board door-to-door shuttles or scheduled buses.
- Construct a Consolidated Rent-A-Car (ConRAC) facility in a portion of Manchester Square, including a customer service area and approximately 8,271 spaces for ready/return vehicles
- The Automated People Mover (APM) system guideway would be located within an elevated/dedicated corridor. Certain LAX shuttles, pick-up shared ride vans, pickup FlyAway buses, Rental Car Shuttles and the kiss and ride passengers will be consolidated in the APM
- Within the CTA, the APM would be located on a new elevated guideway

Operational Improvements

- Parking
- No changes to CTA parking conditions would occur from the implementation of SPAS Alternative 9; however, the CTP program, described later in this section, is expected to result in the demolition of public parking structures P2B and P5.
  - No specific changes would occur in regards to employee parking Lot E, although the property could be used for other Airport purposes in the future
  - No changes are proposed to Parking Lot C
  - Parking Lot D would provide 1,944 employee parking spaces. The nearby "Jenny Lot" would provide 1,940 employee parking spaces. These parking areas were not in use in the 2009 baseline year; however, their use for parking is occurring independently from SPAS.
  - Development of the ITF would include short-term public parking (approximately 4,900) to facilitate passenger drop off and pick up outside of CTA
  - Construct parking within Manchester Square, including 4,200 long-term spaces and 3,500 employee parking spaces
  - No public or employee parking is proposed for Continental City which is a LAWA-owned property located on the east side of Aviation Boulevard between 111th Street and Imperial Highway
  - The existing Park One parking would be eliminated to accommodate a new Terminal/ Concourse 0

  - The West Employee Parking facility would not be constructed
- For this analysis, in the Future (2025) conditions the rental car companies are proposed to be located within a new ConRAC. It is assumed this new facility would be able to accommodate the operational needs of the rental car companies. It was also assumed any requirements for additional rental car vehicle storage or maintenance operations would be accommodated at either the existing facility sites or if necessary, by acquiring additional space. As such, no impacts analysis is provided herein or warranted relative to demand and supply for rental car facilities. The passengers traveling between the ConRAC and the CTA were assumed to use the APM.
- ITF passengers would use the APM to travel to and from the CTA
- Parking Shuttles were assumed to pick up and drop off passengers on the departures level curbsides.

4.6.7.2 Non-SPAS Improvements

Improvements to the Center Way roadway between West Way and East Way are being made as part of the Central Utility Plant upgrade, which is currently under construction. The northern section of Center Way located between West Way and East Way will be widened to three lanes in the eastbound direction, while the southern section of Center Way will serve maintenance and employee trips to the CUP as well as provide an exit route for drivers leaving parking structures P5 and P6. It will no longer serve as the exit route for drivers leaving parking structure P4. For the cumulative on-Airport surface transportation conditions analysis, the following two additional non-SPAS improvements were assumed to be in place and operational for the future (2025) conditions: (1) the "Terminal 1.5" Passenger Processing Improvements; and (2) the "Terminal 2.5" Passenger Processing Improvements. In addition, Bradley West Project Specific Mitigation Measures MM-ST (BWP)-2, Improve the Intersection of Center Way and World Way South, and MM-ST (BWP)-3, Widen World Way Across from the TBIT, are both assumed to be in place in the future (2025) conditions (i.e. Future (2025) Without Program and the Future (2025) With Program conditions).

4.6.7.3 Program-Related Improvements

Under the Future (2025) With Program condition, the following Program-related improvements as a result of the building of the MSC and CTP were considered for the impact analysis. To support the processing requirements of passengers using the future MSC located west of the TBIT west gates (i.e., the Bradley West Project), LAWA plans to construct a new dual-level passenger processing facility identified as the “Central Terminal Processor” in the CTA. At the time of preparation of this document, facility design requirements and layouts were not finalized for the CTP. However for the purpose of this EIR, the following assumptions based on LAWA's current planning efforts related to the location and operations of the CTP were used:

- The CTP will be a dual level facility constructed in the area immediately east of parking structures P3 and P4 and extend between World Way North and World Way South.
- Construction of the CTP will require the demolition of both levels of West Way (as discussed in bullet below). Since the CTP and accompanying roadways are not expected to require all of the space cleared by the demolition of parking structures P2B and P5, replacement parking may be constructed as part of that program.

- Both levels of the existing West Way facility will be replaced with two new roadways and curbsides constructed on both the east and west sides of the CTP, connecting World Way North and World Way South. The new arrivals level roadway on the eastern side of the CTP will be one-way southbound and will include a passenger pick up curbside for private vehicles sufficiently wide to permit dual lane loading operations in addition to two adjacent travel lanes for bypass and circulating traffic. At this new roadway's intersection with World Way South, a traffic signal will be constructed to permit dual southbound left turn movements onto eastbound World Way South. The existing pedestrian traffic signal on World Way South will be relocated to the west and incorporated as part of this new traffic signal.
- The second new roadway on the arrivals level associated with the CTP will be constructed on the western side of the facility between the CTP and existing parking structures P3 and P4. This roadway will be signed for commercial vehicles only and will consist of two southbound travel lanes with passenger loading curbsides on both the east and west sides of the roadway. Vehicles capable of left side loading such as taxis and limousines will load on the left side (closest to the processor) curbside while all other commercial vehicle loading operations will take place on the curbside located on the west side of the roadway. Similar to the new private vehicle roadway to the east, a new traffic signal will be constructed at the intersection of this commercial vehicle roadway and World Way South to permit dual southbound left turn movements. The existing pedestrian traffic signal on World Way South located west of the new intersection will be relocated to the east and incorporated as part of this new traffic signal.
- The existing vehicle access on the east side of parking structure P3 will be closed and all vehicle access to this parking structure from the arrivals level will be from World Way North via the existing access located on the north side of parking structure P3.
- With the construction of the CTP, the primary route for vehicles exiting parking structures P3 and P4 will be eliminated with the closure of Center Way at the west end of the new processor. A new tunnel will be constructed beneath the CTP connecting exiting vehicles from parking structures P3 and P4 to Center Way east of the CTP.
- With the replacement of the existing dual-directional West Way with two new southbound roadways serving the CTP, traffic recirculating from the west end of World Way South to World Way North will use East Way.
- As noted previously, the existing Center Way ramps between parking structures P3 and P4 connecting the arrivals and departures level roadways will be removed. Since this is the only on-Airport means for vehicles to travel from the arrivals level roadways to the departures level roadways, vehicles on the arrivals level roadways in the future will be required to exit the CTA and return to access the departures level roadways. This may be less convenient for those drivers wishing to travel from the arrivals level roadways to the departures level roadways; however under existing conditions there are very few vehicles which use this route and this is not expected to change in the future.
- On the departures level, the CTP would require West Way to be relocated to the east. The reconstructed West Way will operate in the southbound direction only and serve as a curbside roadway for the CTP and a bypass roadway for drivers avoiding World Way at Terminals 3, 4, 5, and the TBIT. This new West Way will include a curbside area sufficiently wide to accommodate dual lane passenger unloading activities at the CTP

and two travel lanes for circulation and bypass traffic. Similar to the current condition, the intersection of this new West Way and World Way South will include a traffic signal to allow three lanes of southbound traffic to turn onto eastbound World Way South.

- The new CTP curbside will no longer permit commercial vehicles to pick up or drop off passengers at both the CTP and the TBIT in a single orbit of the CTA. As a result, for the purpose of this analysis it is assumed that commercial vehicles that pick up passengers on the arrivals level or drop off passengers on the departures level will operate at least two routes. Depending on the passenger demand and factors such as vehicle size, maximum assumed occupancy and minimum headways, there is a possibility some commercial vehicle modes may require three routes to service their customers. The number and terminals served on these routes will be dependent on changes in passenger demand throughout the day.
- The LAX A Shuttle, which provides transportation for passengers between terminals, will continue to operate a single route on the arrivals level. Passengers from the CTP wishing to use LAX Shuttle A will be directed to stops along World Way North or World Way South.

4.6.8 Future (2025) Traffic Conditions

This section describes the methodology used to define and analyze future traffic conditions.

4.6.8.1 Determination of Analysis Peak Hours

To determine the peak hours for the Future (2025) Without Program and the Future (2025) With Program conditions, the 2025 design day passenger schedule for LAX was developed. The 2025 LAX planning forecasts were converted to peak month average day (PMAD) levels to determine activity that could be reasonably expected at the Airport for a typical Friday in August.

For the on-Airport surface transportation analysis, the difference in the terminal configurations between the Future (2025) Without Program and Future (2025) With Program conditions was the addition of the MSC and the CTP. Both future conditions assumed the following changes in passenger processing as a result of building Terminal 0, Terminal 1.5 and Terminal 2.5. Terminal 0 would be constructed east of the existing Terminal 1 building, Terminal 1.5 links Terminal 1 and Terminal 2, while Terminal 2.5 is expected to be built between Terminal 2 and Terminal 3. While it is presently assumed that all Terminal 0 passengers would be processed at Terminal 1 or 1.5, changes in security or other processing requirements may necessitate those functions be incorporated into Terminal 0. Terminal 1 would be connected to Terminal 0 via a new secure connector. Construction of Terminal 0 would include an extension of the existing Terminal 1 curbside eastward for a portion of the length of the connector; however, no additional access points from either the departures or arrivals level curbside to the new terminal would be included in this project.

To develop the Future (2025) Without Program traffic volumes used to evaluate the CTA's future landside operations, a gated flight schedule representing the terminal and concourse configurations for the 78.9 MAP activity level was used. The Future (2025) With Program passenger schedule was used as a starting point for developing the Future (2025) Without Program schedule. With the absence of the MSC under this condition, previously assigned MSC passengers were now assigned to other CTA terminals. These passengers were assigned to the South Terminals, i.e., Terminals 4, 5, 6, and 7; the remainder of the passengers was assigned to the North Terminals, i.e., Terminals 1, 2, and 3. The passengers using the West Remote Gates/Pads were assigned to be processed through TBIT.

To develop the Future (2025) With Program traffic volumes used to evaluate the CTA's future landside operations, a gated flight schedule representing the terminal and concourse configurations for a 78.9 Million Annual Passenger (MAP) activity level was used. This schedule represents the total number of passengers on each flight; however, for purposes of landside analyses, only the number of Origin and Destination (O&D) passengers (those who use the curbside) are relevant. From this schedule, a rolling hourly volume of passengers arriving at the curbsides was generated to estimate future CTA traffic volumes and peaking characteristics based on relationships developed between passengers at the curbside, passenger mode splits, vehicle occupancies, and traffic data. The passengers assigned to the MSC gates were distributed from the MSC for pick up or drop off as shown in **Table 4.6-14**.

