# *FINAL ENVIRONMENTAL ASSESSMENT AND FINAL GENERAL CONFORMITY DETERMINATION*

LOS ANGELES INTERNATIONAL AIRPORT (LAX)
LANDSIDE ACCESS MODERNIZATION PROGRAM

Los Angeles International Airport
Los Angeles, Los Angeles County, California

*Prepared for:*

**LOS ANGELES WORLD AIRPORTS**

**U.S. DEPARTMENT OF TRANSPORTATION**
**FEDERAL AVIATION ADMINISTRATION**
As lead Federal Agency pursuant to the National Environmental Policy Act of 1969

*Prepared by:*

Ricondo and Associates, Inc.

**December 2017**

# APPENDICES H – N

# Appendix H

## Historic Resources Report

H.1 Section 106 Assessment Report

H.2 SHPO Coordination Letters

H.3 Memorandum of Agreement

H.4 ACHP Coordination Letters

# Appendix H.1

Section 106 Assessment Report

# LAX Landside Access Modernization Program

*Section 106 Assessment*

February 2017

HISTORIC RESOURCES GROUP

This Evaluation Report has been prepared by Historic Resources Group (HRG) on behalf of Los Angeles World Airports (LAWA) to identify historic resources located within the proposed Area of Potential Effect (APE) identified for the proposed Los Angeles International Airport (LAX) Landside Access Modernization Program (LAMP) and identify potential impacts to historic resources caused by LAMP.

This report is intended to inform federal environmental review of LAMP in compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800 "Protection of Historic Properties," and is consistent with the findings reported in the historic resources technical report contained in the LAX Landside Access Modernization Program Draft Environmental Impact Report.[1]

## 1.1 Methodology

Evaluation of historic significance is based on a review of existing historic designations, research of the relevant historic contexts and an analysis of the eligibility criteria and integrity thresholds for listing in the National Register of Historic Places. Eligibility criteria for listing in the California Register of Historical Resources, and as a City of Los Angeles Historic-Cultural Monument were also considered. Potential historic resources were considered as individual resources and as potential contributors to a historic district where relevant.

### Research

This report was prepared using primary and secondary sources related to the development history of LAX and its immediate surrounding area. The following documents were consulted:

- Historic building permits
- Historic photographs, aerial photos and site plans
- Published local histories
- Previous historic resources analysis and environmental review documents.
- California State Historic Resources Inventory (HRI) for Los Angeles County

[1] Los Angeles World Airports, *LAX Landside Access Modernization Program, Draft Environmental Impact Report*, Appendix H, Historic Resources Technical Report, August 2016.

- Department of Parks and Recreation Historic Resources Inventory Forms
- Applicable results from SurveyLA, the City of Los Angeles' comprehensive historic resources survey now ongoing.

Physical Evaluation

Assessment of properties for their potential historic significance, historic integrity, and identification of character-defining features were conducted through on-site inspection and survey of the APE in 2015 and 2016.

Both reconnaissance-level and intensive-level methodology was used for investigation of historic resources for LAMP. During investigation, properties known to have been constructed within the last 40 years, temporary groupings of pre-fabricated buildings, vacant lots, surface parking lots, and parking structures were quickly eliminated from in-depth investigation through reconnaissance and not subject to intensive-level analysis. The remaining properties were treated at the intensive level in terms of historic context, property research, field study, analysis and evaluation.

### 1.2 Project Team

Research, evaluation, field inspection, and analysis were performed by Paul Travis, AICP, Principal and Senior Preservation Planner; John LoCascio, AIA, Senior Preservation Architect; and Peyton Hall, FAIA, Managing Principal. Additional research and site documentation were conducted by Robby Aranguren, Planning Associate, and Molly Iker, Historian. All are qualified professionals who meet the Secretary of the Interior's Professional Qualification Standards.

### 1.3 Summary of Findings

Investigation of the LAMP APE identified five (5) buildings and one (1) structure that are eligible for listing in the National Register. Three (3) additional buildings and one (1) structure were identified as not eligible for the National Register but eligible for the California Register and/or for local listing as a Los Angeles Historic Cultural Monument.

This investigation finds that LAMP would result in an adverse effect to the LAX Theme Building, which was determined eligible for listing in the National Register by consensus through a Section 106 evaluation, has been listed in the California Register and has been designated a City of Los Angeles Historic Cultural Monument. New construction associated with LAMP would alter the setting of the LAX Theme Building in manner that would diminish its ability to convey its historic significance.

Notwithstanding the adverse effect due to alterations of the Theme Building setting, the Theme Building would not be physically altered by construction associated with LAMP. The Theme Building would remain physically intact in its original location and its unique architectural design would remain discernible and continue to convey its historical significance despite being partially obscured by the proposed new construction. For these reasons, the Theme Building would remain eligible for listing in the National Register after implementation of LAMP.

LAMP will not result in any additional adverse effects to historic resources located within the APE.

Mitigation measures to minimize adverse effects to the LAX Theme Building are provided in Section 8 of this report.

Los Angeles World Airports (LAWA) is currently undertaking a modernization program at LAX to improve passenger level-of-service and provide world-class facilities for its customers. Currently, access to the airport is restricted to a single entrance at the intersection of Sepulveda Boulevard and West Century Boulevard, which all passengers, employees, and commercial drivers transporting those passengers must utilize in order to access the passenger terminals. During peak travel periods over 6,000 vehicles per hour enter the airport, which causes traffic congestion within the Central Terminal Area that frequently spills out onto the surrounding street network, causing delays and gridlock affecting local arterials including Interstate 105.

Compounding the local traffic congestion, over 20 rental car agencies operate independent shuttles to transport passengers between the CTA and their car rental facilities that are located throughout the surrounding area. Approximately 17 percent of airport traffic is caused by car rental shuttles, which add up to over 1 million trips a year. Unlike most major U.S. airports, LAX does not have a consolidated rental car facility that provides a convenient and centralized location for airport passengers to rent and return cars. LAX also lacks a direct connection to the Los Angeles County Metropolitan Transit Agency (Metro) commuter train system. Currently passengers and employees desiring to take public transportation to LAX must either take buses the entire way, or take a Metro commuter train line to Imperial and Aviation and then transfer to buses to get to the airport.

As part of the overall modernization of LAX, LAWA proposes to implement the LAX Landside Access Modernization Program to continue to modernize and transform LAX into a world-class airport. The LAX Landside Access Modernization Program (Project) seeks to improve access options and the travel experience for passengers; relieve congestion of on-Airport and surrounding roadways, shift where different modes of traffic operate within the CTA and on the surrounding street network; and provide a non-road connection to the regional Metro rail and transit system. By implementing this project, LAWA seeks to reduce traffic congestion and improve air quality around the airport.

The federal undertaking includes approval of the Airport Layout Plan depicting the proposed Project which includes several individual components that collectively would improve access to and from LAX. These components include an Automated People

[2] Description of existing conditions and the proposed project as provided by the Applicant.

Mover (APM) system, Intermodal Transportation Facilities (ITFs), a Consolidated Rental Car Facility (CONRAC), pedestrian walkway connections to the passenger terminals within the CTA, and roadway improvements. Metro is independently working on a connection to the LAX/Crenshaw commuter rail line at their proposed Airport Metro Connector (AMC) Station to be located at Aviation Boulevard and W. 96th Street. LAWA proposes to provide a direct connection from the APM to Metro's station at W. 96th Street, allowing passengers to seamlessly transition between the airport APM and the Metro transit system. The federal undertaking also includes potential federal funding and use of Passenger Facility Charges.

Public access into the CTA under the proposed undertaking would continue to function the way it does today with the addition of the APM option. The purpose of the APM system is to reduce the number of commercial and private vehicles within the CTA, which would result in improved traffic flows on CTA and surrounding roadways, as well as fewer vehicle miles traveled and vehicle hours traveled. The APM system would provide passengers several different options to access LAX and would give LAWA the ability to implement pricing strategies, policies, and procedures that would result in a reduced number of vehicles in the CTA. The proposed APM would consist of a fixed guideway transportation system that would provide free access to the CTA for passengers, employees, and other users of LAX, 24 hours a day. Constructed completely above grade, the APM would connect to the passenger terminals in the CTA through a pedestrian walkway system located above the existing roads and curb areas in the CTA.

The APM would transport passengers between the passenger terminals and the other main components of the Project located east of the CTA, including a CONRAC facility, new public parking facilities, and locations for passenger pick-up and drop-off at the ITF East and the ITF West, as well as Metro's proposed AMC 96th Street Transit Station. The ITFs would provide access to the terminals for those that choose to drive their vehicle to LAX and park, including both long- and short-term parking. In addition, the ITFs would have designated space for commercial transportation providers, including, but not limited to, off-airport parking operators, long-distance shuttle operators, and hotel shuttles. The ITFs would enable passengers to access commercial transportation providers while eliminating the need for the providers to enter and circle through the CTA. The ITFs may include amenities and concessions for passengers, would offer long- and short-term parking options with close proximity to the APM system, provide new meet and greet locations for arriving passengers, and kiss and ride areas for departing passengers. In addition, various roadway improvements would accommodate the APM system, the CONRAC, and ITFs, and improve overall traffic circulation and vehicle access to and from LAX from all directions.

The proposed Project includes the following components:

- An APM system with six APM stations connecting the CTA via an above-grade fixed guideway to new proposed ground transportation facilities;
    - Passenger walkway systems connecting the APM stations to passenger terminals, parking garages, and ground transportation facilities;
    - Modifications to existing passenger terminals and parking garages to support the APM walkway system connections, including vertical circulation cores to the arrival, departure, and concourse levels at the terminals;
    - An APM maintenance and storage facility (MSF); and
    - APM power substations.
- A CONRAC designed to meet the needs of car rental agencies serving LAX with access to the CTA via the APM;
- Two ITFs providing parking and pick-up and drop-off areas outside the CTA for private vehicles and commercial shuttles;
- Roadway improvements and project design features designed to improve access to the proposed facilities and the CTA and reduce traffic congestion in neighboring communities;
- Security features, including security fencing, surveillance cameras, security lighting, and emergency phones/call boxes, to reduce demands on the Los Angeles World Airports Police Department (LAWAPD);
- Fire safety features in compliance with fire and building code requirements including fire hydrants, fire sprinklers, and fire extinguishers;
- Utilities infrastructure, both new and modified, as needed, to support the proposed undertaking;
- Land acquisition of approximately 26 acres to allow construction of the proposed undertaking; and

- Enabling projects to allow construction of the Proposed Action, including utility relocation and demolition of certain existing facilities, some of which would be reconstructed. Enabling projects include:
    - Demolition and reconstruction of three parking garages within the CTA;
    - Demolition and/or relocation of:
        - Clifton Moore Administration Building
        - Bob Hope Hollywood USO
        - Restaurant Building (Burger King)
        - LAX City Bus Center
        - Delta Hangar Complex
        - Reliant Medical Center
        - Drug Enforcement Administration Building/Trailer
        - Airport Operations Trailers
        - Airport Century Inn (Travelodge)
    - Closure and demolition of existing roadways
        - Jenny Avenue
        - W. 96th Street between Vicksburg Avenue and Airport Boulevard
        - Belford Area secondary roadways
        - Manchester Square secondary roadways
        - Sky Way/W. 96th Street bridge
    - Roadway improvements to Center Way and West Way within the CTA

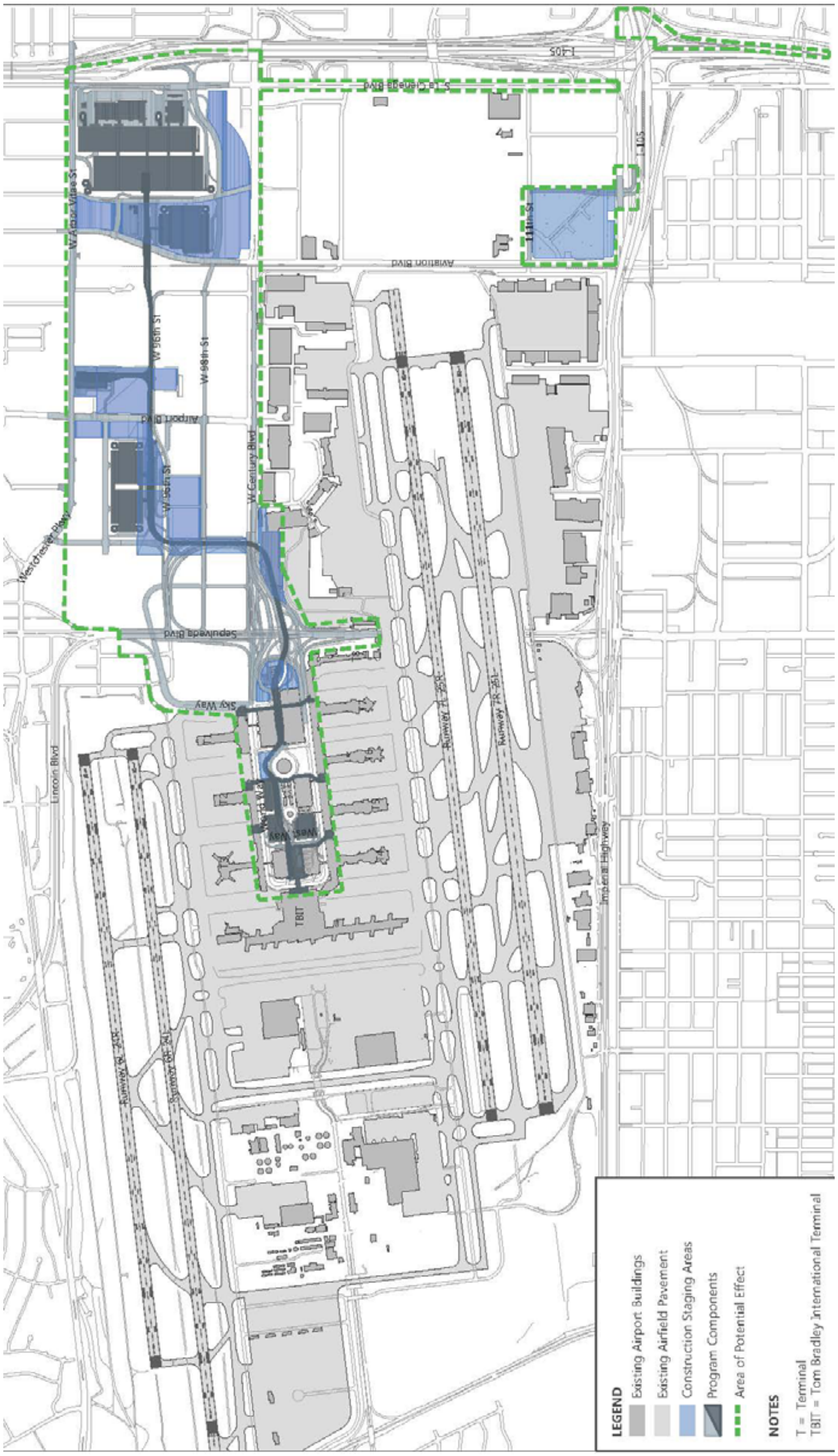
The Area of Potential Effect (APE) is defined as the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties (36 Code of Federal Regulations [CFR] Part 800, Protection of Historic Properties, Section [§]800.16(d)). These changes may include physical destruction, damage, or alteration of a property; change in the character of the property's use or of physical features within its setting that contributes to its historic significance; and introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features (36 CFR § 800.5(a)(2)). The locations of various known historic properties within the project vicinity were carefully considered. Specifically, the APE includes areas of potential physical disturbance for the proposed improvements, related construction impact areas, and areas with existing views of historic resources that may be impacted by the proposed project.

Because the proposed project and construction staging areas would occur at specific locations across the LAX property, a noncontiguous APE was delineated. The APE includes all the various areas for demolition, new construction, and circulation improvements described in Section 2.0, and construction staging areas. No effect to structures or any potential historic resources would occur outside of the APE, as delineated on Figure 1, as a result of the proposed undertaking. The APE was delineated to focus the Section 106 evaluation on areas that could be potentially affected by the proposed undertaking. Specifically, the APE was defined to evaluate whether the proposed undertaking would introduce an atmospheric, audible, or visual feature to the area that would diminish the integrity of the property's significant historic features (including its setting, provided the setting has been identified as a contributing factor to the property's historical significance).

The APE occupies approximately 1,000 acres and is split into three general regions: Central Terminal Area, East of the Central Terminal Area, and Aviation Boulevard/Imperial Highway Area. The Central Terminal Area (CTA) includes areas west of Sepulveda Boulevard, focused around World Way and the passenger terminals at LAX. East of the Central Terminal Area is generally bounded by W. Century Boulevard on the south, Interstate 405 (I-405) on the east, W. Arbor Vitae Street/LAX property boundary on the north, and Sepulveda Boulevard on the west. The Aviation Boulevard/Imperial Highway Area is bounded by Imperial Highway on the south, W. 111th Street on the north, Aviation Boulevard on the west, and Hindry Avenue on the east, but also includes roadway improvements along the I-405 and La Cienega Boulevard. The APE comprises various airport, regional commercial, general commercial, and medium-density residential land uses. The APE is primarily developed and heavily urbanized, with some vacant areas associated with the Belford and Manchester Square Areas.

A map of the APE is included in Figure 1.

Figure 1: Area of Potential Effect



## 4.1 Section 106 of the National Historic Preservation Act of 1966

Enacted in 1966, the National Historic Preservation Act (NHPA) established a national policy for historic preservation and instituted a multifaceted program to encourage the achievement of preservation goals at the federal, state, and local levels.

Section 106 of the NHPA "requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Council a reasonable opportunity to comment on such undertakings." Undertakings include a "project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval." Section 106 requires federal agencies to take into account the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the National Register of Historic Places.[3]

The Section 106 process seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.

## 4.2 Historic Designations

A property may be designated as historic by Federal, State, and local authorities. In order for a building to qualify for listing in the National Register or the California Register, it must meet one or more identified criteria of significance. The property must also retain sufficient architectural integrity to continue to evoke the sense of place and time with which it is historically associated.

### National Register of Historic Places

The National Register of Historic Places is an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment.[4] The National Park Service administers the

[3] 36 Code of Federal Regulations, 800.16[y]
[4] 36 Code of Federal Regulations 60.2.

National Register program. Listing in the National Register assists in preservation of historic properties in several ways including: recognition that a property is of significance to the nation, the state, or the community; consideration in the planning for Federal or federally assisted projects; eligibility for Federal tax benefits; and qualification for Federal assistance for historic preservation, when funds are available.

The criteria for listing in the National Register follow established guidelines for determining the significance of properties. The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history. [5]

In addition to meeting any or all of the criteria listed above, properties nominated must also possess integrity of *location, design, setting, materials, workmanship, feeling,* and *association*.

<u>California Register of Historical Resources</u>

The California Register is an authoritative guide in California used by State and local agencies, private groups, and citizens to identify the State's historic resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.[6]

The criteria for eligibility for listing in the California Register are based upon National Register criteria. These criteria are:

[5] 36 Code of Federal Regulations 60, Section 60.4.
[6] California PRC, Section 5024.1(a).

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

2. Associated with the lives of persons important to local, California or national history.

3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.

4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

The California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register includes the following:

- California properties formally determined eligible for (Category 2 in the State Inventory of Historical Resources), or listed in (Category 1 in the State Inventory), the National Register of Historic Places.

- State Historical Landmarks No. 770 and all consecutively numbered state historical landmarks following No. 770. For state historical landmarks preceding No. 770, the Office of Historic Preservation (OHP) shall review their eligibility for the California Register in accordance with procedures to be adopted by the State Historical Resources Commission (commission).

- Points of historical interest which have been reviewed by the OHP and recommended for listing by the commission for inclusion in the California Register in accordance with criteria adopted by the commission. [7]

Other resources which may be nominated for listing in the California Register include:

- Individual historic resources.

- Historic resources contributing to the significance of an historic district.

- Historic resources identified as significant in historic resources surveys, if the survey meets the criteria listed in subdivision (g).

[7] California PRC, Section 5024.1(d).

- Historic resources and historic districts designated or listed as city or county landmarks or historic properties or districts pursuant to any city or county ordinance, if the criteria for designation or listing under the ordinance have been determined by the office to be consistent with California Register criteria.
- Local landmarks or historic properties designated under any municipal or county ordinance. [8]

Local Designation Programs

The Los Angeles City Council designates Historic-Cultural Monuments on recommendation of the City's Cultural Heritage Commission.

Chapter 9, Section 22.171.7 of the City of Los Angeles Administrative Code defines an historical or cultural monument as:

*"… a Historic-Cultural Monument (Monument) is any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles, including historic structures or sites in which the broad cultural, economic or social history of the nation, State or community is reflected or exemplified; or which is identified with historic personages or with important events in the main currents of national, State or local history; or which embodies the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period, style or method of construction; or a notable work of a master builder, designer, or architect whose individual genius influenced his or her age."*

Designation recognizes the unique architectural value of certain structures and helps to protect their distinctive qualities. Any interested individual or group may submit nominations for Historic-Cultural Monument status. Buildings may be eligible for historical cultural monument status if they retain their historic design and materials. Those that are intact examples of past architectural styles or that have historical associations may meet the criteria in the Cultural Heritage ordinance.

4.3 Historic Significance and Integrity

Significance

The definition of historic significance has been developed by the National Park Service for the administration of the National Register:

[8] California PRC, Section 5024.1(e).

***Historic significance** is defined as the importance of a property to the history, architecture, archaeology, engineering, or culture of a community, state, or the nation.[9] It is achieved in several ways:*

- *Association with important events, activities or patterns*
- *Association with important persons*
- *Distinctive physical characteristics of design, construction, or form*
- *Potential to yield important information*

A property may be significant individually or as part of a grouping of properties.

Historic Integrity

*Historic integrity* is the ability of a property to convey its significance and is defined as the "authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic period."[10] The National Park Service defines seven aspects of integrity: *location*, *design*, *setting*, *materials*, *workmanship*, *feeling*, and *association*. These qualities are defined as follows:

- *Location* is the place where the historic property was constructed or the place where the historic event occurred.
- *Design* is the combination of elements that create the form, plan, space, structure, and style of a property.
- *Setting* is the physical environment of a historic property.
- *Materials* are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- *Feeling* is a property's expression of the aesthetic or historic sense of a particular period of time.

[9] *National Register Bulletin 16A. How to Complete the National Register Registration Form.* Washington D.C.: National Park Service, U.S. Department of the Interior, 1997. (3)
[10] Ibid.

- *Association* is the direct link between an important historic event or person and a historic property.[11]

### 4.4 Age Threshold

The fifty-year age threshold has become standard in historic preservation as a way to delineate potential historic resources. The National Park Service, which provides guidance for the practice of historic preservation, has established that a resource fifty years of age or older may be considered for listing on the National Register of Historic Places. The National Register Criteria for Evaluation exclude properties that achieved significance within the past fifty years unless they are of *exceptional importance*. Fifty years is a general estimate of the time needed to develop historical perspective and to evaluate significance.[12]

Criteria for listing in the California Register of Historical Resources does not specify any minimum age requirement for consideration of historic significance although it is understood that a sufficient period of time would need to have passed so that the resource can be evaluated within its appropriate context. Technical assistance provided by the California State Office of Historic Preservation states "In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than fifty years old may be considered for listing in the California Register if it can be demonstrated that sufficient time has passed to understand its historical importance."[13]

In the City of Los Angeles, "there is no requirement that a resource be a certain age before it can be designated"[14] as a Los Angeles Historic-Cultural Monument. The City's office of Historic Resources does qualify, however that "enough time needs to have passed since the resource's completion to provide sufficient perspective that would allow an evaluation of its significance within a historical context."

[11] *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. Washington D.C.: National Park Service, U.S. Department of Interior, 1995.
[12] Ibid. (2)
[13] *California Office of Historic Preservation Technical Assistance Series #6 California Register and National Register: A Comparison (for purposes of determining eligibility for the California Register)* State of California Office of Historic Preservation, Department of Parks and Recreation (3)
[14] City of Los Angeles Office of Historic Resources website, accessed February 2016. http://www.preservation.lacity.org/faq

***Much of the following information has been excerpted from the "LAX Master Plan EIS/EIR Appendix I Section 106 Report," prepared by PCR Services Corporation in January of 2001. Other sources are otherwise noted.***

## 5.1 Airport Development 1928-1951

Pioneering aviators began using a portion of ranch land west of Los Angeles, locally known as the "Bennett Rancho," as a landing strip during the 1920s. The Bennett Rancho was promoted as a location for a Los Angeles municipal airport by realtor William W. Mines, after which the site became known as "Mines Field." After Mines Field was selected as the location for the 1928 National Air Races, the City of Los Angeles leased 640 acres of the field for the Los Angeles Municipal Airport in August 1928.

In 1928, the Los Angeles Department of Airports (DOA) was established to administer the airport. Although intended as a regional airport for commercial air service, the Los Angeles Municipal Airport serviced only private pilots, flying schools and small aircraft manufacturers for several years. Plans to upgrade the airport for commercial airline services were halted with the onset of World War II. The federal government took control of the airport in January of 1942 and it was turned over for military use for the duration of the war.

During the war, the DOA was able to secure commitments from the major American commercial airlines[15] to relocate to Los Angeles Municipal Airport after the war with the creation of a master plan for improvements to the airport. By 1947, six major airlines were operating at the airport. In 1949, the airport was officially named "Los Angeles International Airport" after the Civil Aeronautics Administration determined the airport suitable for international, intercontinental, and non-stop domestic flights.

Los Angeles' postwar economic growth would effectively mandate continued improvements. Between 1947 and 1952, the number of travelers using or passing through the airport increased over 50 percent.[16] By 1950, all facilities were operating beyond their capacity. Using airport revenue and some federal funding the airport was able to make several upgrades including runway expansions, terminal building

[15] United Airlines, TWA, Western Air, American Airlines, and Pan American Airways.
[16] Schwartz, Vanessa R., "LAX Designing for the Jet Age," essay included in Overdrive L.A. Constructs the Future 1940-1990, De Wit, Wim and Christopher James Alexander editors, Getty Research Institute, Los Angeles, CA. 2013 (167)

expansions, more parking facilities and the Sepulveda Avenue tunnel under expanded runways.

### 5.2 "Jet Age" Development at LAX

Jet propulsion aircraft came to be understood by the general population in relation to military planes introduced during World War II. Jet passenger service began in the United States in the late 1950s with the introduction of the Boeing 707 and Douglas DC-8. Pan-American World Airways introduced overseas flights on Boeing 707 planes in October 1958, and Continental Airlines introduced jet service in 1959.

This began the "Jet Age," which revolutionized air travel. Jet engine planes reduced travel times by nearly half, enabled air manufacturers to build bigger, faster, more productive planes, and airlines to reduce their operating costs and airfares.[17] Jet aircraft continued to take a larger share of the market in the following years. It is estimated that almost 90 percent of air passenger miles were on jet aircraft by the end of the 1960s.[18] The rise in air traffic brought unprecedented demands on airports.[19] Airports across the country began construction on new and upgraded facilities to accommodate the increase in passengers.[20]

Faced with a clearly inadequate infrastructure, in 1956 airport officials hired the architectural and planning firm of Pereira & Luckman to master plan a facilities overhaul that would bring LAX into the Jet Age. The effort was a joint venture with the firms of Welton Beckett and Associates and Paul R. Williams joining Pereira & Luckman. Airport improvements were funded by a voter-approved $60 million bond.

As finalized in 1957, the new plan embraced the idea of decentralized or dispersed terminals. The plan distributed ticketing/baggage handling buildings along a U-shaped access road which wrapped a central mall containing surface parking, a restaurant, an employee cafeteria, electrical and heating plants, and the airport administration building. Each ticketing building was connected via an underground passageway to lozenge shaped satellite buildings with gates for boarding and deplaning. The satellite buildings contained passenger amenities including waiting areas, cocktail lounges, dining facilities, gift shops, and newsstands. The location of satellite terminals also

[17] Smithsonian National Air and Space Museum, "America By Air," accessed February 10, 2015, https://airandspace.si.edu/exhibitions/america-by-air/online/heyday/heyday13.cfm.
[18] Schwartz (163)
[19] William H. Young, and Nancy K. Young, *The 1950s* (Westport, CT: Greenwood, 2004, (265)
[20] Janna Eggebeen, "Airport Age: Architecture and Modernity in America" (dissertation, The City University of New York, 2007, (75)

maximized plane maneuverability and provided multiple points of access for boarding and deplaning.

Decentralization of the airport terminals was critical to the primary purpose of providing better continuity between ground and air for the new masses of travelers. The separation of ticketing and baggage check from waiting, boarding and deplaning over multiple terminals dispersed passenger activity throughout the airport, and reinforced a seamless experience in the travel experience from car to plane. Such decentralization also allowed the airport to better manage the anticipated increases in airplane travel and passenger numbers by reducing choke points in any single area.[21]

During their partnership and after going their separate ways in 1958, both William Pereira and Charles Luckman shared a commitment to research and planning as fundamental aspects of architectural design, and both were schooled in the principles of Modernism. The realized design at LAX was a rational and direct expression of the airport's purpose, utilizing a design aesthetic that emphasized simplicity and clarity of form. Within the minimalist landscape of the new CTA, symbolic representation of the new airport was reserved for two non-terminal buildings, the Airport Traffic Control Tower (ATCT) and the Theme Building. Punctuating the uniformly horizontal CTA with a 172-foot vertical tower, the new 1961 ATCT and Administrative Building was located at the airport's eastern and primary entrance from Century Boulevard. Designed in a Mid-century Modern style, the steel frame and reinforced concrete building was composed of two main parts: an office building forming a low base, and the actual control tower that rises above. Reputed to be the tallest of its kind when it was built, the form of the control tower and its integrated office building directly reflect its function and purpose.

Positioned on axis with the control tower at the geographic center of the CTA, the Theme Building was conceived as an alternative to the futuristic central building shown in early iterations of the plan.[22] Unlike the other buildings on the site, the Theme Building did not necessarily serve a critical airport function and therefore allowed for more freedom in its design. Designed in an Expressionistic style, featuring two intersecting parabolic arches rising 135 feet from the ground, the building served as a public restaurant, the employee commissary, and housed the central kitchen facilities servicing all satellite restaurants throughout the airport. The building also had an

[21] Schwartz (172)
[22] Schwartz (173)

observation deck open to the public. Given its public use and futuristic design, the Theme Building eventually became the iconic symbol of the new Jet Age airport.

Implementation of the plan began in 1957 with the construction of field improvements and runway extensions. This was quickly followed by the necessary excavations for the underground components. The final phase included the construction of the terminal buildings and the ATCT which was completed in 1961. On January 13, 1962, the Theme Building opened to the public. The airport began fitting the underground passageways with moving sidewalks in 1964.

The CTA remained essentially in its original form through the 1970s, with the only major alteration being the construction of multi-level parking structures in the central mall. Extension of the ticketing/baggage claim buildings and additions to the terminal satellites were conducted in a modular manner that was uniform throughout the CTA and continued the original design aesthetic.

### 5.3 Airport Expansion 1981- Present Day

By the late 1970s demands on the airport had exceeded the existing capacity, a situation made untenable with the anticipation of Los Angeles being scheduled to host the Games of the XXIII Olympiad in 1984. In 1981, the Airport embarked on a major expansion program that included a second deck of the U-shaped access road to separate arriving and departing passengers, expansion and remodeling of the existing terminal buildings, new parking structures, a new international terminal at the west end of the CTA, and a newly constructed Central Utility Plant. The Airport named Gin Wong as the supervising architect with Bechtel Civil & Minerals, Inc. and DMJM overseeing construction. The new international terminal, named after Los Angeles Mayor Tom Bradley, (TBIT) was designed by a joint venture of William Pereira & Associates, Daniel Dworsky and Associates, Bonito A. Sinclair and Associates, and John Williams and Associates. The TBIT opened in 1984.

It was during the 1980s that above-ground concourse piers connecting the ticketing and baggage buildings to the terminal satellites were constructed. Alterations and wholesale replacement of terminal buildings would continue through the present day.

In 1996, a new ATCT was constructed, designed by Kate Diamond of Siegel Diamond Architects and Adrianna Levinescu of Holmes & Narver. The Tower rises over 100 feet taller than the 1961 ATCT to the east. In response to moving control operations to the new Tower, the 1961 Administration Building and ATCT were extensively altered in the early 2000s.

In 2010 construction began on a major expansion and rehabilitation of the TBIT. The project added new concourses to the west of the existing terminal building, as well as shops, restaurants, passenger lounges, security screening areas, customs, immigration, and baggage claim facilities. The terminal opened in phases beginning in September 2012, and was opened in 2013.[23] Work continues on the TBIT with a projected completion in 2017.

### 5.4 Adjacent Development

Prior to the establishment of Los Angeles Municipal Airport at Mine Fields, the Los Angeles region had become home to several aviation industry pioneers, including Glenn Martin, who built his first airplane in Santa Ana in 1906 and Donald Douglas, who in 1920 had founded the Davis-Douglas Company in Santa Monica. Airplane manufacturers appreciated the local climate which was conducive to flying and generally favored locations on or near airports. Soon after the airport opened, several small aircraft companies, including the Fleet Aircraft Manufacturing Company and Golden Eagle Aircraft established operations at the airfield.

Despite serious difficulties during the Depression, industrial development at or near the airport continued throughout the 1930s. By 1937 California had become the national leader in aircraft production and the Los Angeles Municipal Airport area employed 2,300 workers in the aircraft industry. With the approach of World War II, demand for aircraft accelerated further as the military stepped up production orders. At the peak of the war effort in 1943, fully 34 percent of the Los Angeles workforce was employed by the aviation industry.

Aircraft production contracted immediately following the war, but growing commercial air travel and the Cold War arms race meant the continued growth of the aviation industry. In addition, the benefits of locating near the airport – including the relatively low cost of land and proximity to transportation and skilled labor - proved to be equally attractive to manufacturers in other industries. The establishment of the airport was a potent further inducement for industry to locate nearby. Manufacturing and light industrial concerns continued to locate in proximity of the airport throughout the 20th century.

[23] "About LAX Development Program," Los Angeles World Airports website accessed October 8, 2015. http://www.lawa.org/laxdev/laxdev.aspx

In 1962, construction began on a large commercial development along the north side of Century Boulevard. [24] Envisioned as a modern business district to include hotels, convention facilities, office buildings and retail uses, "International Airport Center" was the brainchild of the Del Webb Corporation in a lease agreement with the McCulloch Motors Corporation. McCulloch owned the land and had operated a manufacturing site on the property since 1946.[25] International Airport Center was planned and designed by Welton Beckett & Associates. Beckett & Associates was one of three architectural firms on the planning and design team for the LAX Jet Age expansion and was familiar with the site, having designed facilities on the McCulloch plant years earlier.[26] Beckett & Associates designed several buildings for the first phases of the International Airport Center project.

The first phase occupied a12-acre parcel bounded by Century Boulevard, Sepulveda Boulevard, and 98th Street, eventually extending to Vicksburg Avenue. A second phase developed property between Century Boulevard and 98th Street west of Airport Boulevard. The McCulloch plant was located between the two developments. International Airport Center was purchased by Prudential Insurance in 1964 with Del Webb maintaining control of the property and its development under its lease agreement.[27] In 1967, Tishman Realty and Construction Company purchased additional land from the McCulloch site to expand the Center and broke ground on their first building in 1967.[28] McCulloch would eventually sell the remainder of its Century Boulevard holdings and relocated its manufacturing operations opening up all of the area between Sepulveda Boulevard, Century Boulevard, Airport Boulevard and 98th Street for development. The land continued to be developed with office buildings and hotels into the 1990s.

[24] "Center's First Unit Rising," *Los Angeles Times*, December 16, 1962
[25] "New Research Plant Finished," *Los Angeles Times*, July 9, 1950 (F5)
[26] "Facility Wins Honor Award," *Los Angeles Times*, June 7, 1953
[27] "Airport Center Purchased for 10.5 Million," *Los Angeles Times*, July 7, 1964 (B7)
[28] "Tishman Will Expand at Airport," *Los Angeles Times*, August 20, 1967 (N12)

HRG conducted a detailed site investigation of the APE in 2015 and 2016 to identify historically significant properties potentially eligible for listing in the National Register. Eligibility for the California Register and/or as Los Angeles Historic-Cultural Monuments was also considered during this investigation.

Informed by knowledge of the area's historic periods of development, HRG conducted a field investigation of the APE to locate potential historic resources. Assessment of properties for their potential historic significance, historic integrity, and identification of character-defining features were conducted through on-site inspection and survey of the APE in 2015 and 2016. Background research on the development of its built environment provided an important foundation for informed observations in the field. Previous evaluations of the area were consulted and those properties previously found eligible or otherwise noted are documented here.

Field investigation focused primarily on buildings, structures objects, and landscape features located within the APE. Factors of the analysis included age of buildings, architecture, historic integrity and relationships to larger development patterns in the area.

## 6.1 APE Investigation: CTA Sub-Area

The CTA Sub-Area of the APE is located in the central portion of the LAX property, west of the intersection of Sepulveda Boulevard and Century Boulevard. The CTA Sub-Area of the APE contains an area west of Sepulveda Boulevard and the central portion of the CTA circumscribed by World Way. World Way encompasses an oblong central mall approximately two-thirds of a mile in length containing eight multi-level parking structures, the airport's Central Utility Plant (CUP), service facilities, and, organized east to west along the CTA's central axis, the 1961 ATCT and Administration Building, the Theme Building, and the 1996 ATCT. The mall is lighted by a variety of pole fixtures including some original eight-armed pole fixtures.

The eight parking structures were constructed between 1966 and 2000. They range from three to five stories in height and are utilitarian in design. The CUP, located west of the 1996 ATCT, was constructed in 2014 to replace the airport's original CUP. Between the Theme Building and the control tower are two parallel rectangular buildings, each three bays long, with undulating roof plates. These are the remnants of the airport's Central Service Facility, originally consisting of two parallel structures, each sixteen bays long.

Previous Historic Evaluations

Two buildings located within the CTA have been previously evaluated for eligibility as historic resources. These building are as follows:

***The LAX Theme Building***

The Theme Building, completed in 1962, was originally constructed as the geographic centerpiece and visual focus of the CTA. It was designed by Pereira and Luckman in an Expressionistic style to serve as the futuristic symbol of the new "jet age" airport. It is located in the very center of the CTA, at the midpoint of the main east-west axis. It sits on a circular island ringed by a divided access road, Center Way, flanked to north by a USO and a surface parking lot, to the south by a surface parking lot, to the east by multi-story parking structures, and to the west by parallel rows of barrel-roofed service buildings and the 1996 ATCT.

The Theme Building is of reinforced concrete and steel frame construction, and its exterior surfaces are finished in cement plaster. It has a circular plan and is symmetrically composed. It consists of a one-story circular base with a roof terrace, surrounded by a perforated concrete screen wall; a central, cylindrical circulation and utilities core; and a pair of crossed parabolic arches supporting an observation deck with a cantilevered, circular restaurant (now closed) suspended below. The restaurant is encircled by canted, aluminum-framed glass walls. The primary entrance is symmetrically located on the east façade and is accessed through a wedge-shaped forecourt hollowed out of the base, with terrazzo paving embedded with metal stars, walls and columns clad in ceramic mosaic tile, and a textured plaster ceiling with a circular oculus to the terrace above. The entrance consists of two pairs of glass doors in a floor-to-ceiling, aluminum framed glass wall. The doors open to a lobby with terrazzo floor and base, curved wood-paneled screen walls, textured plaster ceiling, and recessed flush doors and transom panels. The lobby elevators provide access to the circular, glass-walled restaurant and the observation deck above. The restaurant interior was completely remodeled in the mid-1990s. A 2008 seismic retrofit of the building added five feet of height to the central core.

The Theme Building was designated as City of Los Angeles Historic Cultural Monument #570 on December 18, 1993.[29] In 2001, the Theme Building was determined eligible for listing in the National Register by consensus through a Section 106

[29] *City of Los Angeles Historic Cultural Monument (HCM) List, City Declared Monuments*, City of Los Angeles Department of City Planning, July 31, 2014. (21)

evaluation. It was found eligible under Criterion C for architectural significance and was determined to satisfy National Register Criterion Consideration G for exceptional significance in a building less than 50 years old (at the time of evaluation). Because the Theme Building was determined eligible for listing in the National Register by consensus, it is listed in the California Register.[30]

### *1961 Airport Traffic Control Tower and Administration Building*

The 1961 Administration Building (currently known as the Clifton A. Moore Administration Building) and ATCT forms the eastern terminus of the central axis of the CTA. It sits on an ovoid island ringed by access roads, and is surrounded by landscaping and mature palm and ficus trees. The building is Mid-century Modern in style and is of steel frame and reinforced concrete construction. It is composed of two main parts: an office building forming a low base, and the actual control tower that rises above.

The office building is two stories in height and has an irregular plan composed of interlocking square and rectangular volumes with two interior courtyards. It has a flat roof with built-up roofing. The exterior walls are composed of continuous bands of tinted, glazed aluminum storefront at the ground floor and ribbon windows at the second, alternating with continuous spandrels of scored cement plaster. The primary entrance is located on the southwest façade and consists of two pairs of glazed aluminum doors.

The 1961 Airport Traffic Control Tower rises from the main interior courtyard. It has a square plan and is 13 stories in height. It is raised on four square concrete *piloti*, leaving the ground floor open except for the concrete stair and elevator tower. The exterior walls of the second through twelfth stories consist of continuous bands of aluminum-framed ribbon windows alternating with continuous spandrels of scored cement plaster. At each floor the tower is ringed by narrow cantilevered platforms with metal grates, and continuous horizontal metal pipe railings with angled metal vertical supports. The thirteenth story consists of the former control cab, set back from the tower perimeter and surrounded by a simple metal railing. The cab is square in plan with continuous bands of angled glass windows on all four sides and a flat roof.

In 2001, the 1961 ATCT was found ineligible for listing in the National Register due to extensive alterations that had compromised its integrity. The Historic Resources

[30] *LAX Specific Plan Amendment Study Draft EIR*, Los Angeles International Airport, July 2012 (4-337)

evaluation for the 2012 LAX Specific Plan Amendment Study Draft EIR reiterated the Tower's ineligibility for the National Register and found it ineligible for the California Register and as a City of Los Angeles Historic Cultural Monument. The 2012 report stated that the 1961 ATCT did "contribute to the setting of the Theme Building" but did not make clear what that meant in terms of historic resources. Because the CTA has been extensively altered since its original construction, including the construction of multi-level parking structures on what was originally a surface parking lot surrounding the Theme Building, it is unclear how the 1961 ATCT "contributes" to the Theme Building setting. For the purposes of this report, the CTA and its constituent parts were evaluated to determine whether it qualified as a historic district; it was determined that no historic district existed (see below). The 1961 ATCT is a remnant of the original CTA design and is considered as a resource separate from the Theme Building for the purposes of Section 106.

Additional Evaluations

***1961 Airport Traffic Control Tower and Administration Building***

HRG field investigation identified the 1961 Administration Building and ATCT as warranting re-evaluation as a potential historic resource by virtue of its historic associations and age. The 1961 Administration Building and Airport Traffic Control Tower is potentially historically significant – and therefore eligible for historic designation – under National Register Criterion A and California Register Criterion 1 for its association with the mid-20$^{th}$ Century expansion and upgrading of LAX to accommodate the new era of jet airplane travel and the increase in commercial air travel made possible by jet propulsion technology.

The 1961 Administration Building and ATCT have been extensively altered, particularly the two-story Administration Building portion. Alterations include enclosure of its ground floor, partial enclosure of the original interior courtyard, enclosure of the original glass-walled second-story bridges that connected the north and south office wings; the removal of the original exterior mosaic tile wall cladding and horizontal window canopies on the north and south façades; and the construction of a large two-story addition to the northwest.

The Tower portion has been altered by the removal of the original aluminum vertical louvers and the addition of metal pipe railings at each floor but continues to retain several original features including its square plan, 13 story height, and flat roof; control cab with angled, continuous, fixed aluminum-framed ribbon windows and surrounding roof deck; continuous, fixed, aluminum-framed ribbon windows; scored cement plaster spandrels; continuous aluminum grates; exposed concrete *piloti*, elevator/stair shaft, and screen wall at ground floor; and its second-story bridge to the Administration Building with ceramic mosaic tile wall cladding and aluminum-framed clerestory window. The original immediate surroundings and landscape have also been completely altered.

Due to extensive alteration of the two-story Administration portion and alterations to the Tower portion, the building no longer retains integrity of *design*, *setting*, *materials* or *workmanship* and therefore does not retain sufficient integrity to be eligible for listing in the National Register under Criteria A or C. The California Register criteria is somewhat more forgiving than the National Register criteria when it comes to integrity but given the overall alteration of its architectural design, the building is also not eligible for listing in the California Register under Criterion 1 or 3.

Because the Tower portion retains its vertical form and control cab, it is still recognizable as a control tower from the period of significance. Despite alterations, it continues to retain integrity of *location*, *feeling* and *association*. The Tower remains in its original location at the eastern entry into the CTA and retains its historic axial relationship with the Theme Building. It therefore continues to convey its historic association with the Jet Age redesign of LAX and the transformative effects of jet travel. For these reasons, the Tower does appear eligible for local listing as a City of Los Angeles HCM.

***Terminal 6 Sign Tower (1961)***

The Terminal 6 Sign Tower is located adjacent to the north façade of the Terminal 6 ticketing/baggage claim building, on the south side of World Way in the Central Terminal Area of LAX. The Sign Tower was one of six free-standing pylon signs constructed as part of the 1961 upgrade of LAX that created a contemporary international airport for the "Jet Age." The master plan and original buildings were designed by a joint venture of three prominent Los Angeles architectural firms, Pereira & Luckman, Welton Becket & Associates, and Paul R. Williams.

The towers were constructed of tube steel with concrete footings, and were approximately four stories in height. They were located on the landside of each ticketing building, to be visible from the central parking area, and rose through apertures in the overhanging flat roof canopies that sheltered the passenger drop-off/pickup areas.

The Terminal 6 sign tower is the only LAX terminal sign tower that remains intact and in its original location. SurveyLA, the City of Los Angeles' citywide historic resources survey, has developed a methodology and eligibility standards for evaluating historic signs which may or may not be associated with historic buildings. Pylon signs represent one structural type of sign significant to the commercial, cultural, and urban development of Los Angeles, the development of the city in association with transportation, and the development of significant architectural styles and promotional and identification techniques oriented to mobile audiences.

The Terminal 6 sign tower was originally constructed as an integral, vertical architectural element of the Terminal 6 ticketing building, to bear the building's identity and be read from a distance by travelers arriving by automobile in the airport's original central surface parking area. Much of the sign structure has been subsumed by additions and new construction to the Terminal 6 ticketing and baggage building and the sign structure can no longer be viewed as it was originally intended. This alteration in the immediate setting of the Terminal 6 sign tower has compromised its integrity such that it does not appear eligible for the National Register or California Register. The sign does remain in situ, however and continues to evoke associations with the original "Jet Age" master plan and design of LAX when it can be viewed. For these reasons, the Terminal 6 sign tower is  individually eligible for designation as a City of Los Angeles Historic-Cultural Monument.

***Potential Historic District***

Because the CTA represents a collection of related buildings, structures, objects and sites originally master-planned, designed and constructed as a unified entity, consideration of the CTA as an historic district is appropriate for its evaluation.

The buildings, structures and sites located within the CTA are potentially significant as a historic district under National Register Criterion A and California Register Criterion 1 for their association with the mid-20$^{th}$ Century expansion and upgrading of LAX to accommodate the new era of jet airplane travel and the increase in commercial air travel made possible by jet propulsion technology. The CTA is also potentially significant as a historic district under National Register Criterion C and California Register Criterion 3, as an excellent example of Jet Age airport planning and design and its association with the planning and design team of Pereira and Luckman, Welton Becket & Associates, and Paul R. Williams. The period of significance is 1957-1962 which encompasses the initial construction and completion of the CTA.

Currently, the CTA contains twelve (12) buildings. Of these, eight (8) remain from the period of significance. As explained previously, the Theme Building and the 1961 ATCT have retained sufficient integrity to convey their historic significance as individual resources and would, therefore, be considered contributing resources to a potential historic district. Terminal 3, which does not retain sufficient integrity to be eligible for listing as an individual resource, is the most intact of the remaining terminal buildings, having retained the original tunnel and many character-defining features in the satellite building. As such, it would also be considered a contributing resource to a potential historic district. Due to substantial alteration, none of the remaining terminal buildings from the period of significance retain sufficient integrity to convey their historic significance. Out of the 12 buildings currently present in the CTA only 3 would qualify as contributing.

In addition to the Theme Building and 1961 ATCT, remnant objects and structures also remain throughout the CTA. These include three eastern bays of the Central Service Facility; the sign tower for Terminal 6, and remnant eight-armed light poles. Internal underground tunnels linking the ticketing/baggage buildings to the terminal satellites also remain. In addition, the World Way U-shaped access road retains its basic historic configuration. As noted above, the sign tower for Terminal 6 appears individually eligible for designation as a Los Angeles Historic Cultural Monument. None of the other remaining elements are eligible for individual designation.

Given the extent of alterations and new construction within the CTA since the period of significance the remaining original buildings and features do not collectively retain sufficient integrity to qualify as a historic district. For any potential historic district, non-contributing buildings, structures, objects and site features located within the CTA would greatly outnumber contributors. The CTA does not exhibit the necessary ratio of contributing elements to non-contributing elements in order to qualify for listing as a historic district under National Register, California Register or local criteria.

### 6.2 APE Investigation: East of the CTA Sub-Area

HRG conducted a reconnaissance-level survey of the APE Sub-Area East of the CTA to identify historically significant properties potentially eligible for listing in the National Register, California Register or as Los Angeles Historic-Cultural Monuments. The area of investigation is roughly bounded by Arbor Vitae Street to the north, Century Boulevard to the south, Interstate 405 to the east, and Sepulveda Boulevard to the west.

#### Previously Identified Historical Resources

Five (5) buildings and one (1) structure located within the area of investigation have been previously identified as eligible for historic listing through survey evaluation. These resources are discussed below.

***9841 N. Airport Boulevard (Airport Century Building)***

The mid-rise office building at 9841 N. Airport Boulevard was constructed in 1968. It was designed by the architectural firm of Welton Beckett & Associates as part of the

"International Airport Center" commercial development located on the north side of Century Boulevard just east of the CTA. The Airport Century Building was found eligible for the National Register, California Register and for local listing by SurveyLA in 2013. The building was found significant as an excellent example of Corporate International architecture, and as a representative example of the work of master architects Welton Beckett & Associates.

### *5959 W. Century Boulevard (Tishman Airport Center Building)*

The 12-story office building at 5959 W. Century Boulevard was designed by Welton Beckett & Associates as part of the "International Airport Center" commercial development located on the north side of Century Boulevard just east of the CTA. Constructed in 1966, this mid-rise commercial office building was found eligible for the National Register, California Register and for local listing by SurveyLA in 2013. The building was found significant as an excellent example of Corporate International architecture, and as a representative example of the work of master architects Welton Beckett & Associates.

### *6151 W. Century Boulevard (The McCulloch Building)*

This 12-story office building at 6151 W. Century Boulevard was designed by Welton Beckett & Associates as part of the Airport Center project. Constructed in 1964, this mid-rise commercial office building was found eligible for the National Register, California Register and for local listing by SurveyLA in 2013. The building was found significant as an excellent example of Corporate International architecture, and as a representative example of the work of master architects Welton Beckett & Associates. This building is currently being remodeled from an office building to a hotel.

### *9800 S. Sepulveda Boulevard (Union Savings and Loan)*

The eight-story office building at 9800 S. Sepulveda Boulevard was originally constructed for Union Savings and Loan in 1964. The building was designed by Welton Beckett & Associates as part of the "International Airport Center" commercial development located on the north side of Century Boulevard just east of the CTA. This mid-rise commercial office building was identified as eligible for the California Register and for local listing through survey evaluation in 2012. It was not found eligible for listing in the National Register. The Union Savings and Loan Building was found significant as an example of the New Formalist architectural style as applied to a bank building, and as a representative example of the work of master architects Welton Beckett & Associates.[31]

### *Air Raid Siren No. 150*

Located on the south side of W. 98th Street just east of Airport Boulevard, this rotating air raid siren on a freestanding pole was identified as eligible for the National Register, California Register, and local designation by SurveyLA in 2013.[32] Constructed in 1940, the siren was evaluated as historically significant for its association with World War II and Cold War military infrastructure.

<u>Additional Evaluations</u>

HRG field investigation has identified two (2) additional buildings that warrant evaluation as potential historic resources by virtue of their historic associations, age, and/or architectural style. These properties are examined below.

### *9700 S. Sepulveda Boulevard (Aircraft School)*

The property at 9700 S. Sepulveda Boulevard contains a handful of modest single-story buildings set within an expanse of surface parking. The largest of the buildings is rectangular in plan with a bow-truss roof and monitor, horizontal wood cladding, and metal-frame, multi-light casement windows. The building is constructed in a vernacular/industrial style. Two smaller buildings with gable roofs and a rectangular masonry building with a flat roof and attached shade canopy are clustered just south of the bow-truss roof building. A rectangular building of more recent vintage is set apart from the others at the northwest corner of the site.

9700 S. Sepulveda Boulevard was originally developed by the “Los Angeles City High School District” in 1941 for use as a “National Defense Training School.” A single, rectangular wood and metal truss-roof building was constructed. According to the 1941 permit, no other buildings or structures were present on the site prior to this construction.[33]

In 1945 and 1948, permits indicate additional buildings were constructed and interior alterations were done to the original building. Beginning in 1945, the property is referred to as the “Los Angeles City Aircraft School” with the “Los Angeles City School

[31] *LAX Specific Plan Amendment Study Appendix E Cultural Resources Report*, prepared by PCR Services Corporation, July 2012. DPR forms 523A, 523B and 523L for 9800 S. Sepulveda Boulevard, December 14, 2011.
[32] *SurveyLA Historic Resources Survey Report Westchester – Playa Del Rey Community Plan Area*, prepared by Architectural Resources Group, November 27, 2013. (31)
[33] Permit No. 9967 dated April 21, 1941.

District" as its owner. Permits indicate several "school buildings" present on site.[34] The May, 1950 Sanborn map shows the original bow-truss roof building, a small "hangar" building, a smaller "fire proof" shop building, and two U-shaped classroom buildings clustered together within a large surface parking lot.

Since 1950, it appears that the site continued operation as an aircraft construction and repair training school, most recently as the Los Angeles College Aircraft School. Several additional rectangular buildings located immediately north of the bow-truss building were present as late as November of 2014. They have since been removed.[35] The property is today largely used for temporary parking, but the West Los Angeles College currently uses the buildings for the warehousing of movie set props and for instruction to support its Film/Television Production Crafts program.

Evidence suggests that the property has a long historic association with training in the aircraft trades in service of the explosive post-World War II growth of the aerospace industry in Southern California. Constructed for civil defense training just eight months prior to the Japanese attack of Pearl Harbor, the property may also have direct associations with the war effort. As such, it appears the property is eligible under National Register Criterion A, California Register criterion 1 and under Los Angeles HCM criteria as a rare intact example of an aircraft training facility from the 1940s. The property is representative of the 20th century development of aircraft and aerospace related industries and services that clustered near the airport beginning with the establishment of Mines Field. Aircraft-related development around the airport greatly intensified during and after World War II. Consolidation of the aerospace industry towards the end of the 20th century caused much of this activity to relocate to more favorable locations, while the continued expansion of LAX resulted in much of the surrounding property being turned over for parking, rental car facilities and lodging.

It appears, however, that only the rectangular bow-truss building appears to have retained sufficient integrity to convey the historic significance of the property.

***5855 W. Century Boulevard (Airport Marriott Hotel)***

The hotel property located at 5855 W. Century Boulevard was constructed in 1972, as the Airport Marriott Hotel, and officially opened in September of 1973. It was

[34] Permit No. 6271 dated May 7, 1945; Permit No. 9705 dated July 5, 1945; Permit No. 9706 dated July 5, 1945; Permit No. LA33829 dated December 28, 1948.
[35] Google Earth historic aerial photos accessed November 7, 2015.

reportedly the first Marriott hotel in California and the largest hotel property built by Marriott at the time of its construction.[36] Rectangular in plan, the property includes three five-story wings and an18-story tower wing wrapping a central patio area with swimming pool. A two-story rectangular volume containing dining, retail, meeting spaces, and other guest amenities sits east of the tower wing. The primary entrance facing Century Boulevard includes a projecting flat-roofed porte-cochere accessed by a U-shaped driveway. It was reportedly designed by Marriott corporate architects.

The Airport Marriott Hotel has not been previously identified as historically significant but it appears to retain the majority of its original features and appears to be significant on the local level as a rare, intact example of a large hotel property from the early 1970s. Constructed in 1973, the Airport Marriot Hotel is 42 years old and does not appear to be of "exceptional importance" required under National Register Criteria Consideration G for properties less than fifty years of age. Therefore, the Airport Marriott Hotel is not eligible for listing in the National Register at this time. For similar reasons, the Airport Marriott Hotel does not appear eligible for the California Register at this time as there is no substantial scholarly research on the commercial architecture of the 1970s outside of the work of specific architects. The property does appear to be a rare, intact example of a large, hotel and convention property from the 1970s and is therefore eligible as a Los Angeles Historic-Cultural Monument.

### 6.3 APE Investigation: Imperial-Aviation, La Cienega Boulevard, and 405 Access Ramp Sub-Areas

The Imperial-Aviation Sub-Area of the APE is a largely vacant block used for construction staging and storage. It was previously used as a surface parking lot as far back as the early 1950s. The Imperial-Aviation Sub-Area does not contain any buildings, structures, objects or sites identified as historically significant. The La Cienega and 405 access ramp right-of-ways also do not contain any buildings, structures, objects or sites identified as historically significant.

### 6.4 Identification of Historic Resources Summary

Investigation of the LAMP APE identified five (5) buildings and one (1) structure that are eligible for listing in the National Register. Three (3) additional buildings were identified as not eligible for the National Register but eligible for the California Register and/or for local listing. A map of the all properties located in the APE and identified as eligible for listing as historic resources can be found in Figure 2.

[36] "Party Celebrates Opening of Hotel," *Los Angeles Times*, September 10, 1973. (D2)

APE: CTA Sub-Area

The CTA Sub-Area contains one (1) building, the Theme Building that was determined eligible for listing in the National Register by consensus through a Section 106 evaluation, has been listed in the California Register and has been designated a City of Los Angeles HCM. Because the Theme Building has been determined eligible for the National Register, it qualifies as a historic resource under Section 106.

The CTA Sub-Area also contains one (1) building, the 1961 ATCT; and one (1) structure, the Terminal 6 Sign Tower that both appear eligible for listing as a City of Los Angeles HCM. Neither the 1961 ATCT is eligible for the National Register or California Register and do not, therefore, qualify as historic resources for the purposes of Section 106. No other buildings, structures, objects or sites located within the CTA Sub-Area appear eligible for listing as a historic resource.

APE: East of the CTA Sub-Area

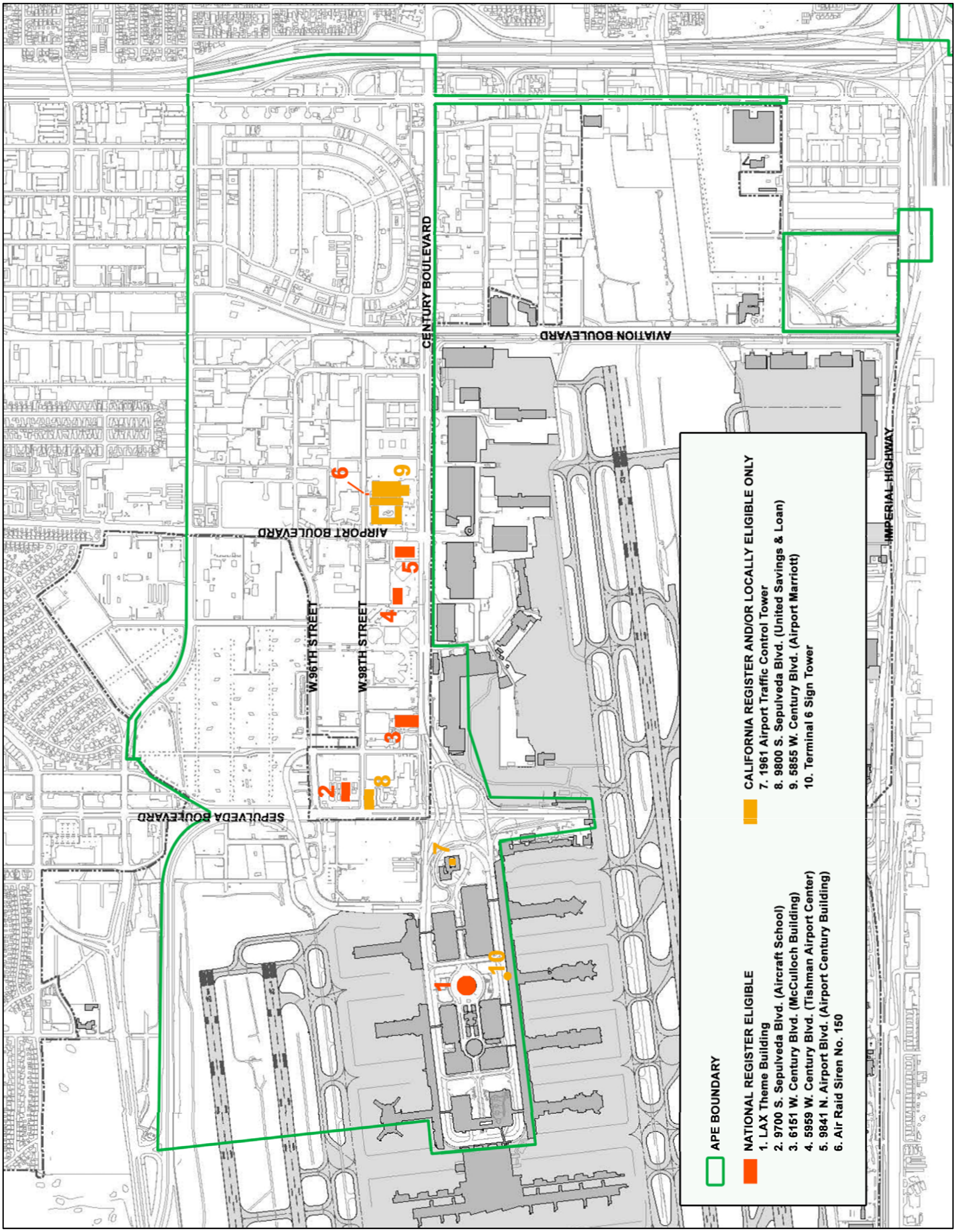
Four (4) buildings and one (1) structure located within the East of the CTA Sub-Area have been previously identified as eligible for historic listing through survey evaluation. Of these, three (3) buildings and (1) structure were found eligible for listing in the National Register and are, therefore, considered historic resources for the purposes of Section 106. These resources are the mid-rise commercial office building at 5959 W. Century Boulevard (1966); the mid-rise commercial office building at 6151 W. Century Boulevard (1964); and the Air Raid Siren (1940) located on the south side of W. 98th Street just east of Airport Boulevard. The mid-rise office building at 9800 S. Sepulveda Boulevard (1964) was previously found eligible for the California Register but not found eligible for the National Register and is, therefore, not considered a historic resource for the purposes of Section 106.