Table 4.6-14

Passenger Distribution to CTP

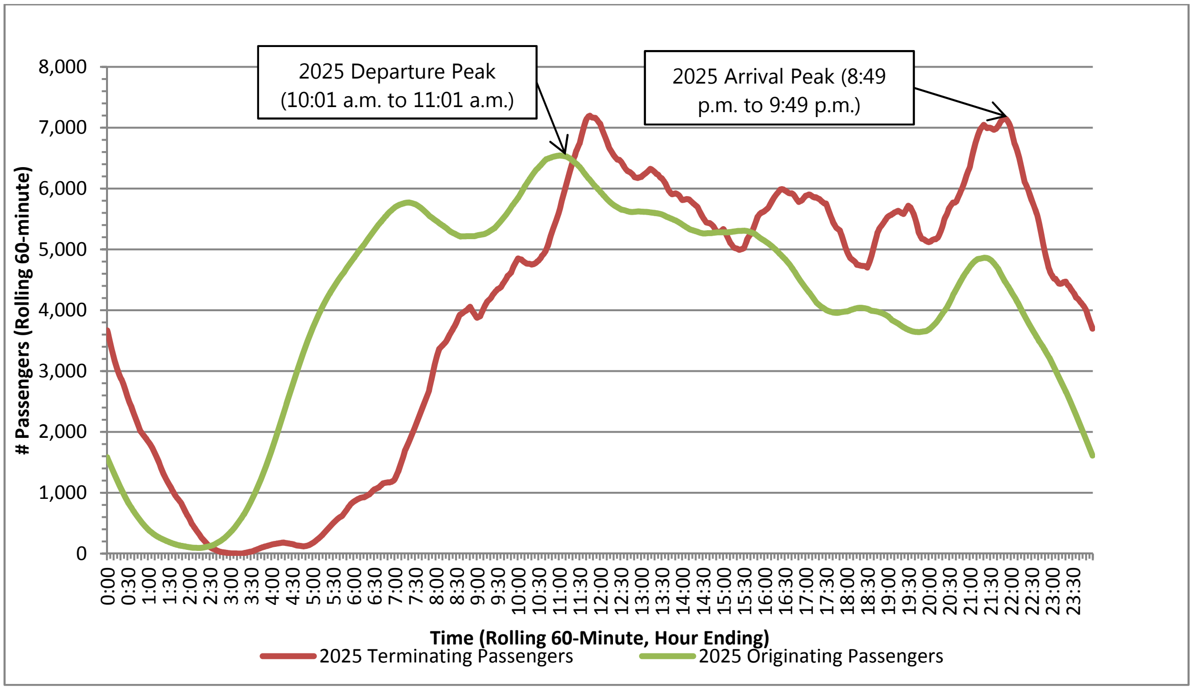
	Percentage of Arriving Passengers	Percentage of Departing Passengers
Terminals 1,2 and 3	13%	13%
Terminal 4	3%	3%
Terminals 5,6 and 7	10%	10%
TBIT	25%	13%
CTP	48%	60%
Totals	**100%**	**100%**

Source: Ricondo & Associates, Inc., September 2013

Figure 4.6-9 depicts the rolling hourly arriving and departing passenger flows at the CTA curbsides for the Future (2025) Without Program conditions. The passenger flows show that the Future (2025) Without Program would produce two pronounced peaks in passenger activity on the arrivals level curbsides with the peak hour occurring from 8:49 p.m. to 9:49 p.m. resulting in a total of 7,198 passengers on the curbside. Similarly, departing passenger flows show the Future (2025) Without Program would result in the peak hour occurring between 10:01 a.m. to 11:01 a.m. with a total of 6,542 passengers on the curbside.

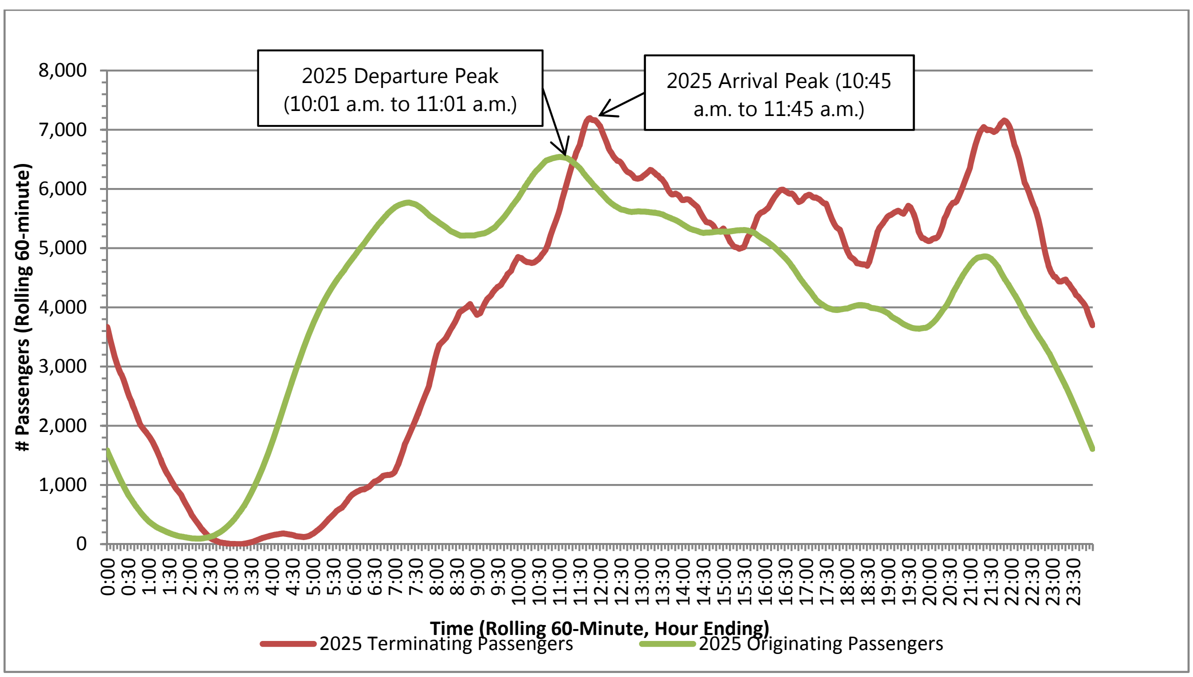
Figure 4.6-10 depicts the rolling hourly arriving and departing passenger flows at the CTA curbsides for the Future (2025) With Program conditions. The passenger flows show that the Future (2025) With Program would produce two pronounced peaks in passenger activity on the arrivals level curbsides with the peak hour occurring from 10:45 a.m. to 11:45 a.m. and resulting in a total of 7,197 passengers on the curbside. Similarly, departing passenger flows show the Future (2025) With Program would result in the peak hour occurring between 10:01 a.m. to 11:01 a.m. with a total of 6,610 passengers on the curbside.

Figure 4.6-9 Future (2025) Without Program Terminating and Departing Passenger Flows at the Curbside



Source: Ricondo & Associates, Inc., September 2013.

Figure 4.6-10 Future (2025) With Program Terminating and Departing Passenger Flows at the Curbside



Source: Ricondo & Associates, Inc., September 2013.

Table 4.6-15 summarizes the respective peak hour passenger volumes from the information depicted in Figure 4.6-9 and Figure 4.6-10.

Table 4.6-15

Summary of Originating and Terminating Passenger Activity During Traffic Analysis Periods

Activity	Peak Hour	Passengers
Existing (2012)		
Departures	9:55 a.m. to 10:55 a.m.	5,339
Arrivals	9:24 p.m.to 10:24 p.m.	6,194
Future (2025) Without Program		
Departures	10:01 a.m. to 11:01 a.m.	6,542
Arrivals	8:49 p.m. to 9:49 p.m.	7,198
Future (2025) With Program		
Departures	10:01 a.m. to 11:01 a.m.	6,610
Arrivals	10:45 a.m. to 11:45 a.m.	7,197

Source: Ricondo & Associates, Inc., September 2013.

4.6.8.2 Determination of Future (2025) Traffic Volumes

The calibrated trip generation and trip distribution models for the Existing (2012) departures and arrivals peak hours were used as a basis for estimating the peak hour CTA vehicle volumes for each of the future (2025) conditions. As part of this process, minor adjustments were made to the Existing (2012) passenger mode splits to reflect how anticipated changes to the regional transportation network would affect passenger mode choice and resultant vehicle activity at the Airport. **Table 4.6-16** presents the passenger mode splits used to estimate the CTA traffic volumes in the future (2025). The passenger mode splits represent the proportion of total airline passengers using each vehicle mode during the peak hours analyzed. The information presented at the bottom of Table 4.6-16 summarizes how passengers would use specific sub-modes for transport between Airport facilities (i.e., APM and LAX Shuttle).

Table 4.6-16

Existing (2012) and Future (2025) Mode Splits

	Terminating (Arriving) Peak Hour		Departing Peak Hour	
	Existing (2012)	**Future (2025)**	**Existing (2012)**	**Future (2025)**
Charter Bus	6.38%	6.33%	8.39%	8.06%
FlyAway	1.94%	-	2.62%	2.52%
Hotel/Motel Shuttles	3.67%	3.57%	4.68%	4.68%
LAX Shuttles	2.37%	-	2.76%	-
Limousines	3.53%	2.86%	2.20%	2.12%
POV	46.10%	44.24%	51.15%	46.23%
Private Parking Shuttles	5.46%	5.31%	5.70%	5.70%
Rental Car Shuttles	17.29%	-	9.53%	-
Shared Ride Vans	5.43%	-	4.47%	4.30%
Taxi	6.91%	5.92%	7.76%	7.46%
Transit Bus	0.93%	-	0.73%	
APM	-	31.77%	-	18.93%
	100.00%	100.00%	100.00%	100.00%
APM				
POV (Kiss-and-Ride)		2.30%		2.94%
Transit		0.99%		0.71%
POV Parking (Long-Term)		2.20%		2.76%
FlyAway		1.41%		-
Shared Ride Vans		5.04%		-
Rental Car		16.82%		9.53%
Metro Rail		3.00%		3.00%

Source: Ricondo & Associates, Inc., September 2013

The projected originating and terminating passenger volumes derived from the airline passenger schedules were input into the model for the future (2025) Without and With Program conditions to generate future roadway volumes during overall Airport departures and arrivals peak hours. Generating future vehicle volumes using passenger schedules accounts only for passenger-related vehicle trips. Although passenger-related trips account for the overwhelming majority of vehicle trips on the CTA roadway network, other trips also occur during peak periods. These "other" trips include employee vehicles, public safety vehicles, and other vehicle categories that are not directly attributed to airline passenger activity. These non-airline passenger trips, which are estimated to comprise a minor component of the overall CTA traffic activity (approximately 1.4 percent on the arrivals level and 2.5 percent on the departures level of the peak hour CTA traffic volumes), were accounted for and included as part of the calibrated roadway traffic model for both the overall Airport departures and arrivals peak hours. It should be noted that in addition to using the future conditions passenger volumes in the roadway models, the terminal and parking distributions were also updated in the model to reflect the new passenger distributions based on the future (2025) Without and With Program passenger schedules.

4.6.9 Evaluation of Traffic Conditions for Analyses Conditions

The trip generation and distribution models described previously were used to estimate the Future (2025) Without Program and Future (2025) With Program traffic volumes required to evaluate the on-Airport curbside, intersection, and roadway operations. This section describes how the traffic volumes derived from the vehicle trip generation and distribution models were used to assess traffic conditions at each of the CTA curbsides, roadways, and key intersections. Traffic analyses representing the Existing (2012) conditions are described in Section 4.6.4. Future (2025) Without Program and Future (2025) With Program conditions were prepared and the following conditions evaluated for the CTA's curbsides, intersections, and roadway facilities:

- Existing (2012)
- Future (2025) Without Program
- Future (2025) With Program

4.6.9.1 Micro-Simulation Model

VISSIM® micro-simulation models were developed for the arrivals and departures peak hours to provide a detailed assessment of the curbside and roadway operations associated with future conditions (2025 Without Program and 2025 With Program). The Existing Conditions (2012) model included the existing physical geometry of the CTA roadway system (roadway configurations, lanes, and intersections) as well as vehicle types, assignments, routes, volumes, and public parking trip distributions based on passenger activity at each of the terminals. The location and configuration of vehicle curbside parking spaces adjacent to each terminal building in the CTA were also included as part of the Existing (2012) model.

For the Future (2025) Without Program conditions, the Existing Conditions (2012) VISSIM® simulation models were modified to include the expected changes in future facilities and operations as discussed previously. Modifications included changes to the existing curbside allocations and the roadway geometry resulting from the non-Program-related improvements such as the inclusion of an additional lane on the outer curbside of TBIT, as well as an additional eastbound right turn lane at the intersection of World Way South and Center Way, which were identified as mitigation measures under the Bradley West EIR. The changed Skyway alignment as a result of the construction of Terminal 0 was also coded in the future models.

For Future (2025) With Program conditions, the VISSIM® models were further modified to include the CTP and its resulting roadways, including the demolition and reconstruction of West Way as well as demolition of parking structures P2B and P5. The off-Airport parking and hotel shuttles were assumed to split into three routes within the CTA because, with the construction of the CTP, the commercial vehicles currently looping around the CTA would not be able to serve the CTP curbsides on their current route. Route 1 was assumed to serve Terminals 1, 2, and the CTP, Route 2 was assumed to serve Terminals 3, TBIT, and 4, and Route 3 was assumed to serve Terminals 5, 6, 7, and 8. These routes were based on the anticipated peak hour passenger activity levels at each of the terminals and were calculated such that each route serves approximately 33 percent of the total Airport passenger demand on the curbsides.

Further, the off-Airport parking shuttle operations were changed to operate on a single level operation. In other words, these shuttles would pick up and drop off on the arrivals level.

4.6.9.2 VISSIM Curbside Analysis

As discussed in Section 4.6.3.11, the VISSIM® model provides a simulation of the anticipated traffic volumes accessing the curbside and the effects of vehicle interactions such as stopping and maneuvering within the terminal area curbside pick-up and drop off zones during the peak hour conditions analyzed. The model simulates the anticipated congestion and traffic operations that would be expected considering the effects of peaking around terminal building doorways, curbside check-in counters, and other physical features of the curbside that affect driver decisions and resulting traffic operations. The average curbside utilization rates and corresponding level of service calculations for the curbsides are summarized in **Table 4.6-17** under the Future (2025) Without Program conditions and Future (2025) With Program conditions. Appendix E2 provides the minute-by-minute simulation results at these curbsides for both future conditions,

For the 2025 Without Program condition during the departures peak hour (10:01 a.m. to 11:01 a.m.), Table 4.6-17 shows that each Terminal's curbside is expected to operate at LOS A throughout the hour.

For the 2025 Without Program condition during the arrivals level peak hour (8:49 p.m. to 9:49 p.m.) Table 4.6-17, shows that the inner curbsides are expected to operate at LOS A with the exception of the TBIT curbsides which are expected to operate at LOS F. The outer curbsides, on average, are expected to operate at LOS A.

For the 2025 With Program condition during the departures peak hour (10:01 a.m. to 11:01 a.m.), the curbsides at each of the terminals listed in Table 4.6-17 below are expected to operate at LOS A throughout the hour.

For the 2025 With Program condition during the arrivals level peak hour (10:45 a.m. to 11:45 a.m.), Table 4.6-17 shows that the inner curbsides are expected to operate at LOS A with the exception of the TBIT curbsides, which are expected to operate at LOS F. The outer curbsides, on average, are expected to operate at LOS A.

The overall curbside LOS improved in the With Program condition compared to Without Program conditions because of the addition of approximately 1,500 feet of curbside at the CTP on the arrival level and approximately 500 feet of curbside on the departures level. As described previously, part of the passengers arriving or departing at the other terminals under the Without Program conditions are now redistributed to the CTP in the With Program conditions. This reduces the curbside utilization at other terminals and the demand is moved to the new CTP curbsides.

The international passengers arriving at the MSC or TBIT are all assigned to be picked up at the TBIT arrival curbsides as a result of the lack of immigration and customs facilities at the CTP facility. While a large portion of the departing international passengers at the MSC will be using the CTP curbsides for drop off, the TBIT arrivals level curbsides would experience severely congested conditions.

Table 4.6-17

Future (2025) Without and With Program Curbside Utilization

			Future (2025) Without Program			Future (2025) With Program		
Terminal	**Curbside**	**Zone[1]**	**Utilization Rate[2]**	**Equivalent Volume to Capacity Ratio**	**LOS**	**Utilization Rate[2]**	**Equivalent Volume to Capacity Ratio**	**LOS**
			Departures Peak 10:01 a.m. to 11:01 a.m.					
Terminal 1	Departure Level	Common	77%	0.39	A	82%	0.41	A
Terminal 2	Departure Level	Common	29%	0.14	A	33%	0.17	A
Terminal 3	Departure Level	Common	27%	0.14	A	37%	0.19	A
TBIT	Departure Level	Common	43%	0.22	A	49%	0.25	A
Terminal 4	Departure Level	Common	94%	0.47	A	103%	0.51	A
Terminal 5	Departure Level	Common	25%	0.13	A	35%	0.18	A
Terminal 6	Departure Level	Common	25%	0.13	A	35%	0.18	A
Terminal 7	Departure Level	Common	40%	0.20	A	54%	0.27	A
			Arrivals Peak 8:49 p.m. to 9:49 p.m.			**Arrivals Peak 10:45 a.m. to 11:45 a.m.**		
Terminal 1	Inner	Passenger Cars/Limousines/ Shared Ride Shuttles	63%	0.32	A	63%	0.31	A
Terminal 1	Outer	Overall Average	18%	0.14	A	18%	0.14	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	7%	0.06	A	9%	0.07	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0%	0.00	A	0%	0.00	A
	Outer	Red Zone (Hotel/Courtesy)	64%	0.49	A	65%	0.50	A
	Outer	Purple Zone (Rental Car Shuttles)	0%	0.00	A	0%	0.00	A
Terminal 2	Inner	Passenger Cars/Limousines/ Shared Ride Shuttles	20%	0.10	A	22%	0.11	A
Terminal 2	Outer	Overall Average	11%	0.09	A	12%	0.09	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	8%	0.06	A	9%	0.07	A

Table 4.6-17

Future (2025) Without and With Program Curbside Utilization

			Future (2025) Without Program			Future (2025) With Program		
Terminal	**Curbside**	**Zone[1]**	**Utilization Rate[2]**	**Equivalent Volume to Capacity Ratio**	**LOS**	**Utilization Rate[2]**	**Equivalent Volume to Capacity Ratio**	**LOS**
			Arrivals Peak 8:49 p.m. to 9:49 p.m.			**Arrivals Peak 10:45 a.m. to 11:45 a.m.**		
Terminal 2	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0%	0.00	A	0%	0.00	A
	Outer	Red Zone (Hotel/Courtesy)	38%	0.29	A	39%	0.30	A
	Outer	Purple Zone (Rental Car Shuttles)	0%	0.00	A	0%	0.00	A
Terminal 3	Inner	Passenger Cars/Limousines/ Shared Ride Shuttles	56%	0.28	A	21%	0.11	A
Terminal 3	Outer	Overall Average	17%	0.13	A	20%	0.15	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	21%	0.16	A	29%	0.22	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0%	0.00	A	0%	0.00	A
	Outer	Red Zone (Hotel/Courtesy)	51%	0.39	A	47%	0.36	A
	Outer	Purple Zone (Rental Car Shuttles)	0%	0.00	A	0%	0.00	A
TBIT	Inner	Passenger Cars/Limousines/ Shared Ride Shuttles	209%	1.04	F	201%	1.00	F
TBIT	Outer	Overall Average	14%	0.11	A	14%	0.11	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	13%	0.10	A	15%	0.12	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0%	0.00	A	0%	0.00	A
	Outer	Red Zone (Hotel/Courtesy)	45%	0.34	A	40%	0.30	A
	Outer	Purple Zone (Rental Car Shuttles)	0%	0.00	A	0%	0.00	A
Terminal 4	Inner	Passenger Cars/Limousines/ Shared Ride Shuttles	61%	0.30	A	80%	0.40	A
Terminal 4	Outer	Overall Average	13%	0.10	A	10%	0.07	A

Table 4.6-17

Future (2025) Without and With Program Curbside Utilization

			Future (2025) Without Program			Future (2025) With Program		
Terminal	**Curbside**	**Zone[1]**	**Utilization Rate[2]**	**Equivalent Volume to Capacity Ratio**	**LOS**	**Utilization Rate[2]**	**Equivalent Volume to Capacity Ratio**	**LOS**
			Arrivals Peak 8:49 p.m. to 9:49 p.m.			**Arrivals Peak 10:45 a.m. to 11:45 a.m.**		
Terminal 4	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	10%	0.08	A	7%	0.06	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0%	0.00	A	0%	0.00	A
	Outer	Red Zone (Hotel/Courtesy)	43%	0.33	A	31%	0.24	A
	Outer	Purple Zone (Rental Car Shuttles)	0%	0.00	A	0%	0.00	A
Terminal 5	Inner	Passenger Cars/Limousines/ Shared Ride Shuttles	59%	0.30	A	59%	0.30	A
Terminal 5	Outer	Overall Average	21%	0.16	A	18%	0.14	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	15%	0.12	A	4%	0.03	A
Terminal 5	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0%	0.00	A	0%	0.00	A
	Outer	Red Zone (Hotel/Courtesy)	67%	0.52	A	66%	0.51	A
	Outer	Purple Zone (Rental Car Shuttles)	0%	0.00	A	0%	0.00	A
Terminal 6	Inner	Passenger Cars/Limousines/ Shared Ride Shuttles	35%	0.17	A	28%	0.14	A
Terminal 6	Outer	Overall Average	15%	0.12	A	14%	0.11	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	14%	0.11	A	9%	0.07	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0%	0.00	A	0%	0.00	A
	Outer	Red Zone (Hotel/Courtesy)	46%	0.36	A	48%	0.37	A
	Outer	Purple Zone (Rental Car Shuttles)	0%	0.00	A	0%	0.00	A