Investigation of the East of the CTA Sub-Area has identified two (2) additional buildings that were not previously identified but appear eligible for historic designation. The former aircraft school at 9700 S. Sepulveda Boulevard (1941) was found eligible for the National Register and is considered a historic resource for the purposes of Section 106. The Airport Marriott Hotel located at 5855 W. Century Boulevard (1972) was found eligible for local listing but is not eligible for the National Register or California Register and is not considered a historic resource for the purposes of Section 106.

<u>APE: Imperial-Aviation, La Cienega Boulevard and Interstate 405 Access Ramp Sub-Areas</u>

The Imperial-Aviation, La Cienega Boulevard and Interstate 405 Access Ramp Sub-Areas do not contain any resources eligible for the National Register, California Register or for local listing as a City of Los Angeles Historic Cultural Monument.

Figure 2: Historic Resources Identified Inside the APE



If historic properties are present in the APE, the effect the undertaking would have on those historic properties must be assessed. An "effect" is defined as an alteration to the characteristics of an historic property qualifying it for inclusion on, or eligible for inclusion on, the National Register.[37] The potential effects on historic properties by LAMP are assessed in this section.

A "historic property" is defined for the purposes of Section 106 as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. This includes both properties formally determined as such and all other properties that meet the National Register criteria.[38] Resources located within the APE that have been identified as eligible for the National Register are listed in Table 1.

## 7.1 Criteria for Adverse Effect on Historic Properties

Consistent with Section 106 regulations, the FAA's Section 106 handbook indicates that FAA would determine that the effect of an undertaking is adverse if it alters any the of the characteristics that qualify the historic property for inclusion in the National Register in a manner that diminishes the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.[39] A finding of adverse effect on a historic property is appropriate when the undertaking would:

- physically destroy or damage the property;
- alter the property in a way that is inconsistent with the Secretary of the Interior's Standards for Treatment of Historic Properties (see 36 CFR part 68);
- remove the property from its historic location;
- change the character of the property's use, or of physical features within the property's setting that contribute to its historic significance;
- introduce an atmospheric, audible, or visual feature to the area that would diminish the integrity of the property's significant historic features (including its setting, provided the setting has been identified as a contributing factor to the property's historical significance); or

[37] 36 Code of Federal Regulations 800.16(i)
[38] 36 Code of Federal Regulations 800.16(l)(1)(2)
[39] 36-Code of Federal Regulations 800.5(a)(1)(2)

- result in neglect of a property which would cause its deterioration or the transfer, sale, or lease of a property out of Federal ownership or control without adequate protection to ensure the long-term preservation of the property's historic significance.[40]

### 7.2 Potential Adverse Effects to Historic Resources Located within the CTA Sub-Area

As noted in Section 6 of this report, investigation of the CTA Sub-Area revealed one (1) building, the LAX Theme Building, that has been determined eligible for listing in the National Register by consensus determination and is considered a historic resource for the purposes of Section 106.

Alterations Associated with the LAMP Project

The LAMP project does not include the demolition, destruction, damage or relocation of the Theme Building. The LAMP project would construct the APM guideway to traverse east-west through the center of the CTA. The project would also construct three APM stations, and three enclosed elevated pedestrian walkways traversing the CTA north-south. The proposed elevated APM guideway would approach the Theme Building from the east along Center Way, the central axis between the Theme Building and the former Airport Traffic Control Tower, and would curve around the north side of the Theme Building before continuing west toward TBIT. The guideway would be approximately 70 feet above ground around the Theme Building, supported on concrete columns. The proposed APM train cars would be approximately 42 feet long, 9 feet wide and12 feet in height. The proposed APM trains would include up to 5 cars and would operate 24 hours a day, 7 days per week. During peak periods of operation, operating headway intervals (time between trains at a given station) would be approximately 2 minutes. A proposed new elevated passenger walkway, connecting the APM to terminals 2 and 6, would angle around the west side of the Theme Building just below the level of the guideway. (See Figure 3)

The Theme Building is historically significant for its unique architectural design distinguished by two intersecting parabolic arches supporting an observation deck with a cantilevered, circular restaurant space below. Originally conceived as the visual centerpiece of the CTA and designed to be viewed from all sides, the Theme Building was visible from any location within the CTA at the time of its construction and provided commanding views of the airport from its observation deck and restaurant

[40] *Section 106 Handbook: How to Assess the Effects of FAA Actions on Historic Properties under Section 106 of the National Historic Preservation Act,* Federal Aviation Administration, June 2015 (27)

space. In the intervening years, the construction of multi-level parking structures, elevated roadways and expanded terminal buildings within the CTA have obscured the central prominence of the Theme Building. Parking structures have long since replaced the majority of the flat expanse of surface parking that originally surrounded the Theme Building to the east and west. The upper deck of World Way has also obscured much of the direct visual connection between the Theme Building and the Terminal Buildings. Today, the Theme Building is only intermittently viewable from within the CTA.

Open surface parking remains to the immediate south of the Theme Building. With the exception of a single-story temporary building currently occupied by the USO, surface parking and open space also remains to the immediate north of the Theme Building. These open areas are important features of the Theme Building setting that continue to convey some semblance of the flat, open surroundings of the Theme Building when it was originally constructed. Experiencing the Theme Building at ground level from the immediately adjacent open areas provides the closest approximation today of the Theme Building's original physical context. The remaining open space also allows for important views to the Theme Building from the northern portion of World Way looking south, and from the southern portion of World Way looking north. (See Figure 4)

The apex of the Theme Building's two arches, the restaurant space and observation deck continue to rise above the parking structures, elevated roadway and terminal buildings that have been added to the CTA since its original construction. The 1961 ATCT also remains in place at the east end of the CTA maintaining the axial east-west alignment of the Theme Building and the 1961 ATCT as originally constructed.

<u>Integrity Analysis</u>

Because the LAMP project would build new structures immediately adjacent to the Theme Building its immediate surroundings would be altered. In order for this alteration to be considered adverse, however, it must be shown that the integrity and/or significance of the Theme Building would be diminished. As noted in Section 4.3 of this report, the ability of a historic resource to convey its significance is called historic integrity. Historic integrity is defined as the "authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic period."[41] The National Park Service identifies seven aspects of integrity: ***location, design, setting, materials, workmanship, feeling***, and ***association***. An analysis of the LAMP project and its potential effects to the Theme Building with respect to the seven aspects of historic integrity is provided below.

**Location** is defined as "the place where the historic property was constructed or the place where the historic event occurred." The LAMP project would not relocate the Theme Building or any of its component parts. The Theme Building would remain in the original place where it was constructed and would retain integrity of ***location*** after implementation of the LAMP project.

**Design** is defined as "the combination of elements that create the form, plan, space, structure, and style of a property." The LAMP project, including the construction of the APM guideway and elevated walkway adjacent to the Theme Building would not result in any physical alteration of the Theme Building. The form, plan, space, structure and style of the Theme Building will remain intact and the Theme Building would retain integrity of ***design*** after implementation of the LAMP project.

**Setting** is defined as "the physical environment of a historic property." The proposed guideway and walkway would alter the physical environment of the Theme Building by constructing new structures to the immediate north, east and west. The APM guideway will occupy a portion of the surface parking lots located along the north side of the Theme Building, filling in a portion of the remaining surrounding parking areas that originally defined the historic setting of the Theme Building. Construction of the elevated walkway would place a new structural element to the immediate west of the Theme Building.

The APM guideway would be constructed within 43 feet of the Theme Building at its closest point. The elevated walkway would be approximately 20 feet from the Theme Building at its closest point. The APM guideway and walkway would obscure and fragment views of the Theme Building from the east, north, and west, including views from the upper and lower levels of the north side of World Way after entering the CTA (see Figures 5 and 6). Only portions of the Theme Building would be visible above and below the guideway and between the columns from the north side of the Theme Building. Moreover, the superimposition of the horizontal and vertical elements of the

[41] National Register Bulletin 16A. How to Complete the National Register Registration Form. Washington D.C.: National Park Service, U.S. Department of the Interior, 1997. (3)

guideway and its supporting concrete columns would obfuscate the expressive forms and composition of the Theme Building's parabolic arches, circular base, perforated screen wall, restaurant, and central circulation and utilities core.

The heights of both structures would be approximately equal to the level of the Theme Building restaurant space. APM trains will add another 12 feet of height as they pass by along the APM guideway, which during peak periods could be as often as once every 2 minutes. Views from the interior of the restaurant, which was designed with canted glass walls to provide a 360-degree panorama of the surrounding airport, would be partially obstructed. The view from the restaurant interior, and from the observation deck above, would be obstructed to the east, north, and west, leaving only the view south unimpeded.

Because structures associated with the LAMP project would be constructed within the parking lots that surround the Theme Building, and these parking areas are an important component of the Theme Building setting, the Theme Building would not retain integrity of *setting* after implementation of the LAMP project.

As quiet is not an element of the original setting and none of the Theme Building's uses has quiet as a critical attribute (the Theme Building is located in the middle of the CTA and is affected by both vehicle traffic and aircraft noise), audible changes related to the operation of the APM trains wound not affect the setting.

**Materials** are defined as "the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property." The LAMP project, including the construction of the APM guideway and elevated walkway adjacent to the Theme Building would not result in any physical alteration of the Theme Building. All of the physical elements of the Theme Building would remain intact and the Theme Building would retain integrity of *materials* after implementation of the LAMP project.

**Workmanship** is defined as "the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory." The LAMP project, including the construction of the APM guideway and elevated walkway adjacent to the Theme Building would not result in any physical alteration of the Theme Building. All of the physical evidence of how materials were shaped and constructed to create the unique form, structure and style of the Theme Building would remain intact and the Theme Building would retain integrity of *workmanship* after implementation of the LAMP project.

**Feeling** is defined as "a property's expression of the aesthetic or historic sense of a particular period of time." Because the LAMP project would alter the immediate surroundings of the Theme Building by constructing new structures currently occupied by surface parking, the expressive form and design of the Theme Building would be substantially less discernible when viewed from the east, north and west. Its original function providing views from its restaurant and observation deck would also be further reduced. For these reasons, integrity of *feeling* would be somewhat compromised. The Theme Building would, however, remain physically intact in its original location and its unique architectural form would continue to be discernible and understandable despite alteration to its setting. The Theme Building would retain integrity of *feeling*.

**Association** is defined as "the direct link between an important historic event or person and a historic property." The Theme Building is historically significant under National Register Criterion C for its distinctive architecture and does not derive significance for its association with any persons or events. Therefore, integrity of *association* is not relevant to this analysis.

In summary, the Theme Building would retain integrity of *location*, *design*, *materials*, *workmanship* and *feeling* after implementation of the LAMP project. Integrity of *setting* would be compromised.

Conclusions

As noted above, a finding of adverse effect is appropriate when an undertaking changes "physical features within the property's setting that contribute to its historic significance," and "introduces an atmospheric, audible, or visual feature to the area that would diminish the integrity of the property's significant historic features…" The proposed construction of the APM and walkway associated with LAMP would reduce the integrity of the *setting* of the Theme Building. Alteration of setting would partially obscure unique features of the Theme Building's architectural design as well as its original function from certain perspectives. For these reasons, the construction of the APM guideway and the elevated walkway would result in an adverse effect to the Theme Building as defined by Section 106.

Notwithstanding the adverse effect due to alterations of the setting, the Theme Building is significant under Criterion C for its architecture, and this significance is conveyed primarily through its plan, form, architecture and design features. It is through the direct experience of the building that its historic significance as a work of architecture is understood. According to National Park Service Guidance, a property significant under National Register Criterion C must retain most of the physical features that constitute the architectural style or construction techniques the property represents.[42] As discussed earlier, neither the APM guideway and train, nor the passenger walkway would physically touch the Theme Building. The Theme Building would not be physically altered by construction of the APM guideway or the elevated passenger walkway. All of the Theme Building's significant architectural features, including the symmetrically composed circular plan; crossed parabolic arches; observation deck with cantilevered, circular restaurant suspended below; and perforated concrete screen wall would remain.

Important aspects of the setting would remain intact as well. These include the surface parking area directly south of the Theme Building, which would continue to provide a sense of the original flat, open surroundings. As is true today, the Theme Building would remain intermittently viewable from within the CTA. Views to the Theme Building from the south side of World Way looking north would remain. Views of the Theme Building from the upper and lower levels of the north side of World Way after entering the CTA would also remain in a somewhat obscured form. In addition, the 1961 ATCT would remain in place on axis with the Theme Building.

According to National Park Service guidance, "to retain historic integrity a property would always possess several, and usually most, of the (seven) aspects" of integrity.[43] Because construction of the APM guideway and elevated walkway would not result in any physical alteration of the Theme Building, it would retain integrity of *location*, *design*, *materials*, *workmanship* and *feeling*, or five of the six relevant aspects of integrity. The Theme Building would remain physically intact in its original location and its unique architectural design would remain discernible and continue to convey its historical significance despite being partially obscured by the proposed new construction. For these reasons, the Theme Building would remain eligible for listing in the National Register after implementation of LAMP. Section 8 of this report identifies the mitigation measures that LAWA proposes to implement to minimize the adverse effects to the Theme Building's setting.

[42] National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation, U.S Department of the Interior, National Park Service 1995. (46)
[43] Ibid. (44)

Construction of the APM Guideway

East of the CTA, the APM guideway would generally align with the Century Boulevard approach east of Sepulveda Boulevard, then turn north from Century Boulevard mid-block between Vicksburg Avenue and Avion Boulevard traversing an area currently used for surface parking. The APM guideway would continue north crossing West 98th Street where it would traverse an area currently used as a surface parking lot and turn right at 96th Street and continue east along the 96th Street alignment. The APM guideway would continue east past Bellanca Avenue, traversing parcels currently occupied by industrial uses, a former railroad right-of-way and a natural gas station. The guideway would terminate at the CONRAC.

Only one property identified as a potential historical resource is located on or immediately adjacent to the APM guideway. This is the 1964 McCulloch Building at 6151 W. Century Boulevard. The APM guideway would approach the McCulloch building from the south as it turns north from Century Boulevard to connect to the ITF West. The APM guideway north-south alignment would traverse east of the McCulloch building on an area currently used for surface parking.

Located approximately 100 feet from the McCulloch Building at its closest point, construction of the APM guideway would not materially alter the McCulloch Building. The McCulloch Building would remain in its original location and all of its character-defining architectural features would remain intact. The APM guideway would traverse the McCulloch building to the south and east partially obscuring views of the south and east facades. At 12 stories, however, the McCulloch Building would be over twice the height of the APM guideway and all of its public-facing facades would remain discernible despite partial blocking of views by the APM guideway. Moreover, the simple rectangular mass and regular façade pattern of window bands and spandrels characteristic of the McCulloch Building would remain discernible. After construction of the APM guideway, the McCulloch Building would remain intact and continue to convey its historic significance. Construction of the APM guideway would not result in an adverse effect to the McCulloch Building.

Construction of the ITF West

The ITF West is planned to be constructed in the approximate location of today's City Bus Center at LAX Lot C on the north side of W. 96th Street between Airport Boulevard and Vicksburg Avenue. This area contains surface parking lots on both sides of W. 96th Street. Investigation of the ITF West Development Area did not reveal any buildings, structures, objects or sites that are eligible for listing as historic resources. No historic resources were identified immediately adjacent to or in the immediate vicinity of the ITF West development area.

Because there are no historical resources located in or immediately adjacent to the ITF West development area, construction of the ITF West would not result in significant impacts to historic resources. Construction of the ITF West would not damage, demolish, relocate, convert, rehabilitate or reduce the integrity or significance of any historic resources. Construction of the ITF West would not result in any adverse effect to a historic resource.

Construction of the APM Maintenance and Storage Facility

The APM Maintenance and Storage Facility would be constructed on existing LAX property located at the northeast corner of Airport Boulevard and W. 96th Street. Prior to LAX ownership, the property was the residential neighborhood of Belford Square,[44] containing single-family homes and two-story multi-family residential buildings. Although the street pattern of the residential area remains, the parcels have been cleared of buildings and are currently vacant lots. No historic resources were identified immediately adjacent to or in the immediate vicinity of the APM Maintenance and Storage Facility development area.

Because there are no historic resources located in or immediately adjacent to the APM Maintenance and Storage Facility development area, construction of the APM Maintenance and Storage Facility would not result in significant impacts to historical resources. Construction of the APM Maintenance and Storage Facility would not damage, demolish, relocate, convert, rehabilitate or reduce the integrity or significance of any historic resources located on the APM Maintenance and Storage Facility site or in the vicinity. Construction of the APM Maintenance and Storage Facility would not result in any adverse effects to a historical resource.

Construction of the ITF East and CONRAC

The ITF East and CONRAC facilities would be constructed on land bounded by W. Arbor Vitae Street to the north, W. Century Boulevard to the south, La Cienega Boulevard to the east, and Aviation Boulevard to the West. Construction of the ITF East and CONRAC would require the demolition of all remaining buildings and

[44] Weikel, Dan, "Near LAX a once thriving community now stuck in economic limbo," Los Angeles Times, October 27, 2013.

structures of the Manchester Square subdivision. No historic resources were identified immediately adjacent to or in the immediate vicinity of the ITF East and CONRAC development areas.

Because there are no historic resources located in or immediately adjacent to the ITF East and CONRAC development areas, construction of the ITF East and CONRAC would not result in significant impacts to historical resources. Construction of the ITF East and CONRAC would not damage, demolish, relocate, convert, rehabilitate or reduce the integrity or significance of any historic resources located on the ITF East and CONRAC sites or in the vicinity. Construction of the ITF East and CONRAC would not result in any adverse effects to a historical resource.

### 7.4 Potential Adverse Effects from Proposed Roadway Improvements and New Roadways

The Project would include improvements to existing roadways and the construction of new roadways designed to improve access to the CTA from the freeway and provide access to the proposed ITFs and CONRAC. The improvements to existing roadways would largely remain within the public right-of-way and would not materially affect any identified historical resources.

A new roadway would be constructed immediately to the south and east of the 1964 McCulloch Building at 6151 W. Century Boulevard. Construction of the new roadway would not materially alter the McCulloch Building. The McCulloch Building would remain in its original location and all of its character-defining architectural features would remain intact. After construction of the new roadway, the McCulloch Building would remain intact and continue to convey its historic significance. Construction of the new roadway would not result in an adverse effect to the McCulloch Building.

Improvements to W. 96th Street would be constructed immediately to the north of 9700 S. Sepulveda Boulevard (the former aircraft school). Construction of the improved roadway would not materially alter the former aircraft school. The former aircraft school would remain in its original location and all of its character-defining architectural features would remain intact. After construction of the improved roadway, the former aircraft school would remain intact and continue to convey its historic significance. Construction of the improved roadway would not result in an adverse effect to the former aircraft school.

### 7. 5 Summary of Findings

Analysis of potential effects using Section 106 criteria reveals that LAMP would include new construction immediately adjacent to the Theme Building, which has been determined eligible for listing in the National Register under Criterion C by consensus through Section 106 evaluation. The proposed construction of the APM and elevated walkway associated with LAMP would affect the integrity of the Theme Building by altering its setting. Alteration of the Theme Building setting would partially obscure features of the Theme Building's architectural design as well as it original function from certain perspectives. For these reasons, the construction of the APM guideway and the elevated walkway would result in an adverse effect to the Theme Building as defined by Section 106.

Notwithstanding the adverse effect due to alterations of the setting, the Theme Building would not be physically altered by construction of the APM guideway or the elevated passenger walkway. All of the Theme Building's significant architectural features, including the symmetrically composed circular plan; crossed parabolic arches; observation deck with cantilevered, circular restaurant suspended below; and perforated concrete screen wall; would remain. Because construction of the APM guideway and elevated walkway would not result in any physical alteration of the of the Theme Building, it would retain integrity of *location*, *design*, *materials*, *workmanship* and *feeling*, or five of the six relevant aspects of integrity. The Theme Building would remain physically intact in its original location and its unique architectural design would remain discernible and continue to convey its historical significance despite being partially obscured by the proposed new construction. For these reasons, the Theme Building would remain eligible for listing in the National Register after implementation of LAMP. Section 8 of this report identifies the mitigation measures that LAWA proposes to implement to minimize the adverse effects to the Theme Building's setting.

.

| APN | ADDRESSS NO. | STREET | DATE | NAME | STATUS | EFFECT OF UNDERTAKING |
|---|---|---|---|---|---|---|
| 4129027902 | 201 | World Way | 1962 | LAX Theme Building | Determined eligible for listing in the NR by consensus. Listed in CR and designated as Los Angeles HCM No. 570. Significant as an excellent example of Expressionistic architecture designed by master architects, Pereira and Luckman. | Adverse Effect to Setting |
| 4124026900 | 9700 | Sepulveda Blvd S | 1941-1945 | Aircraft Training School | Eligible for the NR, CR, and local listing through survey evaluation. Significant for its association post-World War II growth of the aerospace industry in Southern California. | No Adverse Effect |
| 4124030029 | 6151 | Century Blvd W | 1963 | McCulloch Building | Eligible for the NR, CR and local listing through survey evaluation. Significant as an excellent example of Corporate International architecture designed by master architects Welton Beckett & Associates. | No Adverse Effect |
| 4124030040 | 5959 | Century Blvd W | 1966 | Tishman Airport Center Building | Eligible for the NR, CR and local listing through survey evaluation. Significant as an excellent example of Corporate International architecture designed by master architects Welton Beckett & Associates. | No Adverse Effect |
| 4124030042 | 9841 | Airport Blvd N | 1968 | Airport Century Building | Eligible for the NR, CR and local listing through survey evaluation. Significant as an excellent example of Corporate International architecture designed by master architects Welton Beckett & Associates | No Adverse Effect |
| N/A | N/A | 98th St W | 1940 | Air Raid Siren No. 150 | Eligible for the NR, CR and local listing through survey evaluation for its association with World War II and Cold War military infrastructure. | No Adverse Effect |

Figure 3: Proposed LAMP Components Adjacent to Theme Building



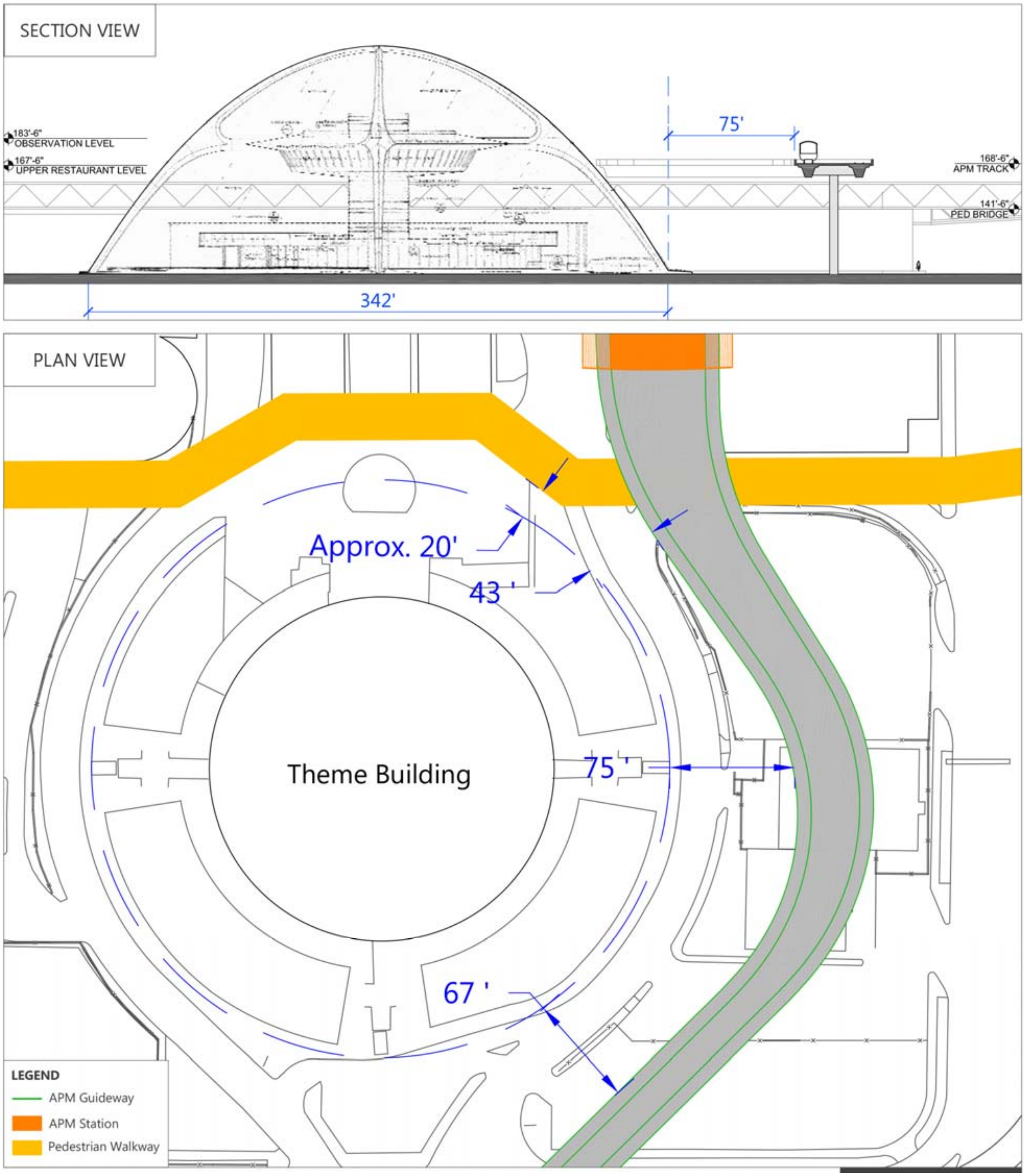


Figure 4: Site Photographs

View of the Theme Building and New Airport Traffic Control Tower from the Roof of Terminal 6 (looking north)

View of the Theme Building and New Airport Traffic Control Tower from Upper Level World Way (looking south)

Area West of the Theme Building from Parking Garage P2 (looking southeast)

Figure 5: Simulated View of Theme Building from Terminal 1 Arrivals Level

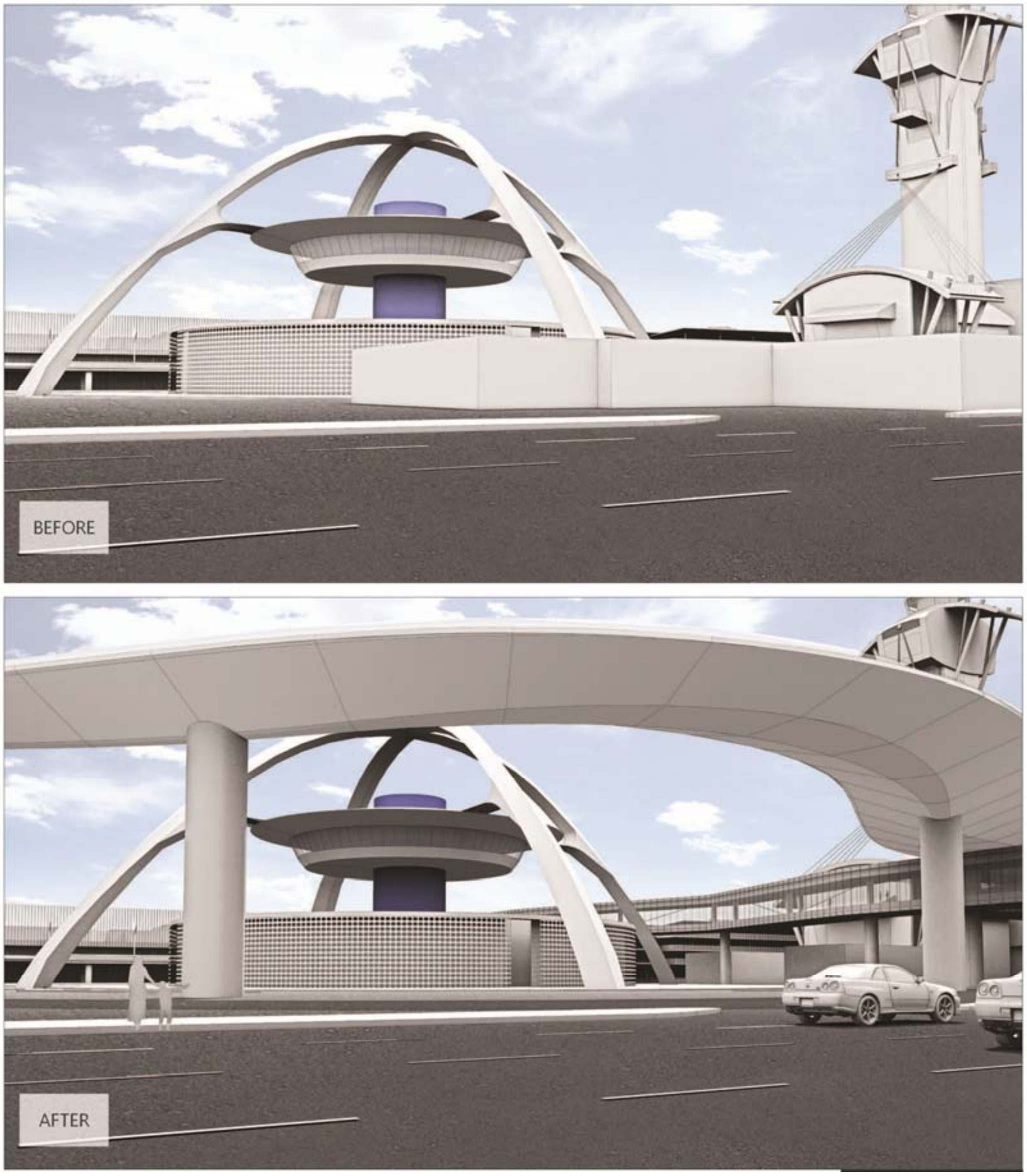
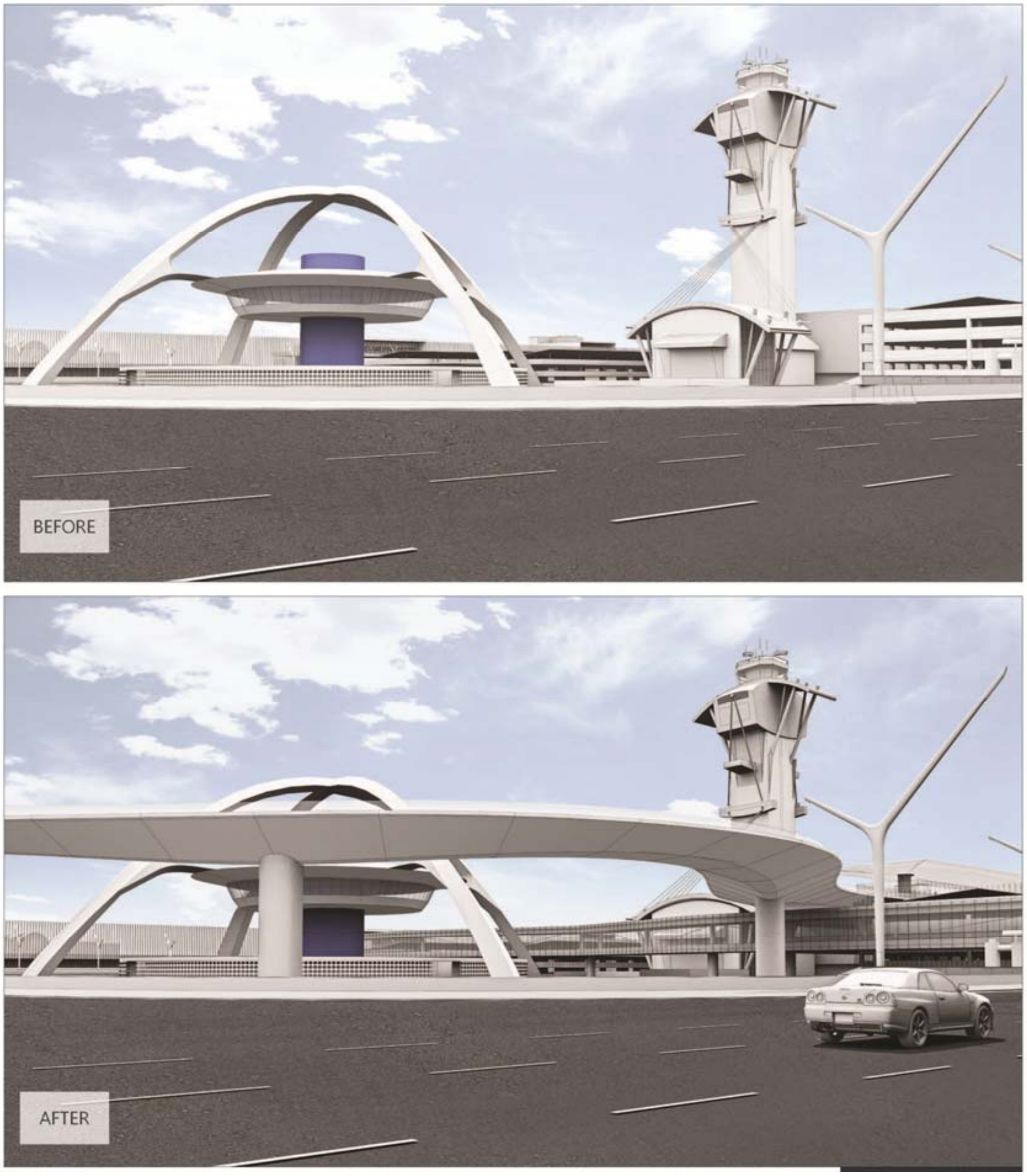


Figure 6: Simulated View of Theme Building from Terminal 2 Departures Level



The proposed LAMP project would affect *setting* of the National Register-eligible LAX Theme Building resulting in an adverse effect to the Theme Building. The following measures to protect the Theme Building, and ensure its continued preservation are recommended to substantially reduce adverse effects associated with LAMP.

1. Prior to the issuance of a building permit for the APM, a Historic Structures Report (HSR) shall be prepared for the Theme Building to guide its preservation and future use. The format and content of the report shall comply with *Preservation Brief 43: The Preparation and Use of Historic Structure Reports*.

2. The Theme Building shall be rehabilitated for a new use that maintains controlled public access to the building's atrium, lobby and former restaurant space. Potential new uses for the Theme Building include, but are not limited to, a restaurant, the public/educational exhibits, or a meeting/event space.

3. The Theme Building shall be rehabilitated in compliance with the Secretary of the Interior's Standards for Rehabilitation and the Guidelines for Rehabilitating Historic Buildings. The general specifications for the rehabilitation project shall include specifications for the treatment of character-defining features as identified in the HSR. The specifications shall include, but are not limited to, sections for the treatment of historic fabric; quality control; substitution procedures; selective demolition; cutting and patching; removal and storage of historic materials; protection and cleaning; repair options; and potential replacement of severely deteriorated features. Materials conservation plans shall be incorporated into the plans and specifications as necessary.

4. The remaining space around the Theme Building, bounded on the north and south by World Way and on the east by East Way, shall be preserved and retained as open space to recall the Theme Building's historic setting. An interpretive program will be created that may include photographic exhibits, audio/visual presentations, and interactive displays to chronicle the history and design of the Theme Building and its context within the larger airport plan, the architects, and their historic significance. This exhibit shall be located in the open space immediately surrounding the Theme Building or within the Theme Building and shall be made accessible to the public.

5. The rehabilitation project team shall include a qualified historic architect who meets the Secretary of the Interior's Professional Qualifications Standards for

historic architecture. The historic architect shall work with the project team to review project alternatives and the impacts of the proposed rehabilitation, and shall monitor construction for compliance with the recommendations in the HSR.

6. LAWA shall apply the following guidelines to the final design of the APM guideway and passenger walkway adjacent to the Theme Building to reduce visual impacts:

    - Minimize the number of columns and structures surrounding the Theme Building by maximizing the column support span in this area.
    - Minimize the bulk of the APM guideway structure to preserve openness around the Theme Building to the extent feasible.
    - Design the APM and passenger walkway structures around the Theme Building to complement the existing Theme Building structure and better harmonize the Project elements and the Theme Building.
    - Implement landscape elements in the vicinity of the Theme Building that enhance passenger and visitor's visual focus on the Theme Building (i.e., make the Theme Building the visual focus of this area, not the proposed Project elements).

*California Public Resources Code* (Sections 21000-21177)

*California Code of Regulations*, (Title 14, Division 6, Chapter 3, Sections 15000-15387).

*California Office of Historic Preservation Technical Assistance Series #6 California Register and National Register: A Comparison (for purposes of determining eligibility for the California Register)*, State of California Office of Historic Preservation, Department of Parks and Recreation

City of Los Angeles Office of Historic Resources website, *http://www.preservation.lacity.org/monuments*

*Code of Federal Regulations*, (Title 36, Part 60)

*California Environmental Quality Act (CEQA) Statute and Guidelines*, 2014 California Association of Environmental Professionals, www.califaep.org

City of Los Angeles Office of Historic Resources website, *http://www.preservation.lacity.org/monuments*

Delta Flight Museum website, https://www.deltamuseum.org

Di Massa, Cara Mia, "Last School Year on the Flight Path," *Los Angeles Times*, June 13, 2004.

Downs, Tom. "An Introduction to Airport Design." *dwell*, May 13, 2009 Accessed February 11, 2015. http://www.dwell.com/design-101/article/introduction-airport-design.

Eggebeen, Janna. "Airport Age: Architecture and Modernity in America." Dissertation, The City University of New York, 2007.

Friedman, Paul David, *Fear of Flying: The Development of Los Angeles International Airport and the Rise of Public Protest Over Jet Aircraft Noise*, Master of Arts in History Thesis, University of California, Santa Barbara, October 1978.

Gordon, Alastair. Naked Airport, A Cultural History of the World's Most Revolutionary Structure, Metropolitan Books, Harry Holt and Company LLC, New York City, 2004.

Hall, Peyton, and John LoCascio. "Peer Review: Historic Resource Assessment Report, Continental Airlines Facilities." October 7, 2014.

“Headquarters Unit Planned by Airline,” *Los Angeles Times*, March 10, 1963
Historic Resources Inventory, California State Office of Historic Preservation, August 2011.

Los Angeles Conservancy and Los Angeles Conservancy Modern Committee. *The Sixties Turn 50: It's a Mod, Mod, Mod, Mod City*. Los Angeles: Los Angeles Conservancy, 2009.

Los Angeles County Building Permits

Los Angeles International Airport. “LAX Master Plan Draft EIS/EIR."

Los Angeles International Airport. "LAX Master Plan Final EIS/EIR."

Los Angeles International Airport. "LAX Specific Plan Amendment Study: Draft EIR." (July 2012).

*Los Angeles Unified School District Draft Historic Context Statement 1870-1969*, prepared by Sapphos Environmental, Inc. for the Los Angeles Unified School District Office of Health and Safety, December 2013.

*Los Angeles Unified School District Historic Resources Survey Report,* prepared by Sapphos Environmental, Inc. for the Los Angeles Unified School District Office of Health and Safety, June 2014.

Moran, Tom. Los Angeles International Airport, From Lindbergh’s Landing Strip to World Air Center, CCA Publications, Inc. Canoga Park, California, 1993.

*National Register Bulletin 16A*. *How to Complete the National Register Registration Form*. Washington D.C.: National Park Service, U.S. Department of the Interior, 1997.

*National Register Bulletin Guidelines for Evaluating and Documenting Historic Aviation Properties*, U.S. Department of the Interior, National Park Service, 1998.

Pacific Coast Architecture Database. http://pcad.lib.washington.edu/

PCR Services Corporation. "Appendix: LAX Master Plan EIS/EIR: I. Section 106 Report," January 2001.

PCR. "Appendix E: LAX Specific Plan Amendment Study: Cultural Resources." July 2012.

Pereira & Luckman. *Master Plan for Los Angeles International Airport*, March 1953.

Pereira & Luckman, Welton Beckett & Associates, Paul R. Williams. *Los Angeles International Airport Development Report*, January 1957.

Sapphos Environmental, Inc. "LAX Midfield Satellite Concourse Project: Cultural Resources Technical Report." (March 5, 2013).

Sapphos Environmental, Inc. "Los Angeles International Airport Proposed Runway 6R-24L Runway Safety Area Improvements Project: Cultural Resources Technical Report," December 15, 2014.

Sapphos Environmental, Inc. "Proposed Runway 6L-24R and Runway 6R-24L Safety Area and Associated Improvements Project: Cultural Resources Technical Report," January 23, 2014.

Schwartz, Vanessa R. "LAX: Designing for the Jet Age." In <u>Overdrive: L.A. Constructs the Future, 1940-1990</u>, edited by Wim De Wit and Christopher James Alexander, 162-83. Los Angeles: Getty Research Institute, 2013.

*Secretary of the Interior's Standards for Rehabilitation*. http://www.cr.nps.gov/hps/tps/tax/rhb/stand.htm, 18 September 2008.

*Section 106 Handbook: How to Assess the Effects of FAA Actions on Historic Properties under Section 106 of the National Historic Preservation Act*, United States Department of Transportation Federal Aviation Administration, June 2015.

*Section 106 Regulations (36 CFR Part 800)*, amended August 2004. Advisory Council on Historic Preservation

Smithsonian National Air and Space Museum. "America By Air." Accessed February 10, 2015. https://airandspace.si.edu/exhibitions/america-by-air/online/heyday/heyday13.cfm.

<u>Southern California Regional Airport Study</u>, Stanford Research Institute, South Pasadena, California, March1964.

Szurvoy, Geza. <u>The American Airport</u>, MBI Publishing Company, St. Paul, Minnesota, 2003.

"Training School Slated to be Built for Airline," *Los Angeles Times*, January 13 1957 (G1)

United States Department of Transportation Federal Aviation Administration, *Order 1050.1F Environmental Impacts Policies and Procedures*, Effective Date July 16, 2015

URS Corporation. "Cultural Resources Evaluation Report: Proposed Runway 7L/25R Runway Safety Area (RSA) and Associated Improvements Project," September 2012.

"WAL Continues to Grow With L.A." *Los Angeles Times*, September 24, 1961

Weikel, Dan, "Near LAX a once thriving community now stuck in economic limbo," *Los Angeles Times*, October 27, 2013. Accessed online on May 27, 2015. http://www.latimes.com/local/la-me-manchester-square-20131028-story.html#page=1

William Pereira, James Steele editor. University of Southern California, Architectural Guild Press, 2002.

Wuellner, Margarita J., and Amanda Kainer. "Historic Resources Assessment Report: Continental Airlines Facilities, 7300 Maintenance Road (APN: 4129-026-903) and 7300 World Way West (APN: 4129-026-903) Los Angeles, Los Angeles County, California," September 2013.

Young, William H., and Nancy K. Young. *The 1950s*. Westport, CT: Greenwood, 2004.

ZIMAS, http://zimas.lacity.org/

**Other Media**

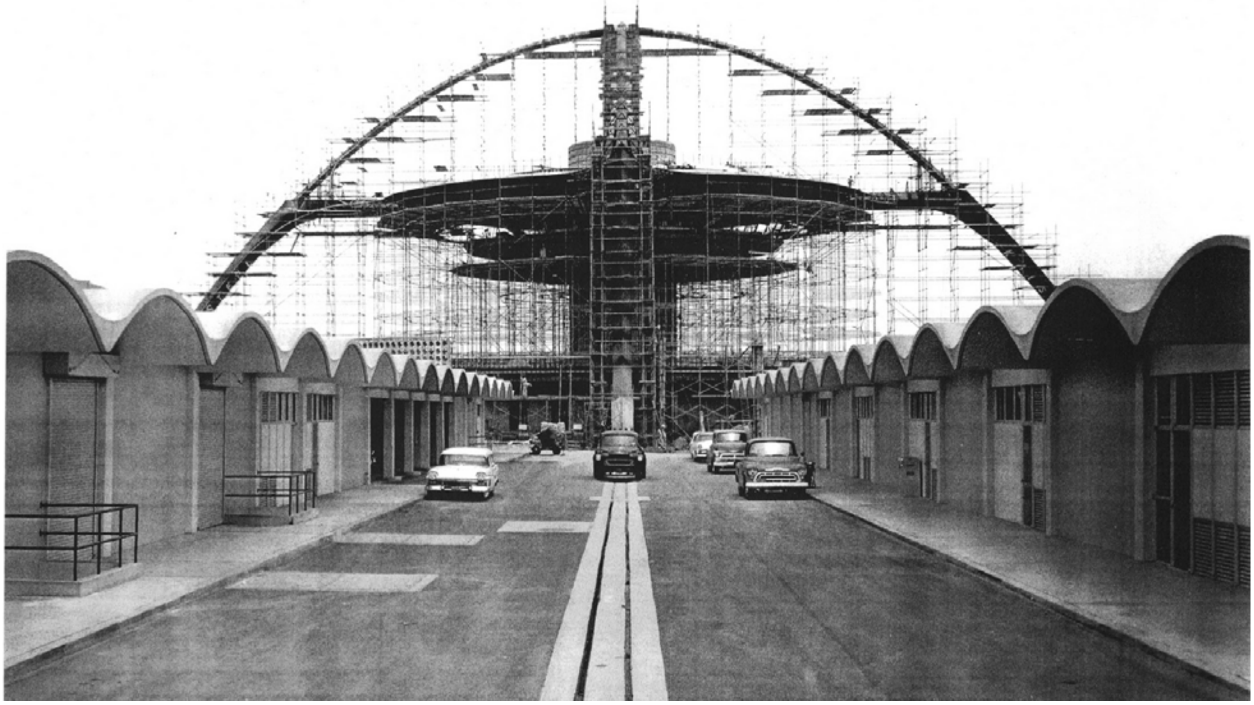
Jon Proctor Personal History Website: http://jonproctor.net/lax-through-the-years/

**Mines Field c. 1930**
Los Angeles Public Library Collection

**Los Angeles International Airport Intermediate Facilities c. 1955**


**Central Terminal Area Under Construction 1960**
Los Angeles Public Library

**Central Terminal Completed 1961**
Los Angeles Water & Power Collection



**Theme Building and Garages Construction c.1961**
Los Angeles Water & Power Collection

**Theme Building c.1970**

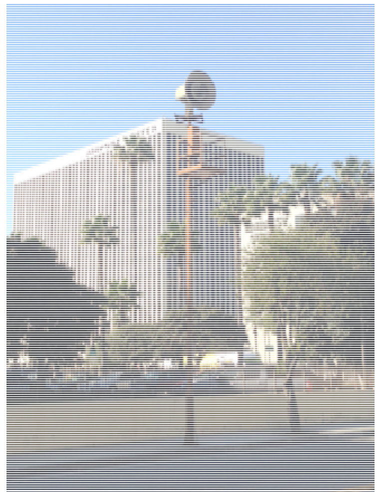
**LAX Theme Building**

**9700 S. Sepulveda Boulevard**
**(Aircraft Training School)**

**6151 W. Century Boulevard**
**(McCulloch Building)**

**5959 W. Century Boulevard**
**(Tishman Airport Center)**

**9841 N. Airport Boulevard**
**(Airport Century Building)**



**Air Raid Siren No. 150**
**(South side of W. 98th Street east of Airport Blvd)**

**1961 Airport Traffic Control Tower**

**9800 S. Sepulveda Boulevard (United Savings and Loan)**

**5855 W. Century Boulevard (Airport Marriott Hotel)**

**Terminal 6 Sign Tower**

# Appendix H.2

SHPO Coordination Letters

U.S Department
of Transportation
**Federal Aviation Administration**

Western-Pacific Region
Airports Division
Los Angeles Airports District Office

Federal Aviation Administration
P.O. Box 92007
Los Angeles, CA 90009-2007

January 26, 2017

Ms. Julianne Polanco
State of California
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, California 95816

Attention: Mr. Tristan Tozer

Dear Ms. Polanco:

**Proposed Landside Access Modernization Program**
**Los Angeles International Airport, Los Angeles, Los Angeles County, California**
**Section 106 Coordination**

The City of Los Angeles, through its Aviation Department of Los Angeles World Airports (LAWA) and the Federal Aviation Administration (FAA) are preparing Federal environmental documentation to comply with the *National Environmental Policy Act of 1969* (NEPA) for proposed improvements associated with the Landside Access Modernization Program (LAMP) at Los Angeles International Airport (LAX). The Federal action is the approval of LAWA's Airport Layout Plan and potential funding for the proposed undertaking.

LAWA is pursuing the LAMP to address automobile congestion in and around the Central Terminal Area (CTA) at LAX. The bulk of the proposed LAMP occurs on existing airport property.

The proposed improvements that will be analyzed in this environmental documentation include:

- Construction of an Airport People Mover (APM) system with six APM stations connecting the CTA via an above ground fixed guide way to new proposed buildings that will provide ground access to the airport. ;

- Passenger walkway systems connecting the APM stations to passenger terminals, parking garages, and ground transportation facilities;
- Modifications to existing passenger terminals and parking garages to support the APM walkway system connections, including vertical circulation cores to the arrival, departure, and concourse levels at the terminals;

- An APM maintenance and storage facility (MSF); and

- APM power substations.

- A Consolidated Rental Car facility (CONRAC) designed to meet the needs of car rental agencies serving LAX with access to the CTA via the APM;

- Two Intermodal Transportation Facilities (ITF) providing parking and pick-up and drop-off areas outside the CTA for private vehicles and commercial shuttles;

- Roadway improvements and project design features designed to improve access to the proposed facilities and the CTA and reduce traffic congestion in neighboring communities;

- Security features, including security fencing, surveillance cameras, security lighting, and emergency phones/call boxes;

- Fire safety features in compliance with fire and building code requirements including fire hydrants, fire sprinklers, and fire extinguishers;

- Utilities infrastructure, both new and modified, as needed, to support the proposed undertaking;

- Land acquisition; and

- Various enabling projects to allow construction of the Proposed Action, including utility relocation and demolition of certain existing facilities, some of which would be reconstructed.

**Description of the Direct Effects APE for the proposed undertaking**: LAMP Project. The enclosed *Figure 1: Area of Potential Effect* shows the discontiguous Physical Disturbance Area for the proposed LAMP project. The APE occupies approximately 775 acres and is split into three general regions: Central Terminal Area, East of the Central Terminal Area, and Aviation Boulevard/Imperial Highway Area.

- The Central Terminal Area (CTA) includes areas west of Sepulveda Boulevard, focused around World Way and the passenger terminals at LAX.
- East of the Central Terminal Area is generally bounded by W. Century Boulevard on the south, Interstate 405 (I-405) on the east, West Arbor Vitae Street/LAX property boundary on the north, and Sepulveda Boulevard on the west.
- The Aviation Boulevard/Imperial Highway Area is bounded by Imperial Highway on the south, W. 111th Street on the north, Aviation Boulevard on the west, and Hindry Avenue on the east, but also includes roadway improvements along the I-405 and La Cienega Boulevard. The APE comprises various airport, regional commercial, general commercial, and medium-density residential land uses. The APE is primarily developed and heavily urbanized, with some vacant areas associated with the Belford and Manchester Square Areas. The APE also includes the construction staging areas described above that are not contiguous with the portion of the APE for the proposed LAMP construction work.

FAA used the boundaries of the entire area that would have physical disturbance to delineate the APE. FAA determined these boundaries through consultation with LAWA on the extent of the proposed LAMP project. FAA will include this information in the environmental documentation for the proposed project. FAA has identified a discontiguous APE for the proposed undertaking. LAWA has advised FAA that it plans to use its existing construction staging areas primarily within the proposed project area. LAWA also plans to use land east of the South Runway Complex including an area, formerly known as "Continental City," at the north east corner of Aviation Boulevard and Imperial Highway for construction staging. A portion of this area was excavated in the early to mid-1980s to a depth of at least 30-feet by the previous owner in anticipation of construction of an office building complex. To ensure complete coordination, the APE includes both of these existing disturbed staging areas.

FAA is seeking comments from your office on the acceptability of the APE's under Title 36, Code of Federal Regulations Section 800.4 *Identification of Historic Properties.* Pursuant to Title 36, Code of Federal Regulations, Section 800.4, the FAA is seeking concurrence with the APE for the proposed undertaking from the California State Historic Preservation Office.

If you have any further questions about this matter, please call me at 310/725-3615.

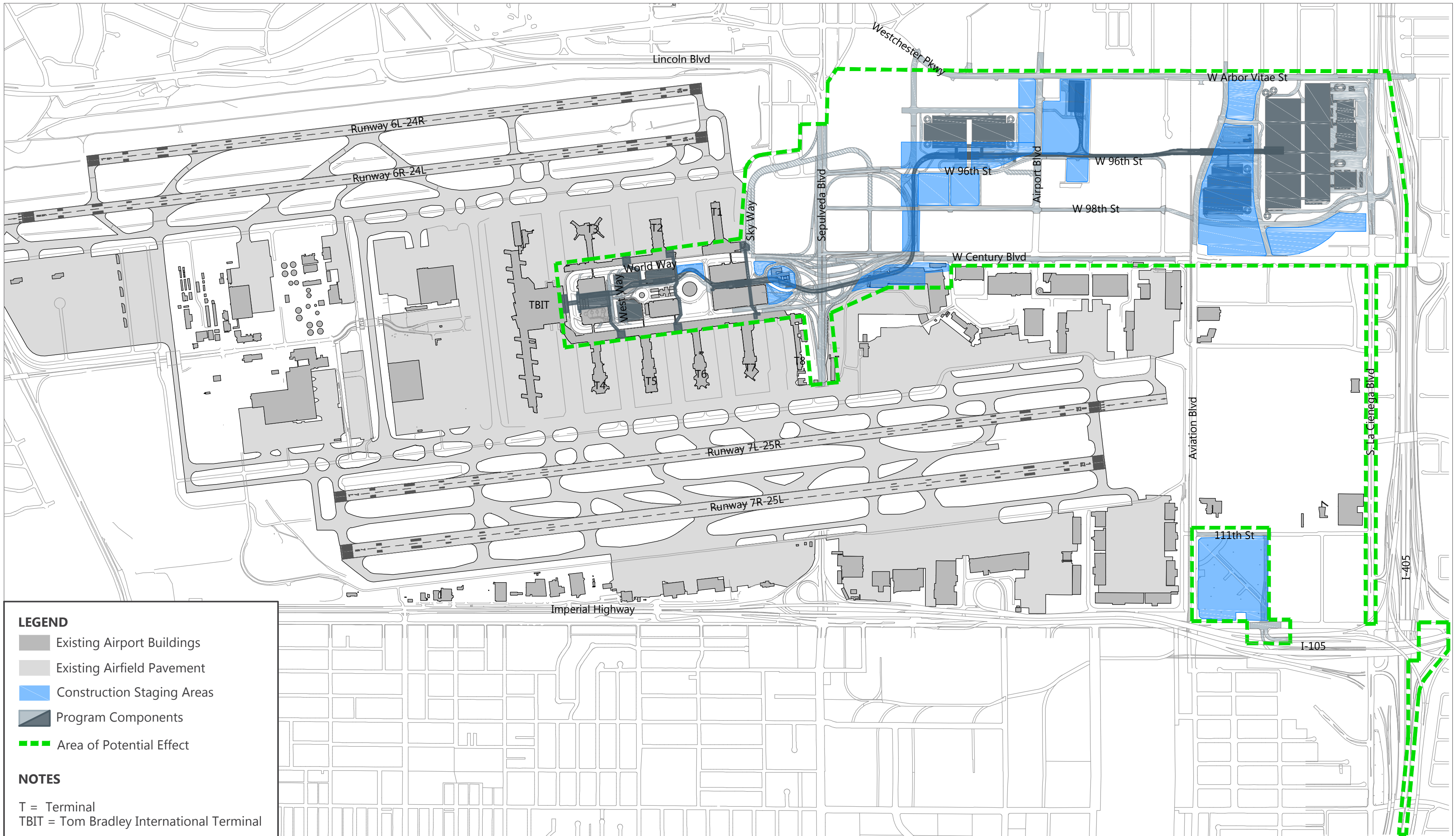
Sincerely,

Victor Globa
Environmental Protection Specialist

Enclosure

Cc: E. Quintanilla – LAWA

**[Preliminary Draft for Discussion Purposes Only]**




NOTE: Improvements depicted are conceptual only and do not represent engineered design.
SOURCE: HNTB Corp., Los Angeles International Airport Layout Plan, July 2012; MapLAX, July 2016.
PREPARED BY: Ricondo & Associates, Inc., January 2017.

**FIGURE 1**


# Area of Potential Effect

Drawing: X:\LAX\LAMP\05 - AutoCAD\LAMP_EA_Area of Potential Effect_20161227.dwgLayout: Figure 1 Plotted: Jan 25, 2017, 03:49PM

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY
EDMUND G. BROWN, JR., *Governor*

**OFFICE OF HISTORIC PRESERVATION**
**DEPARTMENT OF PARKS AND RECREATION**
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

RECEIVED
FEB 22 2017
LAX-ADO

February 13, 2017

Refer To: FAA_2017_0127_001

Victor Globa
Environmental Protection Specialist
Federal Aviation Administration
Western Pacific Region, Airports Division
P.O. Box 92007
Los Angeles, CA 90009-2007

RE: Proposed Landside Access Modernization Program, Los Angeles International Airport, Los Angeles, California

Dear Mr. Globa:

The Federal Aviation Administration is consulting with the State Historic Preservation Officer (SHPO). The FAA does so in an effort to comply with Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations, as amended, found at 36 CFR Part 800. The FAA is requesting comments on the Area of Potential Effects for the above-referenced undertaking.

The City of Los Angeles, through the Aviation Department of Los Angeles World Airports, is planning to implement the Landside Access Modernization Program (LAMP) at Los Angeles International Airport (LAX). Project components include the construction of a people mover rail system, passenger walkway systems, and maintenance, storage, and car rental facilities. Land acquisition, airport security improvements, utility relocation, and demolition of various structures are also proposed as part of the LAMP.

In an effort to identify historic properties that may be affected in implementing the LAMP, the FAA has established the project's Area of Potential Effects (APE), as per 36 CFR 800.4 (a)(1). The APE for this undertaking is described as a discontiguous, 775- acre area split into three general regions: Central Terminal Area, East of Central Terminal Area, and the Aviation Boulevard/Imperial Highway Area. The Central Terminal Area includes areas west of Sepulveda Boulevard, focused around World Way and the passenger terminals at LAX. East of Central Terminal Area is bounded by W. Century Boulevard on the south, Interstate 405 on the east, West Arbor Vitae Street/LAX property boundary on the north, and Sepulveda Boulevard to the west. The Aviation Boulevard/Imperial Highway Area is bounded by Imperial Highway on the south, W. 111th Street to the north, Aviation Boulevard to the west, and Hindry Avenue to the east; the APE also includes roadway improvements along I-405 and La Cienega Boulevard.

Having reviewed the FAA's submittal, SHPO is of the opinion the APE, as described in your letter and as depicted on the accompanying map, appears adequate to account for direct and indirect effects to historic properties. SHPO understands the FAA will continue to consult once identification efforts within the APE are carried out.

If you require further information, please contact State Historian Tristan Tozer at (916) 445-7027 or at Tristan.Tozer@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

U.S Department
of Transportation
**Federal Aviation Administration**

Western-Pacific Region
Airports Division

Federal Aviation Administration
P.O. Box 92007
Los Angeles, CA 90009-2007

March 20, 2017

Ms. Julianne Polanco
State of California
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, California 95816

Attention: Mr. Tristan Tozer

Dear Ms. Polanco:

**Proposed Landside Access Modernization Program**
**Los Angeles International Airport,**
**Los Angeles, Los Angeles County, California**
**Section 106 Coordination**
**Section 106 Coordination No.: FAA_2017_0127_001**

The City of Los Angeles, through its Airport Department – Los Angeles World Airports (LAWA) and the Federal Aviation Administration (FAA) are preparing federal environmental documentation for the proposed undertaking of a Landside Access Modernization Program (LAMP) at Los Angeles International Airport (LAX). LAWA is pursuing the LAMP to address automobile congestion in and around the Central Terminal Area (CTA) at LAX. The bulk of the proposed LAMP occurs on existing airport property.

Your office previously concurred with FAA's Area of Potential Effects (APE) for the proposed undertaking for the proposed LAMP project by letter dated February 13, 2017. A drawing depicting the APE is shown on **Figure 1** in the enclosed copy of the *LAX Landside Access Modernization Program, Section 106 Assessment*, dated February 2017.

FAA is providing the following background information to assist you in reviewing FAA's determinations of eligibility and findings of effect related to the proposed undertaking.

## 1. Background Information.

LAX is the largest commercial service airport in southern California, and the third busiest in the United States, and seventh busiest in the world with more than 74.9 million

passengers in 2015. On a daily basis up to 6,000 vehicles enter LAX during peak periods resulting in mode conflicts between private, commercial and service vehicles; insufficient curb space and limited roadways due to traffic saturation. LAWA is pursuing the LAMP to address automobile congestion in and around the Central Terminal Area (CTA) at LAX.
The proposed improvements that will be analyzed in this environmental documentation include:

- Construction of an Automated People Mover (APM) system with six APM stations connecting the CTA via an above ground fixed guide way to new proposed buildings that will provide ground access to the airport;

- Passenger walkway systems connecting the APM stations to passenger terminals, parking garages, and ground transportation facilities;

- Modifications to existing passenger terminals and parking garages to support the APM walkway system connections, including vertical circulation cores to the arrival, departure, and concourse levels at the terminals;

- An APM maintenance and storage facility (MSF); and

- APM power substations.

- A Consolidated Rental Car facility (CONRAC) designed to meet the needs of car rental agencies serving LAX with access to the CTA via the APM;

- Two Intermodal Transportation Facilities (ITF) providing parking and pick-up and drop-off areas outside the CTA for private vehicles and commercial shuttles;

- Roadway improvements and project design features designed to improve access to the proposed facilities and the CTA and reduce traffic congestion in neighboring communities;

- Security features, including security fencing, surveillance cameras, security lighting, and emergency phones/call boxes, to reduce demands on the Los Angeles World Airports Police Department (LAWAPD);

- Fire safety features in compliance with fire and building code requirements including fire hydrants, fire sprinklers, and fire extinguishers;

- Utilities infrastructure, both new and modified, as needed, to support the proposed undertaking;

- Land acquisition for the APM right-of-way in various locations totaling about 26 acres is identified in the enclosed **Figure 2-47** Properties to be Acquired; and

- Various enabling projects to allow construction of the Proposed Action, including utility relocation and demolition of certain existing facilities, some of which would be reconstructed.

Depths of disturbance will vary from 50 feet to 120 feet deep throughout the project. Each of the main facilities of the Proposed Action would require pile foundations. It is assumed that both Cast-In-Drilled-Hole (CIDH) piles and driven piles will be used where necessary. CIDH piles involve drilling and removal of soils and construction of a cast-in-place, reinforced concrete pile within the open borehole. Driven piles involve in-place installation of a concrete or steel pile with a pile-driving hammer, and do not involve removal of materials from the ground. Driven pile installations typically generate noise and vibrations. As a result, LAWA will adhere to its Archaeological Treatment Plan and shall retain a Cultural Resource Monitor who will determine if the proposed action is subject to archaeological monitoring

LAWA intends to use multiple staging areas around the airport as shown on the APE drawing. Each of these sites has been significantly disturbed in the past.