Table 4.6-17

Future (2025) Without and With Program Curbside Utilization

Terminal	Curbside	Zone[1]	Future (2025) Without Program: Utilization Rate[2]	Future (2025) Without Program: Equivalent Volume to Capacity Ratio	Future (2025) Without Program: LOS	Future (2025) With Program: Utilization Rate[2]	Future (2025) With Program: Equivalent Volume to Capacity Ratio	Future (2025) With Program: LOS
			Arrivals Peak 8:49 p.m. to 9:49 p.m.			**Arrivals Peak 10:45 a.m. to 11:45 a.m.**		
Terminal 7	Inner	Passenger Cars/Limousines/ Shared Ride Shuttles	49%	0.25	A	36%	0.18	A
Terminal 7	Outer	Overall Average	15%	0.12	A	13%	0.10	A
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	14%	0.11	A	5%	0.04	A
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0%	0.00	A	0%	0.00	A
	Outer	Red Zone (Hotel/Courtesy)	46%	0.36	A	48%	0.37	A
	Outer	Purple Zone (Rental Car Shuttles)	0%	0.00	A	0%	0.00	A

Notes:
1 Parking Zones defined in Figure 4.6-2, Arrivals Level Curbside Allocations.
2 Note: At some terminals, the length of curbside assigned to passenger car and limousine operations on the arrivals level was conservatively assumed to be less than the maximum possible available length. For example, the full length of available curbside frontage between Terminals 1 and 2, the TBIT and Terminal 4, and Terminals 6 and 7 were not used in the analysis. While these portions of the arrivals level curbsides are available for passenger vehicle, and limousine passenger loading activities, their longer walking distances from the terminal exit doors located near the baggage claim devices results in much less use.

Source: Ricondo & Associates, Inc., September 2013.

4.6.9.3 CTA Roadway Link Analysis

Key CTA roadway links were analyzed to identify potential points of congestion along the CTA roadway network. The results of the analysis for Future (2025) Without Program and Future (2025) With Program are summarized in **Table 4.6-18**. This table shows that World Way South along the TBIT inner curbside is anticipated to operate at LOS F conditions on lower level inner curbside roadways during either the Without or With Program conditions. In addition, World Way North at Terminal 1 on the departures level is expected to operate at LOS D under the Without Program conditions. **Figure 4.6-11** shows the departures level roadway links identifiers and **Figure 4.6-12** shows the arrivals level link identifiers for the Future (2025) With Program condition. Future (2025) Without Program roadway link identifiers are essentially the same as the roadway link identifiers provided in Figure 4.6-6 and Figure 4.6-7.

With the addition of the CTP, traffic patterns would change in the CTA, with a part of the traffic now bypassing the TBIT curbside roadways and using the CTP curbside roadways. This reduces the demand on the roadways on the western end of the CTA, which would result in considerable improvements in LOS along the Terminal 3, TBIT, and Terminal 4 roadways.

Table 4.6-18

Future (2025) Without Program and With Program Roadway Capacity Analysis

Link ID	Level/Link Location	Future (2025) Without Program				Future (2025) With Program			
		Capacity (veh/hr)	Volume	V/C	LOS	Capacity (veh/hr)	Volume	V/C	LOS
	Departures								
UA	Westbound World Way North, east of East Way (upper level roadway entrance)	3,693	3,031	0.82082	D	3,837	3,015	0.78	C
UB	Southbound East Way, exiting from World Way	2,580	691	0.26783	A	2,580	632	0.24	A
UC	Southbound East Way, south of EP1	2,580	451	0.17481	A	2,580	378	0.14	A
UD	Southbound East Way, south of EP7	2,580	120	0.04651	A	2,580	59	0.02	A
UE	Westbound World Way North, west of East Way intersection	4,416	2,509	0.56816	A	4,561	2,647	0.58	A
UF	Southbound West Way, exiting from World Way	2,580	965	0.37403	A	N/A	N/A	N/A	N/A
N/A	New Central Processor Road before North of EP2	N/A	N/A	N/A	N/A	5,160	1136	0.22	A
UG	Southbound West Way, south of EP2	2,580	626	0.24264	A	N/A	N/A	N/A	N/A
NB	New Central Processor Road	N/A	N/A	N/A	N/A	5,160	501	0.10	A
UH	Westbound Exit ramp from West Way to Center Way	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UI	Eastbound Entrance ramp from Center Way to West Way	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UJ	Southbound West Way, south of Center Way ramp	2,580	484	0.1876	A	N/A	N/A	N/A	N/A
UK	Southbound West Way, south of EP5 - entering World Way South	2,580	484	0.1876	A	N/A	N/A	N/A	N/A
UL	Westbound World Way, west of Southbound West Way exit	4,416	1556	0.35236	A	4,561	1,522	0.33	A
UM	Southbound World Way, south of EP3	4,271	1,502	0.35165	A	4,271	1,459	0.34	A
UN	Southbound World Way, south of EP4	3,403	1,374	0.40372	A	3,548	1,334	0.38	A
UO	Eastbound World Way South, east of West Way	4,416	1,844	0.41757	A	4,561	1,891	0.41	A
UP	Northbound East Way - exit from World Way South, entrance to World Way North	1,290	171	0.13256	A	1,290	270	0.21	A
UQ	Eastbound World Way South, east of East Way	4,127	2012	0.48756	A	4,416	1,924	0.44	A
UR	Upper level Exit (south and east)	3,870	1,531	0.39561	A	3,870	1,452	0.38	A
US	Upper level recirculation/exit (north)	2,020	481	0.23812	A	2,020	472	0.23	A
UT	Transfer to lower level & exit (north)	1,010	404	0.4	A	1,010	409	0.40	A
UU	Upper level recirculation	1,010	77	0.07624	A	1,010	63	0.06	A
UV	Upper level recirculation & entrance	5,160	2121	0.41105	A	5,160	2,103	0.41	A
UW	Entrance from Sky Way	3,870	925	0.23902	A	3,870	927	0.24	A
UX	Entrance from east/south	5,160	2044	0.39612	A	5,160	2,040	0.40	A
	Arrivals								
CA	Entrance from lower level north	1,290	21	0.02	A	1,290	n/a	n/a	n/a
CB	Ramp from upper level	1,290	0	0.00	A	1,290	n/a	n/a	n/a
CC	Ramp to upper level	1,290	0	0.00	A	1,290	n/a	n/a	n/a
CD	Entrance from lower level south	1,290	0	0.00	A	1,290	n/a	n/a	n/a
CE	Center Way North, east of P4 exit	2,580	223	0.09	A	2,580	195	0.08	A
CF	Center Way South, east of P6 exit	2,580	323	0.13	A	2,580	311	0.12	A

Table 4.6-18

Future (2025) Without Program and With Program Roadway Capacity Analysis

Link ID	Level/Link Location	Future (2025) Without Program Capacity (veh/hr)	Volume	V/C	LOS	Future (2025) With Program Capacity (veh/hr)	Volume	V/C	LOS
	Arrivals								
CG	Northbound West Way, south of Center Way	1,290	94	0.07	A	1,290	n/a	n/a	n/a
CH	Northbound West Way, north of Center Way	1,290	95	0.07	A	1,290	n/a	n/a	n/a
CI	Southbound West Way, south of lower level roadway	1,290	540	0.42	A	1,290	n/a	n/a	n/a
CJ	Southbound West Way, south of P4 exit	2,580	540	0.21	A	2,580	n/a	n/a	n/a
CK	Southbound West Way, south of Center Way	2,580	399	0.15	A	2,580	n/a	n/a	n/a
CL	Southbound West Way, south of P16 exit	1,290	286	0.22	A	1,290	n/a	n/a	n/a
CM	Center Way North, east of West Way intersection	2,580	366	0.14	A	2,850	195	0.08	A
CN	Center Way South, east of West Way intersection	2,580	323	0.13	A	2,850	311	0.12	A
CO	Center Way North, east of P3 exit	3,870	712	0.18	A	3,870	668	0.17	A
CP	Center Way South, east of P7 exit	0	0	0.00	A	0	0	0.00	A
CQ	Center Way North, east of P2 exit	3,870	735	0.19	A	3,870	690	0.18	A
CR	Theme Way from outer curb	1,290	0	0.00	A	1,290	0	0.00	A
CS	Theme Way to Center Way South	1,290	0	0.00	A	1,290	0	0.00	A
CT	Theme Way to Center Way North	1,290	0	0.00	A	1,290	0	0.00	A
CU	Center Way North, east of Theme Way intersection	3,870	735	0.19	A	3,870	690	0.18	A
CV	Center Way South, east of P8 exit	0	294	0.00	A	0	283	0.00	A
CW	East Way northbound, north of Center Way	2,580	166	0.06	A	2,580	278	0.11	A
CX	East Way northbound, south of Center Way	2,580	166	0.06	A	2,580	278	0.11	A
CY	East Way southbound, north of Center Way	2,580	239	0.09	A	2,580	198	0.08	A
CZ	East Way southbound, south of Center Way	2,580	239	0.09	A	2,580	198	0.08	A
CAA	East Way southbound, south of P19 exit	2,580	213	0.08	A	2,580	173	0.07	A
CAB	Center Way, east of East Way intersection	5,160	1,020	0.20	A	5,160	919	0.18	A
CAC	Center Way, east of P1 exit	5,160	1,192	0.23	A	5,160	937	0.18	A
CAD	Center Way, east of P10 exit	5,160	1,192	0.23	A	5,160	937	0.18	A
CAE	Return/exit roadway, north of Center Way	5,160	71	0.01	A	5,160	68	0.01	A
CAF	Center Way, east of exit to return/exit	3,870	1,121	0.29	A	3,870	869	0.22	A
CAG	Center Way, east of P11 exit	3,870	1,291	0.33	A	3,870	1,149	0.30	A
CAH	Center Way, east surface public parking lot P22 exit	3,870	1,291	0.33	A	3,870	1,149	0.30	A
CAI	Center Way, east of upper level ramp	5,160	1,677	0.33	A	5,160	1,525	0.30	A
CAJ	Center Way, east P12 exit	5,160	1,677	0.33	A	5,160	1,525	0.30	A
CAK	Return/exit roadway, north of Center Way	2,580	521	0.20	A	2,580	425	0.16	A
CAL	Return/exit roadway, west of Century Boulevard entrance/exit	1,290	0	0.00	A	1,290	0	0.00	A
CAM	Upper level ramp to eastbound Center Way	1,290	391	0.30	A	1,290	377	0.29	A
CAN	Upper level ramp to return/exit	1,290	12	0.01	A	1,290	11	0.01	A
CAO	Return/exit roadway, south of lower level roadway	3,870	83	0.02	A	3,870	79	0.02	A
CAP	Exit to Sky Way	1,290	0	0.00	A	1,290	0	0.00	A
LA	Lower level roadway entrance	7,740	2,991	0.39	A	7,740	2,719	0.35	A
LB	Terminal 1 outer curb, west of P8 exit	7,740	2,990	0.39	A	7,740	2,718	0.35	A
LC	Terminal 1 outer curb, after inner curb exit 1	7,250	2,835	0.39	A	7,250	2,541	0.35	A