**2. Native American Consultation.** FAA received a listing of Native American contacts for the proposed undertaking from the State of California Native American Heritage Commission for the proposed LAMP project at LAX. The commission recommended FAA contact the Gabrielino Band of Mission Indians – Kizh Nation, and four different representatives of the Gabrielino-Tongva Tribe.

On November 2, 2016, FAA provided project information about the proposed undertaking and APE for LAMP to the tribal contacts provided by the California Native American Heritage Commission using the U.S. Mail. FAA did not receive any comments.

**3. National Register Eligibility Determinations.** A cultural resource records search was conducted on December 11, 2014 at the South Central Coastal Information Center (SCCIC), which included a review of all recorded archaeological and historical resources within a half-mile radius of the APE. Results of the records search indicated no archaeological resources have been recorded within the APE and 11 archaeological resources have been previously recorded within a half-mile radius. These resources include both archaeological resources from the prehistoric and historic period. The records search also indicated that more than 15 cultural resource studies have been conducted within the APE. These studies were conducted for various projects across LAX from 1974 to 2005 and encompass approximately 50 percent of the APE.

Historic Resources Group (HRG) LAWA's cultural resources consultant, prepared the enclosed *LAX Landside Access Modernization Program Section 106 Assessment*, dated February 2017. Based on the information contained within the *LAX Landside Access Modernization Program Section 106 Assessment*, the FAA has determined there are five (5) buildings and one (1) structure that are listed or eligible for listing in the National Register of Historic Places (NRHP) for the proposed undertaking. They are as follows:

- **LAX Theme Building** - The Theme Building, completed in 1962, was originally constructed as the geographic centerpiece and visual focus of the CTA. It was designed by Pereira and Luckman in an Expressionistic style to serve as the futuristic symbol of the new "jet age" airport. It is located in the very center of the CTA, at the midpoint of the main east-west axis. It sits on a circular island ringed by a divided access road, Center Way. North of Centerway, is the United States Overseas (USO) building and a surface parking lot. South of Center Way is another surface parking lot, to the east, southwest, and northwest are multi-story automobile parking structures. Immediately west are parallel rows of barrel-roofed service buildings and the FAA's Airport Traffic Control Tower built in 1996.

  In 2001, the Theme Building was determined eligible for listing in the National Register by consensus through a Section 106 evaluation. It was found eligible under Criterion C for architectural significance and was determined to satisfy National Register Criterion Consideration G for exceptional significance in a building less than 50 years old (at the time of evaluation).

- **9700 S. Sepulveda Boulevard (Aircraft School)** - This property contains a handful of modest single-story buildings set within an expanse of surface parking. The largest of the buildings is rectangular in plan with a bow-truss roof and monitor, horizontal wood cladding, and metal-frame, multi-light casement windows. The building is constructed in a vernacular/industrial style. Two smaller buildings with gable roofs and a rectangular masonry building with a flat roof and attached shade canopy are clustered just south of the bow-truss roof building. A rectangular building of more recent vintage is set apart from the others at the northwest corner of the site.

  The Historic Resources Report states the property has a long historic association with training in the aircraft trades in service of the rapid post-World War II growth of the aerospace industry in Southern California. This building was built for civil defense training just eight months prior to the Japanese attack of Pearl Harbor. The property is representative of the 20th century development of aircraft and aerospace related industries and services that clustered near the airport beginning with the establishment of Mines Field (the original name for LAX).

  Only the rectangular bow-truss building has retained sufficient integrity to convey the historic significance of the property. FAA has determined this property is eligible for inclusion into the NRHP under National Register Criterion A.

- **6151 West Century Boulevard (The McCulloch Building)** - This 12-story office building was designed by Welton Beckett & Associates as part of the Airport Center project. This mid-rise commercial office building was built in 1964. The Historic Resources Report prepared by SurveyLA in 2013 recommended this building as eligible for the National Register. However, this building is currently being remodeled from an office building to a hotel. Thus, the building has lost integrity. The FAA has determined the McCulloch Building is not eligible for inclusion into the NRHP.

- **5959 West Century Boulevard (Tishman Airport Center Building)** - The 12-story office building was designed by Welton Beckett & Associates as part of the "International Airport Center" commercial development located on the north side of Century Boulevard just east of the CTA. The Airport Center Building was built in 1966; this mid-rise commercial office building was recommended as eligible for the National Register by SurveyLA in 2013. FAA has determined this property is eligible for inclusion into the NRHP under Criterion C.

- **9841 North Airport Boulevard (Airport Century Building)** - The mid-rise office building was built in 1968. It was also designed by the architectural firm of Welton Beckett & Associates as part of the "International Airport Center" commercial development located on the north side of Century Boulevard just east of the CTA. The Airport Century Building was recommended as eligible for the National Register by SurveyLA in 2013. FAA has determined this property is eligible for inclusion into the NRHP under Criterion C.

- **Air Raid Siren No. 150** - Located on the south side of West 98th Street just east of Airport Boulevard, this rotating air raid siren on a freestanding pole was recommended as eligible for the National Register, by SurveyLA in 2013. Erected and installed in 1940, the siren was evaluated as historically significant for its association with World War II and Cold War military infrastructure. FAA has determined this property is eligible for inclusion into the NRHP under Criterion A.

**FAA seeks the California SHPO's concurrence with these determinations.**

**4. Assessment of Adverse Effects on Historic Properties.**

The FAA has determined there are five historic properties listed or eligible for listing on the NRHP within the APE. FAA has determined the proposed undertaking will not adversely affect the following properties:

- 9700 S. Sepulveda Boulevard (Aircraft School)
- 6151 West Century Boulevard (The McCulloch Building)
- 5959 West Century Boulevard (Tishman Airport Center Building)
- 9841 North Airport Boulevard (Airport Century Building):
- Air Raid Siren No. 150

The LAMP project: 1) Will not relocate any of the above properties; 2) Will not alter any of the design elements; 3) Will not impact the setting or feeling of the physical environment; 4) Will not obscure views since most views will be blocked by other buildings; 5) Will not affect workmanship, feeling or association of the identified properties; and 6) The LAMP project does not include the demolition, destruction, damage, physical alteration or relocation of the Theme Building.

However, the FAA has determined that the proposed undertaking will adversely affect the Theme Building for the following reasons:

- Structures associated with the LAMP project would be constructed within the parking lots that surround the Theme Building. These parking areas are an important component of the Theme Building's original setting. However, the construction of the multi-story parking structures, and second level roadways prior to the 1984 Olympics, changes the overall setting of the Theme Building. FAA has determined the Theme Building would not retain integrity of setting after implementation of the LAMP project as described below;

- Although the LAMP project will no directly result in the construction or physical alteration of the Theme Building, proposed LAMP APM guideway and walkway would alter the physical setting of the Theme Building by constructing new structures to the immediate north, east and west. The APM guideway would be approximately 70 feet above ground around the Theme Building supported on concrete columns and would be constructed within 43 feet of the Theme Building at its closest point. The elevated walkway connecting Terminals 2 and 6 would be approximately 20 feet from the Theme Building at its closest point.;

- The proposed APM train cars would be approximately 42 feet long, 9 feet wide and 12 feet in height. The proposed APM trains would include up to 5 cars and would operate 24 hours a day, 7 days per week. During peak periods of operation, operating headway intervals (time between trains at a given station) would be approximately 2 minutes.

- The FAA finds the proposed construction of the APM and walkway associated with LAMP would partially obscure unique features of the Theme Building's architectural design as well as its original function from certain perspectives and would reduce the integrity of the setting of the Theme Building. |

**For these reasons, the FAA finds the proposed undertaking will adversely affect the LAX Theme building under 36 Code of Federal Regulations Part 800.4(d)(1).**

**FAA seeks the California SHPO's concurrence with this finding.**

**<u>5. Summary of the Views of Consulting Parties and the Public.</u>**

Throughout the development of the proposed action LAWA has been actively communicating and working with the Los Angeles Conservancy, City of Los Angeles' Office of Historic Resources and your office. A total of nine meetings were held between

November 2014 and June 2016 with the above identified agencies to get input on the proposed LAMP project.

When the proposed project was introduced to the Los Angeles Conservancy and your staff, the main concerns expressed were with the proximity of the guideway and walkways to the Theme Building and how these new elements would complete or complement the existing buildings in the CTA. In response to those concerns, LAWA walked both organizations through the APM alternatives process, undertook an extensive study of how the LAMP components could be designed to minimize their conflict with the Theme Building (which resulted in the enclosed *LAX Design Guidelines*), and examined the APM alignment adjacent to the Theme Building in detail to see how far it could be pushed away from the Theme Building. This resulted in shifting the APM alignment further north than the alignment originally proposed.

Another concern expressed by the Los Angeles Conservancy was that they wanted to make sure that LAWA took a comprehensive look at the historic resources owned by LAWA and developed a systematic way of managing those resources in the future. As a result, a *Preservation Plan for LAX* was developed.

In terms of public comments, all of the comments on the Theme Building and historic resources that were received during the California Environmental Quality Act LAX LAMP Draft EIR process are enclosed along with the responses provided to those comments in the LAX LAMP Final Environmental Impact Report. There was only one comment letter (PC00012 from Stephen Birch) and two other comments (one from the LAX Area Advisory Committee and one from the Alliance for a Regional Solution to Airport Congestion (ARSAC) concerning potential effects to the Theme Building. No other comments have been raised or received about effects to the Theme Building during the extensive public outreach held on the LAX Landside Access Modernization Program to date. In the future, FAA plans to put the Draft EA out for public review and comment.

**6. Efforts to Reduce or Avoid those Direct Effects.**

As a result of the above meetings and community outreach the following minimization and mitigation measures were developed to reduce and avoid the adverse effects:

- The FAA shall ensure that each of the consulting parties receives a copy of the City-approved Historic Structures Report (HSR). Prior to the issuance of a building permit for the APM, a HSR shall be prepared for the Theme Building to guide its preservation and future use. The format and content of the report shall comply with Preservation Brief 43: The Preparation and Use of Historic Structure Reports.

- The Theme Building shall be rehabilitated for a new use that maintains controlled public access to the building's atrium, lobby and former restaurant space. Potential new uses for the Theme Building include, but are not limited to, a restaurant, the public/educational exhibits, or a meeting/event space.

- The Theme Building shall be rehabilitated in compliance with the Secretary of the Interior's Standards for Rehabilitation and the Guidelines for Rehabilitating Historic Buildings. The general specifications for the rehabilitation project shall include specifications for the treatment of character defining features as identified in the HSR. The specifications shall include, but are not limited to, sections for the treatment of historic fabric; quality control; substitution procedures; selective demolition; cutting and patching; removal and storage of historic materials; protection and cleaning; repair options; and potential replacement of severely deteriorated features. Materials conservation plans shall be incorporated into the plans and specifications as necessary.

- The remaining space around the Theme Building, bounded on the north and south by Center Way and on the east by East Way, shall be preserved and retained as open space to recall the Theme Building's historic setting when it was first built. An interpretive program will be created that may include photographic exhibits, audio/visual presentations, and interactive displays to chronicle the history and design of the Theme Building and its context within the larger airport plan, the architects, and their historic significance. This exhibit shall be located in the open space immediately surrounding the Theme Building or within the Theme Building and shall be made accessible to the public.

- The rehabilitation project team shall include a qualified historic architect who meets the Secretary of the Interior's Professional Qualifications Standards for historic architecture. The historic architect shall work with the project team to review project alternatives and the impacts of the proposed rehabilitation, and shall monitor construction for compliance with the recommendations in the HSR.

- LAWA shall apply the following guidelines to the final design of the APM guideway and passenger walkway adjacent to the Theme Building to reduce visual impacts:

    - Minimize the number of columns and structures surrounding the Theme Building by maximizing the column support span in this area.

    - Minimize the bulk of the APM guideway structure to preserve openness around the Theme Building to the extent feasible.

    - Design the APM and passenger walkway structures around the Theme Building to complement the existing Theme Building structure and better harmonize the Project elements and the Theme Building.

    - Implement landscape elements in the vicinity of the Theme Building that enhance passenger and visitor's visual focus on the Theme Building (i.e., make the Theme Building the visual focus of this area, not the proposed Project elements).

The LAX Theme Building will not be physically altered by construction. The above-described minimization and mitigation measures would reduce adverse effects. The LAX Theme Building would remain physically intact in its original location and its unique architectural design would remain discernible and continue to convey its historical significance despite being partially obscured by the proposed new construction. For these reasons, the Theme Building would remain eligible for inclusion in the National Register after implementation of LAMP.

The FAA has included a Draft Memorandum of Agreement that includes the above minimization efforts to reduce or avoid those direct effects as part of its stipulations. We seek your review and concurrence with attached MOA.

If you have any further questions about this matter, please call me at (310) 725-3637.

Sincerely,

Victor Globa
Environmental Protection Specialist

Enclosures

Cc: AWP-610; E. Quintanilla – LAWA

**OFFICE OF ISTORIC PRESERVATION**
**DEPARTMENT OF PAR S AND RECREATION**
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

June 28, 2017 Refer To: FAA_2017_0127_001

Victor Globa
Environmental Protection Specialist
Federal Aviation Administration
Western Pacific Region, Airports Division
P.O. Box 92007
Los Angeles, CA 90009-2007

RE: Proposed Landside Access Modernization Program, Los Angeles International Airport, Los Angeles, California

Dear Mr. Globa:

The Federal Aviation Administration is consulting with the State Historic Preservation Officer (SHPO). The FAA does so in an effort to comply with Section 106 of the *National Historic Preservation Act of 1966* (16 U.S.C. §306108) as amended, and its implementing regulations found at 36 CFR Part 800. The FAA is requesting concurrence with determinations of eligibility and an Adverse Effect finding for the above-referenced undertaking.

Los Angeles World Airports (LAWA) plans to institute a large-scale construction project at Los Angeles International Airport. In prior consultation, FAA and SHPO agreed that the Area of Potential Effects for the undertaking was adequate to account direct and indirect effects to historic properties. Construction components include the following:

- Automatic People Mover (APM) system with six APM stations connecting the central terminal area via an above ground fixed guide way to new buildings that will provide ground access to the airport;

- Land acquisition for the APM right-of-way, totaling approximately 26 acres;

- Passenger walkway systems connecting the APM stations to passenger terminals, parking garages, and ground transportation facilities;

- Modifications to existing passenger terminals and parking garages to support the APM walkway system connections, including vertical circulation cores to the arrival, departure, and concourse levels at the terminals;

- APM maintenance and storage facility and APM power substations;

- A consolidated rental car facility;

- Two intermodal transportation facilities;
- Roadway improvements;
- Security features, including fencing, surveillance cameras, security lighting, and emergency call boxes;
- Fire safety features, such as hydrants, sprinklers, and extinguishers;
- Utilities construction, both new construction and modification of current facilities;
- Various enabling projects to allow construction, including utility relocation and demolition of some current facilities

Depth of ground disturbance will range from 50 to 120 below ground level throughout the project area. Multiple staging areas will be used throughout the APE.

The FAA received a list of Native American contacts from the California Native American Heritage Commission. The commission recommended the FAA contact the Gabrielino Band of Mission Indians, Kizh Nation, and four representatives of the Gabrielino-Tongva Tribe. On November 2, 2016, FA provided information about the project to these contacts. No responses were received.

The FAA conducted a cultural resources records search on December 11, 2014 at the South Central Coastal Information Center. The search encompassed all prior cultural resources surveys conducted within a half mile of the APE. The records show that no archaeological sites have been recorded in the APE.

Historic Resources Group (HRG), LAWA's cultural resources consultant, composed a study of the historic built environment, titled *LAX Landside Access Modernization Program Section 106 Assessment* (HRG: February 2017). Based on the results of the study, five buildings and one structure in the APE are listed or eligible for listing on the National Register of Historic Places (NRHP). They are as follows:

- LAX Theme Building: determined eligible for listing in 2001 under National Register Criterion C and G by consensus through the Section 106 process;
- 9700 S. Sepulveda Boulevard, Aircraft School: determined eligible under National Register Criterion A by HRG and FAA;
- 6151 West Century Boulevard, The McCulloch Building: SurveyLA recommended the property as eligible in 2013; however, the building is currently being remodeled and has, according to HRG, lost integrity and is therefore no longer eligible under Criterion C;
- 5959 West Century Boulevard, Tishman Airport Center Building: SurveyLA recommended the property as eligible in 2013. FAA has determined the property is eligible under Criterion C;

- 9841 North Airport Boulevard, Airport Century Building: SurveyLA recommended the property as eligible in 2013. The FAA has determined the building is eligible under Criterion C;

- Air Raid Siren No. 150: SurveyLA recommended the property as eligible in 2013. The FAA has determined that the property is eligible for listing under Criterion A;

The FAA has determined that the undertaking will adversely affect the Theme Building. Proposed construction of support buildings in the adjacent parking area, the location of the guideway and walkways, and the frequency of use of the people mover system will partially obscure unique features of the Theme Building's architectural design and function and would reduce the integrity of the property's setting. The undertaking will not adversely affect the Aircraft School, The McCulloch Building, The Tishman Airport Center Building, The Airport Century Building, or Air Raid Siren No. 150.

To mitigate the adverse effect, the FAA proposes the following measures:

- The FAA shall ensure each consulting party receives a copy of the City-approved Historic Structures Report (HSR). Prior to the issuance of a building permit for the APM, an HSR will be prepared for Theme Building to guide its preservation and future use. The format and content of the HSR will comply with National Park Service Preservation Brief 43: The Preparation and Use of Historic Structures Reports.

- The Theme Building will be rehabilitated for a new use that maintains controlled public access to the building's atrium, lobby, and former restaurant space. Potential new uses for the Theme Building include, but are not limited to: restaurant, public/educational exhibit area, or a meeting/event space.

- The Theme Building will be rehabilitated in compliance with the Secretary for the Interior's Standards for Rehabilitation and the Guidelines for Rehabilitating Historic Buildings. The general specifications for the rehabilitation project shall include specifications for the treatment of character defining features as identified in the HSR. The specifications will include, but are not limited to, sections for the treatment of historic fabric; quality control; substitution procedures; selective demolition; cutting and patching; removal and storage of historic materials; protection and cleaning; repair options; and potential replacement of severely deteriorated features. Materials conservation plans will be incorporated into the plans and specifications as necessary.

- The remaining space around the Theme Building, bounded on the north and south by Center Way and on the east by East Way, shall be preserved and retained as open space to recall the Theme Building's historic setting when it was first built. An interpretive program will be created that may include photographic exhibits, audio/visual presentations, and interactive displays to chronicle the history of the property and its context within the larger airport plan, the architects, and their historic significance. The exhibit shall be located in the open space immediately surrounding the Theme Building or within the building and shall be made publicly accessible.

- The rehabilitation project team will include a qualified historic architect who meets the Secretary of the Interior's Professional Qualifications for historic architecture. The historic architect will work with the project team to review project alternatives and the impacts of the proposed rehabilitation, and will monitor construction for compliance with the recommendations of the HSR.

- Los Angeles World Airports will apply the following guidelines to the final design of the APM guideway and passenger walkway adjacent to the Theme Building to reduce visual impacts:

    - Minimize the number of columns and structures surrounding the Theme Building by maximizing the column support span in this area;

    - Minimize the bulk of the APM guideway structure to preserve openness around the Theme Building to the extent feasible;

    - Design the APM and passenger walkway structures around the Theme Building to complement the existing Theme Building structure and better harmonize the project elements and the Theme Building;

    - Implement landscape elements in the vicinity of the Theme Building that enhance passenger and visitor's visual focus on the Theme Building (i.e., make the Theme Building the visual focus of this area, not the proposed project elements);

Having reviewed the FAA's letter and supporting documentation, SHPO has the following comments:

1) SHPO concurs that the project, as described, will adversely affect the Theme Building;

2) SHPO agrees with the FAA that an Memorandum of Understanding (MOA), in which mitigation measures are set out and roles and responsibilities for the implementation of these measures is clearly stated, is the appropriate vehicle for the resolution of the Adverse Effect;

3) SHPO will work with the FAA and any interested parties to develop meaningful mitigation, such as the proposed actions outlined in the FAA's letter;

4) SHPO would need additional information about the historic significance of the Aircraft School, Tishman Airport Center Building, McCulloch Building, Airport Century Building, and Air Raid Siren No. 150 before concurring with FAA's determinations of eligibility. However, considering that the undertaking will not affect these properties, SHPO will consider these buildings and structures eligible for listing on the NRHP for the purposes of this undertaking. Under this condition, the project will not adversely affect these properties.

SHPO looks forward to working with the FAA to preserve this unique historic property. If you require further information, please contact State Historian Tristan Tozer at (916) 445-7027 or at Tristan.Tozer@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

# Appendix H.3

## Memorandum of Agreement

**MEMORANDUM OF AGREEMENT**
**AMONG THE**

**FEDERAL AVIATION ADMINSTRATION,**

**CALIFORNIA STATE HISTORIC PRESERVATION OFFICER, AND**

**THE CITY OF LOS ANGELES**

**REGARDING THE PROPOSED LANDSIDE ACCESS MODERNIZATION PROGRAM**

**LOS ANGELES INTERNATIONAL AIRPORT**

**WHEREAS,** the City of Los Angeles (City) has requested the Federal Aviation Administration (FAA), as lead Federal agency, approve the City's Aviation Department [known as Los Angeles World Airport's (LAWA)] proposed revision of the Airport Layout Plan (ALP) for Los Angeles International Airport (LAX) depicting the proposed Landside Access Modernization Program (LAMP) specifically depicting the location of the fixed guideway – Automated People Mover (APM); and

**WHEREAS**, the proposed undertaking consists of constructing an above ground fixed guideway, commonly identified as the Automated People Mover (APM) from the proposed Consolidated Rental Car Facility into and around the Central Terminal Area to be used by airport passengers and employees; and

**WHEREAS**, the FAA, in consultation with the SHPO, determined that implementation of the proposed undertaking will adversely affect the Theme Building, a historic property eligible for listing in the National Register of Historic Places (NRHP); and

**WHEREAS**, the FAA is responsible for completing the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108) (NHPA) for this undertaking; and

**WHEREAS**, the FAA has consulted with the California State Historic Preservation Officer (SHPO) and other interested parties pursuant to 36 CFR 800; and

**WHEREAS,** the FAA has consulted with the State of California Native American Heritage Commission, the Gabrielino Band of Mission Indians – Kizh Nation, and four different representatives of the Gabrielino-Tongva Tribe, and no response was received; and

**WHEREAS**, the FAA, in consultation with the SHPO, has established the Area of Potential Effects (APE) for construction of the proposed undertaking, as depicted on **Figure 1**; and

**WHEREAS**, the FAA has provided the Advisory Council on Historic Preservation (Council) with its adverse effect determination with specified documentation pursuant to the regulations for Protection of Historic Properties, Title 36, Code of Federal Regulations (CFR), Section (§)

800.6(a)(1), which implement Section 106 of the National Historic Preservation Act (54 U.S.C. 306108) and ACHP declined to participate on June 5, 2017; and

**WHEREAS**, the SHPO is authorized to advise and assist federal and state agencies in carrying out their historic preservation responsibilities and cooperate with these agencies under California law; and

**WHEREAS**, the SHPO is authorized to enter into this Agreement in order to fulfill its role of advising and assisting federal agencies in carrying out their Section 106 responsibilities under the following federal statutes: Sections 101 and 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, 54 U.S.C. 306108 and pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the NHPA, at 36 CFR §§ 800.2(c)(1)(i) and 800.6(b); and

**WHEREAS**, the City is the project proponent and has primary responsibility for funding and implementing many provisions of this Agreement; and

**NOW, THEREFORE**, the FAA, SHPO and City, collectively referred to as Signatories, agree that upon signing this Agreement, the FAA's approval of the City's Airport Layout Plan, and the City's decision to proceed with the proposed undertaking, the FAA will ensure that the following stipulations are implemented in order to take into account the effects of the undertaking on historic properties.

## STIPULATIONS

The FAA will ensure the following stipulations are implemented:

**Stipulation 1.** Transmittal of City's Historic Resources Report. The FAA will ensure that each of the Signatories receives a copy of the City-approved Historic Structures Report (HSR). Prior to the issuance of a building permit for the APM, a HSR will be prepared for the Theme Building to guide its preservation and future use. The format and content of the report will comply with Preservation Brief 43: The Preparation and Use of Historic Structure Reports. Plans and reports prepared in accordance with this Agreement will be consistent with guidelines of the City of Los Angeles. The FAA will submit the HSR to the California SHPO and other participants in this Agreement for a 30-day review period. The FAA, in consultation with the Signatories to this Agreement, will consider any comments on the HSR provided within 30-days, and request the City revise the HSR, as appropriate. The FAA will provide the consulting Signatories with a copy of the final HSR.

**Stipulation 2.** When the Theme Building is rehabilitated for a new use, controlled public access to the building's atrium, lobby and former restaurant space will be maintained.

**Stipulation 3.** The Theme Building will be rehabilitated in compliance with the Secretary of the Interior's Standards for Rehabilitation and the Guidelines for Rehabilitating Historic Buildings. The general specifications for the rehabilitation project will include specifications for the treatment of character defining features as identified in the HSR. The specifications will include, sections for the treatment of historic fabric; quality control; substitution procedures; selective demolition; cutting and patching; removal and storage of historic materials; protection and cleaning; repair options; and potential replacement of severely deteriorated features. Materials conservation plans will be incorporated into the plans and specifications as necessary.

Stipulation 4. The remaining space around the Theme Building, bounded on the north and south by World Way and on the east by East Way, will be preserved and retained as open space to recall the Theme Building's historic setting. An interpretive program will be created that may include photographic exhibits, audio/visual presentations, and interactive displays to chronicle the history and design of the Theme Building and its context within the larger airport plan, the architects, and their historic significance. This exhibit will be located in the open space immediately surrounding the Theme Building or within the Theme Building and will be made accessible to the public (see attached **Figure 2**, Theme Building Open Space Preservation Area).

Stipulation 5. The rehabilitation project team will include a qualified historic architect who meets the Secretary of the Interior's Professional Qualifications Standards for historic architecture. The historic architect will work with the project team to review project alternatives and the impacts of the proposed rehabilitation, and will monitor construction for compliance with the recommendations in the HSR.

Stipulation 6. LAWA will apply the following guidelines to the final design of the APM guideway and passenger walkway adjacent to the Theme Building to reduce visual impacts:

- Minimize the number of columns and structures surrounding the Theme Building by maximizing the column support span in this area.
- Minimize the bulk of the APM guideway structure to preserve openness around the Theme Building to the extent feasible.
- Design the APM and passenger walkway structures around the Theme Building to complement the existing Theme Building structure and better harmonize the Project elements and the Theme Building.
- Implement landscape elements in the vicinity of the Theme Building that enhance passenger and visitor's visual focus on the Theme Building (i.e., make the Theme Building the visual focus of this area, not the proposed Project elements).

**Stipulation 7. Professional Qualifications**

The FAA will ensure that all historic preservation work carried out pursuant to this Agreement is carried out by or under the supervision of a person or persons meeting at a minimum the Secretary of Interior's Professional Qualification Standards (36 CFR Part 61).

**Stipulation 8. Duration**

This MOA will expire if its terms are not carried out within six years from the date of its execution. Prior to such time, FAA may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation 14 below.

**Stipulation 9. Post-Review Discoveries**

If properties are discovered that may be historically significant or unanticipated effects on historic properties found, the FAA will adhere to the requirements of 36 CFR 800.13(b)(3).

**Stipulation 10. Monitoring and Reporting**

Each year following the execution of this MOA until it expires or is terminated, the FAA will provide all Signatories to this MOA a summary report detailing work undertaken pursuant to its terms. Such report will include any scheduling changes proposed, any problems encountered, and any disputes and objections received and their resolution.

**Stipulation 11. Dispute Resolution**

Should any Signatory to this Agreement object within 30-days to any actions proposed or carried out pursuant to this Agreement, the FAA will consult with the objecting Signatory to resolve the objection. The FAA will notify the City and California SHPO of any objection. If the FAA determines the objection cannot be resolved, the FAA will forward all documentation relevant to the dispute to the Advisory Council on Historic Preservation (ACHP). Within 30-days after receipt of all pertinent documentation, the ACHP will either:

A. Provide the FAA with recommendations, which the FAA will take into account in reaching a final decision regarding the dispute. Prior to reaching a final decision on the dispute, the FAA will prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP and Signatories, and provide them with a copy of this written response. The FAA will then proceed according to its final decision.
B. If the ACHP does not provide its advice regarding the dispute within the thirty (30)-day time period, the FAA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the FAA will prepare a written response that takes into account any timely comments regarding the dispute from the signatories to the MOA, and provide them and the ACHP with a copy of such written response.
C. The FAA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

**Stipulation 12. Amendment**

Any of the signatories to this Agreement may request that the Agreement be amended according to 36 CFR § 800.6(c)(7). Any amendment will be effective on the date an amended Agreement is signed by all signatories. The FAA will ensure a copy of any executed amendment is filed with the ACHP.

**Stipulation 13. Termination**

In the event the terms of this Agreement cannot be or are not being carried out, the signatories will consult to seek amendment of the Agreement. If an agreement cannot be reached on an amendment, the FAA or the California SHPO may terminate this Agreement pursuant to 36 CFR § 800.6(c)(8). The FAA will either execute a new Agreement under 36 CFR § 800.6(c)(1) or request and consider the comments of the ACHP pursuant to 36 CFR § 800.7(a).

**EXECUTION**

Execution of this Agreement, filing of the Agreement with the ACHP pursuant to 36 CFR §800.6(b)(1)(iv), and implementation of its terms is evidence that the FAA has taken into account the effects of the undertaking on historic properties protected under Section 106 of the National Historic Preservation Act and afforded the ACHP an opportunity to comment on the undertaking pursuant to that Act.

**SIGNATORIES:**

**FEDERAL AVIATION ADMINISTRATION**

By ______________________________ 12/18/17

Director, Office of Airports, Western-Pacific Region — Date

**CALIFORNIA STATE HISTORIC PRESERVATION OFFICE**

By ______________________________ 12/14/17

for California State Historic Preservation Officer — Date

**CITY OF LOS ANGELES, A MUNICIPAL CORPORATION**

By ______________________________ 12/18/17

Chief Executive Officer, Los Angeles World Airports — Date

**ATTEST:**

______________________________

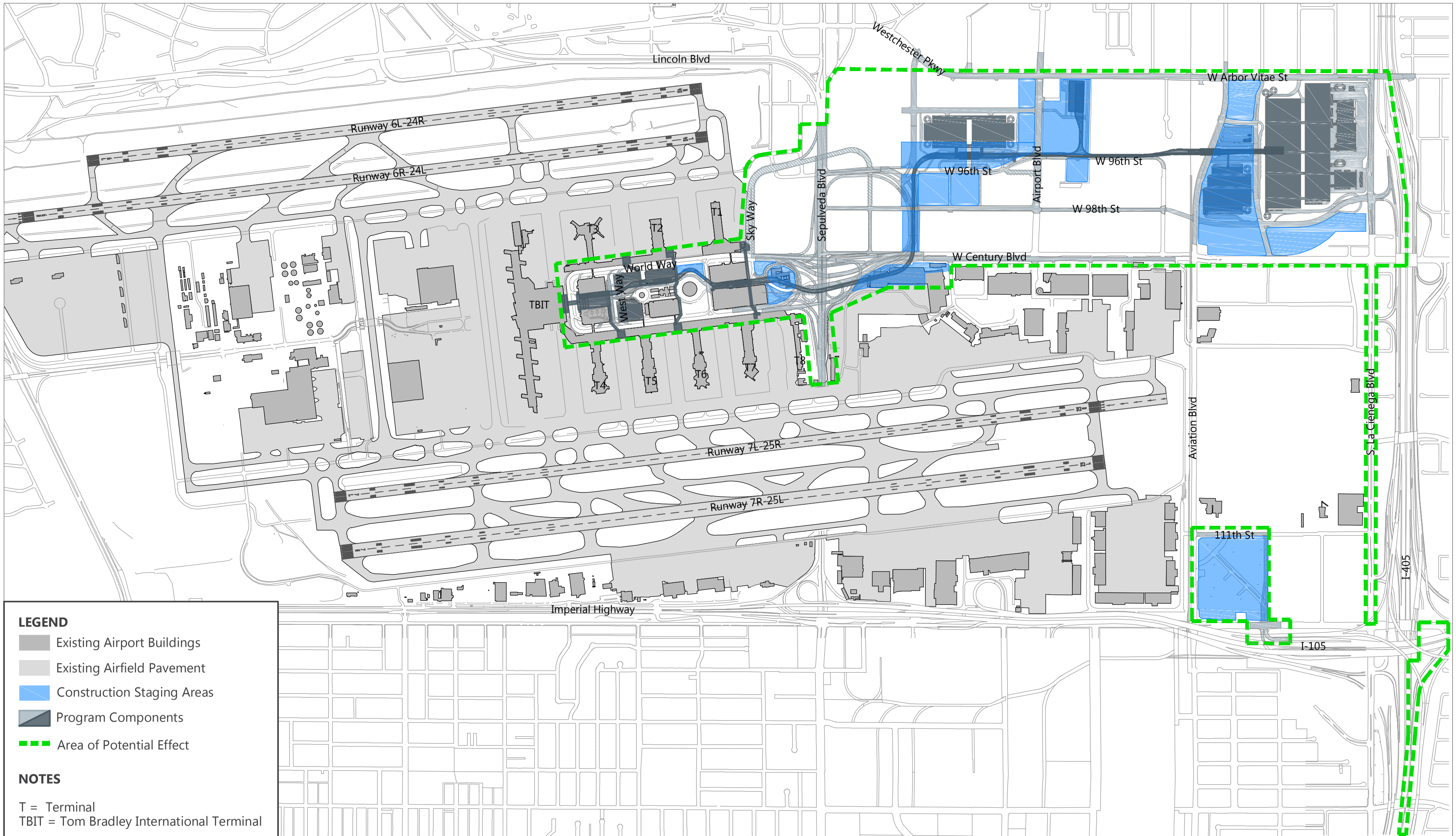
City Clerk

**APPROVED AS TO FORM:**

______________________________

City Attorney

**[Preliminary Draft for Discussion Purposes Only]**



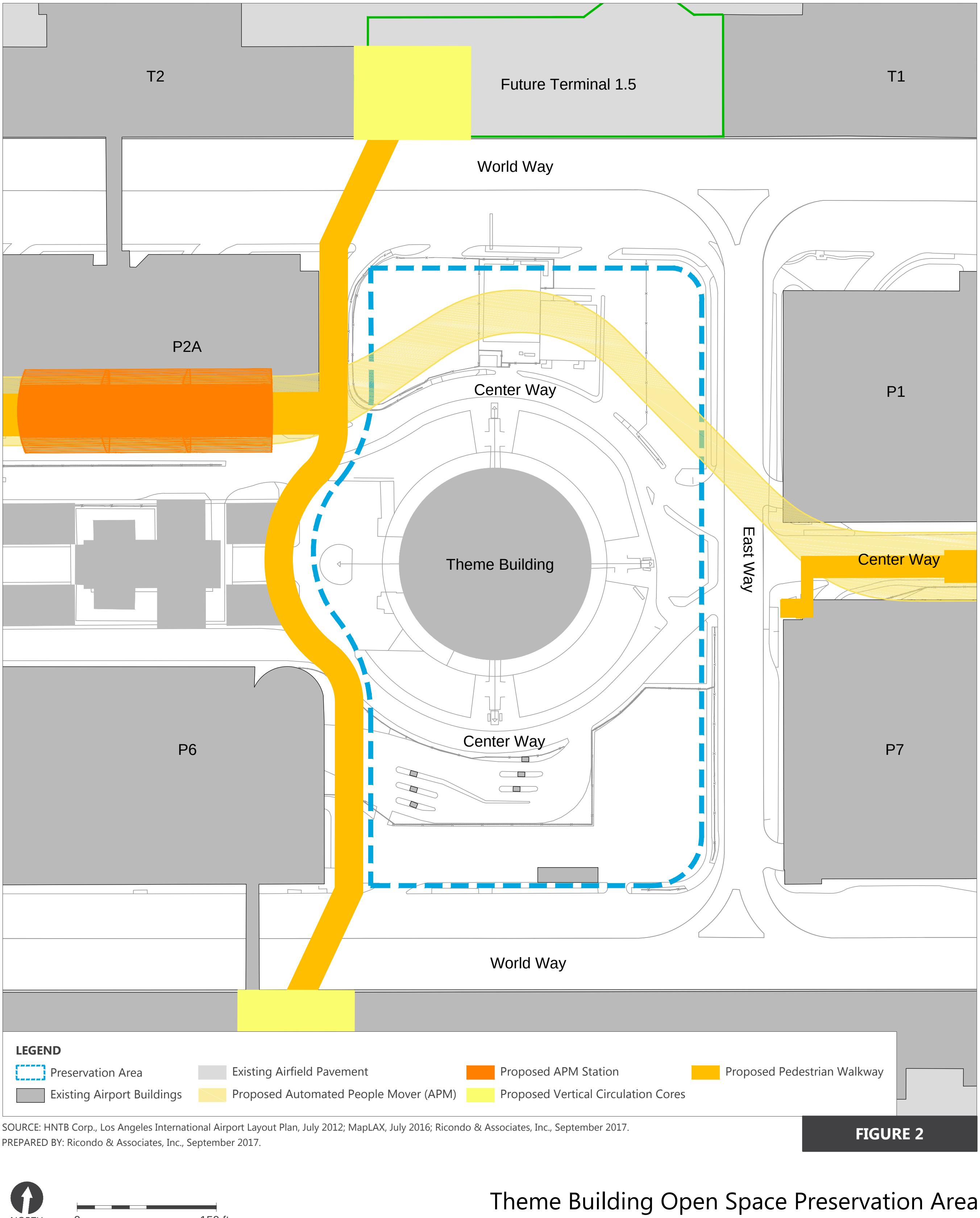

NOTE: Improvements depicted are conceptual only and do not represent engineered design.
SOURCE: HNTB Corp., Los Angeles International Airport Layout Plan, July 2012; MapLAX, July 2016.
PREPARED BY: Ricondo & Associates, Inc., January 2017.


**FIGURE 1**

# Area of Potential Effect

Drawing: X:\LAX\LAMP\05 - AutoCAD\LAMP_EA_Area of Potential Effect_20161227.dwgLayout: Figure 1 Plotted: Jan 25, 2017, 03:49PM

**[Preliminary Draft for Discussion Purposes Only]**




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

**FIGURE 2**

Theme Building Open Space Preservation Area

Drawing: P:\LAX\LAMP\05 - AutoCAD\Miscellaneous\LAMP_Fig 1 - Eminent Domain & Relocation.dwgLayout: Theme Preservation Plotted: Sep 27, 2017, 09:58AM

# Appendix H.4

ACHP Coordination Letters

U.S Department
of Transportation
**Federal Aviation Administration**

Western-Pacific Region
Airports Division
Los Angeles Airports District Office

Mailing Address:
15000 Aviation Boulevard
Lawndale, CA 90261

May 22, 2017

Ms. Charlene Dwin Vaughn
Assistant Director, Federal Permitting, Licensing and Assistance Section
Advisory Council on Historic Preservation
401 F Street, N.W., Suite 308
Washington D.C. 20001

Proposed Landside Access Modernization Program
Los Angeles International Airport
Los Angeles, Los Angeles County, California
Request for Advisory Council on Historic Preservation Participation

Dear Ms. Vaughn:

The City of Los Angeles, through its Aviation Department, Los Angeles World Airports (LAWA) and the Federal Aviation Administration (FAA) are preparing Federal environmental documentation to comply with the National Environmental Policy Act of 1969 (NEPA) for proposed improvements associated with the Landside Access Modernization Program (LAMP) at Los Angeles International Airport (LAX). The Federal action is the approval of LAWA's Airport Layout Plan and potential FAA funding for eligible portions of the proposed undertaking.

The purpose of this letter is to formally request, pursuant to Title 36, Code of Federal Regulations, Section 800.6(a)(1), the Advisory Council on Historic Preservation's (ACHP) participation in the consultation and review of the Federal Aviation Administration's (FAA) findings made pursuant to 36 C.F.R. Sections 800.5(c)(3)(i) and (c)(3)(ii) for the potential effects of the proposed LAMP undertaking at Los Angeles International Airport, Los Angeles County, California.

LAWA is pursuing LAMP to address automobile congestion in and around the Central Terminal Area (CTA) at LAX. The bulk of the proposed LAMP occurs on existing airport property.

**BACKGROUND**

LAX is the largest commercial service airport in southern California, and the second busiest in the United States, and fourth busiest in the world with more than 80.9 million passengers in 2016. On a daily basis up to 6,000 vehicles enter LAX during peak periods resulting in conflicts between private, commercial and service vehicles; insufficient curb space and limited roadways due to traffic saturation.

The proposed improvements that will be analyzed in this environmental documentation include:

- Construction of an Automated People Mover (APM) system with six APM stations connecting the CTA via an above ground fixed guide way;
- Passenger walkway systems within the CTA connecting the APM stations to passenger terminals, parking garages, and ground transportation facilities;
- Modifications to existing passenger terminals and parking garages to support the APM walkway system connections, including vertical circulation cores to the arrival, departure, and concourse levels at the terminals;
- An APM maintenance and storage facility (MSF); and
- APM power substations.
- A Consolidated Rental Car facility (CONRAC) designed to meet the needs of car rental agencies serving LAX with access to the CTA via the APM;
- Two Intermodal Transportation Facilities (ITF) providing parking and pick-up and drop-off areas outside the CTA for private vehicles and commercial shuttles;
- Roadway improvements and project design features designed to improve access to the proposed facilities and the CTA and reduce traffic congestion in neighboring communities;
- Security features, including security fencing, surveillance cameras, security lighting, and emergency phones/call boxes, to reduce demands on the Los Angeles World Airports Police Department (LAWAPD);
- Utilities infrastructure, both new and modified, as needed, to support the proposed undertaking;
- Land acquisition for the APM right-of-way in various locations totaling about 26-acres is identified in Figure 2-47 "*Properties to be Acquired*" (**Enclosure 1**) and
- Various enabling projects to allow construction of the Proposed Action, including utility relocation and demolition of certain existing facilities, some of which would be reconstructed.

Depths of disturbance will vary from 50 feet to 120 feet deep throughout the project. Each of the main facilities of the Proposed Action would require pile foundations. It is assumed that both Cast-In-Drilled-Hole (CIDH) piles and driven piles will be used where necessary. CIDH piles involve drilling and removal of soils and construction of a cast-in-place, reinforced concrete pile within the open borehole. Driven piles involve in-place installation of a steel pile with a pile-driving hammer, and do not involve removal of materials from the ground. Driven pile installations typically generate noise and vibrations. As a result, LAWA will adhere to its "*Archaeological Treatment Plan*" (**Enclosure 2**) and shall retain a Cultural Resource Monitor who will determine if the proposed action is subject to archaeological monitoring

LAWA intends to use multiple staging areas around the airport as shown on the APE drawing. Each of these sites has been significantly disturbed in the past.

**Area of Potential Effect (APE)**

**1. APE Designation**. FAA carefully considered the location of various known historic properties near the proposed undertaking. To that end, FAA worked with the California State Historic Preservation Officer (SHPO) to develop the APE associated with the proposed LAMP project. Please see **Enclosure 3** Area of Potential Effect. FAA formally consulted with the California SHPO about the APE pursuant to 36 CFR 800 by letter dated January 26, 2017 (**Enclosure 4**). The California SHPO concurred with the FAA's delineation of the APE, by letter February 13, 2017 (**Enclosure 5**).

The following section describes the APE for the proposed undertaking:

**2. Proposed Lamp Project:** Figure 1: Area of Potential Effect shows the discontiguous Physical Disturbance Area for the proposed LAMP project. The APE includes about 775 acres and is split into three general regions: Central Terminal Area, East of the Central Terminal Area, and Aviation Boulevard/Imperial Highway Area.

- The *Central Terminal Area* (CTA) includes areas west of Sepulveda Boulevard, focused around World Way and the passenger terminals at LAX.

- *East of the Central Terminal Area* is generally bounded by W. Century Boulevard on the south, Interstate 405 (I-405) on the east, West Arbor Vitae Street/LAX property boundary on the north, and Sepulveda Boulevard on the west.

- *The Aviation Boulevard/Imperial Highway Area* is bounded by Imperial Highway on the south, W. 111th Street on the north, Aviation Boulevard on the west, and Hindry Avenue on the east, but also includes roadway improvements along the I-405 and La Cienega Boulevard.

The APE comprises various airport, regional commercial, general commercial, and medium-density residential land uses. The APE is developed and heavily urbanized, with some vacant areas associated with the Belford and Manchester Square residential areas being acquired by LAWA under a voluntary sales program at the request of the residents beginning back in 1996. The APE also includes the construction staging areas described above that are not contiguous with the portion of the APE for the proposed LAMP construction work.

FAA used the boundaries of the entire area that would have physical disturbance to delineate a Direct Effects APE. FAA determined these boundaries through consultation with LAWA on the extent of the proposed LAMP project. FAA has identified a discontiguous APE for the proposed undertaking. LAWA has advised FAA that it plans to use its existing construction staging areas primarily within the proposed project area. LAWA also plans to use land east of the South Runway Complex including an area, formerly known as "Continental City," at the north east corner of Aviation Boulevard and Imperial Highway for construction staging. To ensure complete coordination, the APE includes both of these existing disturbed staging areas.

**Additional Consultation.**

The following text summarizes the documentation we are providing: (1) Determinations of eligibility of historic and archaeological sites for the National Register of Historic Places (NRHP); (2) Native American consultation; (3) Public participation in the Section 106 process, and (4) Determinations of effect on historic properties, including additional information to better explain the potential visual impacts and FAA's determination of effect.

**1. National Register Eligibility Determinations**

Historic Resources Group (HRG) LAWA's cultural resources consultant, prepared the "*LAX Landside Access Modernization Program Section 106 Assessmen*t, dated February 2017" (**Enclosure 6**). Based on the information contained within the *LAX Landside Access Modernization Program Section 106 Assessmen*t, FAA has determined there are four (4) buildings and one (1) structure that are listed or eligible for listing in the National Register of Historic Places (NRHP) for the proposed undertaking. They are as follows:

- **LAX Theme Building** - The Theme Building, completed in 1962, was originally constructed as the geographic centerpiece and visual focus of the CTA. It was designed by Pereira and Luckman in an Expressionistic style to serve as the futuristic symbol of the new "jet age" airport. It is located in the very center of the CTA, at the midpoint of the main east-west axis. It sits on a circular island ringed by a divided access road, Center Way. North of Centerway, is the United States Overseas (USO) building and a surface parking lot. South of Center Way is another surface parking lot, to the east, southwest, and northwest are multi-story automobile parking structures. Immediately west are parallel rows of barrel-roofed service buildings and the FAA's Airport Traffic Control Tower built in 1996.

  In 2001, the Theme Building was determined eligible for listing in the National Register by consensus through a Section 106 evaluation. It was found eligible under Criterion C for architectural significance and was determined to satisfy National Register Criterion Consideration G for exceptional significance in a building less than 50 years old (at the time of evaluation).

- **9700 S. Sepulveda Boulevard (Aircraft School)** - This property contains a handful of modest single-story buildings set within an expanse of surface parking. The largest of the buildings is rectangular in plan with a bow-truss roof and monitor, horizontal wood cladding, and metal-frame, multi-light casement windows. The building is constructed in a vernacular/industrial style. Two smaller buildings with gable roofs and a rectangular masonry building with a flat roof and attached shade canopy are clustered just south of the bow-truss roof building. A rectangular building of more recent vintage is set apart from the others at the northwest corner of the site.

The Historic Resources Report states the property has a long historic association with training in the aircraft trades in service of the rapid post-World War II growth of the aerospace industry in Southern California. This building was built for civil defense training just eight months prior to the Japanese attack on Pearl Harbor. The property is representative of the 20th century development of aircraft and aerospace related industries and services that clustered near the airport beginning with the establishment of Mines Field (the original name for LAX).

Only the rectangular bow-truss building has retained sufficient integrity to convey the historic significance of the property. FAA has determined this property is eligible for inclusion into the NRHP under National Register Criterion A.

- **5959 West Century Boulevard (Tishman Airport Center Building)** - The 12-story office building was designed by Welton Beckett & Associates as part of the "International Airport Center" commercial development located on the north side of Century Boulevard just east of the CTA. The Airport Center Building was built in 1966; this mid-rise commercial office building was recommended as eligible for the National Register by SurveyLA in 2013. FAA has determined this property is eligible for inclusion into the NRHP under Criterion C.

- **9841 North Airport Boulevard (Airport Century Building)** - The mid-rise office building was built in 1968. It was also designed by the architectural firm of Welton Beckett & Associates as part of the "International Airport Center" commercial development located on the north side of Century Boulevard just east of the CTA. The Airport Century Building was recommended as eligible for the National Register by SurveyLA in 2013. FAA has determined this property is eligible for inclusion into the NRHP under Criterion C.

- **Air Raid Siren No. 150** - Located on the south side of West 98th Street just east of Airport Boulevard, this rotating air raid siren on a freestanding pole was recommended as eligible for the National Register, by SurveyLA in 2013. Erected and installed in 1940, the siren was evaluated as historically significant for its association with World War II and Cold War military infrastructure. FAA has determined this property is eligible for inclusion into the NRHP under Criterion A.

**FAA provided its Adverse Effects determination via letter to California SHPO on March 20, 2017 (Enclosure 7). To date, we have not received a reply from the California SHPO.**

## 2. Native American Consultation

FAA provided project information about the proposed undertaking and Area of Potential Effect for the Landside Access Modernization Program to the tribal contacts provided by the California Native American Heritage Commission using the U.S. Mail. FAA contacted, the Gabrielino Band of Mission Indians – Kizh Nation, and four different representatives of the Gabrielino-Tongva Tribe by letter dated November 2, 2016. FAA did not receive any comments from the tribes.

## 3. Public Participation

FAA is coordinating Section 106 review along with the NEPA process. The coordination has provided opportunities for the public to review and provide any comments on potential effects on historic properties. The Notice of Public Scoping Meeting to prepare the EA was held on June 22, 2016. A total of 17 people signed in during the public scoping meeting. The Draft EA will be made available for public review and comment in the near future and the FAA anticipates additional comments.

Throughout the development of the proposed action LAWA has been actively communicating and working with the Los Angeles Conservancy, City of Los Angeles' Office of Historic Resources and the California SHPO. A total of nine meetings were held between November 2014 and June 2016 with the above identified agencies to get input on the proposed LAMP project.

The Los Angeles Conservancy have advised they want LAWA to take a comprehensive look at the historic resources owned by LAWA and developed a systematic way of managing those resources in the future. As a result, a "*Preservation Plan*" (**Enclosure 8**) for LAX was developed.

Public comments received to date, (**Enclosure 9**). All of the comments on the Theme Building and various historic resources received during the State of California Environmental documentation process are enclosed along with the responses provided to those comments. The comments and responses are included in the LAX LAMP Final Environmental Impact Report. There was only one comment letter (PC00012 from Stephen Birch) and two other comments (one from the LAX Area Advisory Committee and one from the Alliance for a Regional Solution to Airport Congestion (ARSAC) concerning potential effects to the Theme Building. Additionally, on March 23, 2017, the LA Conservancy provided comments (Enclosure 12) on the proposed LAMP project. No other comments have been raised or received about effects to the Theme Building during the extensive public outreach held on the LAX Landside Access Modernization Program to date.

## 4. Assessment of Adverse Effects on Historic Properties

FAA has determined there are four historic properties listed or eligible for listing on the NRHP within the APE. FAA has determined the proposed undertaking will not affect the following properties:

- 9700 S. Sepulveda Boulevard (Aircraft School)
- 5959 West Century Boulevard (Tishman Airport Center Building)

- 9841 North Airport Boulevard (Airport Century Building):

- Air Raid Siren No. 150

The LAMP project: 1) Will not relocate any of the above properties; 2) Will not alter any of the design elements; 3) Will not impact the setting or feeling of the physical environment; 4) Will not obscure views since most views will be blocked by other buildings; 5) Will not affect workmanship, feeling or association of the identified properties; and 6) The LAMP project does not include the demolition, destruction, damage, physical alteration or relocation of the Theme Building.

However, FAA has determined that the proposed undertaking will indirectly affect the Theme Building for the following reasons:

- Structures associated with the LAMP project would be constructed within the parking lots that surround the Theme Building. These parking areas are an important component of the Theme Building's original setting. However, the construction of the multi-story parking structures, and second level roadways prior to the 1984 Los Angeles Summer Olympics, changes the overall setting of the Theme Building. FAA has determined the Theme Building would not retain integrity of setting after implementation of the LAMP project as described below;

- Although the LAMP project will not directly result in the construction or physical alteration of the Theme Building, the proposed LAMP APM guideway and walkway would alter the physical setting of the Theme Building by constructing new structures to the immediate north, east and west. The APM guideway would be approximately 70 feet above ground around the Theme Building supported on concrete columns and would be constructed within 43 feet of the Theme Building at its closest point. The elevated walkway connecting Terminals 2 and 6 would be approximately 20 feet from the Theme Building at its closest point.

- The proposed APM train cars would be approximately 42 feet long, 9 feet wide and 12 feet in height. The proposed APM trains would include up to 5 cars and would operate 24 hours a day, 7 days per week. During peak periods of operation, operating headway intervals (time between trains at a given station) would be approximately 2 minutes.

- FAA finds the proposed construction of the APM and walkway associated with LAMP would partially obscure unique features of the Theme Building's architectural design as well as its original function from certain perspectives and would reduce the integrity of the setting of the Theme Building.

FAA proposes to incorporate the following measures to further reduce the adverse effects on the Theme Building by the proposed undertaking:

As a result of the above coordination meetings and community outreach, the following minimization and mitigation measures were developed to reduce and avoid the indirect adverse effects:

- Prior to the issuance of a building permit for the APM, a Historic Resources Report (HSR) shall be prepared for the Theme Building to guide its preservation and future use. The format and content of the report shall comply with *"Preservation Brief 43: The Preparation and Use of Historic Structure Reports"* (**Enclosure10***)*. The FAA shall ensure that each of the consulting parties receives a copy of the City-approved HSR.

- The Theme Building shall be rehabilitated for a new use that maintains controlled public access to the building's atrium, lobby and former restaurant space. Potential new uses for the Theme Building include, but are not limited to, a restaurant, the public/educational exhibits, or a meeting/event space.

- The Theme Building shall be rehabilitated in compliance with the Secretary of the Interior's Standards for Rehabilitation and the Guidelines for Rehabilitating Historic Buildings. The general specifications for the rehabilitation project shall include specifications for the treatment of character defining features as identified in the HSR. The specifications shall include, but are not limited to, sections for the treatment of historic fabric; quality control; substitution procedures; selective demolition; cutting and patching; removal and storage of historic materials; protection and cleaning; repair options; and potential replacement of severely deteriorated features. Materials conservation plans shall be incorporated into the plans and specifications as necessary.

- The remaining space around the Theme Building, bounded on the north and south by Center Way and on the east by East Way, shall be preserved and retained as open space to recall the Theme Building's historic setting when it was first built. An interpretive program will be created that may include photographic exhibits, audio/visual presentations, and interactive displays to chronicle the history and design of the Theme Building and its context within the larger airport plan, the architects, and their historic significance. This exhibit shall be located in the open space immediately surrounding the Theme Building or within the Theme Building and shall be made accessible to the public.

- The rehabilitation project team shall include a qualified historic architect who meets the Secretary of the Interior's Professional Qualifications Standards for historic architecture. The historic architect shall work with the project team to review project alternatives and the impacts of the proposed rehabilitation, and shall monitor construction for compliance with the recommendations in the HSR.

- LAWA shall apply the following guidelines to the final design of the APM guideway and passenger walkway adjacent to the Theme Building to reduce visual impacts
  - Minimize the number of columns and structures surrounding the Theme Building by maximizing the column support span in this area.
  - Minimize the bulk of the APM guideway structure to preserve openness around the Theme Building to the extent feasible.

- Design the APM and passenger walkway structures around the Theme Building to complement the existing Theme Building structure and better harmonize the Project elements and the Theme Building.
- Implement landscape elements in the vicinity of the Theme Building that enhance passenger and visitor's visual focus on the Theme Building (i.e., make the Theme Building the visual focus of this area, not the proposed Project elements).

***Summary***

The LAX Theme Building will not be physically altered by construction and operation of the proposed undertaking. The above-described minimization and mitigation measures would reduce the effects on the LAX Theme Building. The LAX Theme Building would remain physically intact in its original location and its unique architectural design would remain discernible and continue to convey its historical significance despite being partially obscured by the proposed new construction. For these reasons, the Theme Building would remain eligible for inclusion in the National Register after implementation of LAMP.

FAA has included a Draft Memorandum of Agreement (MOA) (**Enclosure 11**) that includes the above minimization efforts to reduce or avoid those effects as part of its stipulations. We invite the Advisory Council to review the MOA and indicate if you would like to participate as a signatory party with attached MOA.

We look forward to hearing from you soon. If you have any questions, please do not hesitate to contact Victor Globa, Environmental Protection Specialist at 310-725-3637 or me at 310/725-3644.

Sincerely,

David F. Cushing
Manager, Los Angeles Airports District Office

Enclosures

1. Properties to be Acquired
2. Archaeological Treatment Plan
3. Area of Potential Effect
4. FAA Section 106 consultation with SHPO
5. California SHPO concurrence with APE
6. LAX Landside Access Modernization Program Section 106 Assessment
7. FAA Direct Effects Determination
8. LAX Preservation Plan
9. CEQA EIR Public Comments
10. Preservation Brief 43: The Preparation and Use of Historic Structure Reports

11. Draft Memorandum of Agreement
12. LA Conservancy Comment Letter

Cc: T. Cuddy, APP-400, AWP-600, AWP-7, LAX-600,
LAWA, Ricondo & Associates

Preserving America's Heritage

June 5, 2017

Mr. Victor Globa
Environmental Protection Specialist
Federal Aviation Administration
15000 Aviation Boulevard, Room 3000
Lawndale, CA 90261

Ref: *Proposed Los Angeles International Airport Landside Access Modernization Program*
*Los Angeles, Los Angeles County, California*

Dear Mr. Globa:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the California State Historic Preservation Officer (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Sarah Stokely at (202) 517- 0224 or sstokely@achp.gov.

Sincerely,

LaShavio Johnson

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

# Appendix I

## Land Use Assurance Letter

# Los Angeles World Airports



May 19, 2017

Mr. David F. Cushing
Manager, Los Angeles Airports District Office
Federal Aviation Administration
15000 Aviation Boulevard, Suite 3000
Lawndale, CA 90261

**SUBJECT: PROPOSED LANDSIDE ACCESS MODERNIZATION PROGRAM LOS ANGELES INTERNATIONAL AIRPORT LAND USE ASSURANCE LETTER**

Dear Mr. Cushing:

The Los Angeles World Airports, a department of the City of Los Angeles, in the state of California, makes the following statement of land use assurance as required by 49 U.S.C. § 47107(a)(10), formerly Section 511(a)(5) of the Airport and Airway Improvement Act of 1982, as amended.

Los Angeles International Airport is physically located within the City of Los Angeles, which has authority to regulate and control land use and zoning within the City of Los Angeles municipal limits. Cities bordering the airport to the east are Inglewood, Lennox, Hawthorne and Del Aire (an unincorporated area of the County of Los Angeles), and south of the airport is the City of El Segundo.

The City of Los Angeles provides assurance that appropriate action, within the authority of the City, including encouragement of the adoption of zoning laws, has been and will be taken, to the extent reasonable to restrict the use of land adjacent or in the immediate vicinity of the Los Angeles International Airport to activities and purposes compatible with normal airport operations both existing and in the future. Within the municipal limits of the City of Los Angeles, heights of structures and natural objects in the vicinity of the airport are regulated by ordinances described within the Los Angeles Municipal Code. Section 12.50 of the Planning and Zoning Code includes Airport Hazard Maps and regulations relating to height limits. The ordinance relating to this Section of the Code, was written and adopted in 1971 and amended in 2000, in conformance with Federal Aviation Regulation, Part 77.

The City of Los Angeles works with the adjacent municipalities having land use jurisdiction over land adjacent to or in in the immediate vicinity of the Airport and encourages the adoption of zoning laws, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the Airport to activities and purposes compatible with airport operations. The City of Los Angeles is involved with these neighboring communities and municipalities in promoting compatible land uses as evidenced by Part 150 noise mitigation efforts. The City of Los Angeles comments on proposed land uses development in neighboring communities as it affects the airport at every available opportunity. The City of Los Angeles is committed to every feasible measure to ensure lane use compatibility with its surrounding neighborhoods.

If you have any questions regarding this matter, please contact Evelyn Quintanilla of my staff at (424) 646-5188 or by email at equintanilla@lawa.org.

Sincerely,

Samantha Bricker
Deputy Executive Director
Los Angeles World Airports

SM:EQ

cc: Evelyn Quintanilla
Victor Globa, FAA LAX-ADO

# Appendix J

## Noise

# Appendix J. Noise

## J.1 Noise Data Collection

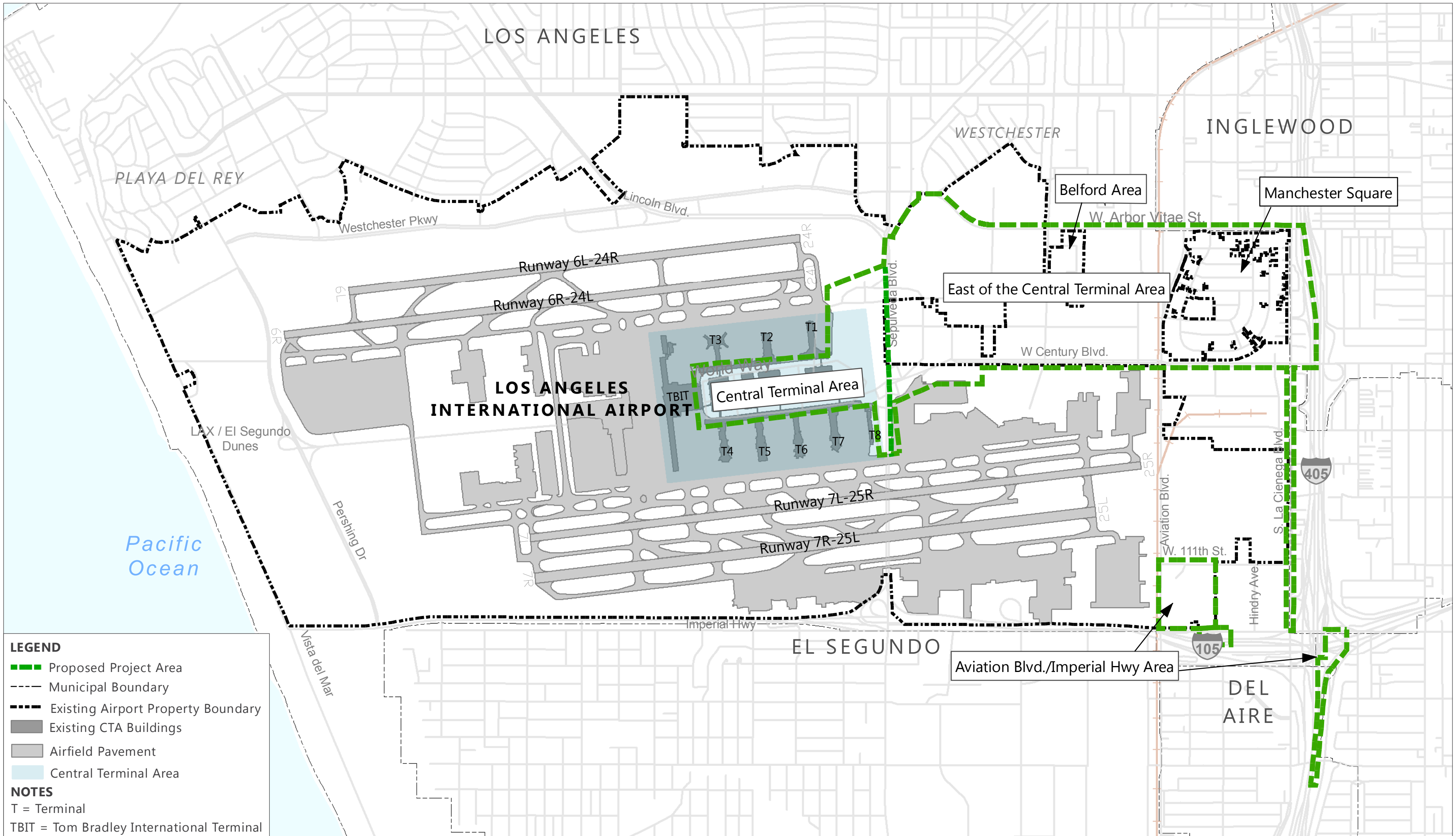
### J.1.1 INTRODUCTION

The proposed Landside Access Modernization Program (Proposed Action Alternative) for Los Angeles International Airport (LAX or Airport) comprises several development components that would serve to provide enhanced traffic circulation around the Airport upon completion. A fundamental understanding of the existing environmental setting and potential impacts associated with the Proposed Action Alternative is necessary prior to approval and implementation. This technical memo documents fieldwork that was conducted to record existing ambient noise levels at sensitive land uses and regional traffic intersections that would be potentially affected by construction and operation of the Proposed Action Alternative.