Table 4.6-18

Future (2025) Without Program and With Program Roadway Capacity Analysis

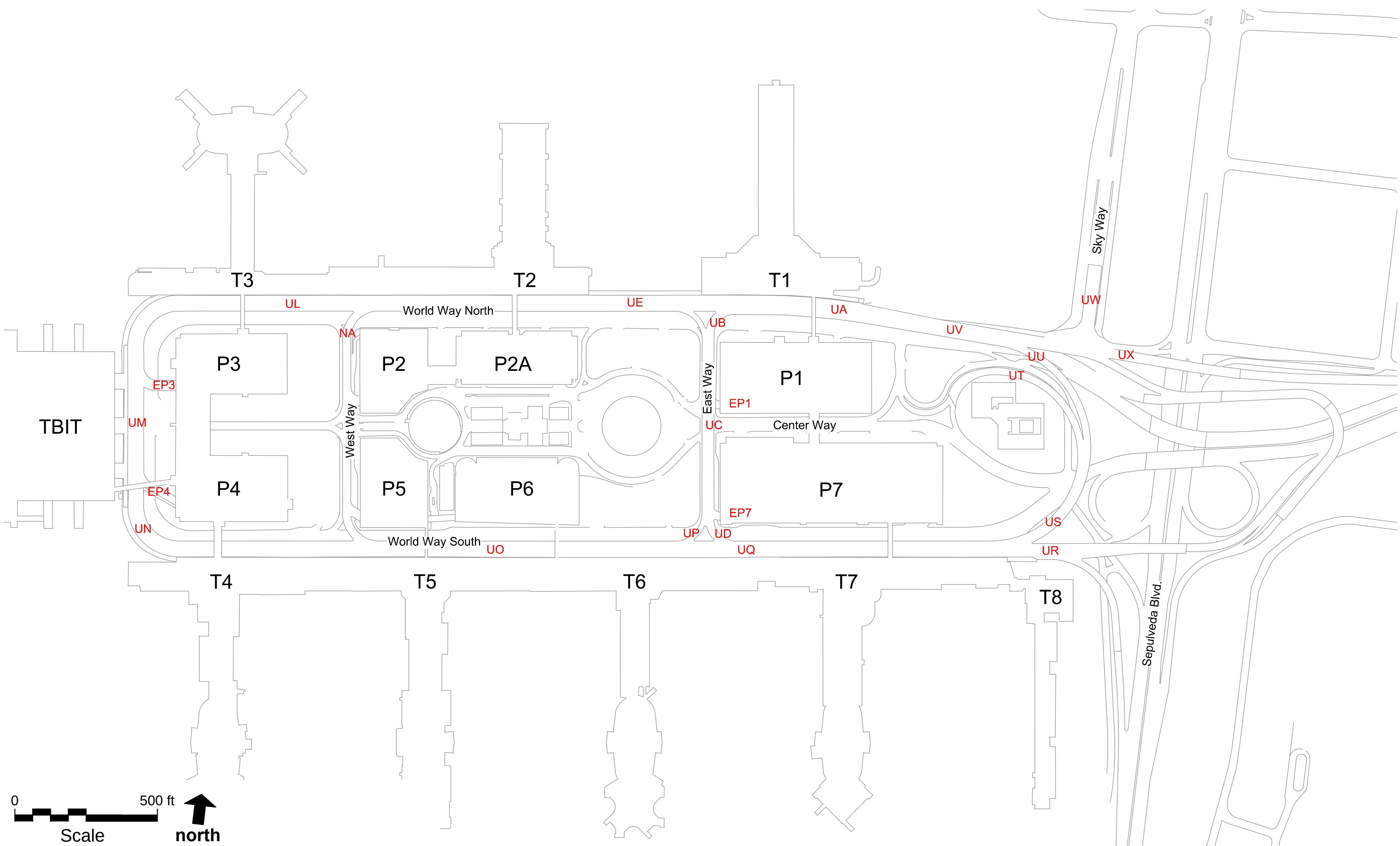
Link ID	Level/Link Location	Future (2025) Without Program Capacity (veh/hr)	Volume	V/C	LOS	Future (2025) With Program Capacity (veh/hr)	Volume	V/C	LOS
	Arrivals								
LD	Terminal 1 outer curb, west of P9 exit and inner curb exit 2	7,250	2,754	0.38	A	7,250	2,473	0.34	A
LE	Terminal 1 outer curb, west of East Way intersection	7,250	2,683	0.37	A	7,250	2,548	0.35	A
LF	Outer curb, west of inner curb entrance from Terminal 1	6,022	2,998	0.50	A	6,022	2,854	0.47	A
LG	Terminal 2 outer curb, west of exit to inner curb	7,250	2,877	0.40	A	7,250	2,758	0.38	A
LH	Terminal 2 outer curb, west of Theme Way	6,636	2,866	0.43	A	6,636	2,751	0.41	A
LI	Terminal 2 outer curb, west of P10 exit	6,636	2,863	0.43	A	6,636	2,755	0.42	A
LJ	Terminal 2 outer curb, west of inner curb entrance from Terminal 2	7,250	2,859	0.39	A	7,250	2,756	0.38	A
LK	Terminal 2 outer curb, west of exit to inner curb	7,250	2,830	0.39	A	7,250	2,757	0.38	A
LL	Terminal 2 outer curb, west of P11 exit	6,050	2,707	0.45	A	6,050	2,311	0.38	A
LM	Terminal 2 outer curb, west of inner curb entrance from Terminal 2	6,050	2,804	0.46	A	6,050	2,353	0.39	A
LO	Terminal 2 outer curb, west of West Way intersection	6,050	2,246	0.37	A	6,050	2,354	0.39	A
LP	Terminal 2 outer curb, west of exit to inner curb	5,177	2,238	0.43	A	5,351	2,165	0.40	A
LQ	Terminal 3 outer curb, west of P12 exit	5,701	2,227	0.39	A	5,701	2,165	0.38	A
LR	Terminal 3 outer curb, west of P13 exit	6,050	2,008	0.33	A	6,050	2,021	0.33	A
LS	Terminal 3 outer curb, west of entrance from inner curb	6,050	2,086	0.34	A	6,050	2,186	0.36	A
LT	TBIT outer curb, south of exit to inner curb	6,050	1,216	0.20	A	6,050	1,462	0.24	A
LU	TBIT outer curb, south of Center Way intersection	4,705	1,199	0.25	A	4,705	1,468	0.31	A
LV	TBIT outer curb, south of exit to inner curb	4,705	1,116	0.24	A	4,705	1,407	0.30	A
LW	TBIT outer curb, south of entrance from inner curb	4,271	1,975	0.46	A	4,416	2,125	0.48	A
LX	Terminal 4 outer curb, east of exit to inner curb	4,705	1,742	0.37	A	4,850	1,830	0.38	A
LY	Terminal 4 outer curb, east of P14 exit	4,705	1,572	0.33	A	4,850	1,703	0.35	A
LAA	Terminal 4 outer curb, east of P15 exit	4,850	1,479	0.30	A	4,850	1,755	0.36	A
LAB	Terminal 4 outer curb, after entrance from inner curb	4,271	1,766	0.41	A	4,416	1,582	0.36	A
LAC	Outer curb, east of West Way intersection	4,850	2,059	0.42	A	4,850	1,584	0.33	A
LAD	Terminal 5 outer curb, after exit to inner curb	4,850	1,877	0.39	A	4,850	1,820	0.38	A
LAE	Terminal 5 outer curb, east of P17 exit	5,002	1,806	0.36	A	5,002	1,598	0.32	A
LAF	Terminal 5 outer curb, east of inner curb entrance/exit	6,050	1,879	0.31	A	6,050	1,986	0.33	A
LAG	Terminal 6 outer curb, east of P18 exit	5,351	1,876	0.35	A	5,351	1,996	0.37	A
LAH	Terminal 6 outer curb, east of P9 exit	6,050	1,875	0.31	A	6,050	1,995	0.33	A
LAI	Terminal 6 outer curb, east of exit to inner curb	5,875	1,854	0.32	A	6,050	1,964	0.32	A
LAJ	Outer curb, east of East Way intersection	5,875	1,890	0.32	A	6,050	1,866	0.31	A
LAK	Terminal 7 outer curb, east of inner curb entrance/exit	6,050	1,791	0.30	A	6,050	1,795	0.30	A
LAL	Terminal 7 outer curb, east of P20 exit	7,740	1,791	0.23	A	7,740	1,794	0.23	A

Table 4.6-18

Future (2025) Without Program and With Program Roadway Capacity Analysis

Link ID	Level/Link Location	Future (2025) Without Program Capacity (veh/hr)	Volume	V/C	LOS	Future (2025) With Program Capacity (veh/hr)	Volume	V/C	LOS
	Arrivals								
LAM	Terminal 7 outer curb, east of exit to inner curb	6,050	1,767	0.29	A	6,050	1,773	0.29	A
LAN	Terminal 7 outer curb, after P21 exit	5,875	1,704	0.29	A	6,050	1,704	0.28	A
LAO	Terminal 7 outer curb, after entrance from inner curb	4,271	1,724	0.40	A	4,271	1,721	0.40	A
LAP	Terminal 7 outer curb, after P13 exit	6,450	1,718	0.27	A	6,450	1,720	0.27	A
LAQ	Terminal 8 outer curb, east of inner curb entrance/exit	6,450	1,804	0.28	A	6,450	1,734	0.27	A
LAR	Terminal 8 outer curb, after inner curb entrance	6,450	1,827	0.28	A	6,450	1,755	0.27	A
LAS	Lower level exit 1 (south)	2,580	1,202	0.47	A	2,580	1,125	0.44	A
LAT	Lower level exit 2 (east)	3,870	1,947	0.50	A	3,870	1,906	0.49	A
LAU	Entrance from Sky Way	3,870	811	0.21	A	3,870	808	0.21	A
IA	Terminal 1 inner curb, east	1,183	159	0.13	A	1,183	128	0.11	A
IB	Terminal 1 inner curb, center	1,510	314	0.21	A	1,510	305	0.20	A
IC	Terminal 1 inner curb, west	1,510	314	0.21	A	1,510	303	0.20	A
ID	Inner curb between Terminal 1 and Terminal 2	1,837	0	0.00	A	1,837	1	0.00	A
IE	Terminal 2 inner curb, east	1,837	117	0.06	A	1,837	101	0.05	A
IF	Terminal 2 inner curb, center	1,837	118	0.06	A	1,837	101	0.05	A
IG	Terminal 2 inner curb, center west	1,837	119	0.06	A	1,837	100	0.05	A
IH	Terminal 2 inner curb, west	1,183	14	0.01	A	1,183	12	0.01	A
II	Terminal 3 inner curb, center	1,837	106	0.06	A	1,592	200	0.13	A
IJ	Terminal 3 inner curb, west	1,183	8	0.01	A	1,183	17	0.01	A
IK	TBIT inner curb, center	417	863	2.07	F	417	716	1.72	F
IL	TBIT inner curb, south	1,183	925	0.78	C	1,183	769	0.65	B
IM	Inner curb between TBIT and Terminal 4	3,870	83	0.02	A	3,870	61	0.02	A
IN	Terminal 4 inner curb	1,510	305	0.20	A	1,428	331	0.23	A
IO	Terminal 5 inner curb, west	1,183	13	0.01	A	1,183	506	0.43	A
IP	Terminal 5 inner curb, center	1,592	198	0.12	A	1,592	507	0.32	A
IQ	Terminal 6 inner curb, center	1,755	136	0.08	A	1,837	115	0.06	A
IR	Terminal 6 inner curb, east	1,755	155	0.09	A	1,837	133	0.07	A
IS	Terminal 7 inner curb, west	1,673	275	0.16	A	1,755	203	0.12	A
IT	Terminal 7 inner curb, center	1,673	298	0.18	A	1,755	220	0.13	A
IU	Terminal 8 inner curb	1,183	278	0.23	A	1,183	206	0.17	A
IV	Connection to outer curb, east of Terminal 8	1,290	23	0.02	A	1,290	21	0.02	A
NC	CTP east curb, north of Center Way ramp	n/a	n/a	n/a	n/a	1,183	359	0.30	A
ND	CTP west curb	n/a	n/a	n/a	n/a	1,183	50	0.04	A
NE	CTP east curb, south of Center Way ramp	n/a	n/a	n/a	n/a	1,183	220	0.19	A