The Proposed Action Alternative includes the development of a proposed Automated People Mover (APM) system that would extend for approximately 2.25 miles, starting at the Central Terminal Area (CTA) and extending to the future proposed consolidated rental car facility (CONRAC) that would be situated adjacent to Interstate 405 (I-405). For the purposes of this analysis, the Proposed Project Area considered includes the areas located within the CTA extending east to the I-405, as shown in **Figure J-1**.

The general Proposed Project Area is roughly bound by the Tom Bradley International Terminal (TBIT) in the CTA on the west, the I-405 on the east, Westchester Parkway/W. Arbor Vitae Street on the north, and Interstate 105 (I-105) on the south. Additionally, the Proposed Action Alternative would include various roadway improvements that would affect areas south of Century Boulevard along Aviation Boulevard south to I-105; areas along 111th Street between Aviation Boulevard to La Cienega Boulevard and areas west of Sepulveda Boulevard between Sky Way and 96th Street.

THIS PAGE INTENTIONALLY LEFT BLANK




SOURCES: Los Angeles County, 2010, 2011 (city boundary, streets); LAX Airport Layout Plan, Ricondo & Associates, Inc., 2010 (runways, taxiways, terminal area, ariport property boundary).
National Geographic World Map, ESRI Database, 2011.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

NORTH 0 3,000 ft.

**FIGURE J-1**

Proposed Project Area

THIS PAGE INTENTIONALLY LEFT BLANK

### J.1.2 PURPOSE OF DATA COLLECTION

An ambient noise-monitoring survey was performed to establish existing noise levels at various locations within the Proposed Project Area. The monitoring was conducted to provide data on ambient noise generated by road traffic and the operation of current establishments in the area surrounding LAX, as well as along the roadway network that comprises the study intersections for the Proposed Action Alternative traffic study.

Noise impacts anticipated to be generated by the Proposed Action Alternative were assessed using sound-modeling techniques to estimate the changes in noise that would result from both construction activities and operation of the Proposed Action Alternative. To assess noise impacts on a regional scale, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (RD-77-108) was used to approximate existing traffic noise levels at sensitive receptors placed along the edge of the street segments between traffic study intersections. Vehicular noise levels along individual roadway segments within the Proposed Project Area were completed using the SoundPLAN noise modeling software in combination with the FHWA Highway Traffic Noise Model (TNM).

The data collection was used to determine whether construction and operation of the Proposed Action Alternative would result in noise levels that exceed applicable significance thresholds as discussed in Section J.1.4 below.

### J.1.3 METHODOLOGY

Noise measurements were collected in accordance with guidance provided in the Federal Transit Administration (FTA) document *Transit Noise and Vibration Impact Assessment*.[1] The document outlines procedures and recommendations for assessing potential noise and vibration impacts from transit projects.

Under the FTA guidance document, land use types used in determining noise impact criteria are designated into three land use categories: Category 1, Category 2, and Category 3. Category 1 includes uses where quiet is an essential element in their intended purpose, such as indoor concert halls or outdoor concert pavilions, or National Historic Landmarks where outdoor interpretation routinely takes place. Category 2 includes residences and buildings where people sleep, while Category 3 includes institutional land uses with primarily daytime and evening use, such as school, places of worship, and libraries. Land use types included in Category 1 do not occur within the scope of this analysis along the proposed APM guideway.

Larson Davis Model 870, Larson Davis Model 820, and Rion Model NL-31 ANSI Type-1 precision integrating sound level meters (SLMs) were used to measure the noise during the 24-hour collection period at each location. The SLMs were field calibrated before and after the measurements and have annual calibration records traceable to NIST (National Institute of Standards and Technology).

---

1 U.S. Department of Transportation, Office of Planning and Environment, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment,* May 2006.

The SLM used to conduct the noise monitoring survey was a Type 1 (precision) Larson Davis Model 831 SLM. This meter meets all requirements of American National Standards Institute (ANSI) S1.4-1983 and ANSI 1.43-1997 Type 1 standards[2], as well as International Electrotechnical Commission (IEC) IEC61672-1 Ed. 1.0, IEC60651 Ed 1.2, and IEC60804 Type 1, Group X standards.[3] The SLM was located approximately 5 feet above ground and was covered with a Larson Davis windscreen. The SLM was field calibrated with an external calibrator prior to operation.

The FTA guidance document recommends that full 24-hour measurements be obtained for residential land uses. For non-residential uses, the guidance recommends that at least two single-hour recordings be taken on two non-successive weekdays during peak hour activities.[4]

### J.1.3.1 Construction Traffic Noise

The analysis of construction traffic noise impacts focused on off-Airport areas by (1) identifying major roadways near the Airport that may be used for construction worker commute routes or truck haul routes; (2) generally identifying the nature and location of noise-sensitive receptors along those routes; and (3) evaluating the traffic characteristics along those routes, specifically as such characteristics relate to existing traffic volumes.

### J.1.3.2 Construction Equipment Noise

Construction activities generate noise from the operation of equipment required for demolition and construction of various facilities. Noise impacts from on-site construction and staging of construction trucks were evaluated by determining the noise levels generated by different types of construction activity, calculating the construction-related noise level at nearby noise-sensitive receptor locations, and comparing these construction-related noise levels to existing ambient noise levels (i.e., noise levels without Proposed Action Alternative-related construction noise). **Table J-1** provides the locations of Proposed Project Area noise-sensitive receptors.

---

2 American Institute of Physics for the Acoustical Society of America, *American National Standard Specification for Sound Level Meters,* 1992.

3 Larson Davis 831, *Advanced Sound Level Meter for Architectural, Environmental, & Product Noise Analysis.* http://www.larsondavis.com/contentstore/mktg/LD_Downloads/831_Lowres.pdf.

4 U.S. Department of Transportation, Office of Planning and Environment, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment,* May 2006.

**Table J-1: Proposed Action Alternative Area Existing Ambient Noise Receptors**

| RECEPTOR ID | EXISTING LAND USE | APPROXIMATE ADDRESS |
|---|---|---|
| RP1 | Concourse Hotel[1/] | 6225 W Century Blvd, Los Angeles |
| RP2 | LAX Sheraton Gateway Hotel | 6107 W 98th Street, Los Angeles |
| RP3 | LAX Sheraton Gateway Hotel | 6101 W Century Blvd, Los Angeles |
| RP4 | Office Building | 6052 W 98th St, Los Angeles |
| RP5 | Four Points Sheraton Hotel | 9750 Airport Blvd, Los Angeles |
| RP6[2/] | Residential Development | 9520 Belford Ave, Los Angeles |
| RP7[2/] | Warehousing/Freight Forwarding | 5651 W 96th St, Los Angeles |
| RP8[2/] | Neutrogena | 5705 W 98th St, Los Angeles |
| RP9[2/] | Bright Star Secondary Charter Academy/Residential Development | 5431 W 98th St, Los Angeles |
| RP10[2/] | Residential Development | 5450 W 99th Pl, Los Angeles |
| RP11[2/] | Residential Development | 9329 Isis Ave, Los Angeles |
| RP12[2/] | Residential Development | 9846 Glasgow Pl, Los Angeles |
| RP13[2/] | Residential Development | 9714 Glasgow Pl, Los Angeles |
| RP14[2/] | Residential Development | 9312 Glasgow Pl, Los Angeles |
| RP15 | Residential Development | 700 W Arbor Vitae St, Los Angeles |

NOTE:

1/ At the time ambient noise data collection was conducted (July 1, 2015, and August 4, 2015), the hotel at 6225 W. Century Boulevard was named the Concourse Hotel. In October 2016, the Concourse Hotel was renamed as the Hyatt Regency Los Angeles International Airport.

2/ Existing facility would be acquired and demolished prior to Project implementation.

SOURCE: Meridian Consultants, LLC, August 2016.
PREPARED BY: Ricondo & Associates, Inc., September 2016.

More specifically, the following steps were undertaken to calculate construction-period noise levels:

1. Ambient noise levels at surrounding noise-sensitive receptor locations were modeled based on existing noise in proximity to the nearby noise-sensitive receptors, as shown in Table J-1.
2. Typical noise levels for each type of construction equipment were obtained from FHWA's Roadway Construction Noise Model. A sample of typical construction equipment noise levels is shown in **Table J-2**. Construction equipment, including number and type of equipment, was identified for each phase/component of construction.
3. Distances between construction site and staging area locations (noise source), and surrounding noise-sensitive receptors were measured using Proposed Action Alternative plans and aerial imagery.
4. Construction traffic and equipment noise levels were calculated for noise-sensitive receptor locations based on the conventional standard point source noise-distance attenuation factor of 4.5 to 6.0 dBA for

each doubling of distance. Construction noise levels were quantified at predetermined distances from the site using the $L_{eq}$ metric.

5. Calculated noise levels associated with Proposed Action Alternative construction at noise-sensitive receptor locations were then compared to estimated existing noise levels and the construction noise significance thresholds identified below.

Ambient noise level measurements were taken at each of fifteen (15) receptor locations using calibrated precision integrating sound level meters (SLMs) between July 1, 2015, and August 4, 2015. These locations represent the noise-sensitive receptors that would most likely be affected by construction noise. The noise meters were placed 5 feet above ground level, with test periods of 20-minute intervals at each location. The maximum, minimum, and equivalent steady-state sound level ($L_{eq}$) was collected for each site logged in 1-minute intervals. Ambient noise levels are presented later in this appendix. Ambient noise measurements were collected during a continuous 24-hour period, as recommended by the FTA.[5] These noise measurement locations are assumed to be representative of other surrounding sensitive receptors in proximity to the Proposed Action Alternative areas.

5 U.S. Department of Transportation, Office of Planning and Environment, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment,* May 2006.

**Table J-2 (1 of 2): Typical Construction Equipment Noise Levels**

| EQUIPMENT | ACOUSTICAL USAGE FACTOR (%) | ACTUAL MEASURES LMAX (DBA) @ 50 FEET |
|---|---|---|
| All Other Equipment > 5 HP | 50 | 85[1/] |
| Auger Drill Rig | 20 | 84 |
| Backhoe | 40 | 78 |
| Bar Bender | 20 | 80[1/] |
| Blasting | N/A | 94[1/] |
| Boring Jack Power Unit | 50 | 83 |
| Chain Saw | 20 | 84 |
| Clam Shovel (dropping) | 20 | 87 |
| Compactor (ground) | 20 | 83 |
| Compressor (air) | 40 | 78 |
| Concrete Batch Plant | 15 | 83[1/] |
| Concrete Mixer Truck | 40 | 79 |
| Concrete Pump Truck | 20 | 81 |
| Concrete Saw | 20 | 90 |
| Crane | 16 | 81 |
| Dozer | 40 | 82 |
| Drill Rig Truck | 20 | 79 |
| Drum Mixer | 50 | 80 |
| Dump Truck | 40 | 76 |
| Excavator | 40 | 81 |
| Flat Bed Truck | 40 | 74 |
| Front End Loader | 40 | 79 |
| Generator | 50 | 81 |
| Generator (<25KVA, VMS Signs) | 50 | 73 |
| Gradall | 40 | 83 |
| Grader | 40 | 85[1/] |
| Grapple (on backhoe) | 40 | 87 |
| Horizontal Boring Hydraulic Jack | 25 | 82 |
| Hydra Break Ram | 10 | 90[1/] |
| Impact Pile Driver | 20 | 101 |
| Jackhammer | 20 | 89 |
| Man Lift | 20 | 75 |
| Mounted Impact Hammer (hoe ram) | 20 | 90 |
| Pavement Scarifier | 20 | 90 |
| Paver | 50 | 77 |
| Pickup Truck | 40 | 75 |
| Pnematic Tools | 50 | 85 |

**Table J-2 (2 of 2): Typical Construction Equipment Noise Levels**

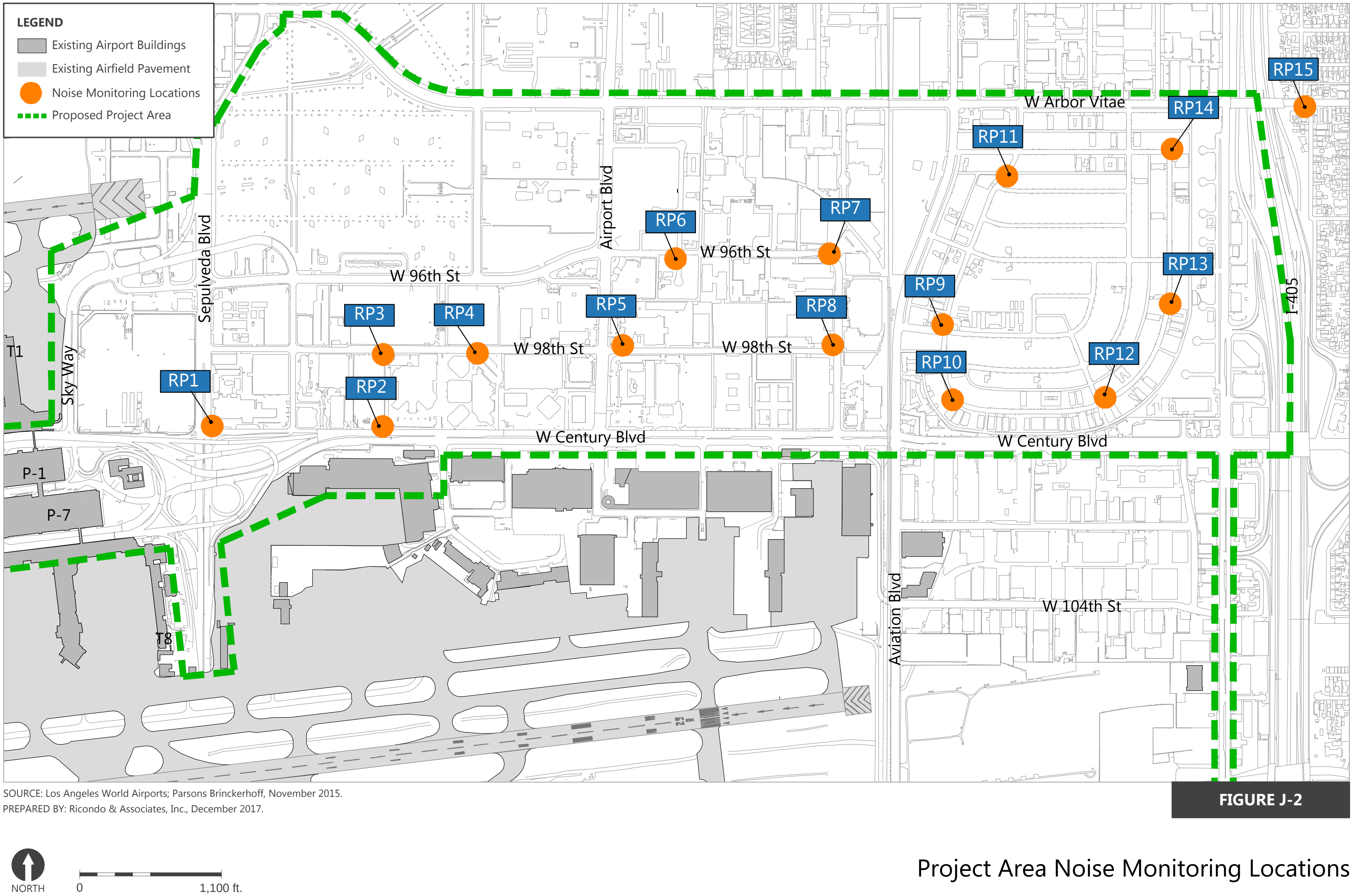
| EQUIPMENT | ACOUSTICAL USAGE FACTOR (%) | ACTUAL MEASURES LMAX (DBA) @ 50 FEET |
|---|---|---|
| Pumps | 50 | 81 |
| Refrigerator Unit | 100 | 73 |
| Rivit Buster/Chipping Gun | 20 | 79 |
| Rock Drill | 20 | 81 |
| Roller | 20 | 80 |
| Sand Blasting (single nozzle) | 20 | 96 |
| Scraper | 40 | 84 |
| Sheers (on backhoe) | 40 | 96 |
| Slurry Plant | 100 | 78 |
| Slurry Trenching Machine | 50 | 80 |
| Soil Mix Drill Rig | 50 | 80[1/] |
| Tractor | 40 | 84[1/] |
| Vacuum Excavator (Vac-Truck) | 40 | 85 |
| Vacuum Street Sweeper | 10 | 82 |
| Ventilation Fan | 100 | 79 |
| Vibrating Hopper | 50 | 87 |
| Vibratory Concrete Mixer | 20 | 80 |
| Vibratory Pile Driver | 20 | 101 |
| Warning Horn | 5 | 83 |
| Welder/Torch | 40 | 74 |

NOTE: 1/ Spec. 721.560 Lmax @ 50 feet.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, FHWA Highway Construction Noise Handbook, Chapter 9, Construction Equipment Noise Levels and Ranges, August 2006.

PREPARED BY: Ricondo & Associates, Inc. September 2016.

**Figure J-2** identifies the locations of the 15 noise-sensitive receptors selected for the construction noise impacts analysis in the vicinity of the Proposed Project Area. The locations are described by the nearest approximate address and the type of adjacent land use, as shown in Table J-1. It is important to note that receptors RP6, and RP9 through RP14 would be acquired by LAWA and demolished prior to Proposed Action Alternative implementation.




SOURCE: Los Angeles World Airports; Parsons Brinckerhoff, November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE J-2**

Project Area Noise Monitoring Locations

THIS PAGE INTENTIONALLY LEFT BLANK

Noise levels from outdoor construction activities, independent of background ambient noise levels, indicate that the noisiest phases of construction are typically during excavation and grading, and that noise levels from equipment with mufflers are typically 86 dBA Leq at 50 feet from the noise source.[6] This type of sound typically dissipates at a rate of 4.5 dBA to 6 dBA for each doubling of distance. The sound drop off rate does not take into account any intervening shielding (including landscaping or trees) or barriers, such as structures or hills between the noise source and noise receptor. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. A higher barrier may provide as much as 20 dB of noise reduction.

Construction equipment noise was evaluated by determining the noise levels generated by typical outdoor construction activity and calculating the potential for exposure to noise-sensitive uses. Representative ambient noise levels (non-construction noise) at the noise-sensitive uses were determined based on information contained in the LAX Master Plan EIR[7] and the Airport noise contour shown on a recent quarterly noise report (i.e., Second Quarter 2016).[8]

Construction equipment noise impacts were assessed by identifying the closest noise-sensitive receptors to each construction area.

### J.1.4 DATA COLLECTION

Existing ambient noise data collection was conducted at Proposed Project Area (24-hour CNEL) locations that correspond with the traffic study intersection locations. Sensitive land uses and establishments situated close to future construction zones were identified in the screening survey.

Acoustic specialists recorded 24-hour measurements of existing ambient ground-level noise at 14 locations in the Proposed Project Area situated between the LAX CTA and the I-405, through which the APM system would traverse. The 24-hour survey locations are shown on Figure J-2; and the ambient 24-hour noise environment results are shown in **Table J-3**.

---

6 City of Los Angeles, *L.A. CEQA Thresholds Guide, Your Resource for Preparing CEQA Analyses in Los Angeles, Section I.1, Construction Noise*, 2006.

7 City of Los Angeles, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements,* Section 4.1, April 2004.

8 City of Los Angeles, Los Angeles World Airports, *California State Airport Noise Standards Quarterly Report, Second Quarter 2016, Los Angeles International Airport,* August 10, 2016, Available: http://www.lawa.org/uploadedFiles/LAX/pdf/2q16%20Quarterly%20Report.pdf, accessed August 30, 2016.

**Table J-3: Proposed Project Area Noise Survey Locations**

| SURVEY POINTS[1/] | LOCATION DESCRIPTION | UTM E | UTM N | DURATION | START DATE/TIME | END DATE/TIME |
|---|---|---|---|---|---|---|
| 6225 W. Century Boulevard | Concourse Hotel, northeast corner of W. Century Boulevard & Sepulveda Boulevard | 370998 | 3757013 | 1 hour (2) | 7/30/2015 16:53 8/4/2015 16:20 | 7/30/2015 17:53 8/4/2015 17:20 |
| 6107 W. 98th Street | Northeast corner of Joe's Airport Parking along W. 98th Street between Vicksburg Avenue & Avion Drive | 371404 | 3757178 | 24 hours | 7/16/2015 9:00 | 7/17/2015 9:00 |
| 6101 W. Century Boulevard | Southeast corner of Joe's Airport Parking along W. Century Boulevard, between Vicksburg Avenue & Avion Drive | 371401 | 3757008 | 24 hours | 7/16/2015 9:00 | 7/17/2015 9:00 |
| 6052 W. 98th Street | East of Skyview Center along W. 98th Street | 371627 | 3757179 | 24 hours | 7/16/2015 7:00 | 7/17/2015 7:00 |
| 9750 Airport Boulevard | Four Points Hotel on the corner of Airport Boulevard & W. 98th Street | 371971 | 3757194 | 24 hours | 7/9/2015 10:00 | 7/10/2015 10:00 |
| 9520 Belford Avenue | Corner of Belford Avenue & 96th Street | 372098 | 3757398 | 24 hours | 7/9/2015 11:00 | 7/10/2015 11:00 |
| 5651 W. 96th Street | Northeast corner of W. 96th Street & Bellanca Avenue | 372462 | 3757406 | 24 hours | 7/9/2015 11:00 | 7/10/2015 11:00 |
| 5705 98th Street | Northwest corner of W. 98th Street & Bellanca Avenue | 372468 | 3757191 | 24 hours | 7/9/2015 11:00 | 7/10/2015 11:00 |
| 9329 Isis Avenue | Alley between W. 93rd Street & W. 94th Street | 372884 | 3757586 | 24 hours | 7/1/2015 12:00 | 7/2/2015 12:00 |
| 5431 W. 98th Street | Northwest corner of Isis Avenue & W. 98th Street | 372728 | 3757236 | 24 hours | 7/9/2015 12:00 | 7/10/2015 12:00 |
| 5450 W. 99th Place | South side of W. 99th Place | 372750 | 3757058 | 24 hours | 7/1/2015 10:00 | 7/2/2015 10:00 |
| 9312 Glasgow Place | Northeast corner of Glasgow Place & 93rd Street | 373275 | 3757646 | 24 hours | 7/1/2015 11:00 | 7/2/2015 11:00 |
| 9714 Glasgow Place | North of 9714 Glasgow Place | 373267 | 3757280 | 24 hours | 7/1/2015 11:00 | 7/2/2015 11:00 |
| 9846 Glasgow Place | Northeast corner of Hindry Avenue & Glasgow Place | 373111 | 3757060 | 24 hours | 7/1/2015 11:00 | 7/2/2015 11:00 |
| 700 W Arbor Vitae Street | Southwest corner of Arbor Vitae Street & Ash Avenue | 373590 | 3757745 | 24 hours | 7/16/2015 8:00 | 7/17/2015 8:00 |

NOTE:

1/ Survey Point is closest building address to the measurement location.

SOURCE: Meridian Consultants, LLC, August 2016.
PREPARED BY: Meridian Consultants, LLC, August 2016.

Two 1-hour measurements were collected at the Concourse Hotel,[9] located on the corner of Sepulveda Boulevard and W. Century Boulevard, due to equipment malfunction during the overnight collection period. Per the FTA guidance document, these measurements were taken on non-successive weekdays during peak-hour activities.

Results of the 24-hour noise monitoring survey, as well as the two single-hour measurements at the Concourse hotel, are provided in **Table J-4**, which presents the average 24-hour noise level, the maximum noise level recorded, and the peak hour of noise at each location. The 24-hour (Leq) noise measurements ranged from a high of 71.4 dB(A) (6101 W. Century Boulevard) to a low of 58.7 dB(A) (9846 Glasgow Place); the CNEL values ranged from a high of 77.4 dB(A) (6101 W. Century Boulevard) to a low of 62.7 dB(A) (9846 Glasgow Place). The highest 24-hour (Leq) and CNEL noise levels were both recorded at 6101 W. Century Boulevard, on the southeast corner of Joe's Airport Parking along W. Century Boulevard, between Vicksburg Avenue and Avion Drive.

**Table J-4 (1 of 2): Proposed Project Area Noise Measurements**

| SURVEY POINTS[1/] | LOCATION DESCRIPTION | UTM E | UTM N | DURATION | START DATE/ TIME | END DATE/ TIME | 24-HR LEQ (DBA) | LEQ (DAYTIME) (DBA)[2/] | LDN (DBA)[3/] | CNEL (DBA)[4] |
|---|---|---|---|---|---|---|---|---|---|---|
| 6225 W. Century Boulevard | Concourse Hotel, northeast corner of W. Century Boulevard & Sepulveda Boulevard | 370998 | 3757013 | 1 hour | 8/4/2015 16:20 | 8/4/2015 17:20 | 76.3[5] | N/A | N/A | N/A |
| 6225 W. Century Boulevard | Concourse Hotel, northeast corner of W. Century Boulevard & Sepulveda Boulevard | 370998 | 3757013 | 1 hour | 7/30/2015 16:53 | 7/30/2015 17:53 | 75.7[5] | N/A | N/A | N/A |
| 6107 W. 98th Street | Northeast corner of Joe's Airport Parking along W. 98th Street between Vicksburg Avenue & Avion Drive | 371404 | 3757178 | 24 hours | 7/16/2015 9:00 | 7/17/2015 9:00 | 66.2 | 66.5 | 72.2 | 72.4 |
| 6101 W. Century Boulevard | Southeast corner of Joe's Airport Parking along W. Century Boulevard. between Vicksburg Avenue & Avion Drive | 371401 | 3757008 | 24 hours | 7/16/2015 9:00 | 7/17/2015 9:00 | 71.4 | 72.0 | 77.0 | 77.4 |

9 At the time ambient noise data collection was conducted (July 1, 2015, and August 4, 2015), the hotel at 6225 W. Century Boulevard was named the Concourse Hotel. In October 2016, the Concourse Hotel was renamed as the Hyatt Regency Los Angeles International Airport.

## Table J-4 (2 of 2): Proposed Project Area Noise Measurements

| SURVEY POINTS[1/] | LOCATION DESCRIPTION | UTM E | UTM N | DURATION | START DATE/ TIME | END DATE/ TIME | 24-HR LEQ (DBA) | LEQ (DAYTIME) (DBA)[2/] | LDN (DBA)[3/] | CNEL (DBA)[4] |
|---|---|---|---|---|---|---|---|---|---|---|
| 6052 W. 98th Street | East of Skyview Center along W. 98th Street | 371627 | 3757179 | 24 hours | 7/16/2015 7:00 | 7/17/2015 7:00 | 71.2 | 72.4 | 75.4 | 75.9 |
| 9750 Airport Boulevard | Four Points Hotel on the corner of Airport Boulevard & W. 98th Street | 371971 | 3757194 | 24 hours | 7/9/2015 10:00 | 7/10/2015 10:00 | 66.8 | 67.9 | 71.4 | 71.7 |
| 9520 Belford Avenue | Corner of Belford Avenue & 96th Street | 372098 | 3757398 | 24 hours | 7/9/2015 11:00 | 7/10/2015 11:00 | 63.5 | 64.7 | 67.7 | 68.2 |
| 5651 W. 96th Street | Northeast corner of W. 96th Street & Bellanca Avenue | 372462 | 3757406 | 24 hours | 7/9/2015 11:00 | 7/10/2015 11:00 | 66.8 | 67.8 | 71.3 | 71.7 |
| 5705 98th Street | Northwest corner of W. 98th Street & Bellanca Avenue | 372468 | 3757191 | 24 hours | 7/9/2015 11:00 | 7/10/2015 11:00 | 67.2 | 68.0 | 72.1 | 72.4 |
| 9329 Isis Avenue | Alley between W. 93rd Street & W. 94th Street | 372884 | 3757586 | 24 hours | 7/1/2015 12:00 | 7/2/2015 12:00 | 66.1 | 67.6 | 69.1 | 70.0 |
| 5431 W. 98th Street | Northwest corner of Isis Avenue & W. 98th Street | 372728 | 3757236 | 24 hours | 7/9/2015 12:00 | 7/10/2015 12:00 | 62.8 | 63.8 | 66.8 | 67.3 |
| 5450 W. 99th Place | South side of W. 99th Place | 372750 | 3757058 | 24 hours | 7/1/2015 10:00 | 7/2/2015 10:00 | 60.1 | 61.3 | 64.2 | 64.7 |
| 9312 Glasgow Place | Northeast corner of Glasgow Place & 93rd Street | 373275 | 3757646 | 24 hours | 7/1/2015 11:00 | 7/2/2015 11:00 | 66.0 | 67.5 | 69.1 | 69.9 |
| 9714 Glasgow Place | North of 9714 Glasgow Place | 373267 | 3757280 | 24-hour | 7/1/2015 11:00 | 7/2/2015 11:00 | 60.3 | 61.8 | 63.4 | 64.4 |
| 9846 Glasgow Place | Northeast corner of Hindry Avenue & Glasgow Place | 373111 | 3757060 | 24 hours | 7/1/2015 11:00 | 7/2/2015 11:00 | 58.7 | 60.2 | 61.9 | 62.7 |
| 700 W. Arbor Vitae Street | Southwest corner of Arbor Vitae Street & Ash Avenue | 373590 | 3757745 | 24 hours | 7/16/2015 8:00 | 7/17/2015 8:00 | 65.3 | 66.5 | 69.4 | 69.8 |

NOTES:

1/ Survey points are the closest building address to the measurement location.

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

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

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

5/ Two peak-hour measurements at the Concourse Hotel were supplemented due to technical complications with the 24-hour measurement.

SOURCE: Meridian Consultants, LLC, August 2016.
PREPARED BY: Meridian Consultants, LLC, August 2016.

This area is characterized by heavy traffic traveling into and out of the LAX CTA, as well as by frequent air traffic. The lowest 24-hour (Leq) and CNEL noise levels were both recorded at 5507 W. 98th Street, on the northeast corner of Hindry Avenue and Glasgow Place.

The highest single-hour measurement was collected at the Concourse Hotel at the intersection of W. Century Boulevard and Sepulveda Boulevard; this was the closest survey location to the LAX CTA.

### J.1.5 SUMMARY

Field measurements of ambient noise levels were conducted to establish existing (ambient) noise conditions in the Proposed Project Area. The measurement locations in the Proposed Project Area were selected based on proximity to future construction activities and land use types.

Results of the noise survey were used to model anticipated levels of noise that would be generated by construction and operation of various components of the Proposed Action Alternative, relying on methodologies outlined by the FTA transit impacts guidance document.

## J.2 Road Traffic Noise Model

### J.2.1 INTRODUCTION

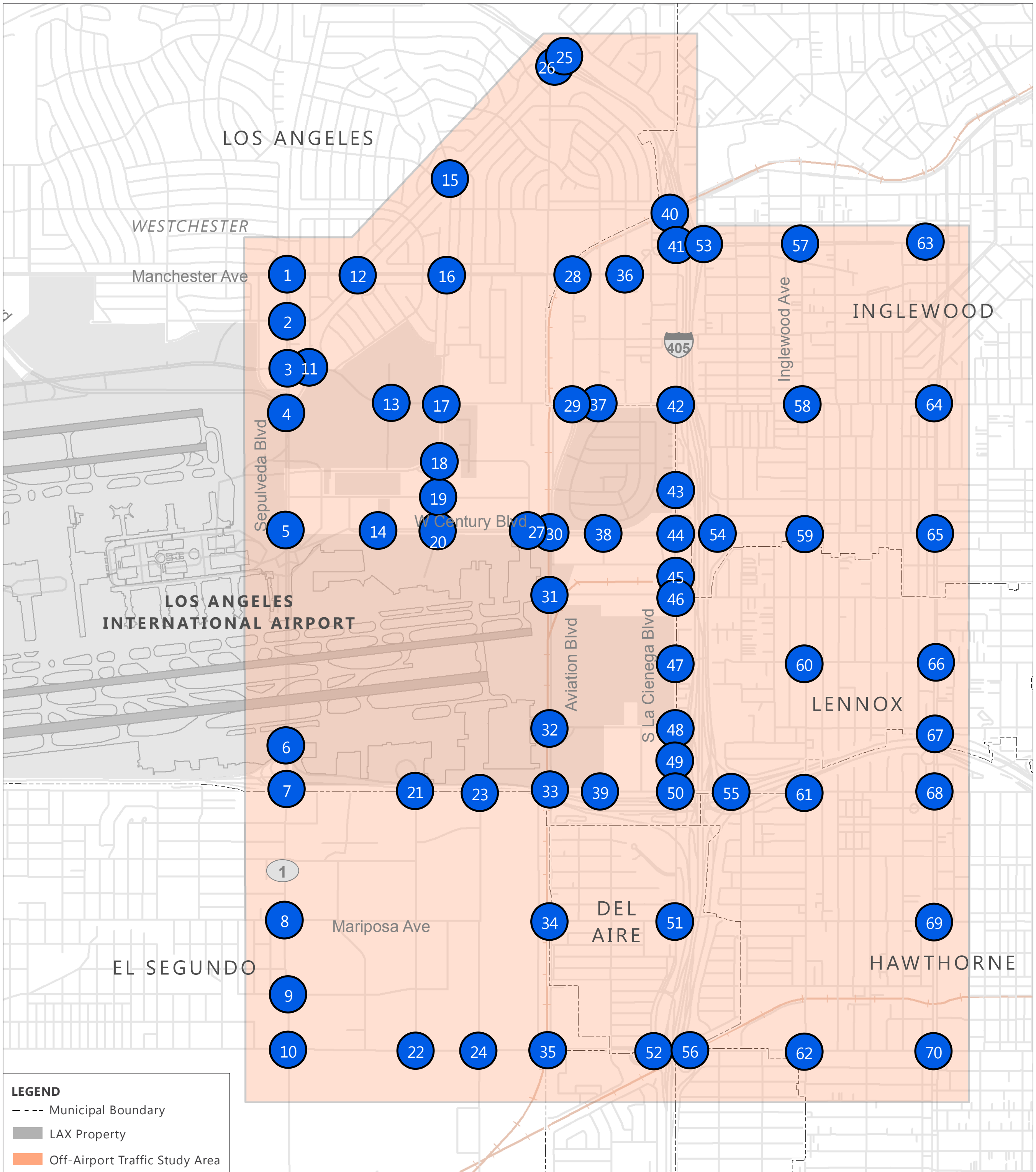
Analysis of measured traffic volumes on road segments identified within the traffic study area was conducted to derive modeled estimates of existing road traffic noise levels from turning movement counts.

### J.2.2 PURPOSE OF DATA CONVERSION

Raju Associates evaluated an extensive network of roadway intersections to be assessed for increases in traffic volumes as a result of Proposed Action Alternative implementation. The intersections decided upon represented those near future Proposed Action Alternative components and less proximal sensitive receptors that may be subjected to increased ambient roadway traffic noise. A total of 70 intersections were identified by Raju Associates; these intersections are identified and numbered on **Figure J-3**. At each intersection, turning movements were recorded during morning and evening peak traffic hours. Conversion of the collected turning movement data into estimated road traffic noise levels was performed using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) methodology.

Increases in vehicular traffic volumes can produce increases in noise levels at sensitive receptors along surface streets. The components of the Proposed Action Alternative are geographically confined to the area depicted on Figure J-1. However, the reconfiguration of local traffic circulation would have effects on roadway traffic that extend beyond the immediate vicinity of the Proposed Action Alternative components. Additionally, regional growth in the Los Angeles area, in combination with anticipated increases in ridership at LAX, will produce more cars on the roads in the Proposed Action Alternative vicinity and in the greater regional area shown on Figure J-3.

The process of assessing potential road traffic noise impacts that would be generated by implementation of the Proposed Action Alternative requires that estimates of current road traffic noise levels be prepared to establish existing conditions as a baseline for noise impact analyses.




SOURCES: Los Angeles County, 2010, 2011 (city boundary, streets); LAX Airport Layout Plan, Ricondo & Associates, Inc., 2010 (runways, taxiways, terminal area, airport property boundary); National Geographic World Map, ESRI Database, 2011.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

FIGURE J-3

Off-Airport Traffic Study Area and Intersections

THIS PAGE INTENTIONALLY LEFT BLANK

## J.2.3 TRAFFIC TURNING MOVEMENT SPREADSHEET CONVERSION METHODOLOGY

The traffic turning movement counts were used to calculate estimates of average daily traffic (ADT) volumes on the roadway segments between traffic study intersections. Those ADT values were subsequently input into the FHWA road traffic noise model.

The turning movement counts collected at intersections included in the traffic study area were used to estimate existing noise levels generated by traffic along the roadway segments connecting the intersections. Spreadsheets were prepared using data from the level-of-service (LOS) worksheets provided by Raju Associates[10] to calculate ADT based on the number of vehicles recorded during peak afternoon (p.m.) traffic conditions.

For all directions at each intersection, the number of cars recorded entering and leaving the adjacent roadway segments during the p.m. peak hour was summed to estimate the p.m. peak-hour traffic volume on that stretch of road. Per guidance from Raju Associates, it was assumed that p.m. peak-hour turning movements represented 8 percent (%) of the total daily traffic on the roads. The p.m. peak-hour traffic value was multiplied by a scaling factor of 12 to arrive at an approximation of the ADT for each segment. ADT values were calculated for the intersections at both ends of each roadway segment.

The FHWA originally devised its Highway Traffic Noise Prediction Model (HTNPM, FHWA-RD-77-108)[11] in the 1970s. This noise prediction model was the preferred tool for roadway traffic noise prediction for multiple decades until the release of the FHWA TNM 1.0 model in 1998. The FHWA HTNPM methodology provides a simple interface through which road traffic noise levels can be estimated from ADT values using spreadsheets that take into account vehicle fleet mix, proximity of sensitive receptors, and roadway parameters, including speed limit, number of lanes, and median width.

The FHWA HTNPM methodology was used to approximate existing noise levels at sensitive receptors placed along the edge of the street segments between the traffic study intersections. The model uses logarithmic equations to calculate predicted noise levels based on total vehicle counts, fleet mix composition of passenger vehicles, medium trucks, and heavy trucks, as well as physical parameters defining the distance to the nearest sensitive receptor. The model calculates noise associated with a specific line source, and the results characterize noise generated by motor vehicle traffic along the specific roadway segment. The road segments of interest were determined by examining the distance between the intersections and the similarity in the estimated ADT volumes and modeled noise levels along the edge of the roads. Refined road traffic noise modeling will be conducted at representative locations expected to experience the greatest increases in ADT.

---

10 Raju Associates, Inc., *Draft Transportation Study for the Landside Access Modernization Program DEIR*, July 2016.

11 U.S. Department of Transportation Federal Highway Administration, *Traffic Noise Model,* http://www.fhwa.dot.gov/environment/noise/traffic_noise_model/.

### J.2.4 PROPOSED PROJECT AREA TRAFFIC NOISE MODELING

Roadway modeling of existing (2015), intermediate phase (Year 2024), Proposed Action Alternative build-out (Year 2030), and future operational year (2035) vehicular noise levels along individual roadway segments within the Proposed Project Area was completed using the SoundPLAN noise modeling software in combination with FHWA TNM. The Proposed Project Area includes roadway segments west of the I-405 and east of the airport between Westchester Parkway/W. Arbor Vitae Street and Imperial Highway, as shown on Figure J-1. Traffic volume and road parameter data were exported from the SoundPLAN noise contour visualization software to the TNM model, which is the road traffic noise model preferred by the California Department of Transportation (Caltrans). The TNM model calculates the average noise levels at specific locations based on nearby roadway traffic volumes, average vehicle speeds, roadway geometry, and physical site conditions.

Proposed Action Alternative traffic generation estimates from Raju Associates were incorporated into the model. The ADT volume was used to calculate the noise level along each roadway segment. Hard (e.g., paved) and soft (e.g., landscaped) surface conditions were used to determine noise contours and potential noise effects that would occur along the roadways near the Proposed Action Alternative site.

Results of the TNM modeling on roadway segments for existing (2015), construction phase (2024), build-out (2030), and operational year (2035) in the Proposed Project Area are presented in **Tables J-5**, **J-6**, **J-7**, and **J-8**. The modeled noise levels shown are the peak hour roadway noise levels calculated by the model for sensitive receptors assumed to be located adjacent to the street.

## Table J-5 (1 of 2): Existing (2015) Modeled Peak Hour Roadway Noise Levels

| STUDY INTERSECTION | ROADWAY SEGMENT | MAXIMUM AVERAGE DAILY TRIPS | 2015 PEAK HOUR (DBA) |
|---|---|---|---|
| | ***Sepulveda Boulevard*** | | |
| **2** | South of La Tijera Boulevard | 32,448 | 64.7 |
| **3** | North of Westchester Parkway | 35,767 | 65.1 |
| **3** | South of Westchester Parkway | 36,942 | 68.7 |
| **4** | North of Lincoln Boulevard | 31,478 | 66.3 |
| **4** | South of Lincoln Boulevard | 31,179 | 69.6 |
| **5** | North of Century Boulevard | 63,049 | 76.9 |
| **5** | South of Century Boulevard | 64,904 | 77.0 |
| **6** | North of I-105 Westbound Ramps | 81,604 | 78.0 |
| **6** | South of I-105 Westbound Ramps | 55,282 | 76.3 |
| **7** | North of Imperial Highway | 54,555 | 76.3 |
| | ***Westchester Parkway*** | | |
| **3** | East of Sepulveda Boulevard | 12,158 | 60.4 |
| **11** | West of Sepulveda Eastway | 13,156 | 60.2 |
| **11** | East of Sepulveda Eastway | 16,289 | 61.7 |
| **13** | West of Jenny Avenue | 13,184 | 60.8 |
| **13** | East of Jenny Avenue | 15,021 | 61.4 |
| **17** | West of Airport Boulevard | 15,385 | 61.5 |
| | ***Arbor Vitae Street*** | | |
| **17** | East of Airport Boulevard | 16,233 | 61.7 |
| **29** | West of Aviation Boulevard | 17,165 | 61.5 |
| **29** | East of Aviation Boulevard | 14,797 | 64.7 |
| **37** | West of Isis Avenue | 14,676 | 64.7 |
| **37** | East of Isis Avenue | 14,434 | 64.6 |
| **42** | West of La Cienega Boulevard | 13,287 | 64.3 |
| | ***Airport Boulevard*** | | |
| **17** | South of Westchester Parkway | 20,196 | 62.6 |
| **18** | North of 96th Street | 18,648 | 65.8 |
| **18** | South of 96th Street | 17,110 | 65.4 |
| **19** | North of 98th Street | 18,033 | 65.6 |
| **19** | South of 98th Street | 16,420 | 63.5 |
| **20** | North of Century Boulevard | 16,485 | 63.5 |
| | ***Aviation Boulevard*** | | |
| **29** | South of Arbor Vitae Street | 15,524 | 70.8 |
| **30** | North of Century Boulevard | 13,371 | 70.2 |
| **30** | South of Century Boulevard | 18,909 | 67.5 |
| **31** | North of 104th Street | 19,524 | 67.5 |
| **31** | South of 104th Street | 21,296 | 67.9 |
| **32** | North of 111th Street | 21,482 | 68.0 |
| **32** | South of 111th Street | 20,793 | 67.8 |
| **33** | North of Imperial Highway | 20,718 | 67.8 |

**Table J-5 (2 of 2): Existing (2015) Modeled Peak Hour Roadway Noise Levels**

| STUDY INTERSECTION | ROADWAY SEGMENT | MAXIMUM AVERAGE DAILY TRIPS | 2015 PEAK HOUR (DBA) |
|---|---|---|---|
| | ***La Cienega Boulevard*** | | |
| 42 | South of Arbor Vitae Street | 16,615 | 61.8 |
| 43 | North of I-405 Southbound Ramps | 16,270 | 61.7 |
| 43 | South of I-405 Southbound Ramps | 19,133 | 67.5 |
| 44 | North of Century Boulevard | 21,082 | 61.1 |
| 44 | South of Century Boulevard | 21,082 | 61.1 |
| 45 | North of I-405 Southbound Ramps | 22,573 | 61.4 |
| 45 | South of I-405 Southbound Ramps | 16,317 | 60.0 |
| 46 | North of 104th Street | 16,186 | 60.0 |
| 46 | South of 104th Street | 17,296 | 60.3 |
| 47 | North of Lennox Boulevard | 16,960 | 60.2 |
| 47 | South of Lennox Boulevard | 21,296 | 60.2 |
| 48 | North of 111th Street | 21,482 | 60.2 |
| 48 | South of 111th Street | 18,070 | 60.4 |
| 49 | North of I-405 Southbound Ramps | 17,203 | 60.2 |
| 49 | South of I-405 Southbound Ramps | 18,070 | 60.4 |
| 50 | North of Imperial Highway | 14,620 | 66.3 |
| | ***Century Boulevard*** | | |
| 14 | East of Avion Drive | 24,988 | 67.0 |
| 20 | West of Airport Boulevard | 30,620 | 67.8 |
| 20 | East of Airport Boulevard | 32,448 | 68.2 |
| 27 | West of Bellanca Avenue | 31,506 | 62.9 |
| 27 | East of Bellanca Avenue | 35,897 | 68.6 |
| 30 | West of Aviation Boulevard | 38,406 | 68.9 |
| 30 | East of Aviation Boulevard | 32,401 | 66.4 |
| 38 | West of Concourse Way | 27,273 | 67.4 |
| 38 | East of Concourse Way | 27,273 | 67.6 |
| 44 | West of La Cienega Boulevard | 26,340 | 63.8 |
| | ***Lincoln Boulevard*** | | |
| 4 | North of Sepulveda Boulevard | 19,972 | 72.6 |
| | ***111th Street*** | | |
| 32 | East of Aviation Boulevard | 2,191 | 53.1 |
| 48 | West of La Cienega Boulevard | 522 | 45.1 |
| | ***104th Street*** | | |
| 31 | East of Aviation Boulevard | 1,911 | 50.6 |
| 46 | West of La Cienega Boulevard | 4,056 | 53.9 |

SOURCE: Meridian Consultants, February 2017.
PREPARED BY: Ricondo & Associates, Inc., February 2017.

**Table J-6 (1 of 2): Future (2024) Modeled Peak Hour Roadway Noise Levels**

| STUDY INTERSECTION | ROADWAY SEGMENT | NO ACTION ALTERNATIVE (DBA) | PROPOSED ACTION ALTERNATIVE (DBA) | COMPARISON OF PROPOSED ACTION TO NO ACTION (DBA) |
|---|---|---|---|---|
| | ***Sepulveda Boulevard*** | | | |
| **62** | South of La Tijera Boulevard | 65.4 | 65.3 | -0.1 |
| **63** | North of Westchester Parkway | 65.8 | 65.6 | -0.2 |
| **63** | South of Westchester Parkway | 69.4 | 69.2 | -0.2 |
| **64** | North of Lincoln Boulevard | 66.6 | 66.8 | 0.2 |
| **64** | South of Lincoln Boulevard | **72.1** | **72.2** | 0.1 |
| **65** | North of Century Boulevard | **77.5** | **77.1** | -0.4 |
| **65** | South of Century Boulevard | **77.3** | **77.2** | -0.1 |
| **66** | North of I-105 Westbound Ramps | **78.3** | **78.2** | -0.1 |
| **66** | South of I-105 Westbound Ramps | **76.0** | **75.8** | -0.2 |
| **67** | North of Imperial Highway | **76.5** | **76.3** | -0.2 |
| | ***Westchester Parkway*** | | | |
| **63** | East of Sepulveda Boulevard | 61.3 | 61.3 | 0.0 |
| **75** | West of Sepulveda Eastway | 61.6 | 61.6 | 0.0 |
| **75** | East of Sepulveda Eastway | 62.4 | 62.5 | 0.1 |
| **77** | West of Jenny Avenue | 61.8 | 62.8 | 1.0 |
| **77** | East of Jenny Avenue | 62.3 | 62.8 | 0.5 |
| **81** | West of Airport Boulevard | 62.4 | 62.9 | 0.5 |
| | ***Arbor Vitae Street*** | | | |
| **81** | East of Airport Boulevard | 63.0 | 63.0 | 0.0 |
| **93** | West of Aviation Boulevard | 63.2 | 62.9 | -0.3 |
| **93** | East of Aviation Boulevard | 65.6 | 65.2 | -0.4 |
| **102** | West of Isis Avenue | 65.6 | 65.3 | -0.3 |
| **102** | East of Isis Avenue | 65.5 | 65.8 | 0.3 |
| **117** | West of La Cienega Boulevard | 64.8 | 66.4 | 1.6 |
| | ***Airport Boulevard*** | | | |
| **81** | South of Westchester Parkway | 63.7 | 63.1 | -0.6 |
| **82** | North of 96th Street | 66.8 | 66.3 | -0.5 |
| **82** | South of 96th Street | 65.5 | 66.4 | 0.9 |
| **83** | North of 98th Street | 65.7 | 66.5 | 0.8 |
| **83** | South of 98th Street | 63.7 | 64.0 | 0.3 |
| **84** | North of Century Boulevard | 63.7 | 64.0 | 0.3 |
| | ***Aviation Boulevard*** | | | |
| **93** | South of Arbor Vitae Street | **71.3** | **72.9** | 1.6 |
| **94** | North of Century Boulevard | 70.7 | **72.7** | 2.0 |
| **94** | South of Century Boulevard | 68.6 | 68.9 | 0.3 |
| **95** | North of 104th Street | 68.7 | 69.0 | 0.3 |
| **95** | South of 104th Street | 68.9 | 69.4 | 0.5 |
| **96** | North of 111th Street | 68.6 | 69.1 | 0.5 |
| **96** | South of 111th Street | 68.7 | 67.2 | -1.5 |
| **97** | North of Imperial Highway | 68.7 | 67.1 | -1.6 |

**Table J-6 (2 of 2): Future (2024) Peak Hour Roadway Noise Levels**

| STUDY INTERSECTION | ROADWAY SEGMENT | NO ACTION ALTERNATIVE (DBA) | PROPOSED ACTION ALTERNATIVE (DBA) | COMPARISON OF PROPOSED ACTION TO NO ACTION (DBA) |
|---|---|---|---|---|
| | ***La Cienega Boulevard*** | | | |
| **117** | South of Arbor Vitae Street | 62.6 | 62.3 | -0.3 |
| **118** | North of I-405 Southbound Ramps | 62.9 | 62.6 | -0.3 |
| **118** | South of I-405 Southbound Ramps | 68.7 | 68.4 | -0.3 |
| **119** | North of Century Boulevard | 61.9 | 61.5 | -0.4 |
| **119** | South of Century Boulevard | 61.9 | 61.8 | -0.1 |
| **120** | North of I-405 Southbound Ramps | 62.1 | 62.1 | 0.0 |
| **120** | South of I-405 Southbound Ramps | 61.0 | 61.3 | 0.3 |
| **121** | North of 104th Street | 61.0 | 61.3 | 0.3 |
| **121** | South of 104th Street | 61.3 | 61.4 | 0.1 |
| **122** | North of Lennox Boulevard | 61.2 | 61.4 | 0.2 |
| **122** | South of Lennox Boulevard | 61.2 | 61.5 | 0.3 |
| **123** | North of 111th Street | 61.2 | 61.5 | 0.3 |
| **123** | South of 111th Street | 61.4 | 61.2 | -0.2 |
| **124** | North of I-405 Southbound Ramps | 61.5 | 61.3 | -0.2 |
| **124** | South of I-405 Southbound Ramps | 61.5 | 61.1 | -0.4 |
| **125** | North of Imperial Highway | 67.6 | 67.1 | -0.5 |
| | ***Century Boulevard*** | | | |
| **78** | East of Avion Drive | 69.7 | 69.4 | -0.3 |
| **84** | West of Airport Boulevard | 69.6 | 69.4 | -0.2 |
| **84** | East of Airport Boulevard | 69.8 | 67.7 | -2.1 |
| **91** | West of Bellanca Avenue | 69.9 | 69.6 | -0.3 |
| **91** | East of Bellanca Avenue | 70.3 | 69.7 | -0.6 |
| **94** | West of Aviation Boulevard | 70.4 | 69.7 | -0.7 |
| **94** | East of Aviation Boulevard | 67.6 | 66.4 | -1.2 |
| **103** | West of Concourse Way | 68.9 | 67.4 | -1.5 |
| **103** | East of Concourse Way | 69.0 | 68.9 | -0.1 |
| **119** | West of La Cienega Boulevard | 65.5 | 65.2 | -0.3 |
| | ***Lincoln Boulevard*** | | | |
| **23** | South of La Tijera Boulevard | **73.0** | **73.2** | 0.2 |
| **64** | North of Sepulveda Boulevard | **72.9** | **73.1** | 0.2 |
| | ***111th Street*** | | | |
| **96** | East of Aviation Boulevard | 58.6 | 59.9 | 1.3 |
| **123** | West of La Cienega Boulevard | 56.1 | 55.1 | -1.0 |
| | ***104th Street*** | | | |
| **95** | East of Aviation Boulevard | 54.1 | 52.6 | -1.5 |
| **121** | West of La Cienega Boulevard | 55.7 | 55.2 | -0.5 |

NOTE: Values in **BOLD** approach or exceed the Caltrans Activity Category E threshold of 72 dBA.

SOURCE: Meridian Consultants, February 2017.

PREPARED BY: Ricondo & Associates, Inc., February 2017.

**Table J-7 (1 of 2): Future (2030) Modeled Peak Hour Roadway Noise Levels**

| STUDY INTERSECTION | ROADWAY SEGMENT | NO ACTION ALTERNATIVE (DBA) | PROPOSED ACTION ALTERNATIVE (DBA) | COMPARISON OF PROPOSED ACTION TO NO ACTION (DBA) |
|---|---|---|---|---|
| | ***Sepulveda Boulevard*** | | | |
| **62** | South of La Tijera Boulevard | 65.6 | 65.4 | -0.2 |
| **63** | North of Westchester Parkway | 66.0 | 65.8 | -0.2 |
| **63** | South of Westchester Parkway | 69.5 | 69.3 | -0.2 |
| **64** | North of Lincoln Boulevard | 66.6 | 66.8 | 0.2 |
| **64** | South of Lincoln Boulevard | 70.0 | 70.2 | 0.2 |
| **65** | North of Century Boulevard | **77.7** | **77.3** | -0.4 |
| **65** | South of Century Boulevard | **77.4** | **77.2** | -0.2 |
| **66** | North of I-105 Westbound Ramps | **78.4** | **78.2** | -0.2 |
| **66** | South of I-105 Westbound Ramps | **76.0** | **75.9** | -0.1 |
| **67** | North of Imperial Highway | **76.5** | **76.4** | -0.1 |
| | ***Westchester Parkway*** | | | |
| **63** | East of Sepulveda Boulevard | 61.5 | 61.5 | 0.0 |
| **75** | West of Sepulveda Eastway | 61.8 | 62.3 | 0.5 |
| **75** | East of Sepulveda Eastway | 62.7 | 62.7 | 0.0 |
| **77** | West of Jenny Avenue | 62.1 | 63.7 | 1.6 |
| **77** | East of Jenny Avenue | 62.5 | 63.8 | 1.3 |
| **81** | West of Airport Boulevard | 62.6 | 63.8 | 1.2 |
| | ***Arbor Vitae Street*** | | | |
| **81** | East of Airport Boulevard | 63.3 | 63.4 | 0.1 |
| **93** | West of Aviation Boulevard | 63.6 | 63.4 | -0.2 |
| **93** | East of Aviation Boulevard | 66.0 | 65.9 | -0.1 |
| **102** | West of Isis Avenue | 65.7 | 66.1 | 0.4 |
| **102** | East of Isis Avenue | 65.7 | 67.1 | 1.4 |
| **117** | West of La Cienega Boulevard | 65.3 | 66.7 | 1.4 |
| | ***Airport Boulevard*** | | | |
| **81** | South of Westchester Parkway | 64.1 | 63.0 | -1.1 |
| **82** | North of 96th Street | 67.2 | 66.2 | -1.0 |
| **82** | South of 96th Street | 66.0 | 65.5 | -0.5 |
| **83** | North of 98th Street | 66.1 | 65.6 | -0.5 |
| **83** | South of 98th Street | 64.4 | 63.7 | -0.7 |
| **84** | North of Century Boulevard | 64.6 | 63.9 | -0.7 |
| | ***Aviation Boulevard*** | | | |
| **93** | South of Arbor Vitae Street | **71.7** | **72.7** | 1.0 |
| **94** | North of Century Boulevard | **71.2** | **72.7** | 1.5 |
| **94** | South of Century Boulevard | 68.7 | 69.3 | 0.6 |
| **95** | North of 104th Street | 68.7 | 69.4 | 0.7 |
| **95** | South of 104th Street | 68.9 | 69.6 | 0.7 |
| **96** | North of 111th Street | 68.9 | 69.6 | 0.7 |
| **96** | South of 111th Street | 69.0 | 67.9 | -1.1 |
| **97** | North of Imperial Highway | 69.0 | 67.8 | -1.2 |

**Table J-7 (2 of 2): Future (2030) Modeled Peak Hour Roadway Noise Levels**

| STUDY INTERSECTION | ROADWAY SEGMENT | NO ACTION ALTERNATIVE (DBA) | PROPOSED ACTION ALTERNATIVE (DBA) | COMPARISON OF PROPOSED ACTION TO NO ACTION (DBA) |
|---|---|---|---|---|
| | ***La Cienega Boulevard*** | | | |
| **117** | South of Arbor Vitae Street | 62.8 | 63.2 | 0.4 |
| **118** | North of I-405 Southbound Ramps | 63.0 | 63.5 | 0.5 |
| **118** | South of I-405 Southbound Ramps | 68.9 | 68.7 | -0.2 |
| **119** | North of Century Boulevard | 62.0 | 62.0 | 0.0 |
| **119** | South of Century Boulevard | 62.2 | 62.7 | 0.5 |
| **120** | North of I-405 Southbound Ramps | 62.5 | 62.9 | 0.4 |
| **120** | South of I-405 Southbound Ramps | 61.4 | 62.3 | 0.9 |
| **121** | North of 104th Street | 61.3 | 62.3 | 1.0 |
| **121** | South of 104th Street | 61.6 | 62.5 | 0.9 |
| **122** | North of Lennox Boulevard | 61.5 | 62.4 | 0.9 |
| **122** | South of Lennox Boulevard | 61.5 | 62.4 | 0.9 |
| **123** | North of 111th Street | 61.5 | 62.4 | 0.9 |
| **123** | South of 111th Street | 61.7 | 62.2 | 0.5 |
| **124** | North of I-405 Southbound Ramps | 61.7 | 62.3 | 0.6 |
| **124** | South of I-405 Southbound Ramps | 61.7 | 62.1 | 0.4 |
| **125** | North of Imperial Highway | 67.8 | 68.3 | 0.5 |
| | ***Century Boulevard*** | | | |
| **78** | East of Avion Drive | 70.1 | 69.0 | -1.1 |
| **84** | West of Airport Boulevard | 69.9 | 69.0 | -0.9 |
| **84** | East of Airport Boulevard | 69.8 | 68.5 | -1.3 |
| **91** | West of Bellanca Avenue | 70.2 | 69.5 | -0.7 |
| **91** | East of Bellanca Avenue | 70.6 | 69.9 | -0.7 |
| **94** | West of Aviation Boulevard | 70.6 | 69.9 | -0.7 |
| **94** | East of Aviation Boulevard | 67.9 | 67.3 | -0.6 |
| **103** | West of Concourse Way | 69.2 | 68.5 | -0.7 |
| **103** | East of Concourse Way | 69.3 | 69.1 | -0.2 |
| **119** | West of La Cienega Boulevard | 66.2 | 65.7 | -0.5 |
| | ***Lincoln Boulevard*** | | | |
| **23** | South of La Tijera Boulevard | **72.9** | **73.1** | 0.2 |
| **64** | North of Sepulveda Boulevard | | | |
| | ***111th Street*** | 60.4 | 60.3 | -0.1 |
| **96** | East of Aviation Boulevard | 56.8 | 56.7 | -0.1 |
| **123** | West of La Cienega Boulevard | | | |
| | ***104th Street*** | | | |
| **95** | East of Aviation Boulevard | 56.0 | 54.3 | -1.7 |
| **121** | West of La Cienega Boulevard | 62.8 | 63.2 | 0.4 |

NOTE: Values in **BOLD** approach or exceed the Caltrans Activity Category E threshold of 72 dBA.

SOURCE: Meridian Consultants, February 2017.

PREPARED BY: Ricondo & Associates, Inc., February 2017.