Source: Ricondo & Associates, Inc., September 2013.



Source: LAWA, 2010; Ricondo & Associates, Inc., January 2012.
Prepared by: Ricondo & Associates, Inc., February 2014.

LAX Midfield Satellite Concourse Draft EIR

Departures Level Roadway Links for Future (2025)

Figure
4.6-11

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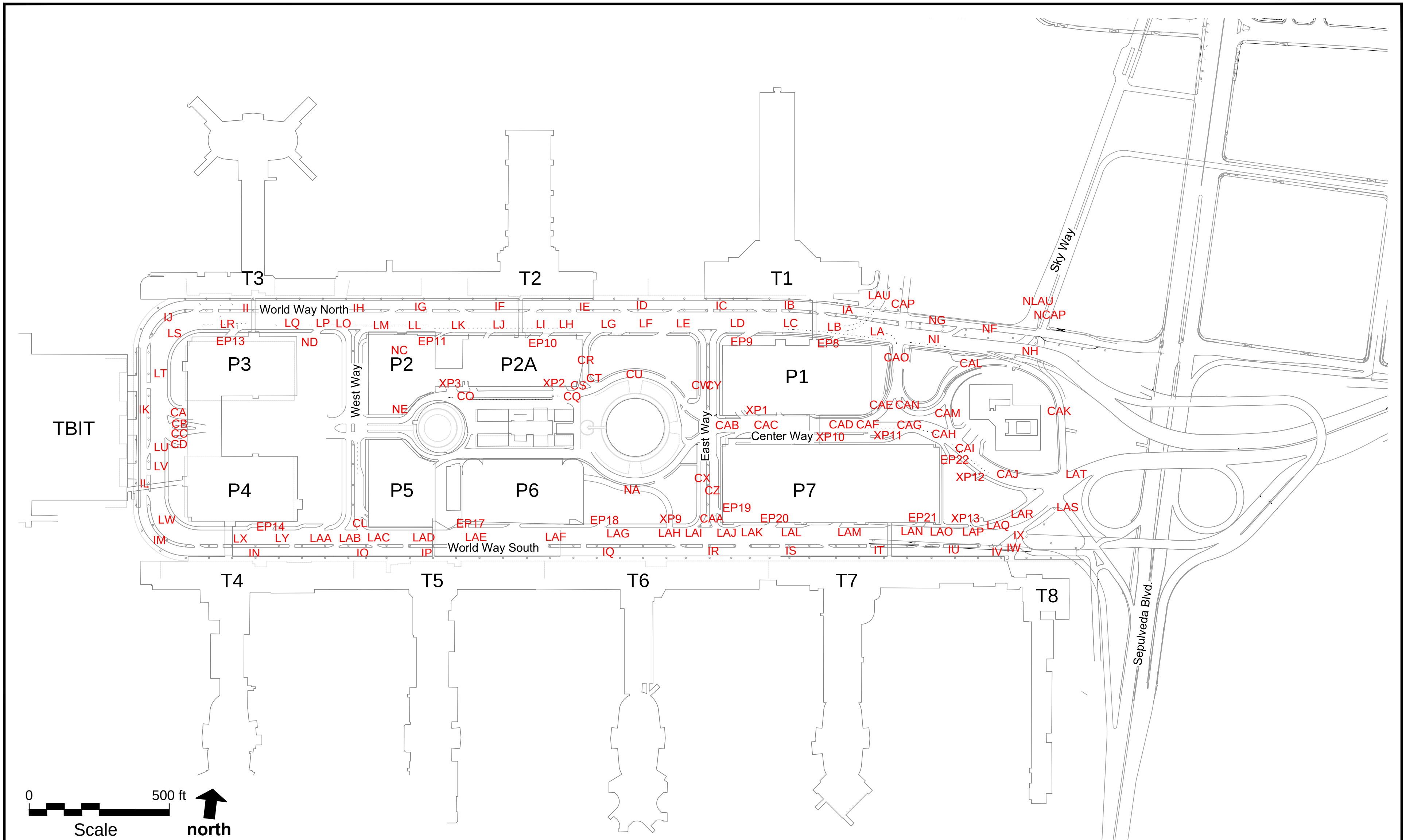

Source: LAWA, 2010; Ricondo & Associates, Inc., January 2012.
Prepared by: Ricondo & Associates, Inc., February 2014.

LAX Midfield Satellite Concourse Draft EIR

Arrivals Level Roadway Links for Future (2025)

Figure
4.6-12

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4.6.9.4 CTA Intersection Analysis

As discussed in Section 4.6.4.2, key CTA roadway intersections were analyzed using the TRB Circular 212 Critical Movement Analysis methodology. The analysis evaluated the projected operating conditions using the CTA roadway traffic volumes for 2025 Without and With Program conditions, as provided in **Table 4.6-19** for the Airport peak departures and arrivals hours. The vehicle turning movement volumes were projected using the vehicle trip generation and distribution models for each condition.

As was the case with the Existing (2012) intersection analysis, the levels of service definitions for the CMA methodology presented in Table 4.6-8 were used and the results are provided in Table 4.6-19 below. With the exception of the intersection of Center Way and World Way South, which is projected to operate at LOS C, all other intersections for both the Without Program and the With Program conditions are anticipated to operate at LOS A.

As shown in Table 4.6-19, the overall LOS does not change with minor changes in the volume to capacity ratios between Without and With Program conditions. This is because the turning movement volumes at the study intersections are essentially the same. The small differences in the volumes at the intersection between the Without and With Program is attributed to small variation in the simulation modeling such as differences in random seed values between model runs.

4.6.10 <u>Impact Analysis</u>

In accordance with CEQA Guidelines and as described previously in Section 4.6.5, potential traffic-related impacts pertaining to the development and operation of the Program were assessed by conducting the impact comparison described in the following section.

4.6.10.1 Future (2025) Without Program Conditions Measured Against Future (2025) With Program Conditions

This comparison focuses on the change in traffic conditions in 2025 when the proposed MSC and CTP improvements are completed, as measured against the conditions that would occur in 2025 without the proposed Program. A significant impact is realized when the thresholds of significance defined in Section 4.6.5 above are met or exceeded.

Table 4.6-19

Intersection Level of Service Summary

Intersection	Peak Hour[1]	Future Without Program												V/C[2]	LOS[3]
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R		
World Way North and Sky Way (Upper Level)	Departure						925					2,044		0.49	A
World Way South and West Way (Upper Level)	Departure				484				1,374					0.39	A
World Way South and East Way (Upper Level)	Departure				120				1,673					0.25	A
World Way North and Sky Way (Lower Level)	Arrival	83										2,904		0.45	A
World Way South and Center Way (Exit) (Lower Level)[4]	Arrival						814					1,726		0.42	A
East Way and World Way South (Lower Level)	Arrival	525	1,029	648					908	555				0.71	C

Intersection	Peak Hour[1]	Future With Program												V/C[2]	LOS[3]
		Northbound			Southbound			Eastbound			Westbound				
		L	T	R	L	T	R	L	T	R	L	T	R		
World Way North and Sky Way (Upper Level)	Departure						927					2,040		0.49	A
World Way South and West Way (Upper Level)	Departure				579				1,334					0.42	A
World Way South and East Way (Upper Level)	Departure				59				1,621					0.22	A
World Way North and Sky Way (Lower Level)	Arrival	83										2,828		0.44	A
World Way South and Center Way (Exit) (Lower Level)[4]	Arrival						808					1,718		0.42	A
East Way and World Way South (Lower Level)	Arrival	451	994	633					1,023	559				0.71	C

Notes:
1 The departures peak hour occurred from 9:55 a.m. to 10:55 a.m. The arrivals peak hour occurred from 9:24 p.m. to 10:24 p.m.
2 Volume to capacity ratio.
3 Level of Service range: A (excellent) to F (failure).
4 For World Way South and Center Way intersection, World Way South volumes are noted in the Northbound column and Center Way volumes are noted in the Eastbound column of the table.

Source: Ricondo & Associates, Inc., 2013.

Curbside Impacts

The impact comparison for the CTA curbsides is depicted in **Table 4.6-20**. Implementation of the proposed Program is not anticipated to generate any significant impacts on the curbsides. As shown in the table, the curbside utilization as well as the resulting V/C ratio decreases or remains the same at all curbsides, both on departures as well as arrivals level. As explained in the previous section, this is a result of the redistribution of the curbside traffic from all other terminals to the new CTP curbsides.