**Table J-8 (1 of 2): Future (2035) Modeled Peak Hour Roadway Noise Levels**

| STUDY INTERSECTION | ROADWAY SEGMENT | NO ACTION ALTERNATIVE (DBA) | PROPOSED ACTION ALTERNATIVE (DBA) | COMPARISON OF PROPOSED ACTION TO NO ACTION (DBA) |
|---|---|---|---|---|
| | ***Sepulveda Boulevard*** | | | |
| **62** | South of La Tijera Boulevard | 65.7 | 65.5 | -0.2 |
| **63** | North of Westchester Parkway | 66.0 | 65.8 | -0.2 |
| **63** | South of Westchester Parkway | 69.5 | 69.4 | -0.1 |
| **64** | North of Lincoln Boulevard | 66.7 | 66.9 | 0.2 |
| **64** | South of Lincoln Boulevard | 70.0 | 70.2 | 0.2 |
| **65** | North of Century Boulevard | **77.7** | **77.3** | -0.4 |
| **65** | South of Century Boulevard | **77.4** | **77.4** | 0.0 |
| **66** | North of I-105 Westbound Ramps | **78.4** | **78.2** | -0.2 |
| **66** | South of I-105 Westbound Ramps | **76.1** | **75.9** | -0.2 |
| **67** | North of Imperial Highway | **76.5** | **76.5** | 0.0 |
| | ***Westchester Parkway*** | | | |
| **63** | East of Sepulveda Boulevard | 61.7 | 61.7 | 0.0 |
| **75** | West of Sepulveda Eastway | 61.9 | 61.9 | 0.0 |
| **75** | East of Sepulveda Eastway | 62.9 | 62.9 | 0.0 |
| **77** | West of Jenny Avenue | 62.3 | 63.8 | 1.5 |
| **77** | East of Jenny Avenue | 62.6 | 63.9 | 1.3 |
| **81** | West of Airport Boulevard | 62.6 | 63.9 | 1.3 |
| | ***Arbor Vitae Street*** | | | |
| **81** | East of Airport Boulevard | 63.4 | 63.5 | 0.1 |
| **93** | West of Aviation Boulevard | 63.7 | 63.5 | -0.2 |
| **93** | East of Aviation Boulevard | 66.2 | 65.9 | -0.3 |
| **102** | West of Isis Avenue | 66.2 | 66.0 | -0.2 |
| **102** | East of Isis Avenue | 66.1 | 66.6 | 0.5 |
| **117** | West of La Cienega Boulevard | 65.4 | 67.1 | 1.7 |
| | ***Airport Boulevard*** | | | |
| **81** | South of Westchester Parkway | 64.2 | 63.4 | -0.8 |
| **82** | North of 96th Street | 67.3 | 66.3 | -1.0 |
| **82** | South of 96th Street | 66.2 | 65.3 | -0.9 |
| **83** | North of 98th Street | 66.3 | 65.5 | -0.8 |
| **83** | South of 98th Street | 64.2 | 63.3 | -0.9 |
| **84** | North of Century Boulevard | 64.4 | 63.1 | -1.3 |
| | ***Aviation Boulevard*** | | | |
| **93** | South of Arbor Vitae Street | **71.8** | **73.0** | 1.2 |
| **94** | North of Century Boulevard | **71.3** | **73.6** | 2.3 |
| **94** | South of Century Boulevard | 68.7 | 69.5 | 0.8 |
| **95** | North of 104th Street | 68.7 | 69.4 | 0.7 |
| **95** | South of 104th Street | 69.0 | 69.8 | 0.8 |
| **96** | North of 111th Street | 68.9 | 69.4 | 0.5 |
| **96** | South of 111th Street | 69.1 | 67.4 | -1.7 |
| **97** | North of Imperial Highway | 69.1 | 67.8 | -1.3 |

**Table J-8 (2 of 2): Future (2035) Modeled Peak Hour Roadway Noise Levels**

| STUDY INTERSECTION | ROADWAY SEGMENT | NO ACTION ALTERNATIVE (DBA) | PROPOSED ACTION ALTERNATIVE (DBA) | COMPARISON OF PROPOSED ACTION TO NO ACTION (DBA) |
|---|---|---|---|---|
| | ***La Cienega Boulevard*** | | | |
| **117** | South of Arbor Vitae Street | 62.7 | 62.7 | 0.0 |
| **118** | North of I-405 Southbound Ramps | 63.0 | 62.9 | -0.1 |
| **118** | South of I-405 Southbound Ramps | 68.9 | 68.5 | -0.4 |
| **119** | North of Century Boulevard | 62.0 | 61.8 | -0.2 |
| **119** | South of Century Boulevard | 62.3 | 62.2 | -0.1 |
| **120** | North of I-405 Southbound Ramps | 62.6 | 62.5 | -0.1 |
| **120** | South of I-405 Southbound Ramps | 61.5 | 61.7 | 0.2 |
| **121** | North of 104th Street | 61.5 | 61.7 | 0.2 |
| **121** | South of 104th Street | 61.7 | 61.9 | 0.2 |
| **122** | North of Lennox Boulevard | 61.7 | 61.9 | 0.2 |
| **122** | South of Lennox Boulevard | 61.7 | 61.9 | 0.2 |
| **123** | North of 111th Street | 61.7 | 61.9 | 0.2 |
| **123** | South of 111th Street | 61.8 | 61.6 | -0.2 |
| **124** | North of I-405 Southbound Ramps | 61.8 | 61.7 | -0.1 |
| **124** | South of I-405 Southbound Ramps | 61.8 | 61.4 | -0.4 |
| **125** | North of Imperial Highway | 68.0 | 67.5 | -0.5 |
| | ***Century Boulevard*** | | | |
| **78** | East of Avion Drive | 70.2 | 69.2 | -1.0 |
| **84** | West of Airport Boulevard | 69.9 | 69.2 | -0.7 |
| **84** | East of Airport Boulevard | 70.2 | 68.3 | -1.9 |
| **91** | West of Bellanca Avenue | 70.1 | 70.2 | 0.1 |
| **91** | East of Bellanca Avenue | 70.6 | 70.2 | -0.4 |
| **94** | West of Aviation Boulevard | 70.6 | 70.1 | -0.5 |
| **94** | East of Aviation Boulevard | 68.0 | 67.0 | -1.0 |
| **103** | West of Concourse Way | 69.3 | 68.1 | -1.2 |
| **103** | East of Concourse Way | 69.4 | 69.3 | -0.1 |
| **119** | West of La Cienega Boulevard | 66.4 | 65.9 | -0.5 |
| | ***Lincoln Boulevard*** | | | |
| **23** | South of La Tijera Boulevard | **73.1** | **73.3** | 0.2 |
| **64** | North of Sepulveda Boulevard | **73.0** | **73.2** | 0.2 |
| | ***111th Street*** | | | |
| **96** | East of Aviation Boulevard | 60.3 | 60.5 | 0.2 |
| **123** | West of La Cienega Boulevard | 57.2 | 56.7 | -0.5 |
| | ***104th Street*** | | | |
| **95** | East of Aviation Boulevard | 55.4 | 53.3 | -2.1 |
| **121** | West of La Cienega Boulevard | 56.3 | 55.7 | -0.6 |

NOTE: Values in **BOLD** approach or exceed the Caltrans Activity Category E threshold of 72 dBA.

SOURCE: Meridian Consultants, February 2017.

PREPARED BY: Ricondo & Associates, Inc., February 2017.

# J.3 Transit Noise

## J.3.1 INTRODUCTION

The Proposed Action Alternative includes the development of a proposed APM system that would extend for approximately 2.25 miles, starting at the CTA and extending to the future proposed CONRAC that would be situated adjacent to the I-405. Noise associated with operation of the APM was estimated based on the noise monitoring conducted for the Proposed Action Alternative (see Section J.1).

## J.3.2 TRANSIT NOISE METHODOLOGY

Potential operational transit noise levels of the Proposed Action Alternative were calculated with the computer noise model SoundPLAN, which generates computer simulations of noise propagation from sources such as rail noise. Rail noise emissions were modelled according to the industry standard rail noise prediction methodologies adopted by the Federal Railroad Administration (FRA). The FRA noise prediction model calculates an A-weighted noise level at a receiver location through direct propagation or taking into account shielding provided by barriers.

The terrain for the Proposed Action Alternative site is relatively flat and the top-of-rail elevation ranges from approximately 70 feet above grade within the CTA, to approximately 50 feet above grade near the ITF East and CONRAC.

Train lengths are expected to be approximately 175 to 185 feet long and could consist of anywhere between 2 to 4 (or potentially 5) cars depending on the technology/operating system supplier. Trains would operate on traction power with no overhead catenary.[12] Based on the geometry (including station spacing) of the APM guideway, the maximum practical speed would be approximately 45 miles per hour (mph). The maximum round trip time (with dwell at each station) is approximately 1200 seconds, or 20 minutes. Based on this, with an approximately 4.3-mile-long round trip distance, the average speed is approximately 13 to 15 mph (when station dwell times are included), or approximately 18-20 mph (not including station dwell times). For station approaches, it was assumed that the train approach and departure speed would be approximately 10 to 15 mph. Furthermore, this means the train is cruising at practical maximum speeds and decelerates upon approach to station, with a zero speed at its berthing location. Station dwells are estimated to be no less than 25 seconds for purposes of computing the round trip times and fleet sizing/capacities (and may be permitted to vary with the technology door configuration/sizes during operations). The estimate dwelling times for each station are as follows: West CTA APM Station = 45 seconds; Center CTA APM Station = 25 seconds; East CTA APM Station = 30 seconds; ITF West APM Station = 35 seconds; ITF East APM Station = 25 seconds; and CONRAC APM Station = 45 seconds.

---

12 A catenary is a system of overhead wires used to supply electricity to a locomotive, streetcar, or light rail vehicle which is equipped with a pantograph.

THIS PAGE INTENTIONALLY LEFT BLANK.

# Appendix K

On-Airport Traffic

# Table of Contents

## List of Figures

## List of Exhibits

THIS PAGE INTENTIONALLY LEFT BLANK

# Appendix K. On-Airport Traffic

The analysis presented in this document addresses the potential traffic impacts for the on-Airport surface transportation system within the Central Terminal Area (CTA) relative to traffic-related impacts associated with the operation of the LAX Landside Access Modernization Program (Proposed Action Alternative). The primary objective of this analysis is to evaluate the changes in existing and future traffic conditions associated with the implementation of the Proposed Action Alternative. This analysis is consistent with the methodologies and guidelines presented in the City of Los Angeles Department of Transportation (LADOT) Traffic Study Policies and Procedures Manual (LADOT Manual).[1]

## K.1 Introduction

The LAX Landside Access Modernization Program is an integrated set of transportation infrastructure improvement projects designed to improve the interface between passenger terminals at LAX and the regional ground transportation system, including the off-Airport roadway network and regional transit system. The LAX Landside Access Modernization Program encompasses the ground transportation and related infrastructure from within the CTA east to Manchester Square/Interstate 405 (I-405), and from Century Boulevard north to Westchester Parkway/W. Arbor Vitae Street.

The analysis addresses how the physical improvements resulting from the Proposed Action Alternative would affect existing and future (2024 and 2030/2035) traffic conditions within the CTA. The analysis includes a description of reasonably foreseeable physical conditions of the on-Airport transportation system in 2024 without construction of Proposed Action Alternative components. Assumptions incorporated into that future condition include: (1) the Existing (2014) physical conditions and configuration of the CTA plus reasonably foreseeable on-Airport ground access system improvements by 2024 and 2030/2035, independent of, and separate from, the Proposed Action Alternative; and (2) reasonably foreseeable regional (non-Airport) programmed improvements and ambient growth in off-Airport traffic, as they may affect on-Airport traffic.

The on-Airport traffic analysis includes a description of existing (2014) traffic conditions, and compares the Proposed Action Alternative traffic to this existing condition. The year of 2014 was utilized because LAWA conducted extensive traffic counts in the CTA during August 2014, which was used to develop and calibrate

---

1 City of Los Angeles Department of Transportation, *Traffic Study Policies and Procedures*, August 2014.

the on-Airport traffic model. The analysis also includes two future conditions. The future (2024) and future (2030/2035) No Action Alternative includes the ground access improvements as described in Section K.6, and also includes an increase in on-Airport traffic from increased passenger activity levels forecasted to occur at LAX by 2024 and 2030/2035, forecasted to occur with or without the LAX Landside Access Modernization Program. The future (2024) and future (2030/2035) Proposed Action Alternative conditions consists of: (1) reconfiguration of the CTA roadways as a result of the Proposed Action Alternative; (2) the existing (2014) physical conditions and configuration for the remainder of the CTA plus reasonably foreseeable on-Airport ground access system improvements by 2024 and 2030/2035; (3) the 2024 and 2030/2035 passenger levels and daily flight schedules; and (4) reasonably foreseeable regional (non-Airport) programmed improvements and ambient growth in off-Airport traffic. Forecasts utilized for the on-Airport traffic were based on a passenger activity level of 95 million annual enplanements, with the FAA Terminal Area Forecast estimates would occur in 2030. For purposes of this analysis, it was assumed that passenger activity levels would stay constant at 95 million annual passengers through 2035.

# K.2 Methodology

This analysis addresses the impacts to the signalized CTA intersections and roadway links resulting from variations in traffic accompanying the changes in passenger demand and peaking characteristics with regard to the Proposed Action Alternative. 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 (2014) conditions and the future (2024) and future (2030/2035) No Action and Proposed Action Alternatives.

## K.2.1 CTA INTERSECTION ANALYSIS

Signalized 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. Signalized 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.

## K.2.2 CTA ROADWAY ANALYSIS

Key CTA roadway links were also analyzed to assess potential implications on overall CTA throughput. The evaluation of the roadways throughput performance accounted for any loss of vehicle throughput as a result of the curbside operations. Roadway throughput performance, expressed in terms of vehicles per hour, is a measure of the number of vehicles that can pass a given roadway section in an hour. 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. The curbside congestion reduces the roadway throughput. Key roadway links were analyzed to assess potential congestion along both the upper level and lower levels of the CTA roadway system.

## K.2.3 DESCRIPTION OF EXISTING (2014) TRAFFIC CONDITIONS

The description of existing (2014) on-Airport traffic conditions was based on CTA traffic volumes, Automated Vehicle Identification (AVI) counts, in-pavement loop detectors, and intersection turning movement counts collected in August 2014. Using August, which represents the peak month for roadway traffic accessing the CTA, the following methodology and data were used to determine the existing (2014) 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 (LAX) 2011 Passenger Survey[2] and were applied to the Airport's domestic and international airline passenger schedules for August 2014 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. The LAX 2011 Passenger Survey was used to develop initial assumptions; it was supplemented and verified with information from the LAX 2015 Passenger Survey.[3]

### K.2.3.1 On-Airport Traffic Data Collected in 2014

Information from the Airport's in-pavement vehicle loop detectors and the AVI systems was used to obtain roadway traffic count data within the CTA. The counts representing existing (2014) conditions were collected on Friday, August 8, 2014. Friday was 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 2014. Collected data is included as **Attachment K.1**.

### K.2.3.2 Existing (2014) Balanced Roadway Traffic Volumes

Traffic volumes for the peak hours identified from the 2014 air passenger activity data were reviewed for this traffic analysis. To estimate the balanced CTA roadway traffic for a typical Friday during August 2014, the intersection turning movement, loop detectors, and AVI counts provided by LAWA were compiled, reviewed, and analyzed to prepare a "balanced" roadway network of traffic activity during the 2014 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 including those entering and exiting the parking facilities within the CTA, 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.

## K.2.4 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

---

2 Unison Consulting, Inc., *Los Angeles International Airport 2011 Passenger Survey*, conducted between August 22 and August 28, 2011 (peak) as well as October 17 and October 24, 2011 (non-peak), August, 2012.

3 Unison Consulting, Inc., *Final Report, Los Angeles International Airport 2015 Air Passenger Survey Results and Findings*, February 2016.

2014 CTA roadway vehicle volumes to ensure the model was accurately replicating 2014 conditions. The trip generation model outputs were compared to 2014 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. The relationships are used 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 hours were developed from data collected as part of the LAX Landside Access Modernization Program and the LAX 2011 Passenger Survey.

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 intersection 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 hour, were developed using data from both the LAX 2011 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 K-1** shows the passenger mode splits and the vehicle occupancies for existing conditions.

**Table K-1: Existing (2014) CTA 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 | 7.27% | 22.6 | 5.66% | 33.8 |
| FlyAway | 2.04% | 27.0 | 2.71% | 27.8 |
| Hotel Shuttles | 2.04% | 3.5 | 4.83% | 3.9 |
| LAX Shuttles | 0.74% | 2.5 | 2.10% | 2.8 |
| Limousines | 2.91% | 1.2 | 4.93% | 1.1 |
| Privately-Owned Vehicle (POV) (includes Parking and Paid Ride) | 49.47% | 1.3 | 52.80% | 1.3 |
| Private Parking Shuttles | 3.12% | 1.9 | 6.93% | 3.4 |
| Rental Car Shuttles | 18.94% | 18.6 | 9.84% | 7.6 |
| Shared Ride Vans | 4.95% | 6.0 | 3.67% | 5.9 |
| Taxi | 7.74% | 1.2 | 5.77% | 1.2 |
| Transit Bus | 0.78% | 10.3 | 0.76% | 13.0 |
| **Total** | 100% | | 100% | |

NOTES:

1/ Represents the passenger mode split and vehicle occupancy during the arrivals peak hour.

2/ Represents the passenger mode split and vehicle occupancy during the departures peak hour.

PASS/VEH = passengers per vehicle

SOURCE: Ricondo & Associates, Inc. May 2016
PREPARED BY: Ricondo & Associates, Inc. May 2016

## K.2.5 DESCRIPTION OF FUTURE (2024) TRAFFIC CONDITIONS

For this traffic analysis, future traffic conditions were analyzed to address the impact of change in future traffic patterns as a result of the No Action and Proposed Action Alternatives in 2024. The mode shares and passenger growth assumptions used for future traffic generation are described in Section K.8. Any reasonably foreseeable and funded roadway improvements were included as described in Section K.6. For this traffic analysis, the traffic conditions were analyzed at all CTA intersections relative to two time periods under two conditions during the course of a day, as follows:

- Future (2024) Traffic during the Airport Departures Peak No Action Alternative - This condition represents the future traffic activity during the peak hour for Airport passenger departures under the No Action Alternative.
- Future (2024) Traffic during the Airport Arrivals Peak No Action Alternative - This condition represents the future traffic activity during the peak hour for Airport passenger arrivals under the No Action Alternative.
- Future (2024) Traffic during the Airport Departures Peak Proposed Action Alternative - This condition represents the anticipated traffic activity during the peak hour for Airport passenger departures with the Proposed Action Alternative.

- Future (2024) Traffic during the Airport Arrivals Peak Proposed Action Alternative - This condition represents the future traffic activity during the peak hour for Airport passenger arrivals with the Proposed Action Alternative.

## K.2.6 DESCRIPTION OF FUTURE (2030/2035) TRAFFIC CONDITIONS

Similar to the 2024 conditions described above, the future (2030/2035) conditions were analyzed to address the impact of change in future traffic patterns as a result of the No Action and Proposed Action Alternatives, as well as potential changes in peak traffic characteristics resulting from the increased passenger activity within the CTA forecasted to occur by 2030/2035. The mode shares and passenger growth assumptions used for future traffic generation are described in Section K.9. Any reasonably foreseeable and funded roadway improvements were included as described in Section K.6.

- Future (2030/2035) Traffic during the Airport Departures Peak No Action Alternative - This condition represents the future traffic activity during the peak hour for Airport passenger departures under the No Action Alternative.
- Future (2030/2035) Traffic during the Airport Arrivals Peak No Action Alternative - This condition represents the future traffic activity during the peak hour for Airport passenger arrivals under the No Action Alternative.
- Future (2030/2035) Traffic during the Airport Departures Peak Proposed Action Alternative - This condition represents the future traffic activity during the peak hour for Airport passenger departures with the Proposed Action Alternative.
- Future (2030/2035) Traffic during the Airport Arrivals Peak Proposed Action Alternative - This condition represents the future traffic activity during the peak hour for Airport passenger arrivals with the Proposed Action Alternative.

## K.2.7 DETERMINATION OF FUTURE (2024 AND 2030/2035) TRAFFIC VOLUMES

The calibrated trip generation and trip distribution models for the 2014 departures and arrivals peak hours were used as a basis for estimating the peak hour CTA vehicle volumes for each of the future (2024 and 2030/2035) conditions. As part of this process, adjustments were made to the 2014 passenger mode splits to reflect the two Intermodal Transportation Facilities (ITFs) and the Consolidated Rental Car Facility (CONRAC), and how changes to the regional transportation network, including Metro rail, would affect passenger mode choice and resultant vehicle activity at the Airport. The passenger mode splits represent the proportion of total airline passengers using each vehicle mode during the peak hours analyzed. The volume of vehicles by mode were determined based on a calibrated trip generation model constructed using the traffic data collected on August 8, 2014. This model used the LAX 2011 Passenger Survey as the basis for estimating the passenger mode splits. The 2024 and 2030/2035 mode split estimates were calculated based on the general mode split trends derived between the LAX 2006 Passenger Survey[4], the LAX 2011 Passenger Survey[5] and the LAX 2015 Passenger Survey,[6] together with inputs from LAWA, including defining the modes predicted to be relocated to each of the ITFs. The LAX 2011 Passenger Survey showed a decreasing trend among passengers using private vehicles, limousines, shared ride vans, and taxis. The LAX 2015 Passenger Survey further accelerated this decreasing trend with more passengers choosing Transportation Network Companies (TNCs) over private vehicles, limousines, taxis, and shared ride vans. Other modes were also marginally affected by the mode shift to the TNCs. The traffic volumes by mode for each of the ITFs were then estimated by using the mode splits derived as explained above and from the calibration parameters from the 2014 calibrated model.

## K.2.8 DESCRIPTION OF IMPACTS

The on-Airport traffic analysis was conducted for key intersections in the CTA. Impact determination utilized the Circular 212 (C212) method,[7] which analyzed intersections based on the critical movements that conflict with one another to determine the maximum amount of traffic throughput that can be attained in a given traffic signal cycle. Because the C212 method is a static intersection analysis method which calculates the Level of Service (LOS) based on the intersection being isolated from other traffic conditions in the vicinity, roadway links were also analyzed. Compared to off-Airport roadways, the on-Airport environment is unique and has a different set of constraints, such as downstream stoppages of traffic as a result of curbside operations, higher proportion of traffic that is unfamiliar with the roadways leading to slower speeds, constant need of decision-making as a result of signage, and a complex mix of vehicle modes. The roadway link analysis methodology takes into account the adjacent curbside utilization by reducing the link throughput capacity by a factor directly proportional to the adjacent curbside utilization. The roadway link analysis provides a more realistic picture of the traffic conditions in the CTA.

### K.2.8.1 CTA Intersection Level of Service Analysis

Levels of service analyses for the signalized CTA intersections were prepared using TRAFFIX®, a commercially available traffic analysis program designed for preparing traffic forecasts and analyzing intersection and roadway capacity. Intersection LOS was estimated using the Critical Movements Analysis (CMA) also called C212 planning level methodology as defined in Transportation Research Board (TRB) Circular 212, in accordance with City of Los Angeles Department of Transportation (LADOT) Traffic Studies Policies and

4 Applied Management and Planning Group, *2006 Air Passenger Survey Final Report Los Angeles International Airport*, conducted between July 31 and August 27, 2006 (peak) as well as October 03 and October 22, 2006 (non-peak), December 2007.

5 Unison Consulting, Inc., *Los Angeles International Airport 2011 Passenger Survey*, conducted between August 22 and August 28, 2011 (peak) as well as October 17 and October 24, 2011 (non-peak), August 2012.

6 Unison Consulting, Inc., *Final Report, Los Angeles International Airport 2015 Passenger Survey Results and Findings,* February 2016.

7 Transportation Research Board, *Transportation Research Circular 212, Interim Materials on Highway Capacity*, January 1980.

Procedures.[8] Intersection LOS was analyzed for the peak hour conditions described below in Section K.3. See analysis worksheets in **Attachment K.2**.

The intersections on the departures level were analyzed during the Airport departures peak hour and the intersections on the arrivals level were analyzed during the Airport arrivals peak hour to identify potential effects. Impacts were determined based on a comparison between the future (2024 and 2030/2035) Proposed Action Alternative and the future (2024 and 2030/2035) No Action Alternative.

#### K.2.8.2 CTA Roadway Level of Service Analysis

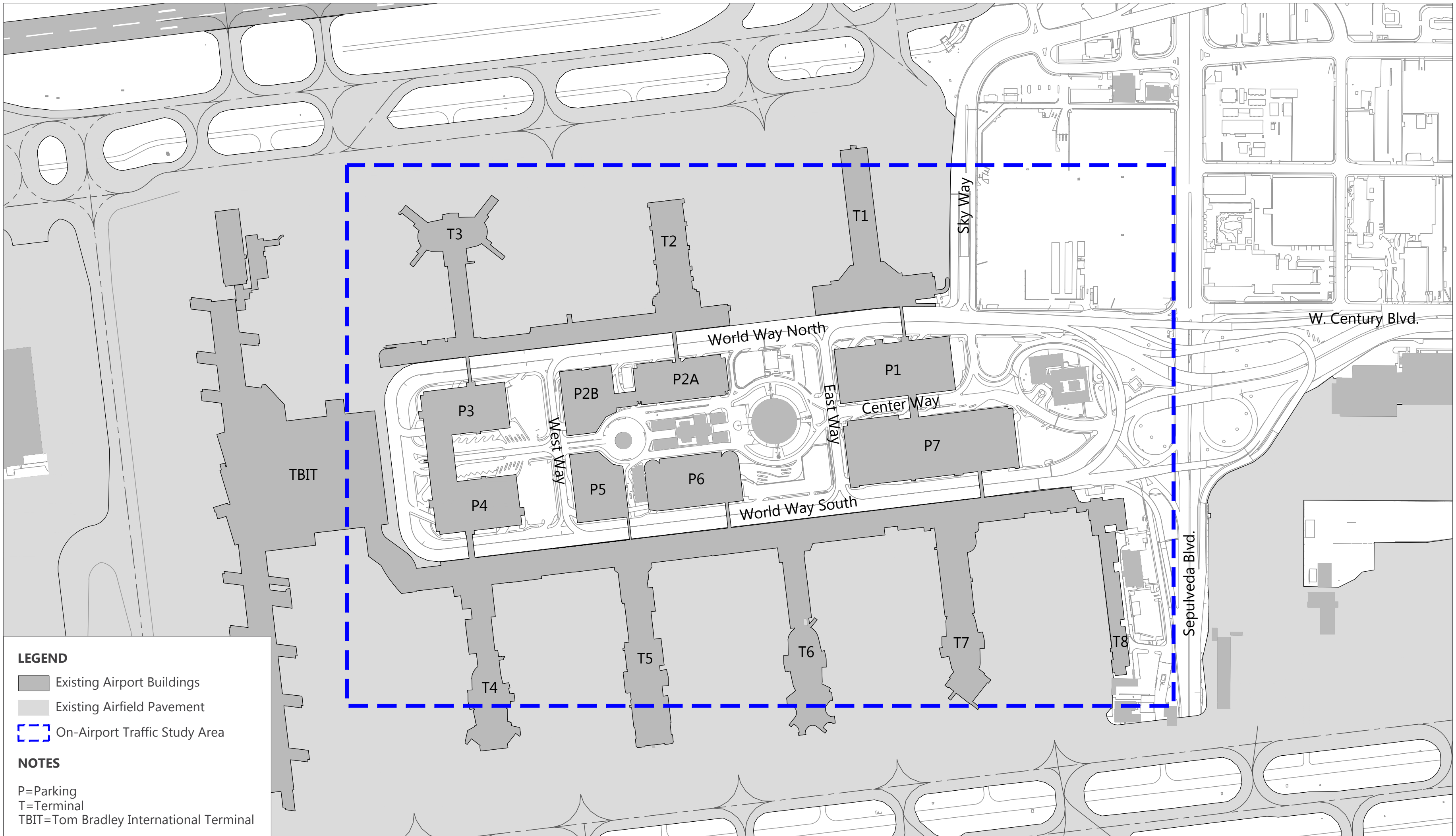
Analyses of the key roadway links within the CTA were prepared by calculating the ratio of roadway volume to capacity (V/C). Traffic volumes were determined from the vehicle trip generation and distribution model described previously.

## K.3 Existing Conditions

### K.3.1 TRAFFIC ANALYSIS STUDY AREA

The on-Airport traffic analysis study area is depicted on **Figure K-1**. The CTA curbside and roadway system consists of a two-level roadway; the upper level is dedicated to departing passenger activities (and TNC passenger pick-ups as well as drop-offs), 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.

8 Los Angeles Department of Transportation, *Traffic Study Policies and Procedures*, August 2014.




SOURCE: HNTB Corp., Los Angeles International Airport Layout Plan, July 2012.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE K-1**


On-Airport Traffic Study Area

THIS PAGE INTENTIONALLY LEFT BLANK

### K.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 primarily 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 roadways are signed for a speed limit of 25 miles per hour (mph).

### K.3.3 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 2006 through 2014 are provided in **Table K-2**. As shown in bold within Table K-2, CTA traffic reached peak activity during the summer months of June, July, and August. August is typically the peak month for Airport roadway traffic followed closely by July. For the purpose of this analysis, August 2014 was used as the peak month for traffic data, because the field data was collected in August. Although July had slightly more passengers in 2014, the analysis was based on a peak month average day in August. The passenger volumes are within 0.5 percent of July data, and for modeling calibration purposes, it was determined better to utilize actual collected data (from August 2014) than to interpolate the August mode share data to a different month.

### K.3.4 DATA COLLECTION AND DATA SOURCES

LAWA records were the primary source of the traffic data, facility drawings, and traffic signal timing plans for this traffic analysis. 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 (2014) conditions and commercial vehicle, private vehicle, and passenger operations. As described above, the data provided by LAWA staff were used to create a snapshot of vehicle and passenger activity for a typical Friday in August 2014. LAWA provided the following data, which is available in **Attachment K.3**:

- LAX 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 Automated Vehicle Identification transmitter; and
- Parking structure vehicle count data.

**Table K-2: CTA Average Daily Traffic Volumes**

| MONTHLY TRAFFIC | 2006 | 2007 | 2008[1/] | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|
| January | 67,727 | 66,999 | 67,483 | 63,012 | 64,431 | 66,477 | N/A[2/] | 57,985 | 71,268 |
| February | 63,715 | 65,339 | 64,924 | 61,899 | 60,857 | 62,322 | N/A[2/] | 62,578 | 66,793 |
| March | 69,034 | 68,380 | 69,819 | 64,504 | 65,057 | 66,115 | N/A[2/] | 68,228 | 72,828 |
| April | 69,230 | 70,268 | 69,184 | 67,410 | 65,825 | 67,487 | N/A[2/] | 69,388 | 73,639 |
| May | 70,303 | 71,599 | 72,022 | 68,964 | 67,787 | 71,588 | N/A[2/] | 72,297 | 76,674 |
| June | 72,647 | 73,669 | 75,118 | 73,221 | 74,578 | **76,035** | N/A[2/] | **77,791** | 82,022 |
| July | 75,895 | 78,342 | 75,640 | 74,975 | **75,881** | 71,552 | N/A[2/] | 77,244 | **82,282** |
| August | **78,236** | **82,193** | **76,434** | **77,062** | 74,758 | 73,930 | **73,990** | 77,346 | 81,846 |
| September | 67,171 | 68,316 | 65,227 | 66,106 | 67,354 | 65,578 | 66,353 | 70,232 | 74,206 |
| October | 66,981 | 68,152 | 64,260 | 66,173 | 66,674 | 62,080 | 67,713 | 70,463 | 74,267 |
| November | 70,326 | 72,098 | 64,128 | 66,116 | 66,805 | N/A[2/] | 69,325 | 69,160 | 74,550 |
| December | 71,978 | 71,900 | 70,972 | 71,006 | 69,205 | N/A[2/] | 70,483 | 77,724 | 77,908 |
| Average Daily Traffic [1/] | 70,329 | 71,492 | 69,639 | 68,426 | 68,324 | N/A[2] | N/A[2] | 70,870 | 75,690 |
| % Annual Change | 1.30% | 1.70% | -2.60% | -1.70% | -0.10% | N/A[2] | N/A[2] | 6.1% | 6.8% |
| Million Annual Passengers | 61.0 | 62.4 | 59.8 | 56.5 | 59.1 | 61.9 | 63.73 | 66.7 | 70.7 |
| % Annual Change | -0.80% | 1.50% | -4.20% | -5.50% | 4.60% | 4.70% | 2.90% | 4.7% | 6.0% |

NOTES:

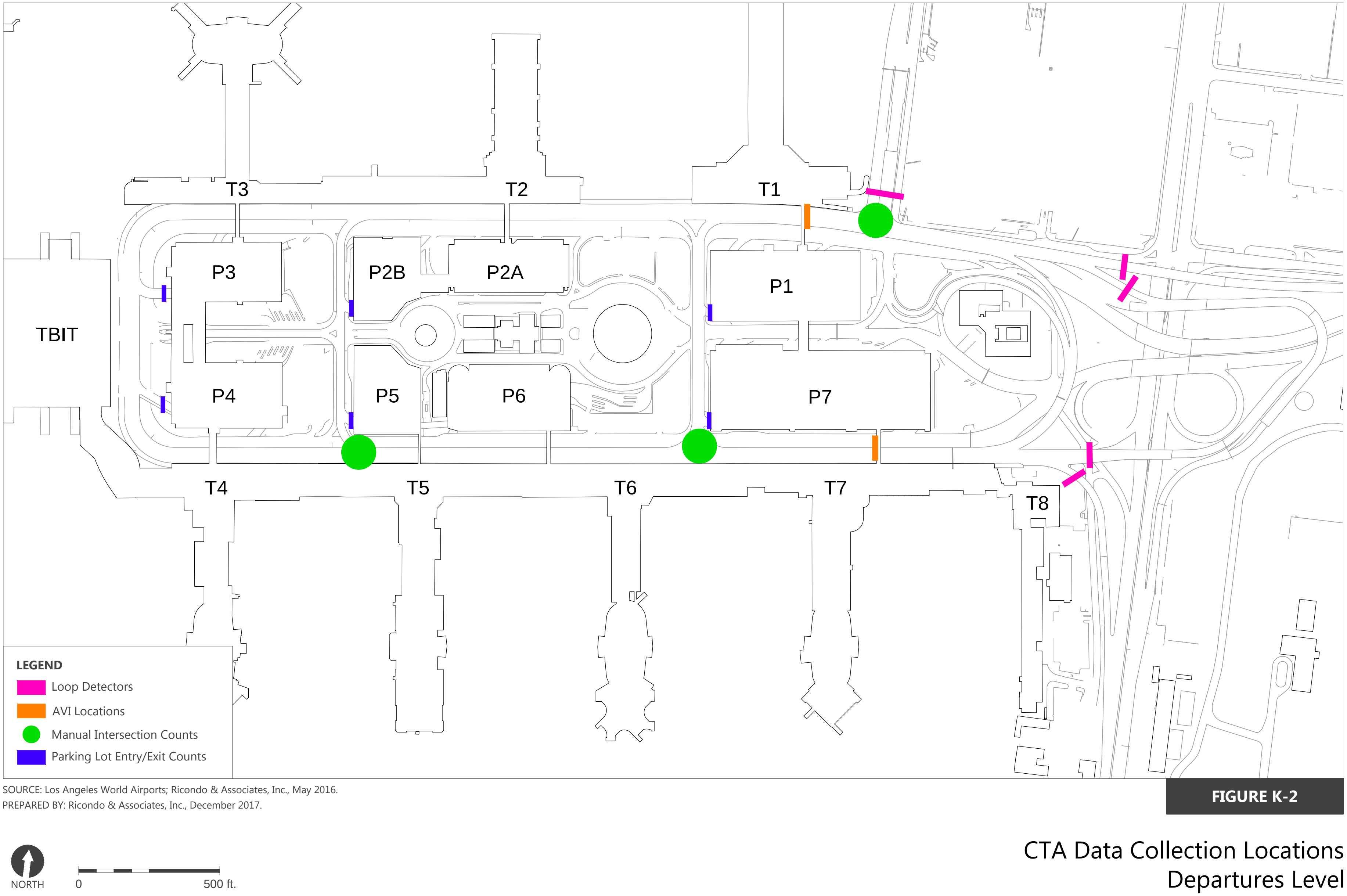
1/ Estimates for average daily traffic are calculated by weighting the monthly average daily traffic volumes by the number of days in the month. The month of February had 29 days in 2008 and 2012.

2/ Accurate average daily traffic 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, *LAX 2010 Ground Transportation Report,* March 2011.

PREPARED BY: Ricondo & Associates, Inc. May 2016.

**Figure K-2** and **Figure K-3** identify the locations where the traffic data were collected within the CTA. In addition to the above data, automated traffic counts were collected on the southbound Sepulveda Boulevard exit ramp and eastbound Century Boulevard exits. These tube counts were collected in August 2014 to serve as a control point to the automatic loop detector counts. By comparing the tube counts to the automated loop detector counts, any errors in the loop detectors were determined. An error correction was then applied to adjust loop counts when they were used in the model to balance traffic.

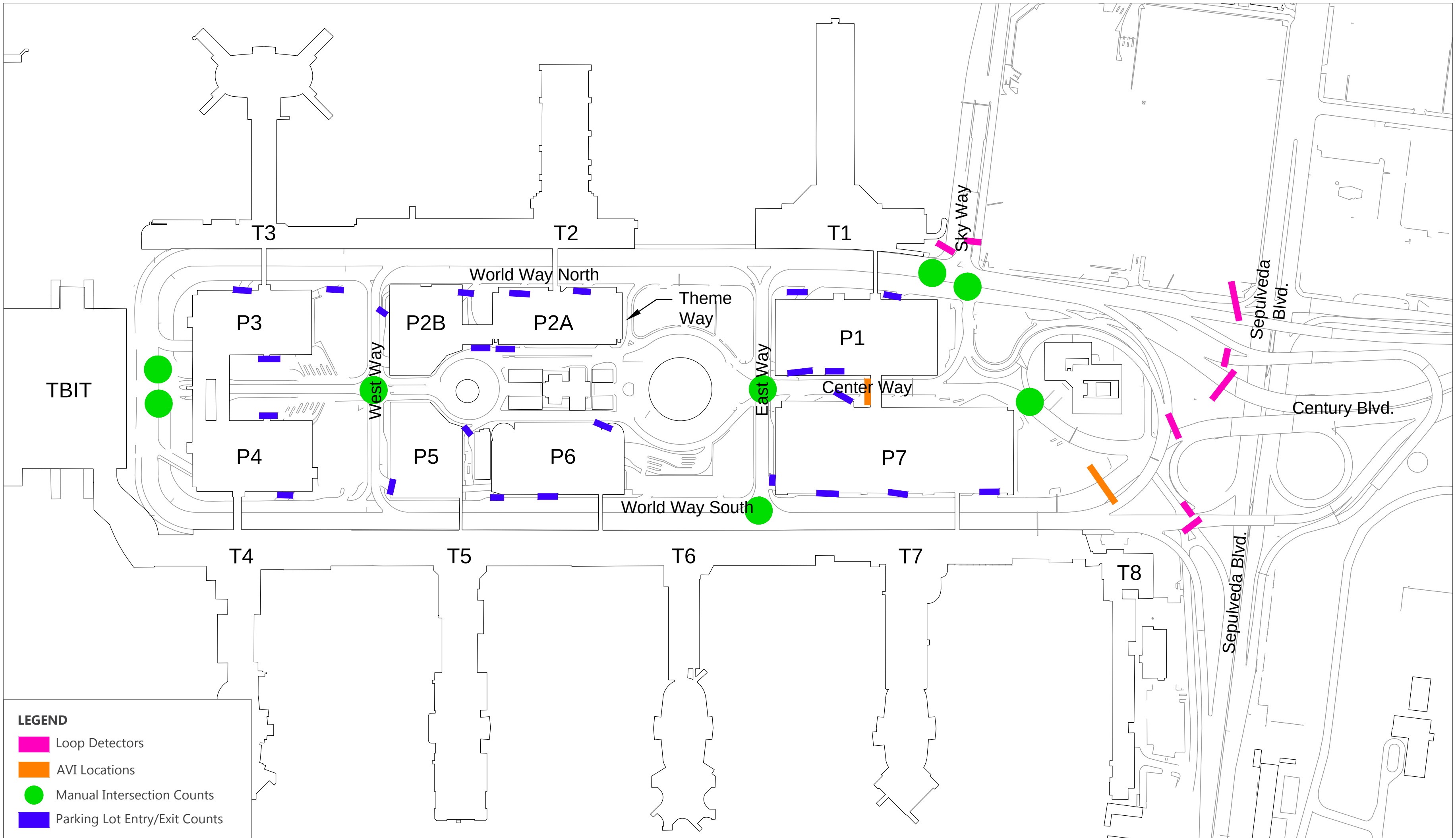



SOURCE: Los Angeles World Airports; Ricondo & Associates, Inc., May 2016.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

FIGURE K-2

CTA Data Collection Locations
Departures Level

THIS PAGE INTENTIONALLY LEFT BLANK




SOURCE: Los Angeles World Airports; Ricondo & Associates, Inc., May 2016.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

NORTH 0 500 ft.

**FIGURE K-3**

CTA Data Collection Locations
Arrivals Level

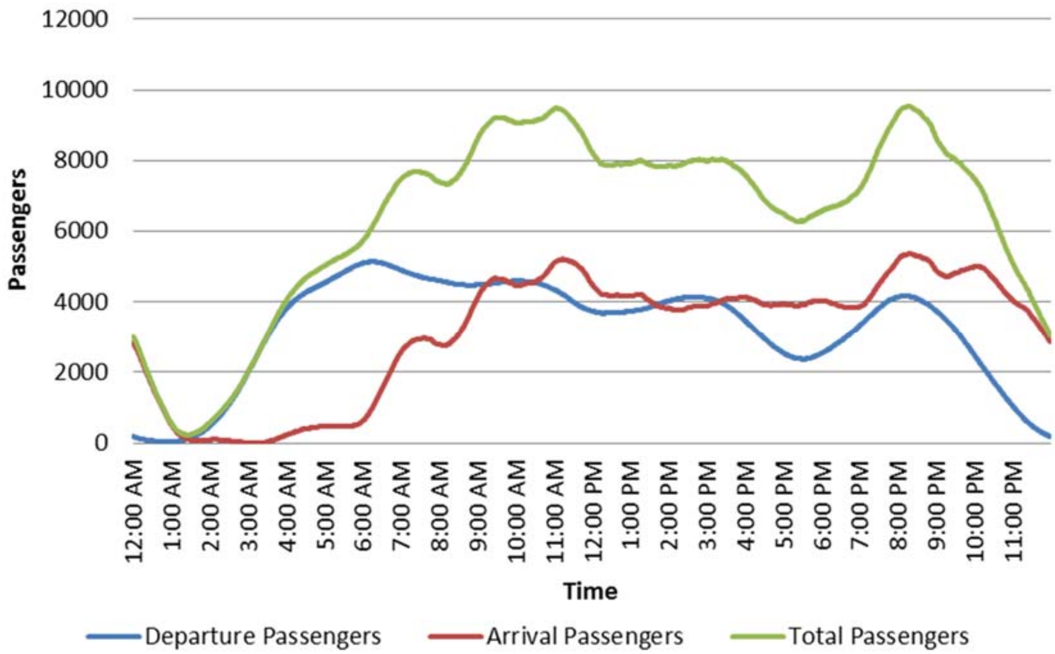
THIS PAGE INTENTIONALLY LEFT BLANK

### K.3.5 TRAFFIC ANALYSIS PEAK HOURS

The August 2014 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 LAX 2011 Passenger Survey. Early arrivals curves refer to the timing of passenger demand from the flight schedule adjusted to account for the time originating passengers arrive at the Airport prior to their flight (i.e., "lead time"). 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 terminating passenger arrivals curves refer to time allotted for terminating passengers to travel from their gate to the arrivals level curbside (i.e., "lag time").

The international arriving passenger data used for this analysis for both the existing and future conditions was generated based on: (a) the existing geometric configuration and operational conditions; 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 K-4** depicts the rolling hourly departing and arriving passenger flows in 2014 for the CTA curbside. **Table K-3** summarizes the 2014 Airport passenger arrivals and departures peak hours.

**Figure K-4: Existing (2014) Rolling Hour Departure and Arrival Passengers Volumes**




SOURCE: Ricondo & Associates, Inc. May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

**Table K-3: Summary of Existing Conditions (2014) Airport Peak Hours**

| EXISTING (2014) | AIRPORT PEAK HOUR | TOTAL PASSENGERS |
|---|---|---|
| Arrivals | 8:18 p.m. - 9:18 p.m. | 5,369 |
| Departures | 6:16 a.m. - 7:16 a.m. | 5,142 |
| Overall Airport | 8:18 p.m. - 9:18 p.m. | 9,534 |

SOURCE: Ricondo & Associates, Inc. May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

### K.3.6 VEHICLE TRIP GENERATION AND DISTRIBUTION MODEL

As explained in Section K.2, 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 2014 CTA roadway vehicle volumes to ensure the model was accurately replicating 2014 conditions.

## K.4 Analysis of Existing Conditions

This section describes how the results from the vehicle trip generation and TRAFFIX® models were used to characterize 2014 traffic conditions for intersection capacity of the key CTA intersections.

### K.4.1 CTA INTERSECTION EXISTING CONDITIONS

This section describes the operating conditions of key signalized CTA intersections using the 2014 traffic volumes as defined in Section K.3. All of the study area intersections were analyzed with TRAFFIX®, except for the intersection of World Way South and Center Way which was analyzed using Synchro 7, another widely accepted transportation analysis model. The intersection of World Way South and Center Way is a five-legged intersection and TRAFFIX software is not equipped to analyze intersections with more than four legs. Therefore, Synchro 7 was used to analyze this intersection.

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 K-4**. The analysis evaluated the intersection's V/C and LOS conditions using the CTA roadway traffic volumes for the 2014 conditions, as provided in **Table K-5** for the Airport peak departures and arrivals hours. With the exception of World Way South and Center Way (Exit) on the lower level, which operates at an LOS of B, all other intersections operated at LOS A.

## Table K-4: Level of Service Definitions for Signalized Intersections

| LEVEL OF SERVICE (LOS) | VOLUME/CAPACITY RATIO RANGE | 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 – less than 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 than or equal to 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.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

## Table K-5: Peak Hour CTA Signalized Intersection Turning Movement Volumes and Level of Service Analysis - Existing (2014) Conditions

| | | EXISTING (2014) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | |
| INTERSECTION | PEAK 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 | | | | | | 916 | | | | | 1,954 | | 0.428 | A |
| World Way South and West Way (Upper Level) | Departure | | | | 528 | | | | 1,502 | | | | | 0.394 | A |
| World Way South and East Way (Upper Level) | Departure | | | | 523 | | | 88 | 1,924 | | | | | 0.448 | A |
| World Way North and Sky Way (Lower Level) | Arrival | 270 | 140 | | | | 932 | | | | | 1,851 | | 0.561 | A |
| World Way South and Center Way (Exit) (Lower Level)[4/] | Arrival | 270 | 1,114 | 888 | | | | | 834 | 636 | | | | 0.68 | B |
| East Way and World Way South (Lower Level) | Arrival | | | | 475 | | | 157 | 1,588 | | | | | 0.439 | A |

NOTES:

1/ The departures peak hour occurred from 6:16 a.m. to 7:16 a.m. The arrivals peak hour occurred from 8:18 p.m. to 9:18 p.m.

2/ Volume to capacity ratio.

3/ Level of Service range: A (excellent) to F (failure).

4/ For the 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. May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

## K.4.2 CTA ROADWAY EXISTING CONDITIONS

In order to analyze the operating conditions along the Airport roadway system, the calculated volume of traffic using each roadway link was compared to the capacity of the roadway at that particular location. The capacities of the roadway links were determined based on the characteristics of the roadway link, the number of travel lanes provided, and the effects of curbside congestion. Based on the Highway Capacity Manual, Special Report 209,[9] the theoretical capacity of a roadway is the maximum hourly flow rate per lane under "ideal" conditions comprised of: (a) uninterrupted flow; (b) all passenger cars comprised 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.

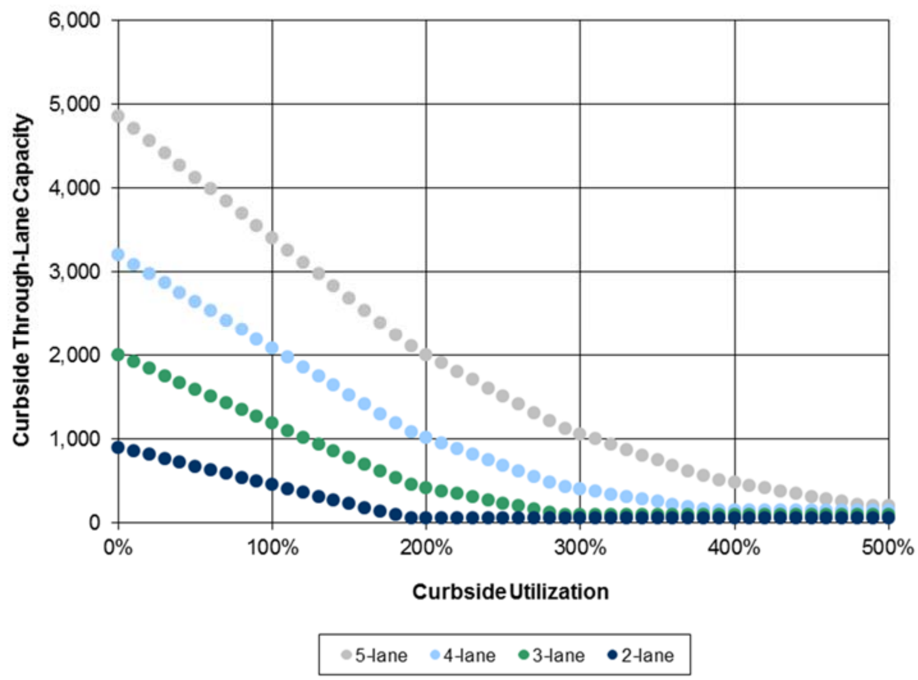
For airport roadways, however, capacities are substantially lower, as many of the "ideal" conditions listed above cannot be attained. For example, drivers are often unfamiliar with the roadway system. Also, increased interaction and impedances between vehicles usually results in drivers slowing to change lanes or maneuver in response to signage describing multiple on-airport destinations occurring over relatively short distances. Since airport curbsides accommodate relatively intense activity occurring over a relatively compact area, curbside roadway throughput capacities are much lower than provided 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 (slowing down of through vehicles) from stopped and maneuvering vehicles, pedestrian crossing activity, and other characteristics. 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 for each lane is related to the level of congestion at the adjacent curbside. **Figure K-5** illustrates the relationship of curbside roadway throughput capacity as a function of curbside utilization.

**Table K-6** provides the roadway V/C ratio used to determine a roadway link's LOS. 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. For LOS determinations of the CTA roadway links, the values identified in Table K-6 were used. The analysis evaluated the key roadway link V/C and LOS conditions using the CTA roadway traffic volumes for the 2014 conditions, as provided in **Table K-7** for the Airport peak departures and arrivals hours. As shown in Table K-7, over half of the CTA roadway links (13 out of 24) operated at LOS E or F at certain times of the day.

---

9 Transportation Research Board, Highway Capacity Manual, Special Report 209: Chapter 2 – Capacity and Level of Service Concepts, pp. 2-3 and 2-4, 2000.

**Figure K-5: Curbside Roadway Throughput Capacity as a Function of Curbside Utilization**




NOTE: LEGEND INCLUDES NUMBER OF LANES INCLUDING THE CURBSIDE LOADING/UNLOADING LANE

SOURCE: Transportation Research Board of the National Academies, Airport Cooperative Research Program, *ACRP Report 40, Airport Curbside and Terminal Area Roadway Operations* 2010.

PREPARED BY: Ricondo & Associates, Inc. April 2016

**Table K-6: 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 – less than 1.00 | POOR | Roadway is operating at or near capacity |
| F | greater than or equal to 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.
PREPARED BY: Ricondo & Associates, Inc. April 2016.

**Table K-7: Peak Hour CTA Roadway Volumes and Level of Service Analysis - Existing (2014) Conditions**

| | EXISTING (2014) | | |
|---|---|---|---|
| ROADWAY LINK | VOLUMES | ROADWAY V/C | LOS |
| **DEPARTURES** | | | |
| Upper Level Roadway Link Adjacent to Terminal 1 | 2,870 | 0.92 | E |
| Upper Level Roadway Link Adjacent to Terminal 2 | 2,327 | 0.96 | E |
| Upper Level Roadway Link Adjacent to Terminal 3 | 1,577 | 0.85 | D |
| Upper Level Roadway Link Adjacent to TBIT | 1,483 | 0.71 | C |
| Upper Level Roadway Link Adjacent to Terminal 4 | 1,400 | 0.75 | C |
| Upper Level Roadway Link Adjacent to Terminal 5 | 2,050 | 1.17 | F |
| Upper Level Roadway Link Adjacent to Terminal 6 | 2,050 | 0.98 | E |
| Upper Level Roadway Link Adjacent to Terminal 7 | 2,460 | 1.12 | F |
| **ARRIVALS** | | | |
| Roadway Link Adjacent to Terminal 1 Lower Level Inner Curbside | 601 | 0.32 | A |
| Roadway Link Adjacent to Terminal 2 Lower Level Inner Curbside | 530 | 0.40 | A |
| Roadway Link Adjacent to Terminal 3 Lower Level Inner Curbside | 473 | 0.20 | A |
| Roadway Link Adjacent to TBIT Lower Level Inner Curbside | 489 | 0.21 | A |
| Roadway Link Adjacent to Terminal 4 Lower Level Inner Curbside | 666 | 0.36 | A |
| Roadway Link Adjacent to Terminal 5 Lower Level Inner Curbside | 744 | 0.57 | A |
| Roadway Link Adjacent to Terminal 6 Lower Level Inner Curbside | 220 | 0.09 | A |
| Roadway Link Adjacent to Terminal 7 Lower Level Inner Curbside | 536 | 0.14 | A |
| Roadway Link Adjacent to Terminal 1 Lower Level Outer Curbside | 2,394 | 1.04 | F |
| Roadway Link Adjacent to Terminal 2 Lower Level Outer Curbside | 2,085 | 0.94 | E |
| Roadway Link Adjacent to Terminal 3 Lower Level Outer Curbside | 1,782 | 0.96 | E |
| Roadway Link Adjacent to TBIT Lower Level Outer Curbside | 1,578 | 1.00 | E |
| Roadway Link Adjacent to Terminal 4 Lower Level Outer Curbside | 1,300 | 1.34 | F |
| Roadway Link Adjacent to Terminal 5 Lower Level Outer Curbside | 1,740 | 0.91 | E |
| Roadway Link Adjacent to Terminal 6 Lower Level Outer Curbside | 1,903 | 1.40 | F |
| Roadway Link Adjacent to Terminal 7 Lower Level Outer Curbside | 1,863 | 2.37 | F |

NOTE: The departures peak hour occurred from 6:16 a.m. to 7:16 a.m. The arrivals peak hour occurred from 8:18 p.m. to 9:18 p.m.

SOURCE: Ricondo & Associates, Inc. May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

# K.5 Thresholds of Significance

To assess impacts at the CTA intersections, LOS thresholds defined in the LADOT Traffic Study Policies and Procedures[10] were used to determine if an impact was generated by the Proposed Action Alternative. 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 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 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 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 Proposed Action Alternative, existing (2014) traffic, ambient background growth, and other related projects, but without any proposed traffic mitigation. The increase is defined as the change in V/C between the future V/C ratio under the No Action Alternative and the Proposed Action Alternative, without any proposed traffic mitigation. (i.e., the change in the unmitigated LOS condition between [a] the V/C for the future (2024 and 2030/2035) Proposed Action Alternative, and [b] the V/C for the future (2024 and 2030/2035) No Action Alternative).

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.

# K.6 On-Airport Transportation System Improvements

The following describes the on-Airport transportation system improvements included in the 2024, 2030, and 2035 No Action Alternative traffic analysis conditions, and how such improvements would affect passenger flow and vehicle operations. Ground transportation improvements assumed under the No Action Alternative include:

- Commercial Vehicle Holding Lot Relocation. The existing current vehicle holding lot would be relocated to Lot E or to the area known as "Manchester Square."
- Policy Changes to Bus Operations in the CTA. To provide for more efficient operations through the CTA, single-level busing would be implemented. Private parking shuttles would be relegated to the upper level, while hotel shuttles would use the lower level.

10 Los Angeles Department of Transportation, *Traffic Study Policies and Procedures*, August 2014. Thresholds are the same as the thresholds in the L.A. CEQA Thresholds Guide.

- Parking Garage Reconstruction. Parking Garages P2B and P5 would be demolished and reconstructed in their existing location.

These improvements are not included in the existing (2014) conditions analysis.

## K.7 Proposed Action Alternative-Related Improvements

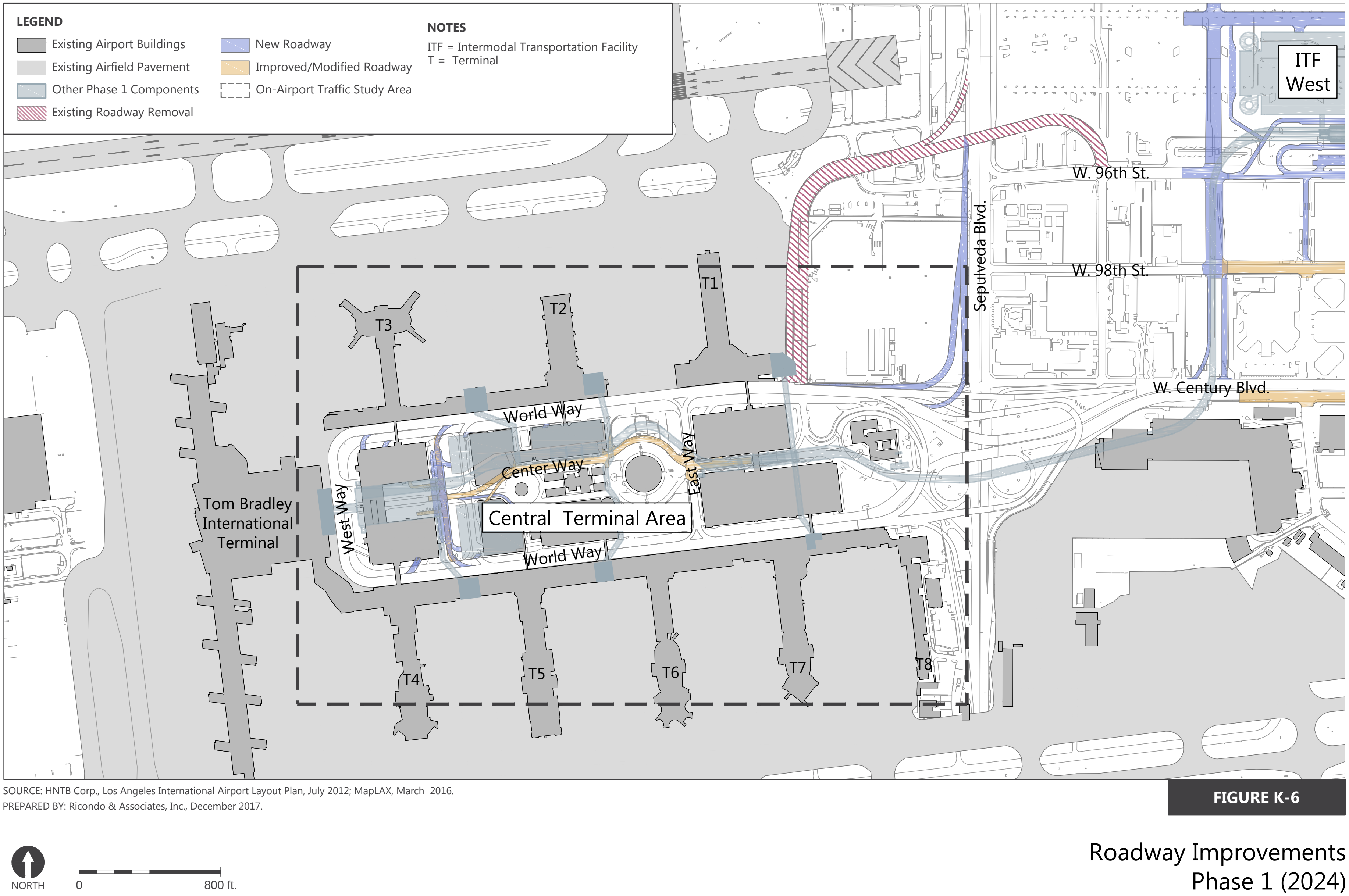
The following describes the on-Airport transportation system improvements included in the 2024 and 2030/2035 Proposed Action Alternative traffic analysis conditions, and how such improvements would affect passenger flow and vehicle operations. **Figure K-6** shows the improvements to the Airport area roadways proposed to be implemented by 2024, including:

- On-Airport roadway improvements proposed through 2024 include:
  - Southbound S. Sepulveda Boulevard to World Way (departures and arrivals) Ramps
  - Center Way between West Way and East Way
- In addition to the above on-Airport roadway improvements, the following roadways would be removed or modified:
  - W. 96th Street/Sky Way Bridge would be removed
  - W. Century Boulevard west of S. Sepulveda Boulevard would be removed
- In order to provide curbfront to the West CTA Automated People Mover (APM) Station, West Way is proposed to be relocated approximately 200 feet to the west, adjacent to the pedestrian walkway connecting parking garages P3 and P4 and Terminals T3 and T4. West Way is proposed as a two-level, two-lane roadway with an added drop-off lane on the west side and an added lane for ingress into the parking garages to the east for the upper level only. The proposed roadway would be configured to accommodate southbound travel only at both levels. Access to new garages P2B and P5 would be accommodated at both levels off of West Way.

The proposed roadway improvements are designed to reduce congestion and enable passengers to more efficiently access LAX. These proposed improvements include, among others, new roadway segments, additional lanes, realignment of segments of existing roads, restriping, modified freeway ramps, new or realigned driveways, roadway closures, streetscape improvements, landscaping, and intersection improvements. Please see Section 1.3.2 of the Final EA for more information regarding the proposed improvements to the Airport area roadways.

The proposed roadway improvements to the Airport area roadways proposed to be implemented by 2030 are shown on **Figure K-7**. There would be no changes to the on-Airport roadway system between 2030 and 2035. This on-Airport analysis considered the effects of these roadway improvements in terms of changes to vehicle access or exit patterns to and from the CTA.

- On-Airport roadway improvements proposed through 2030 include:
  - Westbound W. Century Boulevard (New 'A' Street to World Way)
  - Westbound W. Century Boulevard Viaduct to World Way
  - Northbound S. Sepulveda Boulevard to eastbound W. Century Boulevard Ramp
  - Eastbound World Way (Departures) to northbound S. Sepulveda Boulevard Ramp
  - Eastbound World Way (Arrivals) to southbound S. Sepulveda Boulevard Ramp
  - Eastbound World Way (Departures) to southbound S. Sepulveda Boulevard Ramp (join existing ramp)
  - Eastbound Center Way to southbound S. Sepulveda Boulevard Ramp
  - Eastbound World Way (Arrivals & Departures) to eastbound W. Century Boulevard and to northbound New 'A' Street
- In addition to the above new roadways, the following roadways would be removed or modified by 2030:
  - Return road connecting World Way South and World Way North would be modified to form an intersection with Center Way to southbound S. Sepulveda Boulevard ramp. This intersection would likely be signalized.
  - Loop ramp from southbound S. Sepulveda Boulevard to W. Century Boulevard would be removed.