Table 4.6-20

CTA Curbside Impact Determination

			Future (2025) Without Program		Future (2025) With Program		Impact Determination	
Terminal	**Curbside**	**Zone1**	**Equivalent Volume to Capacity Ratio**	**LOS**	**Equivalent Volume to Capacity Ratio**	**LOS**	**Change in V/C Ratio**	**Impact?**
Departures Level								
Terminal 1	Departure Level	Common	0.41	A	0.39	A	-0.02	No
Terminal 2	Departure Level	Common	0.17	A	0.14	A	-0.03	No
Terminal 3	Departure Level	Common	0.19	A	0.14	A	-0.05	No
TBIT	Departure Level	Common	0.25	A	0.22	A	-0.03	No
Terminal 4	Departure Level	Common	0.51	A	0.47	A	-0.04	No
Terminal 5	Departure Level	Common	0.18	A	0.13	A	-0.05	No
Terminal 6	Departure Level	Common	0.18	A	0.13	A	-0.05	No
Terminal 7	Departure Level	Common	0.27	A	0.2	A	-0.07	No
Arrivals Level								
Terminal 1	Inner	Passenger Cars/Limousines/Shared Ride Shuttles	0.31	A	0.32	A	0.01	No
Terminal 1	Outer	Overall Average	0.14	A	0.14	A	0.00	No
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	0.07	A	0.06	A	-0.01	No
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0	A	0	A	0.00	No
	Outer	Red Zone (Hotel/Courtesy)	0.5	A	0.49	A	-0.01	No
	Outer	Purple Zone (Rental Car Shuttles)	0	A	0	A	0.00	No
Terminal 2	Inner	Passenger Cars/Limousines/Shared Ride Shuttles	0.11	A	0.1	A	-0.01	No
Terminal 2	Outer	Overall Average	0.09	A	0.09	A	0.00	No
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	0.07	A	0.06	A	-0.01	No
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0	A	0	A	0.00	No

Table 4.6-20

CTA Curbside Impact Determination

			Future (2025) Without Program		Future (2025) With Program		Impact Determination	
Terminal	**Curbside**	**Zone1**	**Equivalent Volume to Capacity Ratio**	**LOS**	**Equivalent Volume to Capacity Ratio**	**LOS**	**Change in V/C Ratio**	**Impact?**
Arrivals Level								
Terminal 2	Outer	Red Zone (Hotel/Courtesy)	0.3	A	0.29	A	-0.01	No
	Outer	Purple Zone (Rental Car Shuttles)	0	A	0	A	0.00	No
Terminal 3	Inner	Passenger Cars/Limousines/Shared Ride Shuttles	0.11	A	0.28	A	0.17	No
Terminal 3	Outer	Overall Average	0.15	A	0.13	A	-0.02	No
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	0.22	A	0.16	A	-0.06	No
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0	A	0	A	0.00	No
	Outer	Red Zone (Hotel/Courtesy)	0.39	A	0.36	A	-0.03	No
	Outer	Purple Zone (Rental Car Shuttles)	0	A	0	A	0.00	No
TBIT	Inner	Passenger Cars/Limousines/Shared Ride Shuttles	1.04	F	1	F	-0.04	No
TBIT	Outer	Overall Average	0.11	A	0.11	A	0.00	No
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	0.1	A	0.12	A	0.02	No
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0	A	0	A	0.00	No
	Outer	Red Zone (Hotel/Courtesy)	0.34	A	0.3	A	-0.04	No
	Outer	Purple Zone (Rental Car Shuttles)	0	A	0	A	0.00	No
Terminal 4	Inner	Passenger Cars/Limousines/Shared Ride Shuttles	0.3	A	0.4	A	0.10	No
Terminal 4	Outer	Overall Average	0.1	A	0.07	A	-0.03	No
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	0.08	A	0.06	A	-0.02	No
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0	A	0	A	0.00	No
	Outer	Red Zone (Hotel/Courtesy)	0.33	A	0.24	A	-0.09	No

Table 4.6-20

CTA Curbside Impact Determination

			Future (2025) Without Program		Future (2025) With Program		Impact Determination	
Terminal	**Curbside**	**Zone1**	**Equivalent Volume to Capacity Ratio**	**LOS**	**Equivalent Volume to Capacity Ratio**	**LOS**	**Change in V/C Ratio**	**Impact?**
Arrivals Level								
Terminal 4	Outer	Purple Zone (Rental Car Shuttles)	0	A	0	A	0.00	No
Terminal 5	Inner	Passenger Cars/Limousines/Shared Ride Shuttles	0.3	A	0.3	A	0.00	No
Terminal 5	Outer	Overall Average	0.16	A	0.14	A	-0.02	No
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	0.12	A	0.03	A	-0.09	No
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0	A	0	A	0.00	No
	Outer	Red Zone (Hotel/Courtesy)	0.52	A	0.51	A	-0.01	No
	Outer	Purple Zone (Rental Car Shuttles)	0	A	0	A	0.00	No
Terminal 6	Inner	Passenger Cars/Limousines/Shared Ride Shuttles	0.17	A	0.14	A	-0.03	No
Terminal 6	Outer	Overall Average	0.12	A	0.11	A	-0.01	No
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	0.11	A	0.07	A	-0.04	No
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0	A	0	A	0.00	No
	Outer	Red Zone (Hotel/Courtesy)	0.36	A	0.37	A	0.01	No
	Outer	Purple Zone (Rental Car Shuttles)	0	A	0	A	0.00	No
Terminal 7	Inner	Passenger Cars/Limousines/Shared Ride Shuttles	0.25	A	0.18	A	-0.07	No
Terminal 7	Outer	Overall Average	0.12	A	0.1	A	-0.02	No
	Outer	Green Zone (FlyAway, Buses, Long Distance Vans)	0.11	A	0.04	A	-0.07	No
	Outer	Blue Zone (LAX Shuttle, Airline Connections)	0	A	0	A	0.00	No
	Outer	Red Zone (Hotel/Courtesy)	0.36	A	0.37	A	0.01	No
	Outer	Purple Zone (Rental Car Shuttles)	0	A	0	A	0.00	No

Source: Ricondo & Associates, Inc., September 2013.

Roadway Impacts

The impact comparison for the CTA roadways is depicted in **Table 4.6-21**. Implementation of the proposed Program is not anticipated to generate any significant impacts on the roadways. As shown in the table, the V/C ratio decreases or remains the same on all roadway links, both on departures as well as arrivals level. As explained in the previous section, this is a result of the redistribution of the traffic from all other terminals to the new CTP roadways.

Table 4.6-21

CTA Roadway Impact Determination

Link ID	Level/Link Location	Future (2025) Without Program		Future (2025) With Program		Impact Determination	
		V/C	LOS	V/C	LOS	Change in V/C Ratio	Impact?
	Departures						
UA	Westbound World Way North, east of East Way (upper level roadway entrance)	0.82	D	0.79	C	-0.04	No
UB	Southbound East Way, exiting from World Way	0.27	A	0.24	A	-0.02	No
UC	Southbound East Way, south of EP1	0.17	A	0.15	A	-0.03	No
UD	Southbound East Way, south of EP7	0.05	A	0.02	A	-0.02	No
UE	Westbound World Way North, west of East Way intersection	0.57	A	0.58	A	0.01	No
UF	Southbound West Way, exiting from World Way	0.37	A	n/a	n/a	n/a	No
n/a	New Central Processor Road before North of EP2	n/a	n/a	0.22	A	n/a	No
UG	Southbound West Way, south of EP2	0.24	A	n/a	n/a	n/a	No
NB	New Central Processor Road	n/a	n/a	0.10	A	n/a	No
UH	Westbound Exit ramp from West Way to Center Way	n/a	n/a	n/a	n/a	n/a	No
UI	Eastbound Entrance ramp from Center Way to West Way	n/a	n/a	n/a	n/a	n/a	No
UJ	Southbound West Way, south of Center Way ramp	0.19	A	n/a	n/a	n/a	No
UK	Southbound West Way, south of EP5 - entering World Way South	0.19	A	n/a	n/a	n/a	No
UL	Westbound World Way, west of Southbound West Way exit	0.35	A	0.33	A	-0.02	No
UM	Southbound World Way, south of EP3	0.35	A	0.34	A	-0.01	No
UN	Southbound World Way, south of EP4	0.40	A	0.38	A	-0.03	No
UO	Eastbound World Way South, east of West Way	0.42	A	0.41	A	0.00	No
UP	Northbound East Way - exit from World Way South, entrance to World Way North	0.13	A	0.21	A	0.08	No
UQ	Eastbound World Way South, east of East Way	0.49	A	0.44	A	-0.05	No
UR	Upper level Exit (south and east)	0.40	A	0.38	A	-0.02	No
US	Upper level recirculation/exit (north)	0.24	A	0.23	A	0.00	No
UT	Transfer to lower level & exit (north)	0.40	A	0.40	A	0.00	No
UU	Upper level recirculation	0.08	A	0.06	A	-0.01	No
UV	Upper level recirculation & entrance	0.41	A	0.41	A	0.00	No
UW	Entrance from Sky Way	0.24	A	0.24	A	0.00	No
UX	Entrance from east/south	0.40	A	0.40	A	0.00	No

Table 4.6-21

CTA Roadway Impact Determination

Link ID	Level/Link Location	Future (2025) Without Program V/C	Future (2025) Without Program LOS	Future (2025) With Program V/C	Future (2025) With Program LOS	Impact Determination Change in V/C Ratio	Impact Determination Impact?
	Arrivals						
CA	Entrance from lower level north	0.02	A	N/A	N/A	n/a	No
CB	Ramp from upper level	0.00	A	N/A	N/A	n/a	No
CC	Ramp to upper level	0.00	A	N/A	N/A	n/a	No
CD	Entrance from lower level south	0.00	A	N/A	N/A	n/a	No
CE	Center Way North, east of P4 exit	0.09	A	0.08	A	-0.01	No
CF	Center Way South, east of P6 exit	0.13	A	0.12	A	0.00	No
CG	Northbound West Way, south of Center Way	0.07	A	N/A	N/A	n/a	No
CH	Northbound West Way, north of Center Way	0.07	A	N/A	N/A	n/a	No
CI	Southbound West Way, south of lower level roadway	0.42	A	N/A	N/A	n/a	No
CJ	Southbound West Way, south of P4 exit	0.21	A	N/A	N/A	n/a	No
CK	Southbound West Way, south of Center Way	0.15	A	N/A	N/A	n/a	No
CL	Southbound West Way, south of P16 exit	0.22	A	N/A	N/A	n/a	No
CM	Center Way North, east of West Way intersection	0.14	A	0.08	A	-0.07	No
CN	Center Way South, east of West Way intersection	0.13	A	0.12	A	0.00	No
CO	Center Way North, east of P3 exit	0.18	A	0.17	A	-0.01	No
CP	Center Way South, east of P7 exit	0.00	A	0.00	A	0.00	No
CQ	Center Way North, east of P2 exit	0.19	A	0.18	A	-0.01	No
CR	Theme Way from outer curb	0.00	A	0.00	A	0.00	No
CS	Theme Way to Center Way South	0.00	A	0.00	A	0.00	No
CT	Theme Way to Center Way North	0.00	A	0.00	A	0.00	No
CU	Center Way North, east of Theme Way intersection	0.19	A	0.18	A	-0.01	No
CV	Center Way South, east of P8 exit	0.00	A	0.00	A	0.00	No
CW	East Way northbound, north of Center Way	0.06	A	0.11	A	0.04	No
CX	East Way northbound, south of Center Way	0.06	A	0.11	A	0.04	No
CY	East Way southbound, north of Center Way	0.09	A	0.08	A	-0.02	No
CZ	East Way southbound, south of Center Way	0.09	A	0.08	A	-0.02	No
CAA	East Way southbound, south of P19 exit	0.08	A	0.07	A	-0.02	No
CAB	Center Way, east of East Way intersection	0.20	A	0.18	A	-0.02	No
CAC	Center Way, east of P1 exit	0.23	A	0.18	A	-0.05	No
CAD	Center Way, east of P10 exit	0.23	A	0.18	A	-0.05	No
CAE	Return/exit roadway, north of Center Way	0.01	A	0.01	A	0.00	No
CAF	Center Way, east of exit to return/exit	0.29	A	0.22	A	-0.07	No
CAG	Center Way, east of P11 exit	0.33	A	0.30	A	-0.04	No
CAH	Center Way, east surface public parking lot P22 exit	0.33	A	0.30	A	-0.04	No
CAI	Center Way, east of upper level ramp	0.33	A	0.30	A	-0.03	No
CAJ	Center Way, east P12 exit	0.33	A	0.30	A	-0.03	No
CAK	Return/exit roadway, north of Center Way	0.20	A	0.16	A	-0.04	No
CAL	Return/exit roadway, west of Century Boulevard entrance/exit	0.00	A	0.00	A	0.00	No
CAM	Upper level ramp to eastbound Center Way	0.30	A	0.29	A	-0.01	No
CAN	Upper level ramp to return/exit	0.01	A	0.01	A	0.00	No
CAO	Return/exit roadway, south of lower level roadway	0.02	A	0.02	A	0.00	No