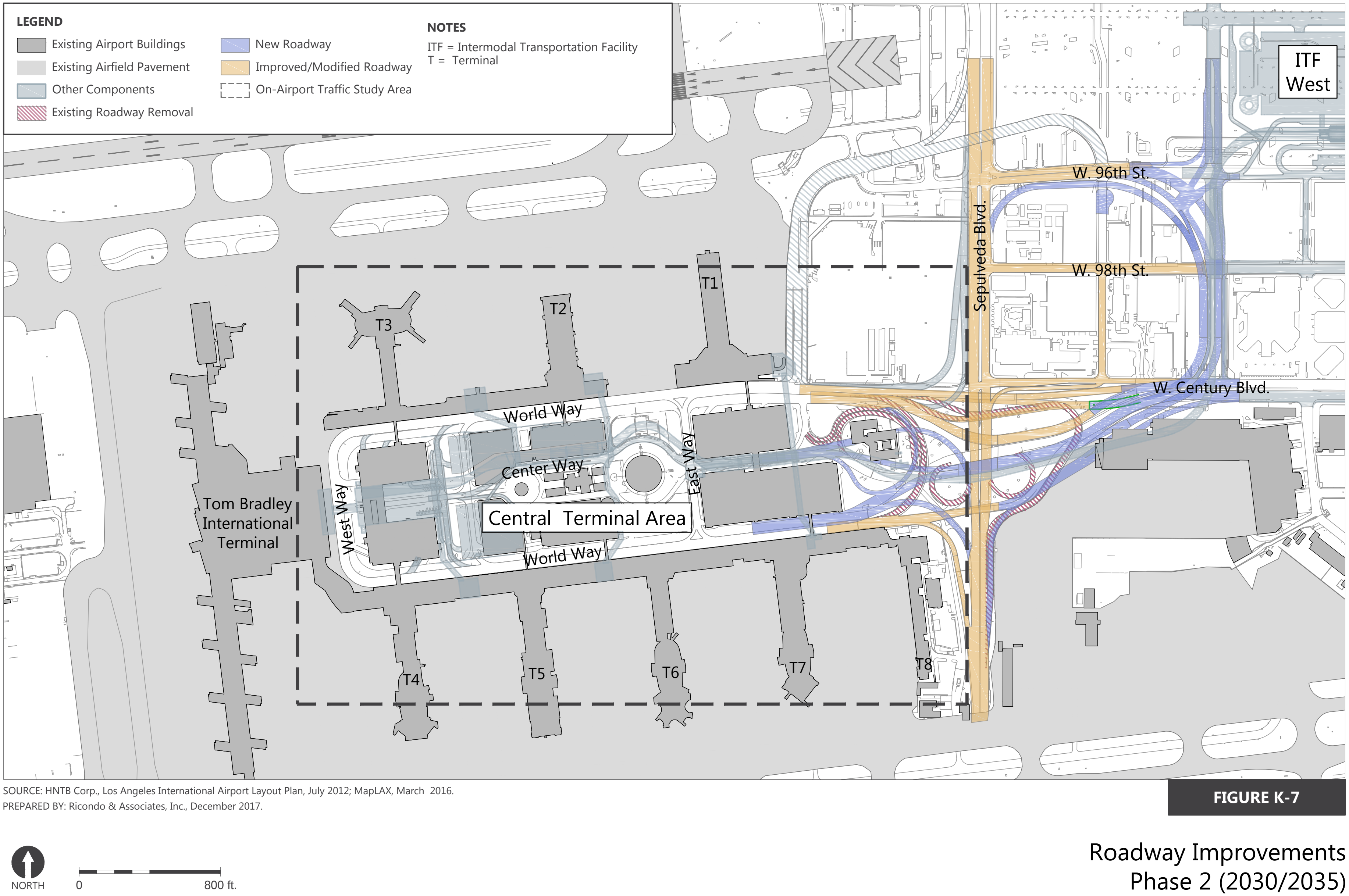



SOURCE: HNTB Corp., Los Angeles International Airport Layout Plan, July 2012; MapLAX, March 2016.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE K-6**

Roadway Improvements
Phase 1 (2024)

THIS PAGE INTENTIONALLY LEFT BLANK




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

**FIGURE K-7**

Roadway Improvements
Phase 2 (2030/2035)

THIS PAGE INTENTIONALLY LEFT BLANK

# K.8 Future (2024) Traffic Conditions

## K.8.1 DETERMINATION OF 2024 ANALYSIS PEAK HOURS

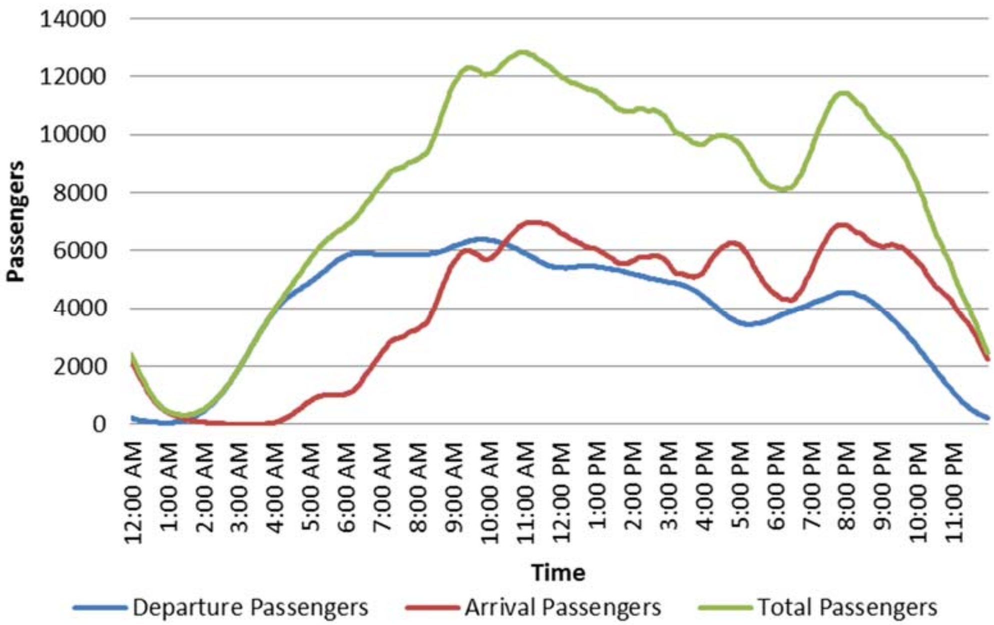
To determine the peak hours for the 2024 No Action Alternative and the 2024 Proposed Action Alternative, the 2024 design day passenger schedule for LAX was developed. The FAA's Terminal Area Forecast[11] for LAX in 2024 was converted to peak month average day (PMAD) levels to forecast activity at the Airport for a typical Friday in August. To develop the 2024 No Action and Proposed Action Alternatives traffic volumes used to evaluate the CTA's future landside operations, a flight schedule representative of passenger activity level of 86 million annual passengers (MAP) was used.[12] The passenger schedule for 2024 No Action and Proposed Action Alternatives are the same, as the Proposed Action Alternative would not affect the number or type of aircraft operations or passenger activity levels at LAX.

**Figure K-8** depicts the rolling hourly terminating and originating passenger flows at the CTA curbsides for the future 2024 conditions. The passenger flows show that in 2024, there would be two pronounced peaks in passenger activity on the arrivals level curbsides with the peak hour occurring from 11:15 a.m. to 12:15 p.m. resulting in a total of 6,976 passengers on the curbside. Similarly, departing passenger flows show that in 2024, the peak hour would occur between 9:51 a.m. to 10:51 a.m. with a total of 6,377 passengers on the curbside.

11 Federal Aviation Administration, *APO Terminal Area Forecast 2014*, January 2015.

12 Ricondo & Associates, Inc., *LAX 2024 and 2035 Passenger Flight Schedules*, August 2016.

**Figure K-8: Future (2024) Rolling Hour Departure and Arrival Passengers Volumes**




SOURCE: Ricondo & Associates, Inc. May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

## K.8.2 DETERMINATION OF FUTURE (2024) TRAFFIC VOLUMES

The calibrated trip generation and trip distribution models for the 2014 departures and arrivals peak hours were used as a basis for estimating the peak hour CTA vehicle volumes for each of the future (2024) conditions. As part of this process, adjustments were made to the 2014 passenger mode splits to reflect the two ITFs and CONRAC, and how changes to the regional transportation network would affect passenger mode choice and resultant vehicle activity at the Airport (see Section K.9 for methods used to adjust 2024 mode splits). **Table K-8** and **Table K-9** present the passenger mode splits used to estimate the CTA traffic volumes in 2024 on the departures level and arrivals level, respectively. The passenger mode splits represent the proportion of total airline passengers using each vehicle mode during the peak hours analyzed. The tables also present the modes picking-up or dropping-off passengers at either of the ITFs or CONRAC. These passengers would use the APM to access the CTA.

**Table K-8: Future (2024) Mode Share – Departing Passengers**

| MODE | EXISTING (2015) MODE SHARE | FUTURE (2024) PROPOSED ACTION ALTERNATIVE: TOTALS MODE SHARE | CTA MODE SHARE | ITF WEST (APM) MODE SHARE | ITF EAST (APM) MODE SHARE | CONRAC (APM) MODE SHARE | FUTURE (2024) NO ACTION ALTERNATIVE MODE SHARE |
|---|---|---|---|---|---|---|---|
| Private Vehicle - Pick-Up/Drop-Off | 36.20% | 35.18% | 32.92% | 1.13% | 1.13% | | 35.18% |
| Private Vehicle - Parking | 11.70% | 9.65% | 4.52% | 4.27% | 0.85% | | 9.65% |
| Charter Van | 6.80% | 6.80% | 14.91%[1/] | 7.41%[1/] | 2.93%[1/] | | 7.03% |
| Taxi | 5.80% | 5.79% | | | | | 5.79% |
| Paid Ride (TNC) | 6.90% | 10.03% | | | | | 10.47% |
| Limo/Town Car | 3.00% | 2.62% | | | | | 2.62% |
| Shared Ride Van | 3.60% | 3.17% | | | 3.17% | | 3.26% |
| Rental Car Shuttle | 21.00% | 21.00% | | | | 21.00% | 21.00% |
| Hotel Shuttle | 2.10% | 2.11% | | 2.11% | | | |
| FlyAway | 1.50% | 1.54% | 1.54% | | | | 2.11% |
| Charter Bus | 0.80% | 0.79% | | | 0.79% | | 1.60% |
| Transit | 0.50% | 1.30% | | | 1.30% | | 0.79% |
| **Total CTA** | 100.00% | 100.00% | 53,89% | | | | 0.49% |
| **Total Non-CTA (APM)** | | | | 14.92% | 10.17% | 21.00% | |

NOTE:

1/ Taxi and TNC services are substantially similar and were treated as such for this part of the analysis.

SOURCE: Ricondo & Associates, Inc. in consultation with MapLAX team and LAWA staff, May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

**Table K-9: Future (2024) Mode Share – Arriving Passengers**

| | | FUTURE (2024) PROPOSED ACTION ALTERNATIVE | | | | | |
|---|---|---|---|---|---|---|---|
| | EXISTING (2015) | TOTALS | CTA | ITF WEST (APM) | ITF EAST (APM) | CONRAC (APM) | FUTURE (2024) NO ACTION ALTERNATIVE |
| **MODE** | **MODE SHARE** | **MODE SHARE** | **MODE SHARE** | **MODE SHARE** | **MODE SHARE** | **MODE SHARE** | **MODE SHARE** |
| Private Vehicle - Pick-Up/Drop-Off | 35.20% | 33.84% | 31.59% | 1.13% | 1.13% | | 33.82% |
| Private Vehicle - Parking | 10.44% | 8.50% | 3.92% | 3.82% | 0.76% | | 8.50% |
| Charter Van | 6.03% | 6.03% | | | | | 6.23% |
| Taxi | 9.42% | 9.42% | 16.84%[1/] | 8.42%[1/] | 3.28%[1/] | | 9.42% |
| Paid Ride (TNC) | 6.69% | 10.00% | | | | | 10.43% |
| Limo/Town Car | 3.10% | 3.10% | | | | | 3.10% |
| Shared Ride Van | 4.50% | 3.69% | | | 3.69% | | 3.79% |
| Rental Car Shuttle | 18.90% | 18.90% | | | | 18.90% | 18.90% |
| Hotel Shuttle | 2.06% | 2.06% | | 2.06% | | | |
| FlyAway | 2.45% | 2.45% | | | 2.45% | | 2.06% |
| Charter Bus | 0.70% | 0.70% | | | 0.70% | | 2.53% |
| Transit | 0.50% | 1.31% | | | 1.31% | | 0.70% |
| **Total CTA** | 100.00% | 100.00% | 52.35% | | | | 0.50% |
| **Total Non-CTA (APM)** | | | | 15.43% | 13.31% | 18.90% | |

NOTE:

1/ Taxi and TNC services are substantially similar and were treated as such for this part of the analysis.

SOURCE: Ricondo & Associates, Inc. in consultation with MapLAX team and LAWA staff, May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

# K.9 Future (2030/2035) Traffic Conditions

## K.9.1 DETERMINATION OF 2030/2035 ANALYSIS PEAK HOURS

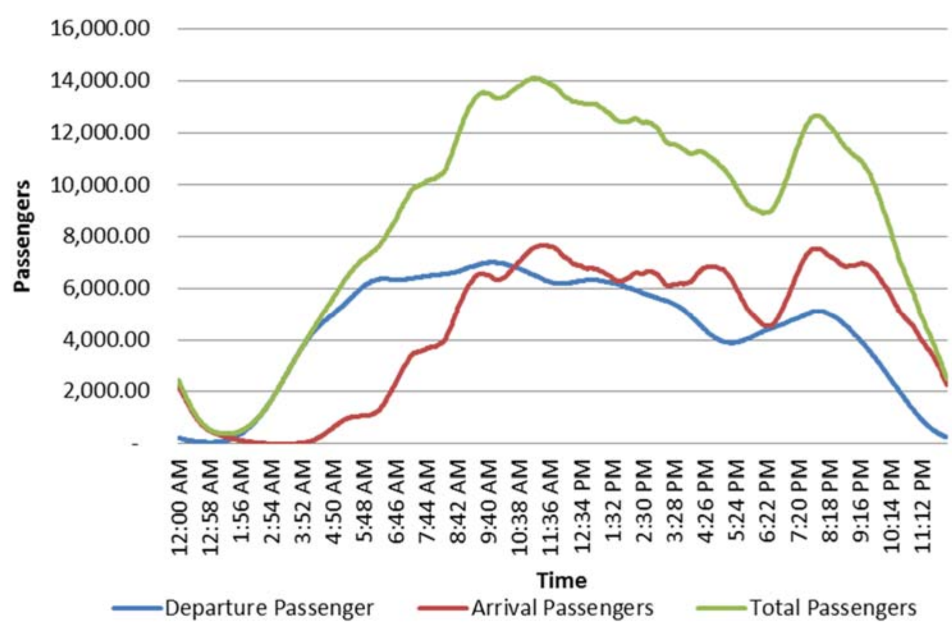
To determine the peak hours for the 2030 No Action and Proposed Action Alternatives, the 2030 design day passenger schedule for LAX was developed. The FAA's Terminal Area Forecast[13] for LAX in 2030 was converted to PMAD levels to forecast activity at the Airport for a typical Friday in August. To develop the 2030 No Action and Proposed Action Alternatives traffic volumes used to evaluate the CTA's future landside

[13] Federal Aviation Administration, *APO Terminal Area Forecast 2014*, January 2015.

operations, a flight schedule representative of passenger activity level of 95 MAP was used.[14] LAWA has utilized for planning purposes related to the proposed LAX Landside Access Modernization Program, a future condition (2035) of 95 MAP. Thus, traffic conditions would be the same for 2030 and 2035. The passenger schedule for 2030 No Action and Proposed Action Alternatives was the same, as the Proposed Action Alternative would not affect the number or type of aircraft operations or passenger activity levels at LAX.

**Figure K-9** depicts the rolling hourly terminating and originating passenger flows at the CTA curbsides for 2030/2035 conditions. The passenger flows show that 2030/2035 conditions would produce two pronounced peaks in passenger activity on the arrivals level curbsides with the peak hour occurring from 11:30 a.m. to 12:30 p.m. resulting in a total of 7,659 passengers on the curbside. Similarly, departing passenger flows show the 2035 conditions would result in the peak hour occurring between 9:51 a.m. to 10:51 a.m. with a total of 7,006 passengers on the curbside.

**Figure K-9: Future (2030/2035) Rolling Hour Departure and Arrival Passengers Volumes**




SOURCE: Ricondo & Associates, Inc. May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

As part of this process, adjustments were made to the 2014 passenger mode splits to reflect the two ITFs and CONRAC, and how changes to the regional transportation network would affect passenger mode choice and resultant vehicle activity at the Airport. **Table K-10** and **Table K-11** present the passenger mode splits used to estimate the CTA traffic volumes in the 2030/2035 conditions on the departures level and arrivals level,

14 Ricondo & Associates, Inc., *LAX 2024 and 2035 Passenger Flight Schedules*, August 2016.

respectively. The passenger mode splits represent the proportion of total airline passengers using each vehicle mode during the peak hours analyzed. The tables also present the modes picking-up or dropping-off passengers at either of the ITFs or CONRAC. These passengers would use the APM to access the CTA.

**Table K-10: Future (2030/2035) Mode Share – Departing Passengers**

<table>
<tr><th rowspan="3">MODE</th><th rowspan="2">EXISTING (2015)</th><th colspan="5">FUTURE (2030/2035) PROPOSED ACTION ALTERNATIVE</th><th rowspan="2">FUTURE (2030/2035) NO ACTION ALTERNATIVE</th></tr>
<tr><th>TOTALS</th><th>CTA</th><th>ITF WEST (APM)</th><th>ITF EAST (APM)</th><th>CONRAC (APM)</th></tr>
<tr><th>MODE SHARE</th><th>MODE SHARE</th><th>MODE SHARE</th><th>MODE SHARE</th><th>MODE SHARE</th><th>MODE SHARE</th><th>MODE SHARE</th></tr>
<tr><td>Private Vehicle - Pick-Up/Drop-Off</td><td>36.20%</td><td>34.30%</td><td>32.00%</td><td>1.10%</td><td>1.10%</td><td></td><td>34.30%</td></tr>
<tr><td>Private Vehicle - Parking</td><td>11.70%</td><td>7.90%</td><td>3.60%</td><td>3.50%</td><td>0.70%</td><td></td><td>7.90%</td></tr>
<tr><td>Charter Van</td><td>6.80%</td><td>6.80%</td><td rowspan="4">16.30%</td><td rowspan="4">8.10%</td><td rowspan="4">3.20%</td><td rowspan="4"></td><td>7.20%</td></tr>
<tr><td>Taxi</td><td>5.80%</td><td>5.80%</td><td>5.80%</td></tr>
<tr><td>Paid Ride (TNC)</td><td>6.90%</td><td>12.70%</td><td>13.50%</td></tr>
<tr><td>Limo/Town Car</td><td>3.00%</td><td>2.30%</td><td>2.30%</td></tr>
<tr><td>Shared Ride Van</td><td>3.60%</td><td>2.80%</td><td></td><td></td><td>2.80%</td><td></td><td>3.00%</td></tr>
<tr><td>Rental Car Shuttle</td><td>21.00%</td><td>21.00%</td><td></td><td></td><td></td><td>21.00%</td><td>21.00%</td></tr>
<tr><td>Hotel Shuttle</td><td>2.10%</td><td>2.10%</td><td></td><td>2.10%</td><td></td><td></td><td>2.10%</td></tr>
<tr><td>FlyAway</td><td>1.50%</td><td>1.50%</td><td>1.50%</td><td></td><td></td><td></td><td>1.60%</td></tr>
<tr><td>Charter Bus</td><td>0.80%</td><td>0.80%</td><td></td><td></td><td>0.80%</td><td></td><td>0.80%</td></tr>
<tr><td>Transit</td><td>0.50%</td><td>2.00%</td><td></td><td></td><td>2.00%</td><td></td><td>0.50%</td></tr>
<tr><td>Total CTA</td><td rowspan="2">100.00%</td><td>100.00%</td><td>53.40%</td><td></td><td></td><td></td><td>100.00%</td></tr>
<tr><td>Total Non-CTA (APM)</td><td></td><td></td><td>14.90%</td><td>10.60%</td><td>21.00%</td><td></td></tr>
</table>

SOURCE: Ricondo & Associates, Inc. in consultation with MapLAX team and LAWA staff, May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

**Table K-11: Future (2030/2035) Mode Share – Arriving Passengers**

| | | FUTURE (2030/2035) PROPOSED ACTION ALTERNATIVE | | | | | |
|---|---|---|---|---|---|---|---|
| | EXISTING (2015) | TOTALS | CTA | ITF WEST (APM) | ITF EAST (APM) | CONRAC (APM) | FUTURE (2030/2035) NO ACTION ALTERNATIVE |
| **MODE** | **MODE SHARE** | **MODE SHARE** | **MODE SHARE** | **MODE SHARE** | **MODE SHARE** | **MODE SHARE** | **MODE SHARE** |
| Private Vehicle - Pick-Up/Drop-Off | 35.21% | 32.69% | 30.51% | 1.09% | 1.09% | | 34.30% |
| Private Vehicle - Parking | 10.44% | 6.85% | 3.16% | 3.08% | 0.61% | | 7.90% |
| Charter Van | 6.03% | 6.03% | 18.50% | 9.25% | 3.61% | | 7.20% |
| Taxi | 9.42% | 9.42% | | | | | 5.80% |
| Paid Ride (TNC) | 6.69% | 12.80% | | | | | 13.50% |
| Limo/Town Car | 3.10% | 3.10% | | | | | 2.30% |
| Shared Ride Van | 4.50% | 3.00% | | | 3.00% | | 3.00% |
| Rental Car Shuttle | 18.90% | 18.90% | | | | 18.90% | 21.00% |
| Hotel Shuttle | 2.06% | 2.06% | | 2.06% | | | 2.10% |
| FlyAway | 2.45% | 2.45% | | | 2.45% | | 1.60% |
| Charter Bus | 0.70% | 0.70% | | | 0.70% | | 0.80% |
| Transit | 0.50% | 2.00% | | | 2.00% | | 0.50% |
| **Total CTA** | 100.00% | | 52.17% | | | | 100.00% |
| **Total Non-CTA (APM)** | | | | 15.48% | 13.45% | 18.90% | |

SOURCE: Ricondo & Associates, Inc. in consultation with MapLAX team and LAWA staff, May 2016.
PREPARED BY: Ricondo & Associates, Inc., May 2016.

The 2024/2035 mode split estimates were calculated based on the general mode split trends derived between the LAX 2006 Passenger Survey[15], the LAX 2011 Passenger Survey[16] and the LAX 2015 Passenger Survey[17], together with inputs from LAWA, including defining the modes predicted to be relocated to each of the ITFs. The LAX 2011 Passenger Survey showed a decreasing trend among passengers using private vehicles,

15 Applied Management and Planning Group, *2006 Air Passenger Survey Final Report Los Angeles International Airport*, conducted between July 31 and August 27, 2006 (peak) as well as October 03 and October 22, 2006 (non-peak), December, 2007.

16 Unison Consulting, Inc., *Los Angeles International Airport 2011 Passenger Survey*, conducted between August 22 and August 28, 2011 (peak) as well as October 17 and October 24, 2011 (non-peak), August 2012.

17 Unison Consulting, Inc., *Final Report, Los Angeles International Airport 2015 Air Passenger Survey Results and Findings*, February 2016.

limousines, shared ride vans, and taxis. The LAX 2015 Passenger Survey further accelerated this decreasing trend with more passengers choosing TNCs over private vehicles, limousines, taxis, and shared ride vans. Other modes were also marginally affected by the mode shift to the TNCs.

### K.9.2 DETERMINATION OF FUTURE (2030/2035) TRAFFIC VOLUMES

The calibrated trip generation and trip distribution models for the 2014 departures and arrivals peak hours were used as a basis for estimating the peak hour CTA vehicle volumes for each of the future (2030/2035) conditions.

## K.10 Evaluation of Traffic Conditions for Future Conditions and Impact Analysis

The trip generation and distribution models described previously in Section K.2 were used to estimate the Phase 1 (2024) No Action and Proposed Action Alternatives traffic volumes required to evaluate the on-Airport intersection operations. Phase 2 (2030/2035) No Action and Proposed Action Alternatives traffic volumes were similarly estimated. 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 key intersections. Traffic analyses representing the existing (2014) conditions are described in Section K.3.

### K.10.1 PHASE 1 (2024) CTA INTERSECTION ANALYSIS

As discussed in Section K.2, key CTA intersections were analyzed using the TRB Circular 212 CMA methodology. The analysis evaluated the projected operating conditions using the CTA roadway traffic volumes for Phase 1, future (2024) No Action and Proposed Action Alternatives, as provided in **Table K-12** 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 (2014) conditions intersection analysis, the levels of service definitions for the CMA methodology presented in Table K-4 were used; the results are provided in Table K-12 above. In the future (2024) No Action Alternative, the intersection of World Way South and Center Way (Exit) is projected to operate at LOS E, and the intersections of World Way South and West Way and World Way North and Sky Way (Lower Level) are projected to operate at LOS C. In the future (2024) Proposed Action Alternative, the intersection of World Way South and Center Way (Exit) is projected to operate at LOS D. All other intersections for both the future (2024) No Action and Proposed Action Alternatives would operate at LOS B or better. As a result, under the Proposed Action Alternative traffic conditions, the overall traffic volume in the CTA would decrease compared to the No Action Alternative, leading to a lower V/C ratio and therefore a better LOS.

## Table K-12: Peak Hour CTA Signalized Intersection Turning Movement Volumes and Level of Service Analysis - Future (2024) Conditions

| | | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERSECTION | PEAK HOUR[1/] | L | T | R | L | T | R | L | T | R | L | T | R | V/C[2/] | LOS[3/] |
| | | 2024 NO ACTION ALTERNATIVE | | | | | | | | | | | | | |
| World Way North and Sky Way (Upper Level) | Departure | | | | | | 1,302 | | | | | 2,644 | | 0.645 | B |
| World Way South and West Way (Upper Level) | Departure | | | | 1,116 | | | | 2,006 | | | | | 0.738 | C |
| World Way South and East Way (Upper Level) | Departure | | | | 487 | | | 74 | 3,047 | | | | | 0.638 | B |
| World Way North and Sky Way (Lower Level) | Arrival | 386 | 267 | | | | 1345 | | | | | 1,880 | | 0.741 | C |
| World Way South and Center Way (Exit) (Lower Level)[4/] | Arrival | 264 | 1,202 | 984 | | | | | 1001 | 852 | | | | 0.910 | E |
| East Way and World Way South (Lower Level) | Arrival | | | | 361 | | | 150 | 1,866 | | | | | 0.484 | A |
| | | 2024 PROPOSED ACTION ALTERNATIVE | | | | | | | | | | | | | |
| World Way South and West Way (Upper Level) | Departure | | | | 1,184 | | | | 1,310 | | | | | 0.664 | B |
| World Way South and East Way (Upper Level) | Departure | | | | 429 | | | 74 | 2,420 | | | | | 0.524 | A |
| World Way South and Center Way (Exit) (Lower Level)[4/] | Arrival | 164 | 886 | 725 | | | | | 996 | 840 | | | | 0.82 | D |
| East Way and World Way South (Lower Level) | Arrival | | | | 318 | | | 107 | 1,312 | | | | | 0.366 | A |

NOTES:

1/ The departures peak hour occurred from 9:51 a.m. to 10:51 a.m. The arrivals peak hour occurred from 11:15 a.m. to 12:15 p.m.

2/ Volume to capacity ratio.

3/ Level of Service range: A (excellent) to F (failure).

4/ For the 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. May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

### K.10.2 PHASE 2 (2030/2035) CTA INTERSECTION ANALYSIS

The Airport peak departures and arrivals hours for the future (2030/2035) No Action and Proposed Action Alternatives are provided in **Table K-13**. In the future (2030/2035) No Action Alternative, the intersection of World Way South and Center Way (Exit) is projected to operate at LOS E, the intersection of World Way South and West Way is projected to operate at LOS D, and the intersections of World Way North and Sky Way (both Upper Level and Lower Level) and World Way South and East Way are projected to operate at LOS C. In the future (2030/2035) Proposed Action Alternative, the intersections of World Way South and West Way and Center Way to SB Sepulveda Ramp and Return Road are projected to operate at LOS C. All other intersections for both the No Action and Proposed Action Alternatives would operate at LOS B or better.

As shown in Tables K-12 and K-13, the V/C ratios decrease under the Proposed Action Alternative as compared to the No Action Alternative. With the construction of the off-Airport facilities as a result of the Proposed Action Alternative, passengers would access/egress the CTA using the APM to be picked-up or dropped-off at the ITFs. Under the Proposed Action Alternative, it was assumed that all the commercial vehicles with the exception of taxis, limos, and TNC would be picking-up and dropping-off at the ITFs. Further, a small number (5 percent) of private vehicles and taxicabs would likely use the kiss and ride facilities at the ITFs. As a result, under the Proposed Action Alternative, the overall traffic volume in the CTA would decrease compared to the No Action Alternative, leading to a lower V/C ratio and therefore a better LOS.

The intersection analysis utilized the Circular 212 (C212) method, which analyzed intersections based on the critical movements that conflict with one another to determine the maximum amount of traffic throughput that can be attained in a given traffic signal cycle. The on-Airport environment is unique and has a different set of constraints than typical street intersections, such as downstream stoppages of traffic as a result of curbside operations, higher proportion of traffic that is unfamiliar with the roadways leading to slower speeds, constant need of decision-making as a result of signage, and a complex mix of vehicle modes. The C212 method is a static intersection analysis method, which calculates the Level of Service (LOS) based on the intersection being isolated from other traffic conditions.

## Table K-13: Peak Hour CTA Signalized Intersection Turning Movement Volumes and Level of Service Analysis - Future (2030/2035) Conditions

| | | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INTERSECTION | PEAK HOUR[1/] | L | T | R | L | T | R | L | T | R | L | T | R | V/C[2/] | LOS[3/] |
| | | **2030/2035 NO ACTION ALTERNATIVE** | | | | | | | | | | | | | |
| World Way North and Sky Way (Upper Level) | Departure | | | | | | 1502 | | | | | 3,065 | | 0.746 | C |
| World Way South and West Way (Upper Level) | Departure | | | | 1,309 | | | | 2,310 | | | | | 0.86 | D |
| World Way South and East Way (Upper Level) | Departure | | | | 577 | | | 81 | 3,538 | | | | | 0.745 | C |
| World Way North and Sky Way (Lower Level) | Arrival | 400 | 270 | | | | 1,430 | | | | | 2,048 | | 0.79 | C |
| World Way South and Center Way (Exit) (Lower Level)[4/] | Arrival | 366 | 1,318 | 1,078 | | | | | 925 | 788 | | | | 0.92 | E |
| East Way and World Way South (Lower Level) | Arrival | | | | 544 | | | 127 | 1,540 | | | | | 0.498 | A |
| | | **2030/2035 PROPOSED ACTION ALTERNATIVE** | | | | | | | | | | | | | |
| World Way South and West Way (Upper Level) | Departure | | | | 1,365 | | | | 1,506 | | | | | 0.765 | C |
| World Way South and East Way (Upper Level) | Departure | | | | 496 | | | 81 | 2,790 | | | | | 0.604 | B |
| Center way to SB Sepulveda Ramp and Return Road | Arrival | | 250 | | | | | | 774 | | | | | 0.745 | C |
| East Way and World Way South (Lower Level) | Arrival | | | | 477 | | | 85 | 1,028 | | | | | 0.378 | A |

NOTES:

1/ The departures peak hour occurred from 9:51 a.m. to 10:51 a.m. The arrivals peak hour occurred from 11:30 a.m. to 12:30 p.m.

2/ Volume to capacity ratio.

3/ Level of Service range: A (excellent) to F (failure).

4/ For the 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. May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

### K.10.3 PHASE 1 (2024) CTA ROADWAY ANALYSIS

As discussed in Section K.2, key CTA roadway links were analyzed by comparing the roadway capacities to the roadway link demand based on the curbside demand at that link. The analysis evaluated the projected operating conditions using the CTA roadway traffic volumes for Phase 1, future (2024) No Action and Proposed Action Alternatives, as provided in **Table K-14** for the Airport peak departures and arrivals hours.

**Table K-14: Peak Hour CTA Roadway Volumes and Level of Service Analysis - Future (2024) Conditions**

| | 2024 NO ACTION ALTERNATIVE | | | 2024 PROPOSED ACTION ALTERNATIVE | | |
|---|---|---|---|---|---|---|
| ROADWAY LINK | VOLUMES | ROADWAY V/C | LOS | VOLUMES | ROADWAY V/C | LOS |
| **DEPARTURES** | | | | | | |
| Upper Level Roadway Link Adjacent to Terminal 1 | 3,946 | 1.56 | F | 3,261 | 0.82 | D |
| Upper Level Roadway Link Adjacent to Terminal 2 | 3,400 | 1.41 | F | 2,772 | 0.90 | D |
| Upper Level Roadway Link Adjacent to Terminal 3 | 2,184 | 1.17 | F | 1,488 | 0.50 | A |
| Upper Level Roadway Link Adjacent to TBIT | 2,080 | 1.27 | F | 1,384 | 0.50 | A |
| Upper Level Roadway Link Adjacent to Terminal 4 | 2,006 | 1.32 | F | 1,310 | 0.50 | A |
| Upper Level Roadway Link Adjacent to Terminal 5 | 3,122 | 1.79 | F | 2,494 | 0.87 | D |
| Upper Level Roadway Link Adjacent to Terminal 6 | 3,122 | 1.58 | F | 2,494 | 0.87 | D |
| Upper Level Roadway Link Adjacent to Terminal 7 | 3,534 | 1.61 | F | 2,849 | 0.96 | E |
| **ARRIVALS** | | | | | | |
| Roadway Link Adjacent to Terminal 1 Lower Level Inner Curbside | 1,076 | 2.95 | F | 867 | 0.91 | E |
| Roadway Link Adjacent to Terminal 2 Lower Level Inner Curbside | 456 | 0.30 | A | 326 | 0.18 | A |
| Roadway Link Adjacent to Terminal 3 Lower Level Inner Curbside | 203 | 0.05 | A | 121 | 0.01 | A |
| Roadway Link Adjacent to TBIT Lower Level Inner Curbside | 762 | 0.39 | A | 567 | 0.24 | A |
| Roadway Link Adjacent to Terminal 4 Lower Level Inner Curbside | 478 | 0.22 | A | 358 | 0.16 | A |
| Roadway Link Adjacent to Terminal 5 Lower Level Inner Curbside | 242 | 0.05 | A | 149 | 0.01 | A |
| Roadway Link Adjacent to Terminal 6 Lower Level Inner Curbside | 346 | 0.17 | A | 226 | 0.10 | A |
| Roadway Link Adjacent to Terminal 7 Lower Level Inner Curbside | 374 | 0.12 | A | 248 | 0.07 | A |
| Roadway Link Adjacent to Terminal 1 Lower Level Outer Curbside | 2,551 | 1.84 | F | 2,006 | 0.57 | A |
| Roadway Link Adjacent to Terminal 2 Lower Level Outer Curbside | 2,827 | 1.99 | F | 2,204 | 0.89 | D |
| Roadway Link Adjacent to Terminal 3 Lower Level Outer Curbside | 2,456 | 1.86 | F | 1,890 | 0.55 | A |
| Roadway Link Adjacent to TBIT Lower Level Outer Curbside | 1,874 | 1.10 | F | 1,355 | 0.76 | C |
| Roadway Link Adjacent to Terminal 4 Lower Level Outer Curbside | 1,654 | 0.89 | D | 1,146 | 0.53 | A |
| Roadway Link Adjacent to Terminal 5 Lower Level Outer Curbside | 2,054 | 2.03 | F | 1,500 | 1.51 | F |
| Roadway Link Adjacent to Terminal 6 Lower Level Outer Curbside | 2,120 | 1.12 | F | 1,540 | 0.66 | B |
| Roadway Link Adjacent to Terminal 7 Lower Level Outer Curbside | 2,178 | 1.09 | F | 1,628 | 0.67 | B |

NOTE: The departures peak hour occurred from 9:51 a.m. to 10:51 a.m. The arrivals peak hour occurred from 11:15 a.m. to 12:15 p.m.

SOURCE: Ricondo & Associates, Inc. May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

## K.10.4 PHASE 2 (2030/2035) CTA ROADWAY ANALYSIS

The roadway link analysis evaluated the projected operating conditions using the CTA roadway traffic volumes for Phase 2, future (2030/2035) No Action and Proposed Action Alternatives, as provided in **Table K-15** for the Airport peak departures and arrivals hours.

**Table K-15: Peak Hour CTA Roadway Volumes and Level of Service Analysis - Future (2030/2035) Conditions**

| | 2030/2035 NO ACTION ALTERNATIVE | | | 2030/2035 PROPOSED ACTION ALTERNATIVE | | |
|---|---|---|---|---|---|---|
| ROADWAY LINK | VOLUMES | ROADWAY V/C | LOS | VOLUMES | ROADWAY V/C | LOS |
| **DEPARTURES** | | | | | | |
| Upper Level Roadway Link Adjacent to Terminal 1 | 4,567 | 1.91 | F | 3,738 | 0.97 | E |
| Upper Level Roadway Link Adjacent to Terminal 2 | 3,924 | 1.62 | F | 3,176 | 1.03 | F |
| Upper Level Roadway Link Adjacent to Terminal 3 | 2,505 | 1.35 | F | 1,701 | 0.59 | A |
| Upper Level Roadway Link Adjacent to TBIT | 2,391 | 1.57 | F | 1,587 | 0.58 | A |
| Upper Level Roadway Link Adjacent to Terminal 4 | 2,310 | 1.63 | F | 1,506 | 0.60 | A |
| Upper Level Roadway Link Adjacent to Terminal 5 | 3,619 | 2.07 | F | 2,871 | 1.04 | F |
| Upper Level Roadway Link Adjacent to Terminal 6 | 3,619 | 1.95 | F | 2,871 | 1.00 | F |
| Upper Level Roadway Link Adjacent to Terminal 7 | 4,115 | 1.87 | F | 3,286 | 1.15 | F |
| **ARRIVALS** | | | | | | |
| Roadway Link Adjacent to Terminal 1 Lower Level Inner Curbside | 1,123 | 3.06 | F | 900 | 2.29 | F |
| Roadway Link Adjacent to Terminal 2 Lower Level Inner Curbside | 474 | 0.29 | A | 338 | 0.15 | A |
| Roadway Link Adjacent to Terminal 3 Lower Level Inner Curbside | 195 | 0.05 | A | 110 | 0.02 | A |
| Roadway Link Adjacent to TBIT Lower Level Inner Curbside | 492 | 0.21 | A | 335 | 0.15 | A |
| Roadway Link Adjacent to Terminal 4 Lower Level Inner Curbside | 336 | 0.15 | A | 226 | 0.09 | A |
| Roadway Link Adjacent to Terminal 5 Lower Level Inner Curbside | 527 | 0.35 | A | 376 | 0.20 | A |
| Roadway Link Adjacent to Terminal 6 Lower Level Inner Curbside | 787 | 0.45 | A | 594 | 0.27 | A |
| Roadway Link Adjacent to Terminal 7 Lower Level Inner Curbside | 658 | 0.21 | A | 495 | 0.10 | A |
| Roadway Link Adjacent to Terminal 1 Lower Level Outer Curbside | 2,782 | 1.93 | F | 2,190 | 0.70 | B |
| Roadway Link Adjacent to Terminal 2 Lower Level Outer Curbside | 2,895 | 2.08 | F | 2,243 | 1.17 | F |
| Roadway Link Adjacent to Terminal 3 Lower Level Outer Curbside | 2,260 | 1.63 | F | 1,725 | 0.56 | A |
| Roadway Link Adjacent to TBIT Lower Level Outer Curbside | 1,783 | 1.05 | F | 1,281 | 0.72 | C |
| Roadway Link Adjacent to Terminal 4 Lower Level Outer Curbside | 1,594 | 0.74 | C | 1,100 | 0.36 | A |
| Roadway Link Adjacent to Terminal 5 Lower Level Outer Curbside | 2,310 | 2.56 | F | 1,715 | 1.93 | F |
| Roadway Link Adjacent to Terminal 6 Lower Level Outer Curbside | 1,927 | 1.17 | F | 1,373 | 0.75 | C |
| Roadway Link Adjacent to Terminal 7 Lower Level Outer Curbside | 2,122 | 1.14 | F | 1,555 | 0.75 | C |

NOTE: The departures peak hour occurred from 9:51 a.m. to 10:51 a.m. The arrivals peak hour occurred from 11:15 a.m. to 12:15 p.m.

SOURCE: Ricondo & Associates, Inc. May 2016.
PREPARED BY: Ricondo & Associates, Inc. May 2016.

### K.10.5 ROADWAY LINK ANALYSIS RESULTS

As presented in Tables K-14 and K-15, the roadway LOS under the No Action Alternative in future years 2024, 2030, and 2035 would be severely congested, with 16 of the 24 CTA roadway links operating at LOS F. However, for every analyzed key link, the Proposed Action Alternative would improve the V/C ratio compared to the future No Action Alternative, and in no case would the Proposed Action Alternative cause LOS to degrade. Therefore, the Proposed Action Alternative would not contribute to any significant cumulative impacts on roadway links.

Construction of the proposed off-Airport facilities would result in passengers accessing/egressing the CTA using the APM to be picked-up or dropped-off at the ITFs. Under the future 2024 and 2030/2035 Proposed Action Alternative, it was assumed that all commercial vehicles with the exception of taxis, limos, and TNC would be picking-up and dropping-off at the ITFs. Further, a small number (5 percent) of private vehicles and taxicabs would likely use the “kiss and ride” facilities at the ITFs. As a result, the overall traffic volume in the CTA would decrease under in future years 2024 and 2030/2035 for the Proposed Action Alternative compared to the future No Action Alternative, leading to a lower V/C ratio and therefore a better LOS. As shown in Tables K-14 and K-15, the lower level outer roadways show a substantial improvement under the future Proposed Action Alternative compared to the future No Action Alternative because of the elimination of the commercial vehicles accessing the CTA leading to no curbside utilizations on the outer curbsides. As explained previously, the roadway LOS is a factor of the curbside utilization and with no curbside parking, the roadway capacity would substantially improve. Certain links on the lower level would still operate at an LOS F on the lower level outer roadways under the future 2024 and 2030/2035 Proposed Action Alternative. However, under the future Proposed Action Alternative, a substantial reduction in V/C ratio would be achieved, which would improve traffic flows compared to the future No Action Alternative.

## K.11 Conclusions

The results from the above analyses show that implementation of the Proposed Action Alternative would not cause significant on-Airport traffic-related impacts to the intersections during either the arrivals or departures level peak hours. The Proposed Action Alternative would reduce the volume of traffic in the CTA by transferring traffic to off-Airport facilities. The elimination of a portion of traffic in the CTA would also substantially reduce the weaving at the slip ramps connecting the lower level inner and outer curbsides, thereby resulting in a smoother traffic flow.

The results of the roadway link analysis demonstrated that the overall traffic volume in the CTA with implementation of the Proposed Action Alternative would decrease compared to the No Action Alternative, in many instances resulting in an improved LOS compared to the No Action Alternative. Even in cases where LOS was not improved, there was a reduction in the V/C ratio leading to an improved experience for Airport users. The lower level outer roadways show a substantial improvement under the Proposed Action Alternative compared to the No Action Alternative because of the reduction in traffic accessing the CTA.

# K.1

## Peak Hour Manual Traffic Counts

Turning Movement Count NDS/ATD Job # 14-5501

60 Minute Counts

| DATE | TIME | INTID | NBL | NBT | NBR | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8/8/2014 | 2045 | 7 | 263 | 146 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1847 | 2 |
| 8/8/2014 | 2115 | 8 | 209 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 511 | 1872 | 0 |
| 8/8/2014 | 2100 | 9 | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 386 | 1686 | 0 |
| 8/8/2014 | 2230 | 10 | 0 | 0 | 0 | 0 | 1515 | 0 | 0 | 0 | 0 | 48 | 0 | 0 |
| 8/8/2014 | 2230 | 11 | 0 | 0 | 0 | 324 | 0 | 0 | 13 | 1426 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 2200 | 12 | 0 | 0 | 0 | 436 | 0 | 0 | 245 | 1592 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 2200 | 13 | 0 | 0 | 0 | 845 | 639 | 0 | 384 | 1116 | 807 | 0 | 0 | 0 |
| 8/8/2014 | 2215 | 14 | 0 | 0 | 0 | 200 | 0 | 0 | 0 | 1344 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 2030 | 15 | 115 | 247 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 2230 | 16 | 0 | 221 | 1 | 28 | 456 | 0 | 1 | 888 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 2045 | 17 | 0 | 24 | 0 | 96 | 348 | 0 | 58 | 458 | 257 | 0 | 0 | 0 |
| 8/8/2014 | 2030 | 107 | 0 | 139 | 0 | 0 | 686 | 294 | 0 | 0 | 0 | 0 | 80 | 12 |
| 8/8/2014 | 2030 | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 687 | 0 |
| 8/8/2014 | 2030 | 109 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 488 | 0 |
| 8/8/2014 | 2145 | 110 | 0 | 0 | 0 | 47 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 2215 | 111 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 495 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 2130 | 112 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 417 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 2145 | 113 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 2030 | 114 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 2145 | 116 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 313 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 2215 | 207 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| 8/8/2014 | 2215 | 210 | 0 | 0 | 0 | 0 | 557 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-007

**Day:** Friday

**City:** Los Angeles

**Date:** 8/8/2014

**AM**

| NS/EW Streets: | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-007 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | |
| 8:30 PM | 67 | 38 | | | | | | | | | 473 | 0 | 578 |
| 8:45 PM | 68 | 41 | | | | | | | | | 468 | 0 | 577 |
| 9:00 PM | 58 | 37 | | | | | | | | | 475 | 1 | 571 |
| 9:15 PM | 66 | 35 | | | | | | | | | 417 | 0 | 518 |
| 9:30 PM | 71 | 33 | | | | | | | | | 487 | 1 | 592 |
| 9:45 PM | 75 | 35 | | | | | | | | | 401 | 0 | 511 |
| 10:00 PM | 58 | 37 | | | | | | | | | 521 | 1 | 617 |
| 10:15 PM | 73 | 27 | | | | | | | | | 357 | 2 | 459 |
| 10:30 PM | 68 | 34 | | | | | | | | | 440 | 1 | 543 |
| 10:45 PM | 60 | 28 | | | | | | | | | 430 | 5 | 523 |
| 11:00 PM | 48 | 27 | | | | | | | | | 538 | 0 | 613 |
| 11:15 PM | 57 | 20 | | | | | | | | | 387 | 0 | 464 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 769 | 392 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5394 | 11 | 6566 |
| **APPROACH %'s :** | 66.24% | 33.76% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 0.00% | 99.80% | 0.20% | |
| **PEAK HR START TIME :** | 845 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 263 | 146 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1847 | 2 | 2258 |
| **PEAK HR FACTOR :** | | 0.938 | | | 0.000 | | | 0.000 | | | 0.947 | | 0.954 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

**National Data & Surveying Services**

**Project ID:** 14-5501-007 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

**Prepared by:**

NDS

**National Data & Surveying Services**

## *Sky Way and World Way North , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |

| | |
|---|---|
| Project #: | 14-5501-007 |
| City: | Los Angeles |

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 845 PM |

N

World Way North

S y Way

Pea our Summary

**South ound Approa h**

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 0 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 148 |

**East ound Approa h**

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 2110 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

**CONTROL**

Signali ed

**West ound Approa h**

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 2 | 0 |
| 0 | 0 | 184 | 6 |
| 0 | 0 | 0 | 0 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |

**North ound Approa h**

| | | | | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 26 | 146 | 0 |
| Lanes | | 2 | 1 | 0 |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

North Leg

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 148 |

East Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 1849 |
| 0 | 0 | 0 |

West Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 2110 |
| 0 | 0 | 0 |

South Leg

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 409 |

## Total Volume Per Leg

North Leg

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 148 |

East Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 1849 |

West Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 2110 |

South Leg

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 409 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-008 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | |

| | UTURNS | | | |
|---|---|---|---|---|
| | NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-008 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | |
| 8:30 PM | 50 | | | | | | | | | 127 | 485 | | 662 |
| 8:45 PM | 28 | | | | | | | | | 112 | 457 | | 597 |
| 9:00 PM | 29 | | | | | | | | | 111 | 495 | | 635 |
| 9:15 PM | 41 | | | | | | | | | 124 | 471 | | 636 |
| 9:30 PM | 29 | | | | | | | | | 140 | 459 | | 628 |
| 9:45 PM | 57 | | | | | | | | | 138 | 461 | | 656 |
| 10:00 PM | 82 | | | | | | | | | 109 | 481 | | 672 |
| 10:15 PM | 53 | | | | | | | | | 115 | 383 | | 551 |
| 10:30 PM | 43 | | | | | | | | | 126 | 428 | | 597 |
| 10:45 PM | 81 | | | | | | | | | 101 | 437 | | 619 |
| 11:00 PM | 64 | | | | | | | | | 148 | 467 | | 679 |
| 11:15 PM | 38 | | | | | | | | | 122 | 425 | | 585 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 595 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1473 | 5449 | 0 | 7517 |
| **APPROACH %'s :** | 100.00% | 0.00% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 21.28% | 78.72% | 0.00% | |
| **PEAK HR START TIME :** | 915 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 209 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 511 | 1872 | 0 | 2592 |
| **PEAK HR FACTOR :** | | 0.637 | | | 0.000 | | | 0.000 | | | 0.995 | | 0.964 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-008 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | |

| | UTURNS | | | |
|---|---|---|---|---|
| | NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

**Prepared by:**

**National Data & Surveying Services**

## *East Way and World Way North , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |

| | |
|---|---|
| Project #: | 14-5501-008 |
| City: | Los Angeles |

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 915 PM |

N

World Way North

East Way

### Pea our Summary

### South ound Approa h

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 0 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 2081 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 18 2 | 5 |
| 0 | 0 | 511 | 1 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |

**CONTROL**

Signali ed

### North ound Approa h

| | | | | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 511 | 209 | 0 | 0 |
| Lanes | | 1 | 0 | 0 |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

**North Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

**East Leg**

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 2 8 |
| | 0 | 0 | 0 |

**West Leg**

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 2081 |
| | 0 | 0 | 0 |

**South Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 511 | 209 |

## Total Volume Per Leg

**North Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 2 8 |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 2081 |

**South Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 20 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-009

**City:** Los Angeles

**Day:** Friday

**Date:** 8/8/2014

**AM**

| NS/EW Streets: | West Way | | | West Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** 1-Way Stop (NB)

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-009 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| NS/EW Streets: | West Way | | | West Way | | | World Way North | | | World Way North | | | | | UTURNS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| LANES: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | | | | | | |
| 8:30 PM | 20 | | | | | | | | | 115 | 373 | | 508 | | | | | |
| 8:45 PM | 20 | | | | | | | | | 129 | 368 | | 517 | | | | | |
| 9:00 PM | 11 | | | | | | | | | 111 | 451 | | 573 | | | | | |
| 9:15 PM | 13 | | | | | | | | | 106 | 403 | | 522 | | | | | |
| 9:30 PM | 29 | | | | | | | | | 102 | 367 | | 498 | | | | | |
| 9:45 PM | 11 | | | | | | | | | 67 | 465 | | 543 | | | | | |
| 10:00 PM | 23 | | | | | | | | | 66 | 468 | | 557 | | | | | |
| 10:15 PM | 12 | | | | | | | | | 72 | 417 | | 501 | | | | | |
| 10:30 PM | 21 | | | | | | | | | 65 | 392 | | 478 | | | | | |
| 10:45 PM | 17 | | | | | | | | | 80 | 460 | | 557 | | | | | |
| 11:00 PM | 8 | | | | | | | | | 91 | 403 | | 502 | | | | | |
| 11:15 PM | 24 | | | | | | | | | 113 | 447 | | 584 | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| **TOTAL VOLUMES :** | 209 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1117 | 5014 | 0 | 6340 | | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | 100.00% | 0.00% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 18.22% | 81.78% | 0.00% | | | | | | |
| **PEAK HR START TIME :** | 900 PM | | | | | | | | | | | | TOTAL | | | | | |
| **PEAK HR VOL :** | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 386 | 1686 | 0 | 2136 | | | | | |
| **PEAK HR FACTOR :** | | 0.552 | | | 0.000 | | | 0.000 | | | 0.922 | | 0.932 | | | | | |

**CONTROL :** 1-Way Stop (NB)

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-009  **Day:** Friday

**City:** Los Angeles  **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | West Way | | | West Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** 1-Way Stop (NB)

# ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

## *West Way and World Way North , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |
| Project #: | 14-5501-009 |
| City: | Los Angeles |

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 900 PM |

N

West Way

World Way North

### Pea our Summary

### South ound Approa h

| | Lanes 0 | 0 | 0 | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| (out) | 0 | 0 | 1 50 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

CONTROL

1 Way Stop (NB)

### West ound Approa h

| | AM | NOON | PM | Lanes |
|---|---|---|---|---|
| | 0 | 0 | 0 | 0 |
| | 0 | 0 | 1686 | 5 |
| | 0 | 0 | 86 | 1 |
| (out) | 0 | 0 | 0 | |

### North ound Approa h

| | (out) | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 86 | 64 | 0 | 0 | PM |
| | | 1 | 0 | 0 | Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

| North Leg | | |
|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 0 | 0 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 1 50 |
| | 0 | 0 | 0 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 20 2 |
| | 0 | 0 | 0 |

| South Leg | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 86 | 64 |

## Total Volume Per Leg

| North Leg | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 0 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 1 50 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 20 2 |

| South Leg | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 450 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-010 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | World Way | | | World Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |

| | UTURNS | | | |
|---|---|---|---|---|
| | NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** 1-Way Stop (WB)

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-010 | **Day:** Friday

**City:** Los Angeles | **Date:** 8/8/2014

**PM**

| NS/EW Streets: | World Way | | | World Way | | | Center Way | | | Center Way | | | | | UTURNS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| LANES: | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | | | | | | |
| 8:30 PM | | | | | 289 | | | | | 26 | | | 315 | | | | | 1 |
| 8:45 PM | | | | | 394 | | | | | 21 | | | 415 | | | | | 2 |
| 9:00 PM | | | | | 363 | | | | | 17 | | | 380 | | | | | 1 |
| 9:15 PM | | | | | 387 | | | | | 17 | | | 404 | | | | | 1 |
| 9:30 PM | | | | | 337 | | | | | 7 | | | 344 | | | | | 0 |
| 9:45 PM | | | | | 414 | | | | | 12 | | | 426 | | | | | 0 |
| 10:00 PM | | | | | 335 | | | | | 14 | | | 349 | | | | | 2 |
| 10:15 PM | | | | | 352 | | | | | 21 | | | 373 | | | | | 6 |
| 10:30 PM | | | | | 337 | | | | | 12 | | | 349 | | | | | 0 |
| 10:45 PM | | | | | 379 | | | | | 15 | | | 394 | | | | | 0 |
| 11:00 PM | | | | | 392 | | | | | 12 | | | 404 | | | | | 2 |
| 11:15 PM | | | | | 407 | | | | | 9 | | | 416 | | | | | 1 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| TOTAL VOLUMES : | 0 | 0 | 0 | 0 | 4386 | 0 | 0 | 0 | 0 | 183 | 0 | 0 | 4569 | | 0 | 0 | 0 | 16 |
| APPROACH %'s : | #DIV/0! | #DIV/0! | #DIV/0! | 0.00% | 100.00% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | 100.00% | 0.00% | 0.00% | | | | | | |

| PEAK HR START TIME : | 1030 PM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 1515 | 0 | 0 | 0 | 0 | 48 | 0 | 0 | 1563 |
| PEAK HR FACTOR : | 0.000 | | | 0.931 | | | 0.000 | | | 0.800 | | | 0.939 |

**CONTROL :** 1-Way Stop (WB)

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-010 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| NS/EW Streets: | World Way | | | World Way | | | Center Way | | | Center Way | | | | | UTURNS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| LANES: | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | | | | | |
| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL | | | | | |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | | | |

**CONTROL :** 1-Way Stop (WB)

# ITM Peak Hour Summary

**Prepared by:**

**National Data & Surveying Services**

***World Way and Center Way , Los Angeles***

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |

| | |
|---|---|
| Project #: | 14-5501-010 |
| City: | Los Angeles |

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 1030 PM |

N

World Way

Center Way

## Pea our Summary

### South ound Approa h

| | Lanes 0 | | 0 | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 1515 | 0 | 0 |

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

### CONTROL

1 Way Stop (WB)

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 48 | 1 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |

### North ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 156 | 0 | 0 | 0 | PM |
| | | 0 | 0 | 0 | Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

**North Leg**

| | | |
|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 1515 | 0 | PM |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 0 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 48 |
| 0 | 0 | 0 |

**South Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 156 | 0 |

## Total Volume Per Leg

**North Leg**

| | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 1515 | PM |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 48 |

**South Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 156 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-011 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| NS/EW Streets: | West Way | | | West Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** 1-Way Stop (SB)

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-011 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| NS/EW Streets: | West Way | | | West Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | |
| 8:30 PM | | | | 102 | | | 7 | 266 | | | | | 375 |
| 8:45 PM | | | | 108 | | | 9 | 312 | | | | | 429 |
| 9:00 PM | | | | 88 | | | 5 | 280 | | | | | 373 |
| 9:15 PM | | | | 99 | | | 4 | 361 | | | | | 464 |
| 9:30 PM | | | | 128 | | | 8 | 301 | | | | | 437 |
| 9:45 PM | | | | 83 | | | 6 | 342 | | | | | 431 |
| 10:00 PM | | | | 74 | | | 6 | 317 | | | | | 397 |
| 10:15 PM | | | | 65 | | | 2 | 326 | | | | | 393 |
| 10:30 PM | | | | 52 | | | 3 | 347 | | | | | 402 |
| 10:45 PM | | | | 96 | | | 1 | 363 | | | | | 460 |
| 11:00 PM | | | | 86 | | | 3 | 359 | | | | | 448 |
| 11:15 PM | | | | 90 | | | 6 | 357 | | | | | 453 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 1071 | 0 | 0 | 60 | 3931 | 0 | 0 | 0 | 0 | 5062 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | 100.00% | 0.00% | 0.00% | 1.50% | 98.50% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 1030 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 324 | 0 | 0 | 13 | 1426 | 0 | 0 | 0 | 0 | 1763 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.844 | | | 0.988 | | | 0.000 | | | 0.958 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** 1-Way Stop (SB)

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-011 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | West Way | | | West Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** 1-Way Stop (SB)

# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

## *West Way and World Way South , Los Angeles*

Date: 8/8/2014

Day: Friday

Project #: 14-5501-011

City: Los Angeles

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 1030 PM |

N

### Pea our Summary

**South ound Approa h** (West Way)

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 1 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 24 | 1 |

**East ound Approa h** (World Way South)

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 1 |
| 4 | 0 | 0 | 1426 |
| 0 | 0 | 0 | 0 |

CONTROL

1 Way Stop (SB)

**West ound Approa h**

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 1 50 |

**North ound Approa h**

| | | | | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

### Total Ins Outs

North Leg

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 24 | 1 |

West Leg

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | 14 9 |

East Leg

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | 1 50 |

South Leg

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

### Total Volume Per Leg

North Leg

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | |

West Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 14 9 |

East Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 1 50 |

South Leg

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement

**Prepared by:**

**National Data & Surveying Services**

**Project ID:** 14-5501-012 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-012 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| NS/EW Streets: | East Way | | | East Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | |
| 8:30 PM | | | | 110 | | | 45 | 354 | | | | | 509 |
| 8:45 PM | | | | 118 | | | 33 | 412 | | | | | 563 |
| 9:00 PM | | | | 101 | | | 33 | 391 | | | | | 525 |
| 9:15 PM | | | | 98 | | | 42 | 471 | | | | | 611 |
| 9:30 PM | | | | 141 | | | 25 | 392 | | | | | 558 |
| 9:45 PM | | | | 122 | | | 57 | 334 | | | | | 513 |
| 10:00 PM | | | | 127 | | | 77 | 383 | | | | | 587 |
| 10:15 PM | | | | 107 | | | 48 | 393 | | | | | 548 |
| 10:30 PM | | | | 111 | | | 39 | 383 | | | | | 533 |
| 10:45 PM | | | | 91 | | | 81 | 433 | | | | | 605 |
| 11:00 PM | | | | 119 | | | 64 | 362 | | | | | 545 |
| 11:15 PM | | | | 146 | | | 46 | 369 | | | | | 561 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 1391 | 0 | 0 | 590 | 4677 | 0 | 0 | 0 | 0 | 6658 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | 100.00% | 0.00% | 0.00% | 11.20% | 88.80% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 1000 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 436 | 0 | 0 | 245 | 1592 | 0 | 0 | 0 | 0 | 2273 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.858 | | | 0.893 | | | 0.000 | | | 0.939 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-012 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

**Prepared by:**

**National Data & Surveying Services**

## *East Way  and World Way South , Los Angeles*

Date: 8/8/2014
Day: Friday

Project #: 14-5501-012
City: Los Angeles

| | |
|---|---|
| AM Pea  our | |
| NOON Pea  our | |
| PM Pea  our | 1000 PM |

N

### Pea  our Summary

### South  ound Approa  h (East Way)

| | | | | | |
|---|---|---|---|---|---|
| Lanes | 0 | 0 | 2 | | |
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 0 | 0 | 4 6 | 245 | PM |

### East  ound Approa  h (World Way South)

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 245 |
| 5 | 0 | 0 | 1592 |
| 0 | 0 | 0 | 0 |

### West  ound Approa  h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 2028 |

**CONTROL**
Signali  ed

### North  ound Approa  h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 0 | 0 | 0 | 0 | PM |
| | | 0 | 0 | Lanes | |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins    Outs

**North Leg**

| | | |
|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 4 6 | 245 | PM |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 18 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 2028 |

**South Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

## Total Volume Per Leg

**North Leg**

| | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 681 | PM |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 18 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 2028 |

**South Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-013 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| NS/EW Streets: | Center Way | | | Center Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0.5 | 2 | 0.5 | 1.5 | 2 | 1.5 | 0 | 0 | 0 | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| TOTAL VOLUMES : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| APPROACH %'s : | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| PEAK HR START TIME : | 0 AM | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PEAK HR FACTOR : | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