Table 4.6-21

CTA Roadway Impact Determination

Link ID	Level/Link Location	Future (2025) Without Program V/C	Future (2025) Without Program LOS	Future (2025) With Program V/C	Future (2025) With Program LOS	Impact Determination Change in V/C Ratio	Impact Determination Impact?
	Arrivals						
CAP	Exit to Sky Way	0.00	A	0.00	A	0.00	No
LA	Lower level roadway entrance	0.39	A	0.35	A	-0.04	No
LB	Terminal 1 outer curb, west of P8 exit	0.39	A	0.35	A	-0.04	No
LC	Terminal 1 outer curb, after inner curb exit 1	0.39	A	0.35	A	-0.04	No
LD	Terminal 1 outer curb, west of P9 exit and inner curb exit 2	0.38	A	0.34	A	-0.04	No
LE	Terminal 1 outer curb, west of East Way intersection	0.37	A	0.35	A	-0.02	No
LF	Outer curb, west of inner curb entrance from Terminal 1	0.50	A	0.47	A	-0.02	No
LG	Terminal 2 outer curb, west of exit to inner curb	0.40	A	0.38	A	-0.02	No
LH	Terminal 2 outer curb, west of Theme Way	0.43	A	0.41	A	-0.02	No
LI	Terminal 2 outer curb, west of P10 exit	0.43	A	0.42	A	-0.02	No
LJ	Terminal 2 outer curb, west of inner curb entrance from Terminal 2	0.39	A	0.38	A	-0.01	No
LK	Terminal 2 outer curb, west of exit to inner curb	0.39	A	0.38	A	-0.01	No
LL	Terminal 2 outer curb, west of P11 exit	0.45	A	0.38	A	-0.07	No
LM	Terminal 2 outer curb, west of inner curb entrance from Terminal 2	0.46	A	0.39	A	-0.07	No
LO	Terminal 2 outer curb, west of West Way intersection	0.37	A	0.39	A	0.02	No
LP	Terminal 2 outer curb, west of exit to inner curb	0.43	A	0.40	A	-0.03	No
LQ	Terminal 3 outer curb, west of P12 exit	0.39	A	0.38	A	-0.01	No
LR	Terminal 3 outer curb, west of P13 exit	0.33	A	0.33	A	0.00	No
LS	Terminal 3 outer curb, west of entrance from inner curb	0.34	A	0.36	A	0.02	No
LT	TBIT outer curb, south of exit to inner curb	0.20	A	0.24	A	0.04	No
LU	TBIT outer curb, south of Center Way intersection	0.25	A	0.31	A	0.06	No
LV	TBIT outer curb, south of exit to inner curb	0.24	A	0.30	A	0.06	No
LW	TBIT outer curb, south of entrance from inner curb	0.46	A	0.48	A	0.02	No
LX	Terminal 4 outer curb, east of exit to inner curb	0.37	A	0.38	A	0.01	No
LY	Terminal 4 outer curb, east of P14 exit	0.33	A	0.35	A	0.02	No
LAA	Terminal 4 outer curb, east of P15 exit	0.30	A	0.36	A	0.06	No
LAB	Terminal 4 outer curb, after entrance from inner curb	0.41	A	0.36	A	-0.06	No
LAC	Outer curb, east of West Way intersection	0.42	A	0.33	A	-0.10	No
LAD	Terminal 5 outer curb, after exit to inner curb	0.39	A	0.38	A	-0.01	No
LAE	Terminal 5 outer curb, east of P17 exit	0.36	A	0.32	A	-0.04	No
LAF	Terminal 5 outer curb, east of inner curb entrance/exit	0.31	A	0.33	A	0.02	No
LAG	Terminal 6 outer curb, east of P18 exit	0.35	A	0.37	A	0.02	No
LAH	Terminal 6 outer curb, east of P9 exit	0.31	A	0.33	A	0.02	No
LAI	Terminal 6 outer curb, east of exit to inner curb	0.32	A	0.32	A	0.01	No
LAJ	Outer curb, east of East Way intersection	0.32	A	0.31	A	-0.01	No

Table 4.6-21

CTA Roadway Impact Determination

Link ID	Level/Link Location	Future (2025) Without Program V/C	Future (2025) Without Program LOS	Future (2025) With Program V/C	Future (2025) With Program LOS	Impact Determination: Change in V/C Ratio	Impact Determination: Impact?
	Arrivals						
LAK	Terminal 7 outer curb, east of inner curb entrance/exit	0.30	A	0.30	A	0.00	No
LAL	Terminal 7 outer curb, east of P20 exit	0.23	A	0.23	A	0.00	No
LAM	Terminal 7 outer curb, east of exit to inner curb	0.29	A	0.29	A	0.00	No
LAN	Terminal 7 outer curb, after P21 exit	0.29	A	0.28	A	-0.01	No
LAO	Terminal 7 outer curb, after entrance from inner curb	0.40	A	0.40	A	0.00	No
LAP	Terminal 7 outer curb, after P13 exit	0.27	A	0.27	A	0.00	No
LAQ	Terminal 8 outer curb, east of inner curb entrance/exit	0.28	A	0.27	A	-0.01	No
LAR	Terminal 8 outer curb, after inner curb entrance	0.28	A	0.27	A	-0.01	No
LAS	Lower level exit 1 (south)	0.47	A	0.44	A	-0.03	No
LAT	Lower level exit 2 (east)	0.50	A	0.49	A	-0.01	No
LAU	Entrance from Sky Way	0.21	A	0.21	A	0.00	No
IA	Terminal 1 inner curb, east	0.13	A	0.11	A	-0.03	No
IB	Terminal 1 inner curb, center	0.21	A	0.20	A	-0.01	No
IC	Terminal 1 inner curb, west	0.21	A	0.20	A	-0.01	No
ID	Inner curb between Terminal 1 and Terminal 2	0.00	A	0.00	A	0.00	No
IE	Terminal 2 inner curb, east	0.06	A	0.05	A	-0.01	No
IF	Terminal 2 inner curb, center	0.06	A	0.05	A	-0.01	No
IG	Terminal 2 inner curb, center west	0.06	A	0.05	A	-0.01	No
IH	Terminal 2 inner curb, west	0.01	A	0.01	A	0.00	No
II	Terminal 3 inner curb, center	0.06	A	0.13	A	0.07	No
IJ	Terminal 3 inner curb, west	0.01	A	0.01	A	0.01	No
IK	TBIT inner curb, center	2.07	F	1.72	F	-0.35	No
IL	TBIT inner curb, south	0.78	C	0.65	B	-0.13	No
IM	Inner curb between TBIT and Terminal 4	0.02	A	0.02	A	-0.01	No
IN	Terminal 4 inner curb	0.20	A	0.23	A	0.03	No
IO	Terminal 5 inner curb, west	0.01	A	0.43	A	0.42	No
IP	Terminal 5 inner curb, center	0.12	A	0.32	A	0.19	No
IQ	Terminal 6 inner curb, center	0.08	A	0.06	A	-0.01	No
IR	Terminal 6 inner curb, east	0.09	A	0.07	A	-0.02	No
IS	Terminal 7 inner curb, west	0.16	A	0.12	A	-0.05	No
IT	Terminal 7 inner curb, center	0.18	A	0.13	A	-0.05	No
IU	Terminal 8 inner curb	0.23	A	0.17	A	-0.06	No
IV	Connection to outer curb, east of Terminal 8	0.02	A	0.02	A	0.00	No
NC	CTP east curb, north of Center Way ramp	N/A	N/A	0.30	A	N/A	No
ND	CTP west curb	N/A	N/A	0.04	A	N/A	No
NE	CTP east curb, south of Center Way ramp	N/A	N/A	0.19	A	N/A	No

Source: Ricondo & Associates, Inc., September 2013

Intersection Impacts

The impact comparison for the CTA intersections is depicted in **Table 4.6-22**. Implementation of the proposed Program is not anticipated to generate any significant impacts on the Intersections. The associated level of service worksheets for the intersection analysis is provided in **Appendix E.3** of this EIR. The overall intersection LOS at the CTA intersections remain the same under the Without and With Program conditions. Table 4.6-22 shows a minor decrease in the V/C ratios between the two scenarios as a result of the redistribution of CTA traffic to the CTP.

Table 4.6-22

CTA Intersection Impact Determination

	Future Without Program		Future With Program		Impact Determination	
Intersection	**V/C**	**LOS**	**V/C**	**LOS**	**Change in V/C Ratio**	**Impact?**
World Way North and Sky Way (Upper Level)	0.49	A	0.49	A	0.00	No
World Way South and West Way (Upper Level)	0.39	A	0.43	A	0.03	No
World Way South and East Way (Upper Level)	0.25	A	0.22	A	-0.03	No
World Way North and Sky Way Existing (Lower Level)	0.46	A	0.45	A	-0.01	No
World Way North and Sky Way Future (Lower Level)	0.43	A	0.42	A	0.00	No
World Way South and Center Way (Exit) (Lower Level)	0.71	C	0.71	C	0.00	No
East Way and World Way South (Lower Level)	0.37	A	0.35	A	-0.02	No

Source: Ricondo & Associates, Inc., September 2013

4.6.10.2 Conclusions

The results from the analyses show that implementation of the future phase(s) of the MSC Program is not expected to generate significant on-Airport traffic-related impacts to the curbsides, roadways, or intersections during either the arrivals or departures level peak hours.

4.6.11 Mitigation Measures

As no significant impacts would occur as a result of the implementation of the proposed MSC and CTP, no mitigation measures specific to the proposed Program are required.

4.6.12 Level of Significance After Mitigation

Impacts are less than significant, as indicated above; therefore, no mitigation measures are required.