**National Data & Surveying Services**

**Project ID:** 14-5501-013 | **Day:** Friday

**City:** Los Angeles | **Date:** 8/8/2014

**PM**

| NS/EW Streets: | Center Way | | | Center Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0.5 | 2 | 0.5 | 1.5 | 2 | 1.5 | 0 | 0 | 0 | |
| 8:30 PM | | | | 270 | 150 | | 82 | 251 | 179 | | | | 932 |
| 8:45 PM | | | | 222 | 115 | | 61 | 315 | 214 | | | | 927 |
| 9:00 PM | | | | 226 | 160 | | 59 | 272 | 221 | | | | 938 |
| 9:15 PM | | | | 207 | 148 | | 73 | 286 | 231 | | | | 945 |
| 9:30 PM | | | | 203 | 154 | | 80 | 281 | 226 | | | | 944 |
| 9:45 PM | | | | 198 | 174 | | 58 | 275 | 210 | | | | 915 |
| 10:00 PM | | | | 209 | 139 | | 121 | 280 | 215 | | | | 964 |
| 10:15 PM | | | | 206 | 155 | | 102 | 267 | 193 | | | | 923 |
| 10:30 PM | | | | 195 | 171 | | 81 | 283 | 197 | | | | 927 |
| 10:45 PM | | | | 235 | 174 | | 80 | 286 | 202 | | | | 977 |
| 11:00 PM | | | | 195 | 171 | | 92 | 263 | 207 | | | | 928 |
| 11:15 PM | | | | 186 | 189 | | 65 | 286 | 222 | | | | 948 |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 2552 | 1900 | 0 | 954 | 3345 | 2517 | 0 | 0 | 0 | 11268 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | 57.32% | 42.68% | 0.00% | 14.00% | 49.08% | 36.93% | #DIV/0! | #DIV/0! | #DIV/0! | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 1000 PM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 845 | 639 | 0 | 384 | 1116 | 807 | 0 | 0 | 0 | 3791 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.907 | | | 0.936 | | | 0.000 | | | 0.970 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-013 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | Center Way | | | Center Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0.5 | 2 | 0.5 | 1.5 | 2 | 1.5 | 0 | 0 | 0 | |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

**Prepared by:**

NDS

**National Data & Surveying Services**

## *Center Way and World Way South , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |
| Project #: | 14-5501-013 |
| City: | Los Angeles |

N

Center Way

World Way South

**Pea our Summary**

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 1000 PM |

### South ound Approa h

| | Lanes 0.5 | 2 | 0.5 | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 6 9 | 845 | 84 |

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 1.5 | 0 | 0 | 84 |
| 2 | 0 | 0 | 1116 |
| 1.5 | 0 | 0 | 80 |

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 1961 |

**CONTROL**

Signali ed

### North ound Approa h

| | | | | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 1446 | 0 | 0 | 0 |
| | | 0 | 0 | 0 Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

**North Leg**

| | | | |
|---|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 1484 | 84 | PM |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 1961 |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 2 0 |

**South Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 1446 | 0 |

## Total Volume Per Leg

**North Leg**

| | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 1868 | PM |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 1961 |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 2 0 |

**South Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 1446 |

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-014 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | Departures Level Ramp | | | Departures Level Ramp | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-014 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | Departures Level Ramp | | | Departures Level Ramp | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | |
| 8:30 PM | | | | 69 | | | | 325 | | | | | 394 |
| 8:45 PM | | | | 74 | | | | 312 | | | | | 386 |
| 9:00 PM | | | | 62 | | | | 311 | | | | | 373 |
| 9:15 PM | | | | 72 | | | | 287 | | | | | 359 |
| 9:30 PM | | | | 50 | | | | 313 | | | | | 363 |
| 9:45 PM | | | | 59 | | | | 302 | | | | | 361 |
| 10:00 PM | | | | 65 | | | | 298 | | | | | 363 |
| 10:15 PM | | | | 68 | | | | 301 | | | | | 369 |
| 10:30 PM | | | | 49 | | | | 322 | | | | | 371 |
| 10:45 PM | | | | 61 | | | | 365 | | | | | 426 |
| 11:00 PM | | | | 22 | | | | 356 | | | | | 378 |
| 11:15 PM | | | | 38 | | | | 328 | | | | | 366 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 689 | 0 | 0 | 0 | 3820 | 0 | 0 | 0 | 0 | 4509 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | 100.00% | 0.00% | 0.00% | 0.00% | 100.00% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 1015 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 200 | 0 | 0 | 0 | 1344 | 0 | 0 | 0 | 0 | 1544 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.735 | | | 0.921 | | | 0.000 | | | 0.906 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-014 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | Departures Level Ramp | | | Departures Level Ramp | | | Center Way | | | Center Way | | | | | UTURNS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | | | | | |
| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL | | | | | |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | | | |

**CONTROL :** Signalized

# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

## *Departures Level Ramp and Center Way , Los Angeles*

Date: 8/8/2014

Day: Friday

Project #: 14-5501-014

City: Los Angeles

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 1015 PM |

N

Departures Level Ramp

Center Way

### Pea our Summary

### South ound Approa h

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 2 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 200 | 0 |

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| | 0 | 0 | 1 44 |
| 0 | 0 | 0 | 0 |
| Lanes | AM | NOON | PM |

CONTROL

Signali ed

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 1544 | |
| AM | NOON | PM | |

### North ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 0 | 0 | 0 | 0 | PM |
| | | 0 | 0 | 0 | Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

North Leg

| | | | |
|---|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 200 | 0 | PM |

West Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 1 44 |

East Leg

| | | |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 1544 |
| AM | NOON | PM |

South Leg

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

## Total Volume Per Leg

North Leg

| | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 200 | PM |

West Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 1 44 |

East Leg

| | | |
|---|---|---|
| 0 | 0 | 1544 |
| AM | NOON | PM |

South Leg

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-015 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | Sky Way | | | Sky Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** 1-Way Stop (NB)

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-015 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| NS/EW Streets: | Sky Way | | | Sky Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 8:30 PM | 32 | 67 | 16 | | | | | | | | | | 115 |
| 8:45 PM | 27 | 65 | 17 | | | | | | | | | | 109 |
| 9:00 PM | 25 | 49 | 9 | | | | | | | | | | 83 |
| 9:15 PM | 31 | 66 | 13 | | | | | | | | | | 110 |
| 9:30 PM | 23 | 49 | 16 | | | | | | | | | | 88 |
| 9:45 PM | 29 | 68 | 12 | | | | | | | | | | 109 |
| 10:00 PM | 15 | 61 | 15 | | | | | | | | | | 91 |
| 10:15 PM | 27 | 54 | 12 | | | | | | | | | | 93 |
| 10:30 PM | 27 | 58 | 24 | | | | | | | | | | 109 |
| 10:45 PM | 12 | 57 | 17 | | | | | | | | | | 86 |
| 11:00 PM | 16 | 43 | 22 | | | | | | | | | | 81 |
| 11:15 PM | 33 | 40 | 6 | | | | | | | | | | 79 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 297 | 677 | 179 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1153 |
| **APPROACH %'s :** | 25.76% | 58.72% | 15.52% | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 830 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 115 | 247 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 417 |
| **PEAK HR FACTOR :** | | 0.907 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.907 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** 1-Way Stop (NB)

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-015 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | Sky Way | | | Sky Way | | | Center Way | | | Center Way | | | | | UTURNS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| LANES: | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | | | | | |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** 1-Way Stop (NB)

# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

## *Sky Way and Center Way , Los Angeles*

Date: 8/8/2014

Day: Friday

Project #: 14-5501-015

City: Los Angeles

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 830 PM |

Pea our Summary

### South ound Approa h

S y Way

| | Lanes 0 | 0 | 0 | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 24 |

Center Way

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 115 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

CONTROL

1 Way Stop (NB)

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 55 |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

### North ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 0 | 115 | 24 | 55 | PM |
| | | 1 | 1 | 1 | Lanes |

## Total Ins Outs

| | North Leg | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 24 |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 115 |
| | 0 | 0 | 0 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | 55 |

| | South Leg | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 41 |

## Total Volume Per Leg

| | North Leg |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 24 |

| | AM | NOON | PM |
|---|---|---|---|
| West Leg | 0 | 0 | 115 |
| East Leg | 0 | 0 | 55 |

| | South Leg |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 41 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-016 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | East Way | | | East Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 2 | 0 | 0.5 | 1.5 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |

| | UTURNS | | | |
|---|---|---|---|---|
| | NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

**National Data & Surveying Services**

**Project ID:** 14-5501-016 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| NS/EW Streets: | East Way | | | East Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 2 | 0 | 0.5 | 1.5 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| 8:30 PM | | 49 | 1 | 11 | 128 | | 2 | 186 | 0 | | | | 377 |
| 8:45 PM | | 30 | 0 | 7 | 107 | | 0 | 205 | 0 | | | | 349 |
| 9:00 PM | | 34 | 0 | 7 | 94 | | 0 | 200 | 0 | | | | 335 |
| 9:15 PM | | 40 | 0 | 5 | 119 | | 1 | 180 | 0 | | | | 345 |
| 9:30 PM | | 28 | 0 | 8 | 123 | | 0 | 174 | 1 | | | | 334 |
| 9:45 PM | | 51 | 1 | 9 | 139 | | 1 | 177 | 0 | | | | 378 |
| 10:00 PM | | 70 | 2 | 8 | 104 | | 2 | 155 | 0 | | | | 341 |
| 10:15 PM | | 55 | 0 | 8 | 120 | | 1 | 172 | 1 | | | | 357 |
| 10:30 PM | | 37 | 0 | 10 | 99 | | 0 | 171 | 0 | | | | 317 |
| 10:45 PM | | 82 | 0 | 8 | 93 | | 1 | 229 | 0 | | | | 413 |
| 11:00 PM | | 59 | 1 | 6 | 117 | | 0 | 249 | 0 | | | | 432 |
| 11:15 PM | | 43 | 0 | 4 | 147 | | 0 | 239 | 0 | | | | 433 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 578 | 5 | 91 | 1390 | 0 | 8 | 2337 | 2 | 0 | 0 | 0 | 4411 |
| **APPROACH %'s :** | 0.00% | 99.14% | 0.86% | 6.14% | 93.86% | 0.00% | 0.34% | 99.57% | 0.09% | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 1030 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 221 | 1 | 28 | 456 | 0 | 1 | 888 | 0 | 0 | 0 | 0 | 1595 |
| **PEAK HR FACTOR :** | | 0.677 | | | 0.801 | | | 0.893 | | | 0.000 | | 0.921 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-016 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NS/EW Streets:** | East Way | | | East Way | | | Center Way | | | Center Way | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 2 | 0 | 0.5 | 1.5 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

## *East Way and Center Way , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |

| | |
|---|---|
| Project #: | 14-5501-016 |
| City: | Los Angeles |

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 1030 PM |

Pea our Summary

### South ound Approa h

East Way

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 1.5 | 0.5 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 456 | 28 | 222 |

Center Way

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| 1 | 0 | 0 | 1 |
| 1 | 0 | 0 | 888 |
| | 0 | 0 | 0 |
| Lanes | AM | NOON | PM |

CONTROL

Signali ed

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 91 | |
| AM | NOON | PM | |

### North ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 456 | 0 | 221 | 1 | PM |
| | | 0 | 2 | 0 | Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

| North Leg | | |
|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 484 | 222 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | 889 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | 91 |

| South Leg | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 456 | 222 |

## Total Volume Per Leg

| North Leg | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 06 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 889 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 91 |

| South Leg | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 6 8 |

# Intersection Turning Movement

**Prepared by:**

**National Data & Surveying Services**

**Project ID:** 14-5501-017 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | West Way | | | West Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 2 | 0 | 0.5 | 1.5 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-017 | **Day:** Friday

**City:** Los Angeles | **Date:** 8/8/2014

**PM**

| NS/EW Streets: | West Way | | | West Way | | | Center Way | | | Center Way | | | | | UTURNS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| LANES: | 0 | 2 | 0 | 0.5 | 1.5 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | | | | | | |
| 8:30 PM | | 8 | | 30 | 86 | | 7 | 100 | 55 | | | | 286 | | 0 | 0 | 0 | 0 |
| 8:45 PM | | 11 | | 17 | 94 | | 11 | 123 | 44 | | | | 300 | | 1 | 0 | 0 | 0 |
| 9:00 PM | | 3 | | 25 | 108 | | 7 | 114 | 53 | | | | 310 | | 0 | 0 | 0 | 0 |
| 9:15 PM | | 4 | | 34 | 62 | | 20 | 98 | 78 | | | | 296 | | 0 | 0 | 0 | 0 |
| 9:30 PM | | 6 | | 20 | 84 | | 20 | 123 | 82 | | | | 335 | | 0 | 0 | 0 | 0 |
| 9:45 PM | | 8 | | 16 | 46 | | 10 | 93 | 46 | | | | 219 | | 0 | 0 | 0 | 0 |
| 10:00 PM | | 4 | | 11 | 55 | | 14 | 110 | 52 | | | | 246 | | 0 | 0 | 0 | 0 |
| 10:15 PM | | 2 | | 15 | 61 | | 18 | 99 | 44 | | | | 239 | | 0 | 0 | 0 | 0 |
| 10:30 PM | | 4 | | 17 | 48 | | 7 | 136 | 33 | | | | 245 | | 0 | 0 | 0 | 0 |
| 10:45 PM | | 5 | | 28 | 67 | | 14 | 153 | 39 | | | | 306 | | 0 | 0 | 0 | 0 |
| 11:00 PM | | 1 | | 26 | 73 | | 4 | 153 | 54 | | | | 311 | | 0 | 0 | 0 | 0 |
| 11:15 PM | | 6 | | 31 | 78 | | 19 | 97 | 37 | | | | 268 | | 0 | 0 | 0 | 0 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| TOTAL VOLUMES : | 0 | 62 | 0 | 270 | 862 | 0 | 151 | 1399 | 617 | 0 | 0 | 0 | 3361 | | 1 | 0 | 0 | 0 |
| APPROACH %'s : | 0.00% | 100.00% | 0.00% | 23.85% | 76.15% | 0.00% | 6.97% | 64.56% | 28.47% | #DIV/0! | #DIV/0! | #DIV/0! | | | | | | |

| PEAK HR START TIME : | 845 PM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PEAK HR VOL : | 0 | 24 | 0 | 96 | 348 | 0 | 58 | 458 | 257 | 0 | 0 | 0 | 1241 |
| PEAK HR FACTOR : | | 0.545 | | | 0.835 | | | 0.859 | | | 0.000 | | 0.926 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

**National Data & Surveying Services**

**Project ID:** 14-5501-017 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | West Way | | | West Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 2 | 0 | 0.5 | 1.5 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

## *West Way and Center Way , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |
| Project #: | 14-5501-017 |
| City: | Los Angeles |

Pea our Summary

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 845 PM |

West Way

Center Way

### South ound Approa h

| Lanes | | 1.5 | 0.5 | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 0 | 48 | 96 | 82 | PM |

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| 1 | 0 | 0 | 58 |
| 1 | 0 | 0 | 458 |
| 0 | 0 | 0 | 25 |
| Lanes | AM | NOON | PM |

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 554 | |
| AM | NOON | PM | |

CONTROL

Signali ed

### North ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 605 | 0 | 24 | 0 | PM |
| | | 0 | 2 | 0 | Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

| North Leg | | |
|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 444 | 82 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | 554 |

| South Leg | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 605 | 24 |

## Total Volume Per Leg

| North Leg | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 526 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 554 |

| South Leg | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 629 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-107  **Day:** Friday

**City:** Los Angeles  **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** Signalized

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-107 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | |
| 8:30 PM | | 38 | | | 176 | 67 | | | | | 17 | 3 | 301 |
| 8:45 PM | | 41 | | | 167 | 83 | | | | | 27 | 5 | 323 |
| 9:00 PM | | 26 | | | 157 | 82 | | | | | 17 | 1 | 283 |
| 9:15 PM | | 34 | | | 186 | 62 | | | | | 19 | 3 | 304 |
| 9:30 PM | | 33 | | | 152 | 51 | | | | | 18 | 1 | 255 |
| 9:45 PM | | 35 | | | 190 | 52 | | | | | 9 | 1 | 287 |
| 10:00 PM | | 37 | | | 127 | 54 | | | | | 30 | 2 | 250 |
| 10:15 PM | | 15 | | | 149 | 76 | | | | | 15 | 2 | 257 |
| 10:30 PM | | 34 | | | 163 | 71 | | | | | 15 | 4 | 287 |
| 10:45 PM | | 28 | | | 145 | 64 | | | | | 27 | 2 | 266 |
| 11:00 PM | | 27 | | | 141 | 50 | | | | | 23 | 1 | 242 |
| 11:15 PM | | 20 | | | 157 | 47 | | | | | 14 | 1 | 239 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 368 | 0 | 0 | 1910 | 759 | 0 | 0 | 0 | 0 | 231 | 26 | 3294 |
| **APPROACH %'s :** | 0.00% | 100.00% | 0.00% | 0.00% | 71.56% | 28.44% | #DIV/0! | #DIV/0! | #DIV/0! | 0.00% | 89.88% | 10.12% | |
| **PEAK HR START TIME :** | 830 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 139 | 0 | 0 | 686 | 294 | 0 | 0 | 0 | 0 | 80 | 12 | 1211 |
| **PEAK HR FACTOR :** | | 0.848 | | | 0.980 | | | 0.000 | | | 0.719 | | 0.937 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-107 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| NS/EW Streets: | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 2 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

**Prepared by:**

**National Data & Surveying Services**

## *Sky Way and World Way North , Los Angeles*

Date: 8/8/2014
Day: Friday

Project #: 14-5501-107
City: Los Angeles

| | |
|---|---|
| AM Pea  our | |
| NOON Pea  our | |
| PM Pea  our | 830 PM |

N

Pea  our Summary

### South  ound Approa  h

S y Way

| | Lanes 1 | 2 | 0 | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 294 | 686 | 0 | 151 | PM |

World Way North

### East  ound Approa  h

| | AM | NOON | PM |
|---|---|---|---|
| Out | 0 | 0 | 4 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

**CONTROL**

Signali ed

### West  ound Approa  h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 12 | 0.5 |
| 0 | 0 | 80 | 0.5 |
| 0 | 0 | 0 | 0 |

| | AM | NOON | PM |
|---|---|---|---|
| In | 0 | 0 | 0 |

### North  ound Approa  h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 686 | 0 | 1 9 | 0 | PM |
| | | 0 | 2 | 0 | Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins  Outs

**North Leg**

| | | |
|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 980 | 151 | PM |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 4 |
| 0 | 0 | 0 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 92 |
| 0 | 0 | 0 |

**South Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 686 | 1 9 |

## Total Volume Per Leg

**North Leg**

| | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 11 1 | PM |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 4 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 92 |

**South Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 825 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-108 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way North (Frontage Rd) | | | World Way North (Frontage Rd) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | UTURNS | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | NB | SB | EB | WB |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | | | | | |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | NB | SB | EB | WB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | | | | |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-108 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way North (Frontage Rd) | | | World Way North (Frontage Rd) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | |
| 8:30 PM | | | | | | | | | | | 177 | | 177 |
| 8:45 PM | | | | | | | | | | | 182 | | 182 |
| 9:00 PM | | | | | | | | | | | 176 | | 176 |
| 9:15 PM | | | | | | | | | | | 152 | | 152 |
| 9:30 PM | | | | | | | | | | | 136 | | 136 |
| 9:45 PM | | | | | | | | | | | 121 | | 121 |
| 10:00 PM | | | | | | | | | | | 154 | | 154 |
| 10:15 PM | | | | | | | | | | | 162 | | 162 |
| 10:30 PM | | | | | | | | | | | 174 | | 174 |
| 10:45 PM | | | | | | | | | | | 179 | | 179 |
| 11:00 PM | | | | | | | | | | | 161 | | 161 |
| 11:15 PM | | | | | | | | | | | 130 | | 130 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1904 | 0 | 1904 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 0.00% | 100.00% | 0.00% | |
| **PEAK HR START TIME :** | 830 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 687 | 0 | 687 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.944 | | | 0.944 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-108 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way North (Frontage Rd) | | | World Way North (Frontage Rd) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** No Control

# ITM Peak Hour Summary

**Prepared by:**

**National Data & Surveying Services**

## *East Way and World Way North (Frontage Rd) , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |

| | |
|---|---|
| Project #: | 14-5501-108 |
| City: | Los Angeles |

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 830 PM |

World Way North (Frontage Rd)

East Way

### Pea our Summary

### South ound Approa h

| | | | | |
|---|---|---|---|---|
| Lanes | | 0 | 0 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 68 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 68 | 2 |
| 0 | 0 | 0 | 0 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |

**CONTROL**

No Control

### North ound Approa h

| | | | | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

| North Leg | | |
|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 0 | 0 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 68 |
| | 0 | 0 | 0 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 68 |
| | 0 | 0 | 0 |

| South Leg | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

## Total Volume Per Leg

| North Leg | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 0 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 68 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 68 |

| South Leg | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-109 | **Day:** Friday

**City:** Los Angeles | **Date:** 8/8/2014

**AM**

| NS/EW Streets: | West Way | | | West Way | | | World Way North (Frontage Rd) | | | World Way North (Frontage Rd) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-109 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| NS/EW Streets: | West Way | | | West Way | | | World Way North (Frontage Rd) | | | World Way North (Frontage Rd) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | |
| 8:30 PM | | | | | | | | | | | 118 | | 118 |
| 8:45 PM | | | | | | | | | | | 148 | | 148 |
| 9:00 PM | | | | | | | | | | | 93 | | 93 |
| 9:15 PM | | | | | | | | | | | 129 | | 129 |
| 9:30 PM | | | | | | | | | | | 106 | | 106 |
| 9:45 PM | | | | | | | | | | | 92 | | 92 |
| 10:00 PM | | | | | | | | | | | 118 | | 118 |
| 10:15 PM | | | | | | | | | | | 128 | | 128 |
| 10:30 PM | | | | | | | | | | | 110 | | 110 |
| 10:45 PM | | | | | | | | | | | 122 | | 122 |
| 11:00 PM | | | | | | | | | | | 87 | | 87 |
| 11:15 PM | | | | | | | | | | | 109 | | 109 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1360 | 0 | 1360 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 0.00% | 100.00% | 0.00% | |
| **PEAK HR START TIME :** | 830 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 488 | 0 | 488 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.824 | | 0.824 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-109 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | West Way | | | West Way | | | World Way North (Frontage Rd) | | | World Way North (Frontage Rd) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** No Control

# ITM Peak Hour Summary

**Prepared by:**

NDS

**National Data & Surveying Services**

## *West Way and World Way North (Frontage Rd) , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |

| | |
|---|---|
| Project #: | 14-5501-109 |
| City: | Los Angeles |

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 830 PM |

N

West Way

World Way North (Frontage Rd)

**Pea our Summary**

**South ound Approa h**

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 0 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

**East ound Approa h**

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 488 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

**CONTROL**

No Control

**West ound Approa h**

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 488 | 2 |
| 0 | 0 | 0 | 0 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |

**North ound Approa h**

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 0 | 0 | 0 | 0 | PM |
| | | 0 | 0 | 0 | Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

**North Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 488 |
| 0 | 0 | 0 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 488 |
| 0 | 0 | 0 |

**South Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

## Total Volume Per Leg

**North Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 488 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 488 |

**South Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-110 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

AM

| NS/EW Streets: | World Way | | | World Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOTAL VOLUMES : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| APPROACH %'s : | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| PEAK HR START TIME : | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PEAK HR FACTOR : | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** 1-Way Stop (WB)

# Intersection Turning Movement

**Prepared by:**

**National Data & Surveying Services**

**Project ID:** 14-5501-110 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | World Way | | | World Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 8:30 PM | | | | 8 | 6 | | | | | | | | 14 |
| 8:45 PM | | | | 9 | 10 | | | | | | | | 19 |
| 9:00 PM | | | | 10 | 13 | | | | | | | | 23 |
| 9:15 PM | | | | 14 | 9 | | | | | | | | 23 |
| 9:30 PM | | | | 8 | 13 | | | | | | | | 21 |
| 9:45 PM | | | | 10 | 14 | | | | | | | | 24 |
| 10:00 PM | | | | 4 | 19 | | | | | | | | 23 |
| 10:15 PM | | | | 11 | 16 | | | | | | | | 27 |
| 10:30 PM | | | | 22 | 9 | | | | | | | | 31 |
| 10:45 PM | | | | 8 | 6 | | | | | | | | 14 |
| 11:00 PM | | | | 5 | 13 | | | | | | | | 18 |
| 11:15 PM | | | | 8 | 7 | | | | | | | | 15 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 117 | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 252 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | 46.43% | 53.57% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 945 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 47 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 105 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.847 | | | 0.000 | | | 0.000 | | | 0.847 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** 1-Way Stop (WB)

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-110 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | World Way | | | World Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| | UTURNS | | | |
|---|---|---|---|---|
| | NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** 1-Way Stop (WB)

# ITM Peak Hour Summary

**Prepared by:**

NDS

**National Data & Surveying Services**

## *World Way and Center Way , Los Angeles*

Date: 8/8/2014

Day: Friday

Project #: 14-5501-110

City: Los Angeles

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 945 PM |

N

World Way

Center Way

### Pea our Summary

### South ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| Lanes | 0 | 1 | 1 | | |
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 0 | 58 | 4 | 0 | PM |

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 4 |

**CONTROL**

1 Way Stop (WB)

### North ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 58 | 0 | 0 | 0 | PM |
| | | 0 | 0 | Lanes | |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

**North Leg**

| | | | |
|---|---|---|---|
| AM | 0 | 0 | |
| NOON | 0 | 0 | |
| PM | 105 | 0 | |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 4 |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 0 |

**South Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 58 | 0 |

## Total Volume Per Leg

**North Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 105 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 4 |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |

**South Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 58 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-111 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | West Way | | | West Way | | | World Way South (Frontage Rd) | | | World Way South (Frontage Rd) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

**National Data & Surveying Services**

**Project ID:** 14-5501-111 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | West Way | | | West Way | | | World Way South (Frontage Rd) | | | World Way South (Frontage Rd) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | |
| 8:30 PM | | | | | | | | 123 | | | | | 123 |
| 8:45 PM | | | | | | | | 110 | | | | | 110 |
| 9:00 PM | | | | | | | | 112 | | | | | 112 |
| 9:15 PM | | | | | | | | 138 | | | | | 138 |
| 9:30 PM | | | | | | | | 111 | | | | | 111 |
| 9:45 PM | | | | | | | | 98 | | | | | 98 |
| 10:00 PM | | | | | | | | 93 | | | | | 93 |
| 10:15 PM | | | | | | | | 140 | | | | | 140 |
| 10:30 PM | | | | | | | | 113 | | | | | 113 |
| 10:45 PM | | | | | | | | 122 | | | | | 122 |
| 11:00 PM | | | | | | | | 120 | | | | | 120 |
| 11:15 PM | | | | | | | | 106 | | | | | 106 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1386 | 0 | 0 | 0 | 0 | 1386 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 0.00% | 100.00% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 1015 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 495 | 0 | 0 | 0 | 0 | 495 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.884 | | | 0.000 | | | 0.884 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-111 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | West Way | | | West Way | | | World Way South (Frontage Rd) | | | World Way South (Frontage Rd) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** No Control

# ITM Peak Hour Summary

**Prepared by:**

**National Data & Surveying Services**

## *West Way and World Way South (Frontage Rd) , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |

| | |
|---|---|
| Project #: | 14-5501-111 |
| City: | Los Angeles |

N

West Way

World Way South (Frontage Rd)

### Pea our Summary

#### South ound Approa h

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 0 | |
| AM | 0 | 0 | 0 | 0 AM |
| NOON | 0 | 0 | 0 | 0 NOON |
| PM | 0 | 0 | 0 | 0 PM |

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 1015 PM |

#### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| | 0 | 0 | 495 |
| 0 | 0 | 0 | 0 |
| Lanes | AM | NOON | PM |

**CONTROL**

No Control

#### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 495 | |
| AM | NOON | PM | |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

#### North ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 0 | 0 | 0 | 0 | PM |
| | | 0 | 0 | 0 | Lanes |

### Total Ins Outs

**North Leg**

| | | |
|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 0 | 0 | PM |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 495 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 495 |

**South Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

### Total Volume Per Leg

**North Leg**

| | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 0 | PM |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 495 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 495 |

**South Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-112 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way South (Frontage Rd) | | | World Way South (Frontage Rd) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | |

| | UTURNS | | | |
|---|---|---|---|---|
| | NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-112 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way South (Frontage Rd) | | | World Way South (Frontage Rd) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | |
| 8:30 PM | | | | | | | | 98 | | | | | 98 |
| 8:45 PM | | | | | | | | 92 | | | | | 92 |
| 9:00 PM | | | | | | | | 79 | | | | | 79 |
| 9:15 PM | | | | | | | | 89 | | | | | 89 |
| 9:30 PM | | | | | | | | 111 | | | | | 111 |
| 9:45 PM | | | | | | | | 103 | | | | | 103 |
| 10:00 PM | | | | | | | | 99 | | | | | 99 |
| 10:15 PM | | | | | | | | 104 | | | | | 104 |
| 10:30 PM | | | | | | | | 96 | | | | | 96 |
| 10:45 PM | | | | | | | | 105 | | | | | 105 |
| 11:00 PM | | | | | | | | 92 | | | | | 92 |
| 11:15 PM | | | | | | | | 120 | | | | | 120 |

| | UTURNS | | | |
|---|---|---|---|---|
| | NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1188 | 0 | 0 | 0 | 0 | 1188 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 0.00% | 100.00% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 930 PM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 417 | 0 | 0 | 0 | 0 | 417 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.939 | | | 0.000 | | 0.939 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-112 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way South (Frontage Rd) | | | World Way South (Frontage Rd) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** No Control

# ITM Peak Hour Summary

**Prepared by:**

NDS

**National Data & Surveying Services**

## *East Way and World Way South (Frontage Rd) , Los Angeles*

Date: 8/8/2014
Day: Friday

Project #: 14-5501-112
City: Los Angeles

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 930 PM |

N

World Way South (Frontage Rd)

East Way

### Pea our Summary

#### South ound Approa h

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 0 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

#### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| | 0 | 0 | 41 |
| 0 | 0 | 0 | 0 |
| Lanes | AM | NOON | PM |

#### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 41 | |
| AM | NOON | PM | |

**CONTROL**

No Control

#### North ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 0 | 0 | 0 | 0 | PM |
| | | 0 | 0 | 0 | Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

### Total Ins Outs

North Leg

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

East Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 41 |

West Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 41 |

South Leg

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

### Total Volume Per Leg

North Leg

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

East Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 41 |

West Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 41 |

South Leg

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-113

**Day:** Friday

**City:** Los Angeles

**Date:** 8/8/2014

**AM**

| NS/EW Streets: | Center Way | | | Center Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-113

**Day:** Friday

**City:** Los Angeles

**Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | Center Way | | | Center Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 8:30 PM | | | | 1 | | | | | | | | | 1 |
| 8:45 PM | | | | 0 | | | | | | | | | 0 |
| 9:00 PM | | | | 1 | | | | | | | | | 1 |
| 9:15 PM | | | | 0 | | | | | | | | | 0 |
| 9:30 PM | | | | 2 | | | | | | | | | 2 |
| 9:45 PM | | | | 3 | | | | | | | | | 3 |
| 10:00 PM | | | | 0 | | | | | | | | | 0 |
| 10:15 PM | | | | 2 | | | | | | | | | 2 |
| 10:30 PM | | | | 5 | | | | | | | | | 5 |
| 10:45 PM | | | | 1 | | | | | | | | | 1 |
| 11:00 PM | | | | 1 | | | | | | | | | 1 |
| 11:15 PM | | | | 2 | | | | | | | | | 2 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | 100.00% | 0.00% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 945 PM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.500 | | | 0.000 | | | 0.000 | | | 0.500 |

**CONTROL :** Signalized

UTURNS

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-113

**Day:** Friday

**City:** Los Angeles

**Date:** 8/8/2014

**NOON**

| NS/EW Streets: | Center Way | | | Center Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| | UTURNS | | | |
|---|---|---|---|---|
| | NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOTAL VOLUMES : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| APPROACH %'s : | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| PEAK HR START TIME : | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PEAK HR FACTOR : | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

## *Center Way and World Way South , Los Angeles*

Date: 8/8/2014

Day: Friday

Project #: 14-5501-113

City: Los Angeles

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 945 PM |

Pea our Summary

CONTROL

Signali ed

### South ound Approa h (Center Way)

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 1 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 10 | 0 |

### East ound Approa h (World Way South)

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 10 |

### North ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 0 | 0 | 0 | 0 | PM |
| | | 0 | 0 | 0 | Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

| North Leg | | | |
|---|---|---|---|
| AM | 0 | 0 | |
| NOON | 0 | 0 | |
| PM | 10 | 0 | |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | 10 |

| South Leg | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

## Total Volume Per Leg

| North Leg | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 10 |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 10 |

| South Leg | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-114 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | Departures Level Ramp | | | Departures Level Ramp | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** 0

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-114 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | Departures Level Ramp | | | Departures Level Ramp | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 8:30 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | 100.00% | 0.00% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 830 PM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.250 | | | 0.000 | | | 0.000 | | 0.250 |

**CONTROL :** 0

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-114 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | Departures Level Ramp | | | Departures Level Ramp | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| | UTURNS | | | |
|---|---|---|---|---|
| | NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** 0

# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

## *Departures Level Ramp and Center Way , Los Angeles*

Date: 8/8/2014

Day: Friday

Project #: 14-5501-114

City: Los Angeles

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 830 PM |

### Pea our Summary

Departures Level Ramp

Center Way

#### South ound Approa h

Lanes

| | | | | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 1 | 0 |

#### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| Lanes | AM | NOON | PM |

CONTROL

#### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | |
| 0 | 0 | 0 | |
| 0 | 0 | 0 | |
| 0 | 0 | 1 | |
| AM | NOON | PM | |

#### North ound Approa h

| | | | | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

Lanes

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

### Total Ins Outs

North Leg

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 1 | 0 |

East Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 1 |

West Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 0 | 0 |

South Leg

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

### Total Volume Per Leg

North Leg

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 1 |

East Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 1 |

West Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |

South Leg

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-116 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | East Way | | | East Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-116 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | East Way | | | East Way | | | Center Way | | | Center Way | | | | UTURNS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | NB | SB | EB | WB |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | | | | | |
| 8:30 PM | | | | | | | 0 | 62 | 0 | | | | 62 | | | | |
| 8:45 PM | | | | | | | 0 | 50 | 0 | | | | 50 | | | | |
| 9:00 PM | | | | | | | 0 | 59 | 0 | | | | 59 | | | | |
| 9:15 PM | | | | | | | 0 | 64 | 0 | | | | 64 | | | | |
| 9:30 PM | | | | | | | 0 | 68 | 0 | | | | 68 | | | | |
| 9:45 PM | | | | | | | 0 | 83 | 0 | | | | 83 | | | | |
| 10:00 PM | | | | | | | 0 | 73 | 0 | | | | 73 | | | | |
| 10:15 PM | | | | | | | 1 | 85 | 0 | | | | 86 | | | | |
| 10:30 PM | | | | | | | 0 | 72 | 0 | | | | 72 | | | | |
| 10:45 PM | | | | | | | 1 | 55 | 1 | | | | 57 | | | | |
| 11:00 PM | | | | | | | 0 | 44 | 1 | | | | 45 | | | | |
| 11:15 PM | | | | | | | 0 | 52 | 0 | | | | 52 | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | NB | SB | EB | WB |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 767 | 2 | 0 | 0 | 0 | 771 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 0.26% | 99.48% | 0.26% | #DIV/0! | #DIV/0! | #DIV/0! | | | | | |

| **PEAK HR START TIME :** | 945 PM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 313 | 0 | 0 | 0 | 0 | 314 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.913 | | | 0.000 | | | 0.913 |

**CONTROL :** Signalized

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-116 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | East Way | | | East Way | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

**Prepared by:**

NDS

**National Data & Surveying Services**

## *East Way and Center Way , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |

| | |
|---|---|
| Project #: | 14-5501-116 |
| City: | Los Angeles |

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 945 PM |

**Pea our Summary**

**South ound Approa h**

East Way

| | Right | Thru | Left | Out |
|---|---|---|---|---|
| Lanes | 0 | 0 | 0 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 1 |

Center Way

**East ound Approa h**

| | Lanes | AM | NOON | PM |
|---|---|---|---|---|
| Out | | 0 | 0 | 0 |
| Left | 0 | 0 | 0 | 1 |
| Thru | 2 | 0 | 0 | 1 |
| Right | 0 | 0 | 0 | 0 |

**CONTROL**

Signali ed

**West ound Approa h**

| | AM | NOON | PM | Lanes |
|---|---|---|---|---|
| Right | 0 | 0 | 0 | 0 |
| Thru | 0 | 0 | 0 | 0 |
| Left | 0 | 0 | 0 | 0 |
| Out | 0 | 0 | 1 | |

**North ound Approa h**

| | Out | Left | Thru | Right |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |
| Lanes | | 0 | 0 | 0 |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

| Leg | AM | NOON | PM |
|---|---|---|---|
| North Leg | 0 / 0 | 0 / 0 | 0 / 1 |
| East Leg | 0 / 0 | 0 / 0 | 0 / 1 |
| West Leg | 0 / 0 | 0 / 0 | 0 / 14 |
| South Leg | 0 / 0 | 0 / 0 | 0 / 0 |

## Total Volume Per Leg

| Leg | AM | NOON | PM |
|---|---|---|---|
| North Leg | 0 | 0 | 1 |
| East Leg | 0 | 0 | 1 |
| West Leg | 0 | 0 | 14 |
| South Leg | 0 | 0 | 0 |

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-207 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** 0

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-207 | **Day:** Friday

**City:** Los Angeles | **Date:** 8/8/2014

**PM**

| NS/EW Streets: | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | | | UTURNS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | |
| 8:30 PM | | | | | | | | | | | 0 | | 0 | | | | | |
| 8:45 PM | | | | | | | | | | | 0 | | 0 | | | | | |
| 9:00 PM | | | | | | | | | | | 2 | | 2 | | | | | |
| 9:15 PM | | | | | | | | | | | 2 | | 2 | | | | | |
| 9:30 PM | | | | | | | | | | | 0 | | 0 | | | | | |
| 9:45 PM | | | | | | | | | | | 0 | | 0 | | | | | |
| 10:00 PM | | | | | | | | | | | 1 | | 1 | | | | | |
| 10:15 PM | | | | | | | | | | | 2 | | 2 | | | | | |
| 10:30 PM | | | | | | | | | | | 1 | | 1 | | | | | |
| 10:45 PM | | | | | | | | | | | 5 | | 5 | | | | | |
| 11:00 PM | | | | | | | | | | | 2 | | 2 | | | | | |
| 11:15 PM | | | | | | | | | | | 0 | | 0 | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 15 | | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 0.00% | 100.00% | 0.00% | | | | | | |

| **PEAK HR START TIME :** | 1015 PM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 10 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.500 | | | 0.500 |

**CONTROL :** 0

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-207 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| NS/EW Streets: | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** 0

# ITM Peak Hour Summary

**Prepared by:**

NDS

**National Data & Surveying Services**

## *Sky Way and World Way North , Los Angeles*

Date: 8/8/2014
Day: Friday

Project #: 14-5501-207
City: Los Angeles

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 1015 PM |

N

World Way North

S y Way

### Pea our Summary

### South ound Approa h

Lanes

| | Movement 1 | Movement 2 | Movement 3 | Outbound |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| Outbound | 0 | 0 | 10 |
| Left | 0 | 0 | 0 |
| Through | 0 | 0 | 0 |
| Right | 0 | 0 | 0 |

Lanes

CONTROL

### West ound Approa h

Lanes

| | AM | NOON | PM |
|---|---|---|---|
| Left | 0 | 0 | 0 |
| Through | 0 | 0 | 10 |
| Right | 0 | 0 | 0 |
| Outbound | 0 | 0 | 0 |

### North ound Approa h

| | Outbound | Left | Through | Right |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

Lanes

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

**North Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

**East Leg**

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 10 |
| | 0 | 0 | 0 |

**West Leg**

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 10 |
| | 0 | 0 | 0 |

**South Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

## Total Volume Per Leg

**North Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 10 |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 10 |

**South Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-210 | **Day:** Friday

**City:** Los Angeles | **Date:** 8/8/2014

**AM**

| NS/EW Streets: | World Way (Frontage Rd) | | | World Way (Frontage Rd) | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| TOTAL VOLUMES : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| APPROACH %'s : | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| PEAK HR START TIME : | 0 AM | | | | | | | | | | | | TOTAL |
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PEAK HR FACTOR : | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-210 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| NS/EW Streets: | World Way (Frontage Rd) | | | World Way (Frontage Rd) | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 8:30 PM | | | | | 129 | | | | | | | | 129 |
| 8:45 PM | | | | | 127 | | | | | | | | 127 |
| 9:00 PM | | | | | 100 | | | | | | | | 100 |
| 9:15 PM | | | | | 121 | | | | | | | | 121 |
| 9:30 PM | | | | | 130 | | | | | | | | 130 |
| 9:45 PM | | | | | 124 | | | | | | | | 124 |
| 10:00 PM | | | | | 107 | | | | | | | | 107 |
| 10:15 PM | | | | | 147 | | | | | | | | 147 |
| 10:30 PM | | | | | 145 | | | | | | | | 145 |
| 10:45 PM | | | | | 149 | | | | | | | | 149 |
| 11:00 PM | | | | | 116 | | | | | | | | 116 |
| 11:15 PM | | | | | 121 | | | | | | | | 121 |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 1516 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1516 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | 0.00% | 100.00% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

UTURNS

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 1015 PM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 557 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 557 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.935 | | | 0.000 | | | 0.000 | | | 0.935 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-210 | **Day:** Friday

**City:** Los Angeles | **Date:** 8/8/2014

**NOON**

| NS/EW Streets: | World Way (Frontage Rd) | | | World Way (Frontage Rd) | | | Center Way | | | Center Way | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOTAL VOLUMES : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| APPROACH %'s : | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| PEAK HR START TIME : | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PEAK HR VOL : | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PEAK HR FACTOR : | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** No Control

# ITM Peak Hour Summary

**Prepared by:**

NDS

**National Data & Surveying Services**

***World Way (Frontage Rd) and Center Way , Los Angeles***

Date: 8/8/2014

Day: Friday

Project #: 14-5501-210

City: Los Angeles

| | |
|---|---|
| AM Pea our | |
| NOON Pea our | |
| PM Pea our | 1015 PM |

Pea our Summary

## South ound Approa h

World Way (Frontage Rd)

| | Lanes | 0 | | 0 | | |
|---|---|---|---|---|---|---|
| AM | | 0 | 0 | 0 | 0 | AM |
| NOON | | 0 | 0 | 0 | 0 | NOON |
| PM | | 0 | 55 | 0 | 0 | PM |

Center Way

## East ound Approa h

| Lanes | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

CONTROL

No Control

## West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | |

## North ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 55 | 0 | 0 | 0 | PM |
| | | 0 | 0 | 0 | Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | | |
| NOON | | |
| PM | 8:30 PM | 11:30 PM |

## Total Ins Outs

| North Leg | | |
|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 55 | 0 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 0 | 0 | 0 |

| South Leg | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 55 | 0 |

## Total Volume Per Leg

| North Leg | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 55 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |

| South Leg | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 55 |

Turning Movement Count NDS/ATD Job # 14-5501

60 Minute Counts

| DATE | TIME | INTID | NBL | NBT | NBR | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8/8/2014 | 615 | 1 | 0 | 0 | 0 | 0 | 0 | 922 | 0 | 0 | 0 | 0 | 1948 | 0 |
| 8/8/2014 | 600 | 2 | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 671 | 2218 | 0 |
| 8/8/2014 | 600 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 628 | 1679 | 0 |
| 8/8/2014 | 600 | 4 | 0 | 0 | 0 | 528 | 0 | 0 | 0 | 1502 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 615 | 5 | 0 | 0 | 0 | 565 | 0 | 0 | 72 | 1966 | 0 | 0 | 0 | 0 |
| 8/8/2014 | 615 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 920 | 708 | 893 | 0 | 0 | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-001 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 0 | |
| 6:00 AM | | | | | | 234 | | | | | 475 | | 709 |
| 6:15 AM | | | | | | 230 | | | | | 493 | | 723 |
| 6:30 AM | | | | | | 225 | | | | | 460 | | 685 |
| 6:45 AM | | | | | | 227 | | | | | 526 | | 753 |
| 7:00 AM | | | | | | 240 | | | | | 469 | | 709 |
| 7:15 AM | | | | | | 239 | | | | | 403 | | 642 |
| 7:30 AM | | | | | | 195 | | | | | 456 | | 651 |
| 7:45 AM | | | | | | 199 | | | | | 384 | | 583 |
| 8:00 AM | | | | | | 209 | | | | | 413 | | 622 |
| 8:15 AM | | | | | | 239 | | | | | 407 | | 646 |
| 8:30 AM | | | | | | 219 | | | | | 387 | | 606 |
| 8:45 AM | | | | | | 215 | | | | | 408 | | 623 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 2671 | 0 | 0 | 0 | 0 | 5281 | 0 | 7952 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | 0.00% | 0.00% | 100.00% | #DIV/0! | #DIV/0! | #DIV/0! | 0.00% | 100.00% | 0.00% | |
| **PEAK HR START TIME :** | 615 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 922 | 0 | 0 | 0 | 0 | 1948 | 0 | 2870 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.960 | | | 0.000 | | | 0.926 | | | 0.953 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

**National Data & Surveying Services**

**Project ID:** 14-5501-001 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 0 | |

| | UTURNS | | | |
|---|---|---|---|---|
| | NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

**National Data & Surveying Services**

**Project ID:** 14-5501-001 | **Day:** Friday

**City:** Los Angeles | **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | Sky Way | | | Sky Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

## *Sky Way and World Way North , Los Angeles*

Date: 8/8/2014
Day: Friday

Project #: 14-5501-001
City: Los Angeles

| | | |
|---|---|---|
| AM Pea our | | 615 AM |
| NOON Pea our | | |
| PM Pea our | | |

Pea our Summary

**South ound Approa h** (S y Way)

| | | | | |
|---|---|---|---|---|
| Lanes | | 0 | 0 | |
| AM | 922 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

**East ound Approa h** (World Way North)

| | AM | NOON | PM |
|---|---|---|---|
| Out | 28 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| Lanes | 0 | 0 | 0 |

CONTROL
Signali ed

**West ound Approa h**

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 1948 | 0 | 0 | 4 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | |

**North ound Approa h**

| | | | | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 (Lanes) |

| Count Periods | Start | End |
|---|---|---|
| AM | 6:00 AM | 9:00 AM |
| NOON | | |
| PM | | |

## Total Ins Outs

| Leg | AM | NOON | PM |
|---|---|---|---|
| North Leg (In / Out) | 922 / 0 | 0 / 0 | 0 / 0 |
| East Leg (In / Out) | 1948 / 0 | 0 / 0 | 0 / 0 |
| West Leg (Out / In) | 28 0 / 0 | 0 / 0 | 0 / 0 |
| South Leg | 0 / 0 | 0 / 0 | 0 / 0 |

## Total Volume Per Leg

| Leg | AM | NOON | PM |
|---|---|---|---|
| North Leg | 922 | 0 | 0 |
| East Leg | 1948 | 0 | 0 |
| West Leg | 28 0 | 0 | 0 |
| South Leg | 0 | 0 | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-002 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| NS/EW Streets: | East Way | | | East Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | |
| 6:00 AM | 27 | | | | | | | | | 145 | 590 | | 762 |
| 6:15 AM | 29 | | | | | | | | | 178 | 531 | | 738 |
| 6:30 AM | 19 | | | | | | | | | 163 | 513 | | 695 |
| 6:45 AM | 15 | | | | | | | | | 185 | 584 | | 784 |
| 7:00 AM | 11 | | | | | | | | | 161 | 563 | | 735 |
| 7:15 AM | 22 | | | | | | | | | 179 | 467 | | 668 |
| 7:30 AM | 19 | | | | | | | | | 169 | 496 | | 684 |
| 7:45 AM | 18 | | | | | | | | | 121 | 472 | | 611 |
| 8:00 AM | 23 | | | | | | | | | 116 | 511 | | 650 |
| 8:15 AM | 25 | | | | | | | | | 142 | 513 | | 680 |
| 8:30 AM | 15 | | | | | | | | | 150 | 474 | | 639 |
| 8:45 AM | 19 | | | | | | | | | 128 | 492 | | 639 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 242 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1837 | 6206 | 0 | 8285 |
| **APPROACH %'s :** | 100.00% | 0.00% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 22.84% | 77.16% | 0.00% | |
| **PEAK HR START TIME :** | 600 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 671 | 2218 | 0 | 2979 |
| **PEAK HR FACTOR :** | | 0.776 | | | 0.000 | | | 0.000 | | | 0.939 | | 0.950 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-002 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-002 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** No Control

# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

## *East Way and World Way North , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |
| Project #: | 14-5501-002 |
| City: | Los Angeles |

| | |
|---|---|
| AM Pea our | 600 AM |
| NOON Pea our | |
| PM Pea our | |

Pea our Summary

### South ound Approa h

East Way

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 0 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

World Way North

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 2 08 | 0 | 0 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

CONTROL

No Control

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 2218 | 0 | 0 | |
| 6 1 | 0 | 0 | 1 |

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |

### North ound Approa h

| | | | | |
|---|---|---|---|---|
| AM | 6 1 | 90 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |
| Lanes | | 1 | 0 | 0 |

| Count Periods | Start | End |
|---|---|---|
| AM | 6:00 AM | 9:00 AM |
| NOON | | |
| PM | | |

## Total Ins Outs

| North Leg | | | |
|---|---|---|---|
| | 0 | 0 | AM |
| | 0 | 0 | NOON |
| | 0 | 0 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 2 08 | 0 | 0 |
| | 0 | 0 | 0 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 2889 | 0 | 0 |
| | 0 | 0 | 0 |

| South Leg | | | |
|---|---|---|---|
| AM | 6 1 | 90 | |
| NOON | 0 | 0 | |
| PM | 0 | 0 | |

## Total Volume Per Leg

| North Leg | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 2 08 | 0 | 0 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 2889 | 0 | 0 |

| South Leg | |
|---|---|
| AM | 61 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-003 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| NS/EW Streets: | West Way | | | West Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 2.5 | 0 | |
| 6:00 AM | | | | | | | | | | 186 | 430 | | 616 |
| 6:15 AM | | | | | | | | | | 143 | 413 | | 556 |
| 6:30 AM | | | | | | | | | | 141 | 398 | | 539 |
| 6:45 AM | | | | | | | | | | 158 | 438 | | 596 |
| 7:00 AM | | | | | | | | | | 198 | 386 | | 584 |
| 7:15 AM | | | | | | | | | | 164 | 319 | | 483 |
| 7:30 AM | | | | | | | | | | 201 | 327 | | 528 |
| 7:45 AM | | | | | | | | | | 185 | 317 | | 502 |
| 8:00 AM | | | | | | | | | | 182 | 338 | | 520 |
| 8:15 AM | | | | | | | | | | 178 | 372 | | 550 |
| 8:30 AM | | | | | | | | | | 154 | 326 | | 480 |
| 8:45 AM | | | | | | | | | | 149 | 358 | | 507 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2039 | 4422 | 0 | 6461 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 31.56% | 68.44% | 0.00% | |
| **PEAK HR START TIME :** | 600 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 628 | 1679 | 0 | 2307 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.936 | | | 0.936 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-003 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | West Way | | | West Way | | | World Way North | | | World Way North | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 2.5 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** No Control

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-003 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | West Way | | | West Way | | | World Way North | | | World Way North | | | | | UTURNS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 2.5 | 0 | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | | | | | |
| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL | | | | | |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | | | |

**CONTROL :** No Control

# ITM Peak Hour Summary

**Prepared by:**

**National Data & Surveying Services**

## *West Way and World Way North , Los Angeles*

Date: 8/8/2014

Day: Friday

Project #: 14-5501-003

City: Los Angeles

| | |
|---|---|
| AM Pea our | 600 AM |
| NOON Pea our | |
| PM Pea our | |

N

World Way North

West Way

### Pea our Summary

### South ound Approa h

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 0 | |
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 16 9 | 0 | 0 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

**CONTROL**

No Control

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 16 9 | 0 | 0 | 2.5 |
| 628 | 0 | 0 | 0.5 |
| 0 | 0 | 0 | |

### North ound Approa h

| | | | | |
|---|---|---|---|---|
| AM | 628 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |
| Lanes | | 0 | 0 | 0 |

| Count Periods | Start | End |
|---|---|---|
| AM | 6:00 AM | 9:00 AM |
| NOON | | |
| PM | | |

## Total Ins Outs

| North Leg | | |
|---|---|---|
| 0 | 0 | AM |
| 0 | 0 | NOON |
| 0 | 0 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 16 9 | 0 | 0 |
| | 0 | 0 | 0 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 2 0 | 0 | 0 |
| | 0 | 0 | 0 |

| South Leg | | |
|---|---|---|
| AM | 628 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

## Total Volume Per Leg

| North Leg | |
|---|---|
| 0 | AM |
| 0 | NOON |
| 0 | PM |

| West Leg | AM | NOON | PM |
|---|---|---|---|
| | 16 9 | 0 | 0 |

| East Leg | AM | NOON | PM |
|---|---|---|---|
| | 2 0 | 0 | 0 |

| South Leg | |
|---|---|
| AM | 628 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-004 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| NS/EW Streets: | West Way | | | West Way | | | World Way South | | | World Way South | | | | | UTURNS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | | | | | | |
| 6:00 AM | | | | 144 | | | | 369 | | | | | 513 | | | | | |
| 6:15 AM | | | | 121 | | | | 397 | | | | | 518 | | | | | |
| 6:30 AM | | | | 122 | | | | 377 | | | | | 499 | | | | | |
| 6:45 AM | | | | 141 | | | | 359 | | | | | 500 | | | | | |
| 7:00 AM | | | | 158 | | | | 327 | | | | | 485 | | | | | |
| 7:15 AM | | | | 148 | | | | 332 | | | | | 480 | | | | | |
| 7:30 AM | | | | 150 | | | | 326 | | | | | 476 | | | | | |
| 7:45 AM | | | | 171 | | | | 296 | | | | | 467 | | | | | |
| 8:00 AM | | | | 160 | | | | 318 | | | | | 478 | | | | | |
| 8:15 AM | | | | 142 | | | | 315 | | | | | 457 | | | | | |
| 8:30 AM | | | | 136 | | | | 298 | | | | | 434 | | | | | |
| 8:45 AM | | | | 131 | | | | 303 | | | | | 434 | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | | NB | SB | EB | WB |
| TOTAL VOLUMES : | 0 | 0 | 0 | 1724 | 0 | 0 | 0 | 4017 | 0 | 0 | 0 | 0 | 5741 | | 0 | 0 | 0 | 0 |
| APPROACH %'s : | #DIV/0! | #DIV/0! | #DIV/0! | 100.00% | 0.00% | 0.00% | 0.00% | 100.00% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | | | | | | |

| PEAK HR START TIME : | 600 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PEAK HR VOL : | 0 | 0 | 0 | 528 | 0 | 0 | 0 | 1502 | 0 | 0 | 0 | 0 | 2030 |
| PEAK HR FACTOR : | 0.000 | | | 0.917 | | | 0.946 | | | 0.000 | | | 0.980 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-004

**Day:** Friday

**City:** Los Angeles

**Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | West Way | | | West Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-004 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | West Way | | | West Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

**Prepared by:**

NDS

**National Data & Surveying Services**

## *West Way and World Way South , Los Angeles*

| | |
|---|---|
| Date: | 8/8/2014 |
| Day: | Friday |

| | |
|---|---|
| Project #: | 14-5501-004 |
| City: | Los Angeles |

| | |
|---|---|
| AM Pea our | 600 AM |
| NOON Pea our | |
| PM Pea our | |

N

World Way South

West Way

### Pea our Summary

### South ound Approa h

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 2 | |
| AM | 0 | 0 | 528 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

### East ound Approa h

| Lanes | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| | 1502 | 0 | 0 |
| 0 | 0 | 0 | 0 |

### West ound Approa h

| | AM | NOON | PM | Lanes |
|---|---|---|---|---|
| | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 |
| | 20 0 | 0 | 0 | |

**CONTROL**

Signali ed

### North ound Approa h

| | | | | | |
|---|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 | AM |
| NOON | 0 | 0 | 0 | 0 | NOON |
| PM | 0 | 0 | 0 | 0 | PM |
| | | 0 | 0 | 0 | Lanes |

| Count Periods | Start | End |
|---|---|---|
| AM | 6:00 AM | 9:00 AM |
| NOON | | |
| PM | | |

## Total Ins Outs

**North Leg**

| | | |
|---|---|---|
| 528 | 0 | AM |
| 0 | 0 | NOON |
| 0 | 0 | PM |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 1502 | 0 | 0 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 20 0 | 0 | 0 |

**South Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

## Total Volume Per Leg

**North Leg**

| | |
|---|---|
| 528 | AM |
| 0 | NOON |
| 0 | PM |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 1502 | 0 | 0 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 20 0 | 0 | 0 |

**South Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-005 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0.5 | 2.5 | 0 | 0 | 0 | 0 | |
| 6:00 AM | | | | 116 | | | 27 | 467 | | | | | 610 |
| 6:15 AM | | | | 123 | | | 30 | 527 | | | | | 680 |
| 6:30 AM | | | | 146 | | | 18 | 498 | | | | | 662 |
| 6:45 AM | | | | 138 | | | 13 | 445 | | | | | 596 |
| 7:00 AM | | | | 158 | | | 11 | 496 | | | | | 665 |
| 7:15 AM | | | | 148 | | | 22 | 476 | | | | | 646 |
| 7:30 AM | | | | 138 | | | 19 | 446 | | | | | 603 |
| 7:45 AM | | | | 122 | | | 18 | 458 | | | | | 598 |
| 8:00 AM | | | | 99 | | | 22 | 449 | | | | | 570 |
| 8:15 AM | | | | 99 | | | 24 | 446 | | | | | 569 |
| 8:30 AM | | | | 115 | | | 15 | 412 | | | | | 542 |
| 8:45 AM | | | | 110 | | | 21 | 427 | | | | | 558 |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 1512 | 0 | 0 | 240 | 5547 | 0 | 0 | 0 | 0 | 7299 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | 100.00% | 0.00% | 0.00% | 4.15% | 95.85% | 0.00% | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 615 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 565 | 0 | 0 | 72 | 1966 | 0 | 0 | 0 | 0 | 2603 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.894 | | | 0.915 | | | 0.000 | | | 0.957 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

**National Data & Surveying Services**

**Project ID:** 14-5501-005

**Day:** Friday

**City:** Los Angeles

**Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way South | | | World Way South | | | | | UTURNS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | | | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | NB | SB | EB | WB |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0.5 | 2.5 | 0 | 0 | 0 | 0 | | | | | |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL | NB | SB | EB | WB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | | | | |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** Signalized

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-005 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | East Way | | | East Way | | | World Way South | | | World Way South | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 2 | 0 | 0 | 0.5 | 2.5 | 0 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | 0.000 |

**CONTROL :** Signalized

# ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

## *East Way and World Way South , Los Angeles*

Date: 8/8/2014

Day: Friday

Project #: 14-5501-005

City: Los Angeles

| | |
|---|---|
| AM Pea our | 615 AM |
| NOON Pea our | |
| PM Pea our | |

### Pea our Summary

### South ound Approa h

East Way

| | | | | Exit |
|---|---|---|---|---|
| Lanes | 0 | 0 | 2 | |
| AM | 0 | 0 | 565 | 2 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

World Way South

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| Exit | 0 | 0 | 0 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 0.5 | 2 | 0 | 0 |
| 2.5 | 1966 | 0 | 0 |
| 0 | 0 | 0 | 0 |

CONTROL

Signali ed

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| | AM | NOON | PM |
|---|---|---|---|
| Exit | 25 1 | 0 | 0 |

### North ound Approa h

| | Exit | | | |
|---|---|---|---|---|
| AM | 0 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |
| Lanes | | 0 | 0 | 0 |

| Count Periods | Start | End |
|---|---|---|
| AM | 6:00 AM | 9:00 AM |
| NOON | | |
| PM | | |

## Total Ins Outs

**North Leg**

| | | |
|---|---|---|
| AM | 565 | 2 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

**East Leg**

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 25 1 | 0 | 0 |

**West Leg**

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |
| | 20 8 | 0 | 0 |

**South Leg**

| | | |
|---|---|---|
| AM | 0 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

## Total Volume Per Leg

**North Leg**

| | |
|---|---|
| AM | 6 |
| NOON | 0 |
| PM | 0 |

**East Leg**

| AM | NOON | PM |
|---|---|---|
| 25 1 | 0 | 0 |

**West Leg**

| AM | NOON | PM |
|---|---|---|
| 20 8 | 0 | 0 |

**South Leg**

| | |
|---|---|
| AM | 0 |
| NOON | 0 |
| PM | 0 |

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-006 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**AM**

| **NS/EW Streets:** | Sepulveda Blvd | | | Sepulveda Blvd | | | Century Blvd | | | Century Blvd | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 1.5 | 1.5 | 1 | 0 | 0 | 0 | |
| 6:00 AM | | | | | | | 206 | 188 | 190 | | | | 584 |
| 6:15 AM | | | | | | | 230 | 178 | 243 | | | | 651 |
| 6:30 AM | | | | | | | 227 | 173 | 231 | | | | 631 |
| 6:45 AM | | | | | | | 226 | 170 | 192 | | | | 588 |
| 7:00 AM | | | | | | | 237 | 187 | 227 | | | | 651 |
| 7:15 AM | | | | | | | 249 | 185 | 188 | | | | 622 |
| 7:30 AM | | | | | | | 208 | 178 | 208 | | | | 594 |
| 7:45 AM | | | | | | | 250 | 162 | 169 | | | | 581 |
| 8:00 AM | | | | | | | 228 | 170 | 153 | | | | 551 |
| 8:15 AM | | | | | | | 222 | 156 | 176 | | | | 554 |
| 8:30 AM | | | | | | | 227 | 139 | 163 | | | | 529 |
| 8:45 AM | | | | | | | 216 | 165 | 152 | | | | 533 |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 2726 | 2051 | 2292 | 0 | 0 | 0 | 7069 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 38.56% | 29.01% | 32.42% | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 615 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 920 | 708 | 893 | 0 | 0 | 0 | 2521 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.968 | | | 0.000 | | | 0.968 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

**CONTROL :** No Control

# Intersection Turning Movement
**Prepared by:**
## National Data & Surveying Services

**Project ID:** 14-5501-006 **Day:** Friday

**City:** Los Angeles **Date:** 8/8/2014

**PM**

| **NS/EW Streets:** | Sepulveda Blvd | | | Sepulveda Blvd | | | Century Blvd | | | Century Blvd | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 1.5 | 1.5 | 1 | 0 | 0 | 0 | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |
| NB | SB | EB | WB |
| 0 | 0 | 0 | 0 |

**CONTROL :** No Control

# Intersection Turning Movement

**Prepared by:**

## National Data & Surveying Services

**Project ID:** 14-5501-006  **Day:** Friday

**City:** Los Angeles  **Date:** 8/8/2014

**NOON**

| **NS/EW Streets:** | Sepulveda Blvd | | | Sepulveda Blvd | | | Century Blvd | | | Century Blvd | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NORTHBOUND | | | SOUTHBOUND | | | EASTBOUND | | | WESTBOUND | | | |
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
| LANES: | 0 | 0 | 0 | 0 | 0 | 0 | 1.5 | 1.5 | 1 | 0 | 0 | 0 | |

| UTURNS | | | |
|---|---|---|---|
| NB | SB | EB | WB |

| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TOTAL VOLUMES :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **APPROACH %'s :** | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |

| NB | SB | EB | WB |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| **PEAK HR START TIME :** | 0 AM | | | | | | | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PEAK HR VOL :** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PEAK HR FACTOR :** | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 |

**CONTROL :** No Control

# ITM Peak Hour Summary

**Prepared by:**

**National Data & Surveying Services**

## *Sepulveda Blvd and Century Blvd , Los Angeles*

Date: 8/8/2014
Day: Friday

Project #: 14-5501-006
City: Los Angeles

| AM Pea our | 615 AM |
|---|---|
| NOON Pea our | |
| PM Pea our | |

Pea our Summary

### South ound Approa h

Sepulveda Blvd

| | | | | |
|---|---|---|---|---|
| Lanes | 0 | 0 | 0 | |
| AM | 0 | 0 | 0 | 920 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |

Century Blvd

### East ound Approa h

| | AM | NOON | PM |
|---|---|---|---|
| | 0 | 0 | 0 |

| Lanes | AM | NOON | PM |
|---|---|---|---|
| 1.5 | 920 | 0 | 0 |
| 1.5 | 08 | 0 | 0 |
| 1 | 89 | 0 | 0 |

**CONTROL**

No Control

### West ound Approa h

| AM | NOON | PM | Lanes |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| AM | NOON | PM |
|---|---|---|
| 08 | 0 | 0 |

### North ound Approa h

| | | | | |
|---|---|---|---|---|
| AM | 89 | 0 | 0 | 0 |
| NOON | 0 | 0 | 0 | 0 |
| PM | 0 | 0 | 0 | 0 |
| Lanes | | 0 | 0 | 0 |

| Count Periods | Start | End |
|---|---|---|
| AM | 6:00 AM | 9:00 AM |
| NOON | | |
| PM | | |

## Total Ins Outs

North Leg

| | | |
|---|---|---|
| AM | 0 | 920 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

East Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 08 | 0 | 0 |

West Leg

| AM | NOON | PM |
|---|---|---|
| 0 | 0 | 0 |
| 2521 | 0 | 0 |

South Leg

| | | |
|---|---|---|
| AM | 89 | 0 |
| NOON | 0 | 0 |
| PM | 0 | 0 |

## Total Volume Per Leg

| Leg | AM | NOON | PM |
|---|---|---|---|
| North Leg | 920 | 0 | 0 |
| East Leg | 08 | 0 | 0 |
| West Leg | 2521 | 0 | 0 |
| South Leg | 89 | 0 | 0 |

**K.2**

Intersection Capacity Analysis Worksheets

| Movement | EBT | EBR | NEL | NER | NER2 |
|---|---|---|---|---|---|
| Lane Configurations | | | | | |
| Volume (vph) | 1001 | 852 | 264 | 1202 | 984 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 0.86 | 0.86 | 0.97 | 0.81 | 0.91 |
| Frt | 0.96 | 0.85 | 0.90 | 0.85 | 0.85 |
| Flt Protected | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 |
| Satd. Flow (prot) | 4683 | 1389 | 2992 | 2400 | 1348 |
| Flt Permitted | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 |
| Satd. Flow (perm) | 4683 | 1389 | 2992 | 2400 | 1348 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1088 | 926 | 287 | 1307 | 1070 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 17 | 17 |
| Lane Group Flow (vph) | 1551 | 463 | 875 | 1173 | 582 |
| Heavy Vehicles (%) | 0% | 0% | 9% | 9% | 9% |
| Turn Type | | Perm | | Prot | Perm |
| Protected Phases | 4 | | 2 | 2 | |
| Permitted Phases | | 4 | | | 2 |
| Actuated Green, G (s) | 40.5 | 40.5 | 56.4 | 56.4 | 56.4 |
| Effective Green, g (s) | 40.5 | 40.5 | 56.4 | 56.4 | 56.4 |
| Actuated g/C Ratio | 0.38 | 0.38 | 0.53 | 0.53 | 0.53 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1791 | 531 | 1593 | 1278 | 718 |
| v/s Ratio Prot | 0.33 | | 0.29 | c0.49 | |
| v/s Ratio Perm | | c0.33 | | | 0.43 |
| v/c Ratio | 0.87 | 0.87 | 0.55 | 0.92 | 0.81 |
| Uniform Delay, d1 | 30.2 | 30.3 | 16.4 | 22.6 | 20.3 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.7 | 14.6 | 0.4 | 10.5 | 6.9 |
| Delay (s) | 34.9 | 44.9 | 16.7 | 33.1 | 27.2 |
| Level of Service | C | D | B | C | C |
| Approach Delay (s) | 37.2 | | 26.4 | | |
| Approach LOS | D | | C | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 31.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.90 | | |
| Actuated Cycle Length (s) | 105.9 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 85.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

RSA Study

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 World Way South and East Way

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap. (X): | 0.484 |
| Loss Time (sec): | 0 (Y+R = 0 sec) | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 44 | Level Of Service: | A |

| Street Name: | | Easy Way | | | | | | World Way South | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach: | | North Bound | | | South Bound | | | East Bound | | | West Bound | |
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | | Protected | | | Protected | | | Protected | | | Protected | |
| Rights: | | Include | | | Include | | | Include | | | Include | |
| Min. Green: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lanes: | 0 0 | 0 | 0 0 | 2 0 | 0 | 0 0 | 1 0 | 4 | 0 0 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 0 | 361 | 0 | 0 | 150 | 1866 | 0 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 0 | 361 | 0 | 0 | 150 | 1866 | 0 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 0 | 361 | 0 | 0 | 150 | 1866 | 0 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 0 | 0 | 361 | 0 | 0 | 150 | 1866 | 0 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.10 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.: | 0 | 0 | 0 | 397 | 0 | 0 | 150 | 1866 | 0 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 1.00 | 4.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 0 | 0 | 2750 | 0 | 0 | 1375 | 5500 | 0 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.14 | 0.00 | 0.00 | 0.11 | 0.34 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crit Vol: | | 0 | | 199 | | | | 467 | | 0 | | |
| Crit Moves: | | | | **** | | | | **** | | | | |

RSA Study

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Skyway @ World Way North

```
Cycle (sec):        100               Critical Vol./Cap. (X):        0.741
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       88               Level Of Service:                  C
*******************************************************************************
Street Name:                 Skyway                       World Way North
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:          Ignore           Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  1  0  0    0  0  0  0  3    0  0  0  0  0    0  0  6  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     386  267     0    0    0  1345    0    0     0    0 1880     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  386  267     0    0    0  1345    0    0     0    0 1880     0
User Adj:    1.00 1.00  0.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:   386  267     0    0    0  1345    0    0     0    0 1880     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  386  267     0    0    0  1345    0    0     0    0 1880     0
PCE Adj:     1.00 1.00  0.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.10 1.00  0.00 1.00 1.00  1.10 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:   425  267     0    0    0  1480    0    0     0    0 1880     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375 1375 1375  1375 1375 1375  1375 1375 1375  1375
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       2.00 1.00  0.00 0.00 0.00  3.00 0.00 0.00  0.00 0.00 6.00  0.00
Final Sat.:  2750 1375     0    0    0  4125    0    0     0    0 8250     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.15 0.19  0.00 0.00 0.00  0.36 0.00 0.00  0.00 0.00 0.23  0.00
Crit Vol:     212                        493    0                     313
Crit Moves:  ****                       ****                         ****
*******************************************************************************
```

| Movement | EBT | EBR | NEL | NER | NER2 |
|---|---|---|---|---|---|
| Lane Configurations | | | | | |
| Volume (vph) | 1001 | 852 | 264 | 1202 | 984 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 0.86 | 0.86 | 0.97 | 0.81 | 0.91 |
| Frt | 0.96 | 0.85 | 0.90 | 0.85 | 0.85 |
| Flt Protected | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 |
| Satd. Flow (prot) | 4683 | 1389 | 2992 | 2400 | 1348 |
| Flt Permitted | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 |
| Satd. Flow (perm) | 4683 | 1389 | 2992 | 2400 | 1348 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1088 | 926 | 287 | 1307 | 1070 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 17 | 17 |
| Lane Group Flow (vph) | 1551 | 463 | 875 | 1173 | 582 |
| Heavy Vehicles (%) | 0% | 0% | 9% | 9% | 9% |
| Turn Type | | Perm | | Prot | Perm |
| Protected Phases | 4 | | 2 | 2 | |
| Permitted Phases | | 4 | | | 2 |
| Actuated Green, G (s) | 40.5 | 40.5 | 56.4 | 56.4 | 56.4 |
| Effective Green, g (s) | 40.5 | 40.5 | 56.4 | 56.4 | 56.4 |
| Actuated g/C Ratio | 0.38 | 0.38 | 0.53 | 0.53 | 0.53 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1791 | 531 | 1593 | 1278 | 718 |
| v/s Ratio Prot | 0.33 | | 0.29 | c0.49 | |
| v/s Ratio Perm | | c0.33 | | | 0.43 |
| v/c Ratio | 0.87 | 0.87 | 0.55 | 0.92 | 0.81 |
| Uniform Delay, d1 | 30.2 | 30.3 | 16.4 | 22.6 | 20.3 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 4.7 | 14.6 | 0.4 | 10.5 | 6.9 |
| Delay (s) | 34.9 | 44.9 | 16.7 | 33.1 | 27.2 |
| Level of Service | C | D | B | C | C |
| Approach Delay (s) | 37.2 | | 26.4 | | |
| Approach LOS | D | | C | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 31.0 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.90 | | |
| Actuated Cycle Length (s) | 105.9 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 85.5% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1 World Way North and Skyway
********************************************************************************
Cycle (sec):        120              Critical Vol./Cap. (X):        0.645
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       80              Level Of Service:                  B
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0    20     0    0     0     0   60     0
Lanes:        0  0  0  0  0    0  0  1! 0  3    0  0  0  0  0    0  0  5! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0  1302     0    0     0     0 2644     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0  1302     0    0     0     0 2644     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0  1302     0    0     0     0 2644     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0     0    0  1302     0    0     0     0 2644     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:     0    0     0     0    0  1432     0    0     0     0 2644     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  xxxx 0.01  4.00  0.00 0.00  0.00  0.00 5.00  0.00
Final Sat.:     0    0     0     0    0  5500     0    0     0     0 6875     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.00 0.00  0.26  0.00 0.00  0.00  0.00 0.38  0.00
Crit Vol:       0                         358     0                      529
Crit Moves:                              ****                           ****
********************************************************************************
```

---

Level Of Service Computation Report

Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 World Way South and East Way

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap. (X): | 0.638 |
| Loss Time (sec): | 0 (Y+R = 0 sec) | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 80 | Level Of Service: | B |

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 0 |
| Lanes: | 0 0 0 0 0 | | | 2 0 0 0 0 | | | 1 0 5 0 0 | | | 0 0 0 0 0 | | |
| **Volume Module:** | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 0 | 487 | 0 | 0 | 74 | 3047 | 0 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 0 | 487 | 0 | 0 | 74 | 3047 | 0 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 0 | 487 | 0 | 0 | 74 | 3047 | 0 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 0 | 0 | 487 | 0 | 0 | 74 | 3047 | 0 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.10 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.: | 0 | 0 | 0 | 536 | 0 | 0 | 74 | 3047 | 0 | 0 | 0 | 0 |
| **Saturation Flow Module:** | | | | | | | | | | | | |
| Sat/Lane: | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 1.00 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 0 | 0 | 2750 | 0 | 0 | 1375 | 6875 | 0 | 0 | 0 | 0 |
| **Capacity Analysis Module:** | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.19 | 0.00 | 0.00 | 0.05 | 0.44 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crit Vol: | | 0 | | 268 | | | | 609 | | 0 | | |
| Crit Moves: | | | | **** | | | | **** | | | | |

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #2 World Way South and West Way
********************************************************************************
Cycle (sec):        120               Critical Vol./Cap. (X):        0.738
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       87               Level Of Service:                  C
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected         Protected        Protected
Rights:           Include          Include           Include          Include
Min. Green:     0    0     0    20    0     0     0   60     0     0    0     0
Lanes:        0  0  0  0  0    2  0  0  0  0    0  0  5  0  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  1116    0     0     0 2006     0     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0  1116    0     0     0 2006     0     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0  1116    0     0     0 2006     0     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0  1116    0     0     0 2006     0     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:     0    0     0  1228    0     0     0 2006     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  2.00 0.00  0.00  0.00 5.00  0.00  0.00 0.00  0.00
Final Sat.:     0    0     0  2750    0     0     0 6875     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.45 0.00  0.00  0.00 0.29  0.00  0.00 0.00  0.00
Crit Vol:            0         614                     401             0
Crit Moves:                   ****                    ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                                RSA Study
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #4 Exit Intersection
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.730
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       85               Level Of Service:                  C
********************************************************************************
Street Name:               World Way                        World Way
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected         Protected         Protected
Rights:           Include          Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  0  0    0  0  0  0  0    0  0  1  0  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  164     0     0    0     0     0  840     0     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  164     0     0    0     0     0  840     0     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  164     0     0    0     0     0  840     0     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  164     0     0    0     0     0  840     0     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:     0  164     0     0    0     0     0  840     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 1.00  0.00  0.00 0.00  0.00  0.00 1.00  0.00  0.00 0.00  0.00
Final Sat.:     0 1375     0     0    0     0     0 1375     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.12  0.00  0.00 0.00  0.00  0.00 0.61  0.00  0.00 0.00  0.00
Crit Vol:          164           0                     840           0
Crit Moves:       ****                                ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                                   RSA Study
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #3 World Way South and East Way
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.366
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       36                Level Of Service:                  A
********************************************************************************
Street Name:                Easy Way                     World Way South
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  0  0    2  0  0  0  0    1  0  4  0  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  318    0     0  107 1312     0    0    0     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0  318    0     0  107 1312     0    0    0     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0    0     0  318    0     0  107 1312     0    0    0     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0  318    0     0  107 1312     0    0    0     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.10 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:     0    0     0  350    0     0  107 1312     0    0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375 1375 1375  1375 1375 1375  1375 1375 1375  1375
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 0.00  0.00 2.00 0.00  0.00 1.00 4.00  0.00 0.00 0.00  0.00
Final Sat.:     0    0     0 2750    0     0 1375 5500     0    0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.13 0.00  0.00 0.08 0.24  0.00 0.00 0.00  0.00
Crit Vol:           0         175                   328             0
Crit Moves:                  ****                  ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1 World Way North and Skyway
********************************************************************************
Cycle (sec):        120              Critical Vol./Cap. (X):        0.525
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       80              Level Of Service:                  A
********************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0    20     0    0     0     0   60     0
Lanes:        0  0  0  0  0    0  0  1! 0  3    0  0  0  0  0    0  0  5! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0   922     0    0     0     0 2339     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0   922     0    0     0     0 2339     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0   922     0    0     0     0 2339     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0     0    0   922     0    0     0     0 2339     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:     0    0     0     0    0  1014     0    0     0     0 2339     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  xxxx 0.01  4.00  0.00 0.00  0.00  0.00 5.00  0.00
Final Sat.:     0    0     0     0    0  5500     0    0     0     0 6875     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.00 0.00  0.18  0.00 0.00  0.00  0.00 0.34  0.00
Crit Vol:       0                         254     0                      468
Crit Moves:                              ****                           ****
********************************************************************************
```

Level Of Service Computation Report

Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 World Way South and East Way

| | | | |
|---|---|---|---|
| Cycle (sec): | 100 | Critical Vol./Cap. (X): | 0.524 |
| Loss Time (sec): | 0 (Y+R = 0 sec) | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 80 | Level Of Service: | A |

| Approach: | North Bound | South Bound | East Bound | West Bound |
|---|---|---|---|---|
| Control: | Protected | Protected | Protected | Protected |
| Rights: | Include | Include | Include | Include |
| Lanes: | 0 0 0 0 0 | 2 0 0 0 0 | 1 0 5 0 0 | 0 0 0 0 0 |

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Min. Green: | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 0 |
| **Volume Module:** | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 0 | 429 | 0 | 0 | 74 | 2420 | 0 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 0 | 429 | 0 | 0 | 74 | 2420 | 0 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 0 | 429 | 0 | 0 | 74 | 2420 | 0 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 0 | 0 | 429 | 0 | 0 | 74 | 2420 | 0 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.10 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.: | 0 | 0 | 0 | 472 | 0 | 0 | 74 | 2420 | 0 | 0 | 0 | 0 |
| **Saturation Flow Module:** | | | | | | | | | | | | |
| Sat/Lane: | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 1.00 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 0 | 0 | 2750 | 0 | 0 | 1375 | 6875 | 0 | 0 | 0 | 0 |
| **Capacity Analysis Module:** | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.17 | 0.00 | 0.00 | 0.05 | 0.35 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crit Vol: | | 0 | | 236 | | | | 484 | | 0 | | |
| Crit Moves: | | | | **** | | | | **** | | | | |

## Level Of Service Computation Report
### Circular 212 Planning Method (Base Volume Alternative)

**Intersection #2 World Way South and West Way**

| | | | |
|---|---|---|---|
| Cycle (sec): | 120 | Critical Vol./Cap. (X): | 0.664 |
| Loss Time (sec): | 0 (Y+R = 0 sec) | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 80 | Level Of Service: | B |

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 0 |
| Lanes: | 0 0 | 0 | 0 0 | 2 0 | 0 | 0 0 | 0 0 | 5 | 0 0 | 0 0 | 0 | 0 0 |
| **Volume Module:** | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 0 | 1184 | 0 | 0 | 0 | 1310 | 0 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 0 | 1184 | 0 | 0 | 0 | 1310 | 0 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 0 | 1184 | 0 | 0 | 0 | 1310 | 0 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 0 | 0 | 1184 | 0 | 0 | 0 | 1310 | 0 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.10 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.: | 0 | 0 | 0 | 1302 | 0 | 0 | 0 | 1310 | 0 | 0 | 0 | 0 |
| **Saturation Flow Module:** | | | | | | | | | | | | |
| Sat/Lane: | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 0 | 0 | 2750 | 0 | 0 | 0 | 6875 | 0 | 0 | 0 | 0 |
| **Capacity Analysis Module:** | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.47 | 0.00 | 0.00 | 0.00 | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crit Vol: | | 0 | | 651 | | | | 262 | | 0 | | |
| Crit Moves: | | | | **** | | | | **** | | | | |

| Movement | EBT | EBR | NEL | NER | NER2 |
|---|---|---|---|---|---|
| Lane Configurations | | | | | |
| Volume (vph) | 925 | 788 | 366 | 1318 | 1078 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 0.86 | 0.86 | 0.97 | 0.81 | 0.91 |
| Frt | 0.96 | 0.85 | 0.91 | 0.85 | 0.85 |
| Flt Protected | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 |
| Satd. Flow (prot) | 4682 | 1389 | 3011 | 2400 | 1348 |
| Flt Permitted | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 |
| Satd. Flow (perm) | 4682 | 1389 | 3011 | 2400 | 1348 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1005 | 857 | 398 | 1433 | 1172 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 22 | 22 |
| Lane Group Flow (vph) | 1434 | 428 | 1043 | 1282 | 634 |
| Heavy Vehicles (%) | 0% | 0% | 9% | 9% | 9% |
| Turn Type | | Perm | | Prot | Perm |
| Protected Phases | 4 | | 2 | 2 | |
| Permitted Phases | | 4 | | | 2 |
| Actuated Green, G (s) | 40.2 | 40.2 | 59.9 | 59.9 | 59.9 |
| Effective Green, g (s) | 40.2 | 40.2 | 59.9 | 59.9 | 59.9 |
| Actuated g/C Ratio | 0.37 | 0.37 | 0.55 | 0.55 | 0.55 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1725 | 512 | 1653 | 1318 | 740 |
| v/s Ratio Prot | 0.31 | | 0.35 | c0.53 | |
| v/s Ratio Perm | | c0.31 | | | 0.47 |
| v/c Ratio | 0.83 | 0.84 | 0.63 | 0.97 | 0.86 |
| Uniform Delay, d1 | 31.4 | 31.4 | 17.0 | 23.8 | 21.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.6 | 11.3 | 0.8 | 18.5 | 9.7 |
| Delay (s) | 34.9 | 42.7 | 17.8 | 42.4 | 30.6 |
| Level of Service | C | D | B | D | C |
| Approach Delay (s) | 36.7 | | 31.2 | | |
| Approach LOS | D | | C | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 33.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 109.1 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 87.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

```
--------------------------------------------------------------------------------
                                   RSA Study
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #3 World Way South and East Way
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.498
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       45                Level Of Service:                  A
********************************************************************************
Street Name:               Easy Way                       World Way South
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  0  0   2  0  0  0  0   1  0  4  0  0   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  544    0     0  127 1540     0    0    0     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0  544    0     0  127 1540     0    0    0     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0    0     0  544    0     0  127 1540     0    0    0     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0  544    0     0  127 1540     0    0    0     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.10 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:     0    0     0  598    0     0  127 1540     0    0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375 1375 1375  1375 1375 1375  1375 1375 1375  1375
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 0.00  0.00 2.00 0.00  0.00 1.00 4.00  0.00 0.00 0.00  0.00
Final Sat.:     0    0     0 2750    0     0 1375 5500     0    0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.22 0.00  0.00 0.09 0.28  0.00 0.00 0.00  0.00
Crit Vol:            0         299                  385             0
Crit Moves:                   ****                 ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                                   RSA Study
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Skyway @ World Way North
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.790
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      108                Level Of Service:                  C
********************************************************************************
Street Name:                Skyway                        World Way North
Approach:       North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected         Protected         Protected
Rights:           Ignore           Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  1  0  0    0  0  0  0  3    0  0  0  0  0    0  0  6  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     400  270     0     0    0  1430     0    0     0     0 2048     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  400  270     0     0    0  1430     0    0     0     0 2048     0
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   400  270     0     0    0  1430     0    0     0     0 2048     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  400  270     0     0    0  1430     0    0     0     0 2048     0
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.10 1.00  0.00  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   440  270     0     0    0  1573     0    0     0     0 2048     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       2.00 1.00  0.00  0.00 0.00  3.00  0.00 0.00  0.00  0.00 6.00  0.00
Final Sat.:  2750 1375     0     0    0  4125     0    0     0     0 8250     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.20  0.00  0.00 0.00  0.38  0.00 0.00  0.00  0.00 0.25  0.00
Crit Vol:     220                         524     0                     341
Crit Moves:  ****                        ****                          ****
********************************************************************************
```

| Movement | EBT | EBR | NEL | NER | NER2 |
|---|---|---|---|---|---|
| Lane Configurations | | | | | |
| Volume (vph) | 925 | 788 | 366 | 1318 | 1078 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lane Util. Factor | 0.86 | 0.86 | 0.97 | 0.81 | 0.91 |
| Frt | 0.96 | 0.85 | 0.91 | 0.85 | 0.85 |
| Flt Protected | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 |
| Satd. Flow (prot) | 4682 | 1389 | 3011 | 2400 | 1348 |
| Flt Permitted | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 |
| Satd. Flow (perm) | 4682 | 1389 | 3011 | 2400 | 1348 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1005 | 857 | 398 | 1433 | 1172 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 22 | 22 |
| Lane Group Flow (vph) | 1434 | 428 | 1043 | 1282 | 634 |
| Heavy Vehicles (%) | 0% | 0% | 9% | 9% | 9% |
| Turn Type | | Perm | | Prot | Perm |
| Protected Phases | 4 | | 2 | 2 | |
| Permitted Phases | | 4 | | | 2 |
| Actuated Green, G (s) | 40.2 | 40.2 | 59.9 | 59.9 | 59.9 |
| Effective Green, g (s) | 40.2 | 40.2 | 59.9 | 59.9 | 59.9 |
| Actuated g/C Ratio | 0.37 | 0.37 | 0.55 | 0.55 | 0.55 |
| Clearance Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 1725 | 512 | 1653 | 1318 | 740 |
| v/s Ratio Prot | 0.31 | | 0.35 | c0.53 | |
| v/s Ratio Perm | | c0.31 | | | 0.47 |
| v/c Ratio | 0.83 | 0.84 | 0.63 | 0.97 | 0.86 |
| Uniform Delay, d1 | 31.4 | 31.4 | 17.0 | 23.8 | 21.0 |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 3.6 | 11.3 | 0.8 | 18.5 | 9.7 |
| Delay (s) | 34.9 | 42.7 | 17.8 | 42.4 | 30.6 |
| Level of Service | C | D | B | D | C |
| Approach Delay (s) | 36.7 | | 31.2 | | |
| Approach LOS | D | | C | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM Average Control Delay | 33.3 | HCM Level of Service | C |
| HCM Volume to Capacity ratio | 0.92 | | |
| Actuated Cycle Length (s) | 109.1 | Sum of lost time (s) | 9.0 |
| Intersection Capacity Utilization | 87.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1 World Way North and Skyway
********************************************************************************
Cycle (sec):        120             Critical Vol./Cap. (X):        0.746
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       90             Level Of Service:                  C
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0    20     0    0     0     0   60     0
Lanes:        0  0  0  0  0    0  0  1! 0  3    0  0  0  0  0    0  0  5! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     0    0  1502     0    0     0     0 3065     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     0    0  1502     0    0     0     0 3065     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0     0    0  1502     0    0     0     0 3065     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0     0    0  1502     0    0     0     0 3065     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:     0    0     0     0    0  1652     0    0     0     0 3065     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  xxxx 0.01  4.00  0.00 0.00  0.00  0.00 5.00  0.00
Final Sat.:     0    0     0     0    0  5500     0    0     0     0 6875     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.00 0.00  0.30  0.00 0.00  0.00  0.00 0.45  0.00
Crit Vol:       0                         413     0                      613
Crit Moves:                              ****                           ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #3 World Way South and East Way
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.745
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       90               Level Of Service:                  C
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0   20    0     0    0   60     0    0    0     0
Lanes:        0  0  0  0  0    2  0  0  0  0    1  0  5  0  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  577    0     0   81 3538     0    0    0     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0  577    0     0   81 3538     0    0    0     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0    0     0  577    0     0   81 3538     0    0    0     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0  577    0     0   81 3538     0    0    0     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.10 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:     0    0     0  635    0     0   81 3538     0    0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375 1375 1375  1375 1375 1375  1375 1375 1375  1375
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 0.00  0.00 2.00 0.00  0.00 1.00 5.00  0.00 0.00 0.00  0.00
Final Sat.:     0    0     0 2750    0     0 1375 6875     0    0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.23 0.00  0.00 0.06 0.51  0.00 0.00 0.00  0.00
Crit Vol:            0         317                    708             0
Crit Moves:                   ****                   ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #2 World Way South and West Way
********************************************************************************
Cycle (sec):        120               Critical Vol./Cap. (X):        0.860
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      120               Level Of Service:                  D
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    20    0     0     0   60     0     0    0     0
Lanes:        0  0  0  0  0    2  0  0  0  0    0  0  5  0  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  1309    0     0     0 2310     0     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0  1309    0     0     0 2310     0     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0  1309    0     0     0 2310     0     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0  1309    0     0     0 2310     0     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:     0    0     0  1440    0     0     0 2310     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  2.00 0.00  0.00  0.00 5.00  0.00  0.00 0.00  0.00
Final Sat.:     0    0     0  2750    0     0     0 6875     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.52 0.00  0.00  0.00 0.34  0.00  0.00 0.00  0.00
Crit Vol:            0         720                     462             0
Crit Moves:                   ****                    ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                                   RSA Study
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
             Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #4 Exit Intersection
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.745
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       89                Level Of Service:                  C
********************************************************************************
Street Name:              World Way                           World Way
Approach:       North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected         Protected         Protected
Rights:           Include          Include           Include           Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1  0  0    0  0  0  0  0    0  0  1  0  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  250     0    0    0     0    0  774     0    0    0     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   0  250     0    0    0     0    0  774     0    0    0     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    0  250     0    0    0     0    0  774     0    0    0     0
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   0  250     0    0    0     0    0  774     0    0    0     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:    0  250     0    0    0     0    0  774     0    0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375 1375 1375  1375 1375 1375  1375 1375 1375  1375
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 1.00  0.00 0.00 0.00  0.00 0.00 1.00  0.00 0.00 0.00  0.00
Final Sat.:    0 1375     0    0    0     0    0 1375     0    0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.18  0.00 0.00 0.00  0.00 0.00 0.56  0.00 0.00 0.00  0.00
Crit Vol:         250          0                     774            0
Crit Moves:      ****                               ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
                                  RSA Study
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #3 World Way South and East Way
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.378
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       37               Level Of Service:                  A
********************************************************************************
Street Name:                Easy Way                      World Way South
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  0  0   2  0  0  0  0   1  0  4  0  0   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  477    0     0   85 1028     0    0    0     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0  477    0     0   85 1028     0    0    0     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0    0     0  477    0     0   85 1028     0    0    0     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0  477    0     0   85 1028     0    0    0     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.10 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:     0    0     0  525    0     0   85 1028     0    0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375 1375 1375  1375 1375 1375  1375 1375 1375  1375
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 0.00  0.00 2.00 0.00  0.00 1.00 4.00  0.00 0.00 0.00  0.00
Final Sat.:     0    0     0 2750    0     0 1375 5500     0    0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.19 0.00  0.00 0.06 0.19  0.00 0.00 0.00  0.00
Crit Vol:            0         262                   257             0
Crit Moves:               ****                   ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1 World Way North and Skyway
********************************************************************************
Cycle (sec):         120              Critical Vol./Cap. (X):        0.602
Loss Time (sec):       0 (Y+R =  0 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:        80              Level Of Service:                  B
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0    20    0    0     0    0   60     0
Lanes:        0  0  0  0  0   0  0  1! 0  3   0  0  0  0  0   0  0  5! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    0    0  1062    0    0     0    0 2676     0
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0    0    0  1062    0    0     0    0 2676     0
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:     0    0     0    0    0  1062    0    0     0    0 2676     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0    0    0  1062    0    0     0    0 2676     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.10 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:     0    0     0    0    0  1168    0    0     0    0 2676     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375 1375 1375  1375 1375 1375  1375 1375 1375  1375
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 0.00  0.00 xxxx 0.01  4.00 0.00 0.00  0.00 0.00 5.00  0.00
Final Sat.:     0    0     0    0    0  5500    0    0     0    0 6875     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.00 0.00  0.21 0.00 0.00  0.00 0.00 0.39  0.00
Crit Vol:       0                        292    0                     535
Crit Moves:                             ****                         ****
********************************************************************************
```

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #3 World Way South and East Way
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.604
Loss Time (sec):      0 (Y+R =  0 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       80                Level Of Service:                  B
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Protected        Protected        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    20    0     0     0   60     0     0    0     0
Lanes:        0  0  0  0  0    2  0  0  0  0    1  0  5  0  0    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   496    0     0    81 2790     0     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   496    0     0    81 2790     0     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0    0     0   496    0     0    81 2790     0     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0   496    0     0    81 2790     0     0    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:     0    0     0   546    0     0    81 2790     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1375 1375  1375  1375 1375  1375  1375 1375  1375  1375 1375  1375
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.00  0.00  2.00 0.00  0.00  1.00 5.00  0.00  0.00 0.00  0.00
Final Sat.:     0    0     0  2750    0     0  1375 6875     0     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.20 0.00  0.00  0.06 0.41  0.00  0.00 0.00  0.00
Crit Vol:            0         273                   558              0
Crit Moves:                   ****                  ****
********************************************************************************
```

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #2 World Way South and West Way

| | | | |
|---|---|---|---|
| Cycle (sec): | 120 | Critical Vol./Cap. (X): | 0.765 |
| Loss Time (sec): | 0 (Y+R = 0 sec) | Average Delay (sec/veh): | xxxxxx |
| Optimal Cycle: | 97 | Level Of Service: | C |

| Approach: | North Bound | | | South Bound | | | East Bound | | | West Bound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement: | L | T | R | L | T | R | L | T | R | L | T | R |
| Control: | Protected | | | Protected | | | Protected | | | Protected | | |
| Rights: | Include | | | Include | | | Include | | | Include | | |
| Min. Green: | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 0 |
| Lanes: | 0 0 | 0 | 0 0 | 2 0 | 0 | 0 0 | 0 0 | 5 | 0 0 | 0 0 | 0 | 0 0 |
| Volume Module: | | | | | | | | | | | | |
| Base Vol: | 0 | 0 | 0 | 1365 | 0 | 0 | 0 | 1506 | 0 | 0 | 0 | 0 |
| Growth Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Initial Bse: | 0 | 0 | 0 | 1365 | 0 | 0 | 0 | 1506 | 0 | 0 | 0 | 0 |
| User Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PHF Volume: | 0 | 0 | 0 | 1365 | 0 | 0 | 0 | 1506 | 0 | 0 | 0 | 0 |
| Reduct Vol: | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced Vol: | 0 | 0 | 0 | 1365 | 0 | 0 | 0 | 1506 | 0 | 0 | 0 | 0 |
| PCE Adj: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| MLF Adj: | 1.00 | 1.00 | 1.00 | 1.10 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Final Vol.: | 0 | 0 | 0 | 1502 | 0 | 0 | 0 | 1506 | 0 | 0 | 0 | 0 |
| Saturation Flow Module: | | | | | | | | | | | | |
| Sat/Lane: | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 | 1375 |
| Adjustment: | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Lanes: | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Final Sat.: | 0 | 0 | 0 | 2750 | 0 | 0 | 0 | 6875 | 0 | 0 | 0 | 0 |
| Capacity Analysis Module: | | | | | | | | | | | | |
| Vol/Sat: | 0.00 | 0.00 | 0.00 | 0.55 | 0.00 | 0.00 | 0.00 | 0.22 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crit Vol: | | 0 | | 751 | | | | 301 | | 0 | | |
| Crit Moves: | | | | **** | | | | **** | | | | |

**K.3**

LAWA-Provided Data

Prepared by National Data & Surveying Services

# VEHICLE CLASSIFICATION COUNT

**Location:** 14-5501-001 **Day:** Friday
**City:** Los Angeles **Date:** 8/8/2014

| # | CLASSIFICATION | 6:00 | 6:15 | 6:30 | 6:45 | 7:00 | 7:15 | 7:30 | 7:45 | 8:00 | 8:15 | 8:30 | 8:45 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Private Vehicles | 517 | 0:00 | 521 | 578 | 554 | 490 | 504 | 439 | 488 | 507 | 453 | 495 | 6096 |
| 2 | Taxicabs | 67 | 61 | 51 | 64 | 60 | 55 | 36 | 41 | 30 | 37 | 43 | 31 | 576 |
| 3 | Hotel/Motel Courtesy Vehicles | 39 | 29 | 30 | 39 | 31 | 33 | 39 | 28 | 32 | 33 | 37 | 32 | 402 |
| | Off-Airport Rental Cars | 12 | 14 | 16 | 15 | 15 | 14 | 15 | 15 | 15 | 11 | 18 | 13 | 173 |
| 4 | Parking Airport-Operated Shuttles | 26 | 14 | 15 | 11 | 9 | 9 | 9 | 11 | 6 | 13 | 8 | 10 | 141 |
| | On-Airport Rental Cars | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Employee Airport-Operated Shuttles | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 1 | 1 | 11 |
| 5 | SuperShuttles | 8 | 2 | 5 | 5 | 9 | 5 | 5 | 7 | 9 | 7 | 4 | 5 | 71 |
| | Other Shared Ride/Door-to-Door Vehicles | 3 | 19 | 22 | 13 | 11 | 12 | 17 | 14 | 15 | 11 | 17 | 10 | 164 |
| 6 | Limousines | 16 | 13 | 10 | 7 | 3 | 6 | 7 | 6 | 6 | 6 | 4 | 8 | 92 |
| 7 | Charter Buses | 4 | 2 | 1 | 5 | 0 | 2 | 4 | 4 | 3 | 0 | 3 | 2 | 30 |
| 8 | City Buses | 14 | 10 | 12 | 14 | 14 | 14 | 12 | 13 | 13 | 15 | 16 | 14 | 161 |
| 9 | Service/Other | 3 | 3 | 0 | 1 | 2 | 0 | 1 | 2 | 1 | 4 | 0 | 0 | 17 |
| 10 | Flyaways | 0 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 18 |
| | TOTAL | 709 | 723 | 685 | 753 | 709 | 642 | 651 | 583 | 622 | 646 | 606 | 623 | 7952 |

Prepared by NDS/ATD

# VOLUME

## Loop Ramp from W Century Blvd to NB Sepulveda Blvd

**Day:** Friday
**Date:** 8/8/2014

**City:** Los Angeles
**Project #:** CA14_5498_001

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 18,022 | 0 | 0 | 18,022 |

| AM Period | NB | SB | | EB | WB | TOTAL | | PM Period | NB | SB | | EB | WB | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:00 | 0 | 142 | | | | 142 | | 12:00 | 0 | 298 | | | | 298 | |
| 00:15 | 0 | 123 | | | | 123 | | 12:15 | 0 | 251 | | | | 251 | |
| 00:30 | 0 | 103 | | | | 103 | | 12:30 | 0 | 251 | | | | 251 | |
| 00:45 | 0 | 75 | 443 | | | 75 | 443 | 12:45 | 0 | 246 | 1046 | | | 246 | 1046 |
| 01:00 | 0 | 63 | | | | 63 | | 13:00 | 0 | 266 | | | | 266 | |
| 01:15 | 0 | 56 | | | | 56 | | 13:15 | 0 | 279 | | | | 279 | |
| 01:30 | 0 | 33 | | | | 33 | | 13:30 | 0 | 248 | | | | 248 | |
| 01:45 | 0 | 22 | 174 | | | 22 | 174 | 13:45 | 0 | 243 | 1036 | | | 243 | 1036 |
| 02:00 | 0 | 18 | | | | 18 | | 14:00 | 0 | 222 | | | | 222 | |
| 02:15 | 0 | 13 | | | | 13 | | 14:15 | 0 | 251 | | | | 251 | |
| 02:30 | 0 | 18 | | | | 18 | | 14:30 | 0 | 254 | | | | 254 | |
| 02:45 | 0 | 17 | 66 | | | 17 | 66 | 14:45 | 0 | 245 | 972 | | | 245 | 972 |
| 03:00 | 0 | 17 | | | | 17 | | 15:00 | 0 | 248 | | | | 248 | |
| 03:15 | 0 | 16 | | | | 16 | | 15:15 | 0 | 249 | | | | 249 | |
| 03:30 | 0 | 14 | | | | 14 | | 15:30 | 0 | 253 | | | | 253 | |
| 03:45 | 0 | 26 | 73 | | | 26 | 73 | 15:45 | 0 | 299 | 1049 | | | 299 | 1049 |
| 04:00 | 0 | 39 | | | | 39 | | 16:00 | 0 | 248 | | | | 248 | |
| 04:15 | 0 | 64 | | | | 64 | | 16:15 | 0 | 253 | | | | 253 | |
| 04:30 | 0 | 94 | | | | 94 | | 16:30 | 0 | 268 | | | | 268 | |
| 04:45 | 0 | 105 | 302 | | | 105 | 302 | 16:45 | 0 | 282 | 1051 | | | 282 | 1051 |
| 05:00 | 0 | 122 | | | | 122 | | 17:00 | 0 | 284 | | | | 284 | |
| 05:15 | 0 | 125 | | | | 125 | | 17:15 | 0 | 284 | | | | 284 | |
| 05:30 | 0 | 151 | | | | 151 | | 17:30 | 0 | 323 | | | | 323 | |
| 05:45 | 0 | 147 | 545 | | | 147 | 545 | 17:45 | 0 | 293 | 1184 | | | 293 | 1184 |
| 06:00 | 0 | 145 | | | | 145 | | 18:00 | 0 | 269 | | | | 269 | |
| 06:15 | 0 | 147 | | | | 147 | | 18:15 | 0 | 239 | | | | 239 | |
| 06:30 | 0 | 143 | | | | 143 | | 18:30 | 0 | 244 | | | | 244 | |
| 06:45 | 0 | 177 | 612 | | | 177 | 612 | 18:45 | 0 | 231 | 983 | | | 231 | 983 |
| 07:00 | 0 | 184 | | | | 184 | | 19:00 | 0 | 236 | | | | 236 | |
| 07:15 | 0 | 204 | | | | 204 | | 19:15 | 0 | 227 | | | | 227 | |
| 07:30 | 0 | 147 | | | | 147 | | 19:30 | 0 | 228 | | | | 228 | |
| 07:45 | 0 | 186 | 721 | | | 186 | 721 | 19:45 | 0 | 263 | 954 | | | 263 | 954 |
| 08:00 | 0 | 186 | | | | 186 | | 20:00 | 0 | 242 | | | | 242 | |
| 08:15 | 0 | 223 | | | | 223 | | 20:15 | 0 | 233 | | | | 233 | |
| 08:30 | 0 | 193 | | | | 193 | | 20:30 | 0 | 253 | | | | 253 | |
| 08:45 | 0 | 167 | 769 | | | 167 | 769 | 20:45 | 0 | 236 | 964 | | | 236 | 964 |
| 09:00 | 0 | 191 | | | | 191 | | 21:00 | 0 | 234 | | | | 234 | |
| 09:15 | 0 | 219 | | | | 219 | | 21:15 | 0 | 200 | | | | 200 | |
| 09:30 | 0 | 210 | | | | 210 | | 21:30 | 0 | 209 | | | | 209 | |
| 09:45 | 0 | 232 | 852 | | | 232 | 852 | 21:45 | 0 | 199 | 842 | | | 199 | 842 |
| 10:00 | 0 | 211 | | | | 211 | | 22:00 | 0 | 215 | | | | 215 | |
| 10:15 | 0 | 250 | | | | 250 | | 22:15 | 0 | 207 | | | | 207 | |
| 10:30 | 0 | 251 | | | | 251 | | 22:30 | 0 | 173 | | | | 173 | |
| 10:45 | 0 | 237 | 949 | | | 237 | 949 | 22:45 | 0 | 192 | 787 | | | 192 | 787 |
| 11:00 | 0 | 209 | | | | 209 | | 23:00 | 0 | 191 | | | | 191 | |
| 11:15 | 0 | 233 | | | | 233 | | 23:15 | 0 | 171 | | | | 171 | |
| 11:30 | 0 | 258 | | | | 258 | | 23:30 | 0 | 170 | | | | 170 | |
| 11:45 | 0 | 278 | 978 | | | 278 | 978 | 23:45 | 0 | 138 | 670 | | | 138 | 670 |
| TOTALS | | 6484 | | | | 6484 | | TOTALS | | 11538 | | | | 11538 | |
| SPLIT % | | 100.0% | | | | 36.0% | | SPLIT % | | 100.0% | | | | 64.0% | |

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 18,022 | 0 | 0 | 18,022 |

| | NB | SB | EB | WB | Total | | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AM Peak Hour | | 11:30 | | | 11:30 | PM Peak Hour | | 17:00 | | | 17:00 |
| AM Pk Volume | | 1085 | | | 1085 | PM Pk Volume | | 1184 | | | 1184 |
| Pk Hr Factor | | 0.910 | | | 0.910 | Pk Hr Factor | | 0.916 | | | 0.916 |
| 7 - 9 Volume | 0 | 1490 | 0 | 0 | 1490 | 4 - 6 Volume | 0 | 2235 | 0 | 0 | 2235 |
| 7 - 9 Peak Hour | | 07:45 | | | 07:45 | 4 - 6 Peak Hour | | 17:00 | | | 17:00 |
| 7 - 9 Pk Volume | 0 | 788 | 0 | 0 | 788 | 4 - 6 Pk Volume | 0 | 1184 | 0 | 0 | 1184 |
| Pk Hr Factor | 0.000 | 0.883 | 0.000 | 0.000 | 0.883 | Pk Hr Factor | 0.000 | 0.916 | 0.000 | 0.000 | 0.916 |

Prepared by NDS/ATD

# VOLUME

## Loop Ramp from W Century Blvd to NB Sepulveda Blvd

**Day:** Saturday
**Date:** 8/9/2014

**City:** Los Angeles
**Project #:** CA14_5498_001

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 13,365 | 0 | 0 | 13,365 |

| AM Period | NB | SB | | EB | WB | TOTAL | | PM Period | NB | SB | | EB | WB | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:00 | 0 | 165 | | | | 165 | | 12:00 | 0 | 225 | | | | 225 | |
| 00:15 | 0 | 127 | | | | 127 | | 12:15 | 0 | 187 | | | | 187 | |
| 00:30 | 0 | 81 | | | | 81 | | 12:30 | 0 | 253 | | | | 253 | |
| 00:45 | 0 | 87 | 460 | | | 87 | 460 | 12:45 | 0 | 180 | 845 | | | 180 | 845 |
| 01:00 | 0 | 74 | | | | 74 | | 13:00 | 0 | 210 | | | | 210 | |
| 01:15 | 0 | 36 | | | | 36 | | 13:15 | 0 | 192 | | | | 192 | |
| 01:30 | 0 | 29 | | | | 29 | | 13:30 | 0 | 213 | | | | 213 | |
| 01:45 | 0 | 12 | 151 | | | 12 | 151 | 13:45 | 0 | 205 | 820 | | | 205 | 820 |
| 02:00 | 0 | 10 | | | | 10 | | 14:00 | 0 | 170 | | | | 170 | |
| 02:15 | 0 | 13 | | | | 13 | | 14:15 | 0 | 188 | | | | 188 | |
| 02:30 | 0 | 10 | | | | 10 | | 14:30 | 0 | 216 | | | | 216 | |
| 02:45 | 0 | 11 | 44 | | | 11 | 44 | 14:45 | 0 | 211 | 785 | | | 211 | 785 |
| 03:00 | 0 | 13 | | | | 13 | | 15:00 | 0 | 222 | | | | 222 | |
| 03:15 | 0 | 4 | | | | 4 | | 15:15 | 0 | 196 | | | | 196 | |
| 03:30 | 0 | 5 | | | | 5 | | 15:30 | 0 | 182 | | | | 182 | |
| 03:45 | 0 | 21 | 43 | | | 21 | 43 | 15:45 | 0 | 184 | 784 | | | 184 | 784 |
| 04:00 | 0 | 28 | | | | 28 | | 16:00 | 0 | 214 | | | | 214 | |
| 04:15 | 0 | 39 | | | | 39 | | 16:15 | 0 | 195 | | | | 195 | |
| 04:30 | 0 | 54 | | | | 54 | | 16:30 | 0 | 171 | | | | 171 | |
| 04:45 | 0 | 58 | 179 | | | 58 | 179 | 16:45 | 0 | 176 | 756 | | | 176 | 756 |
| 05:00 | 0 | 96 | | | | 96 | | 17:00 | 0 | 175 | | | | 175 | |
| 05:15 | 0 | 89 | | | | 89 | | 17:15 | 0 | 177 | | | | 177 | |
| 05:30 | 0 | 86 | | | | 86 | | 17:30 | 0 | 157 | | | | 157 | |
| 05:45 | 0 | 108 | 379 | | | 108 | 379 | 17:45 | 0 | 146 | 655 | | | 146 | 655 |
| 06:00 | 0 | 113 | | | | 113 | | 18:00 | 0 | 167 | | | | 167 | |
| 06:15 | 0 | 110 | | | | 110 | | 18:15 | 0 | 154 | | | | 154 | |
| 06:30 | 0 | 116 | | | | 116 | | 18:30 | 0 | 158 | | | | 158 | |
| 06:45 | 0 | 122 | 461 | | | 122 | 461 | 18:45 | 0 | 154 | 633 | | | 154 | 633 |
| 07:00 | 0 | 144 | | | | 144 | | 19:00 | 0 | 158 | | | | 158 | |
| 07:15 | 0 | 129 | | | | 129 | | 19:15 | 0 | 138 | | | | 138 | |
| 07:30 | 0 | 130 | | | | 130 | | 19:30 | 0 | 131 | | | | 131 | |
| 07:45 | 0 | 134 | 537 | | | 134 | 537 | 19:45 | 0 | 177 | 604 | | | 177 | 604 |
| 08:00 | 0 | 136 | | | | 136 | | 20:00 | 0 | 179 | | | | 179 | |
| 08:15 | 0 | 161 | | | | 161 | | 20:15 | 0 | 175 | | | | 175 | |
| 08:30 | 0 | 133 | | | | 133 | | 20:30 | 0 | 190 | | | | 190 | |
| 08:45 | 0 | 108 | 538 | | | 108 | 538 | 20:45 | 0 | 210 | 754 | | | 210 | 754 |
| 09:00 | 0 | 149 | | | | 149 | | 21:00 | 0 | 158 | | | | 158 | |
| 09:15 | 0 | 151 | | | | 151 | | 21:15 | 0 | 161 | | | | 161 | |
| 09:30 | 0 | 169 | | | | 169 | | 21:30 | 0 | 164 | | | | 164 | |
| 09:45 | 0 | 158 | 627 | | | 158 | 627 | 21:45 | 0 | 172 | 655 | | | 172 | 655 |
| 10:00 | 0 | 171 | | | | 171 | | 22:00 | 0 | 203 | | | | 203 | |
| 10:15 | 0 | 192 | | | | 192 | | 22:15 | 0 | 172 | | | | 172 | |
| 10:30 | 0 | 185 | | | | 185 | | 22:30 | 0 | 141 | | | | 141 | |
| 10:45 | 0 | 181 | 729 | | | 181 | 729 | 22:45 | 0 | 137 | 653 | | | 137 | 653 |
| 11:00 | 0 | 183 | | | | 183 | | 23:00 | 0 | 125 | | | | 125 | |
| 11:15 | 0 | 193 | | | | 193 | | 23:15 | 0 | 142 | | | | 142 | |
| 11:30 | 0 | 197 | | | | 197 | | 23:30 | 0 | 128 | | | | 128 | |
| 11:45 | 0 | 207 | 780 | | | 207 | 780 | 23:45 | 0 | 98 | 493 | | | 98 | 493 |
| **TOTALS** | | 4928 | | | | **4928** | | **TOTALS** | | 8437 | | | | **8437** | |
| **SPLIT %** | | 100.0% | | | | **36.9%** | | **SPLIT %** | | 100.0% | | | | **63.1%** | |

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 13,365 | 0 | 0 | 13,365 |

| | NB | SB | EB | WB | Total | | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AM Peak Hour** | | 11:45 | | | **11:45** | **PM Peak Hour** | | 12:00 | | | **12:00** |
| **AM Pk Volume** | | 872 | | | **872** | **PM Pk Volume** | | 845 | | | **845** |
| **Pk Hr Factor** | | 0.862 | | | **0.862** | **Pk Hr Factor** | | 0.835 | | | **0.835** |
| **7 - 9 Volume** | 0 | 1075 | 0 | 0 | **1075** | **4 - 6 Volume** | 0 | 1411 | 0 | 0 | **1411** |
| **7 - 9 Peak Hour** | | 07:45 | | | **07:45** | **4 - 6 Peak Hour** | | 16:00 | | | **16:00** |
| **7 - 9 Pk Volume** | 0 | 564 | 0 | 0 | **564** | **4 - 6 Pk Volume** | 0 | 756 | 0 | 0 | **756** |
| **Pk Hr Factor** | 0.000 | 0.876 | 0.000 | 0.000 | **0.876** | **Pk Hr Factor** | 0.000 | 0.883 | 0.000 | 0.000 | **0.883** |

Prepared by NDS/ATD

# VOLUME

## Loop Ramp from W Century Blvd to NB Sepulveda Blvd

**Day:** Sunday
**Date:** 8/10/2014

**City:** Los Angeles
**Project #:** CA14_5498_001

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 16,137 | 0 | 0 | 16,137 |

| AM Period | NB | SB | EB | WB | TOTAL | PM Period | NB | SB | EB | WB | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:00 | 0 | 76 | | | 76 | 12:00 | 0 | 244 | | | 244 |
| 00:15 | 0 | 74 | | | 74 | 12:15 | 0 | 254 | | | 254 |
| 00:30 | 0 | 93 | | | 93 | 12:30 | 0 | 227 | | | 227 |
| 00:45 | 0 | 78 321 | | | 78 321 | 12:45 | 0 | 247 972 | | | 247 972 |
| 01:00 | 0 | 49 | | | 49 | 13:00 | 0 | 233 | | | 233 |
| 01:15 | 0 | 31 | | | 31 | 13:15 | 0 | 229 | | | 229 |
| 01:30 | 0 | 33 | | | 33 | 13:30 | 0 | 240 | | | 240 |
| 01:45 | 0 | 19 132 | | | 19 132 | 13:45 | 0 | 210 912 | | | 210 912 |
| 02:00 | 0 | 13 | | | 13 | 14:00 | 0 | 256 | | | 256 |
| 02:15 | 0 | 12 | | | 12 | 14:15 | 0 | 226 | | | 226 |
| 02:30 | 0 | 10 | | | 10 | 14:30 | 0 | 233 | | | 233 |
| 02:45 | 0 | 7 42 | | | 7 42 | 14:45 | 0 | 207 922 | | | 207 922 |
| 03:00 | 0 | 8 | | | 8 | 15:00 | 0 | 229 | | | 229 |
| 03:15 | 0 | 11 | | | 11 | 15:15 | 0 | 261 | | | 261 |
| 03:30 | 0 | 12 | | | 12 | 15:30 | 0 | 221 | | | 221 |
| 03:45 | 0 | 23 54 | | | 23 54 | 15:45 | 0 | 204 915 | | | 204 915 |
| 04:00 | 0 | 21 | | | 21 | 16:00 | 0 | 255 | | | 255 |
| 04:15 | 0 | 46 | | | 46 | 16:15 | 0 | 211 | | | 211 |
| 04:30 | 0 | 45 | | | 45 | 16:30 | 0 | 238 | | | 238 |
| 04:45 | 0 | 60 172 | | | 60 172 | 16:45 | 0 | 237 941 | | | 237 941 |
| 05:00 | 0 | 76 | | | 76 | 17:00 | 0 | 253 | | | 253 |
| 05:15 | 0 | 84 | | | 84 | 17:15 | 0 | 266 | | | 266 |
| 05:30 | 0 | 92 | | | 92 | 17:30 | 0 | 229 | | | 229 |
| 05:45 | 0 | 98 350 | | | 98 350 | 17:45 | 0 | 183 931 | | | 183 931 |
| 06:00 | 0 | 93 | | | 93 | 18:00 | 0 | 218 | | | 218 |
| 06:15 | 0 | 111 | | | 111 | 18:15 | 0 | 218 | | | 218 |
| 06:30 | 0 | 127 | | | 127 | 18:30 | 0 | 212 | | | 212 |
| 06:45 | 0 | 114 445 | | | 114 445 | 18:45 | 0 | 246 894 | | | 246 894 |
| 07:00 | 0 | 144 | | | 144 | 19:00 | 0 | 204 | | | 204 |
| 07:15 | 0 | 146 | | | 146 | 19:15 | 0 | 213 | | | 213 |
| 07:30 | 0 | 146 | | | 146 | 19:30 | 0 | 225 | | | 225 |
| 07:45 | 0 | 142 578 | | | 142 578 | 19:45 | 0 | 251 893 | | | 251 893 |
| 08:00 | 0 | 152 | | | 152 | 20:00 | 0 | 265 | | | 265 |
| 08:15 | 0 | 146 | | | 146 | 20:15 | 0 | 234 | | | 234 |
| 08:30 | 0 | 146 | | | 146 | 20:30 | 0 | 268 | | | 268 |
| 08:45 | 0 | 159 603 | | | 159 603 | 20:45 | 0 | 254 1021 | | | 254 1021 |
| 09:00 | 0 | 172 | | | 172 | 21:00 | 0 | 280 | | | 280 |
| 09:15 | 0 | 150 | | | 150 | 21:15 | 0 | 236 | | | 236 |
| 09:30 | 0 | 235 | | | 235 | 21:30 | 0 | 220 | | | 220 |
| 09:45 | 0 | 174 731 | | | 174 731 | 21:45 | 0 | 248 984 | | | 248 984 |
| 10:00 | 0 | 180 | | | 180 | 22:00 | 0 | 204 | | | 204 |
| 10:15 | 0 | 172 | | | 172 | 22:15 | 0 | 198 | | | 198 |
| 10:30 | 0 | 194 | | | 194 | 22:30 | 0 | 223 | | | 223 |
| 10:45 | 0 | 212 758 | | | 212 758 | 22:45 | 0 | 205 830 | | | 205 830 |
| 11:00 | 0 | 227 | | | 227 | 23:00 | 0 | 230 | | | 230 |
| 11:15 | 0 | 247 | | | 247 | 23:15 | 0 | 171 | | | 171 |
| 11:30 | 0 | 259 | | | 259 | 23:30 | 0 | 179 | | | 179 |
| 11:45 | 0 | 280 1013 | | | 280 1013 | 23:45 | 0 | 143 723 | | | 143 723 |
| **TOTALS** | | 5199 | | | **5199** | **TOTALS** | | 10938 | | | **10938** |
| **SPLIT %** | | 100.0% | | | **32.2%** | **SPLIT %** | | 100.0% | | | **67.8%** |

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 0 | 16,137 | 0 | 0 | 16,137 |

| | NB | SB | EB | WB | Total | | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AM Peak Hour** | | 11:30 | | | **11:30** | **PM Peak Hour** | | 20:30 | | | **20:30** |
| **AM Pk Volume** | | 1037 | | | **1037** | **PM Pk Volume** | | 1038 | | | **1038** |
| **Pk Hr Factor** | | 0.926 | | | **0.926** | **Pk Hr Factor** | | 0.927 | | | **0.927** |
| **7 - 9 Volume** | 0 | 1181 | 0 | 0 | **1181** | **4 - 6 Volume** | 0 | 1872 | 0 | 0 | **1872** |
| **7 - 9 Peak Hour** | | 08:00 | | | **08:00** | **4 - 6 Peak Hour** | | 16:30 | | | **16:30** |
| **7 - 9 Pk Volume** | 0 | 603 | 0 | 0 | **603** | **4 - 6 Pk Volume** | 0 | 994 | 0 | 0 | **994** |
| **Pk Hr Factor** | 0.000 | 0.948 | 0.000 | 0.000 | **0.948** | **Pk Hr Factor** | 0.000 | 0.934 | 0.000 | 0.000 | **0.934** |

Prepared by NDS/ATD

# VOLUME

## Loop Ramp from SB Sepulveda Blvd to W Century Blvd

**Day:** Friday
**Date:** 8/8/2014

**City:** Los Angeles
**Project #:** CA14_5498_002

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 3,374 | 0 | 0 | 0 | 3,374 |

| AM Period | NB | | SB | EB | WB | TOTAL | | PM Period | NB | | SB | EB | WB | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:00 | 14 | | 0 | | | 14 | | 12:00 | 29 | | 0 | | | 29 | |
| 00:15 | 18 | | 0 | | | 18 | | 12:15 | 35 | | 0 | | | 35 | |
| 00:30 | 14 | | 0 | | | 14 | | 12:30 | 39 | | 0 | | | 39 | |
| 00:45 | 14 | 60 | 0 | | | 14 | 60 | 12:45 | 45 | 148 | 0 | | | 45 | 148 |
| 01:00 | 19 | | 0 | | | 19 | | 13:00 | 46 | | 0 | | | 46 | |
| 01:15 | 13 | | 0 | | | 13 | | 13:15 | 53 | | 0 | | | 53 | |
| 01:30 | 7 | | 0 | | | 7 | | 13:30 | 41 | | 0 | | | 41 | |
| 01:45 | 1 | 40 | 0 | | | 1 | 40 | 13:45 | 46 | 186 | 0 | | | 46 | 186 |
| 02:00 | 10 | | 0 | | | 10 | | 14:00 | 43 | | 0 | | | 43 | |
| 02:15 | 4 | | 0 | | | 4 | | 14:15 | 53 | | 0 | | | 53 | |
| 02:30 | 13 | | 0 | | | 13 | | 14:30 | 48 | | 0 | | | 48 | |
| 02:45 | 2 | 29 | 0 | | | 2 | 29 | 14:45 | 60 | 204 | 0 | | | 60 | 204 |
| 03:00 | 4 | | 0 | | | 4 | | 15:00 | 50 | | 0 | | | 50 | |
| 03:15 | 8 | | 0 | | | 8 | | 15:15 | 64 | | 0 | | | 64 | |
| 03:30 | 5 | | 0 | | | 5 | | 15:30 | 47 | | 0 | | | 47 | |
| 03:45 | 2 | 19 | 0 | | | 2 | 19 | 15:45 | 57 | 218 | 0 | | | 57 | 218 |
| 04:00 | 4 | | 0 | | | 4 | | 16:00 | 61 | | 0 | | | 61 | |
| 04:15 | 9 | | 0 | | | 9 | | 16:15 | 102 | | 0 | | | 102 | |
| 04:30 | 6 | | 0 | | | 6 | | 16:30 | 108 | | 0 | | | 108 | |
| 04:45 | 4 | 23 | 0 | | | 4 | 23 | 16:45 | 93 | 364 | 0 | | | 93 | 364 |
| 05:00 | 4 | | 0 | | | 4 | | 17:00 | 96 | | 0 | | | 96 | |
| 05:15 | 11 | | 0 | | | 11 | | 17:15 | 106 | | 0 | | | 106 | |
| 05:30 | 13 | | 0 | | | 13 | | 17:30 | 93 | | 0 | | | 93 | |
| 05:45 | 14 | 42 | 0 | | | 14 | 42 | 17:45 | 109 | 404 | 0 | | | 109 | 404 |
| 06:00 | 13 | | 0 | | | 13 | | 18:00 | 61 | | 0 | | | 61 | |
| 06:15 | 12 | | 0 | | | 12 | | 18:15 | 61 | | 0 | | | 61 | |
| 06:30 | 14 | | 0 | | | 14 | | 18:30 | 63 | | 0 | | | 63 | |
| 06:45 | 17 | 56 | 0 | | | 17 | 56 | 18:45 | 63 | 248 | 0 | | | 63 | 248 |
| 07:00 | 15 | | 0 | | | 15 | | 19:00 | 48 | | 0 | | | 48 | |
| 07:15 | 23 | | 0 | | | 23 | | 19:15 | 48 | | 0 | | | 48 | |
| 07:30 | 20 | | 0 | | | 20 | | 19:30 | 51 | | 0 | | | 51 | |
| 07:45 | 28 | 86 | 0 | | | 28 | 86 | 19:45 | 47 | 194 | 0 | | | 47 | 194 |
| 08:00 | 24 | | 0 | | | 24 | | 20:00 | 45 | | 0 | | | 45 | |
| 08:15 | 37 | | 0 | | | 37 | | 20:15 | 41 | | 0 | | | 41 | |
| 08:30 | 33 | | 0 | | | 33 | | 20:30 | 41 | | 0 | | | 41 | |
| 08:45 | 28 | 122 | 0 | | | 28 | 122 | 20:45 | 40 | 167 | 0 | | | 40 | 167 |
| 09:00 | 38 | | 0 | | | 38 | | 21:00 | 40 | | 0 | | | 40 | |
| 09:15 | 22 | | 0 | | | 22 | | 21:15 | 48 | | 0 | | | 48 | |
| 09:30 | 34 | | 0 | | | 34 | | 21:30 | 44 | | 0 | | | 44 | |
| 09:45 | 35 | 129 | 0 | | | 35 | 129 | 21:45 | 36 | 168 | 0 | | | 36 | 168 |
| 10:00 | 28 | | 0 | | | 28 | | 22:00 | 29 | | 0 | | | 29 | |
| 10:15 | 28 | | 0 | | | 28 | | 22:15 | 27 | | 0 | | | 27 | |
| 10:30 | 36 | | 0 | | | 36 | | 22:30 | 32 | | 0 | | | 32 | |
| 10:45 | 34 | 126 | 0 | | | 34 | 126 | 22:45 | 24 | 112 | 0 | | | 24 | 112 |
| 11:00 | 21 | | 0 | | | 21 | | 23:00 | 18 | | 0 | | | 18 | |
| 11:15 | 34 | | 0 | | | 34 | | 23:15 | 27 | | 0 | | | 27 | |
| 11:30 | 45 | | 0 | | | 45 | | 23:30 | 26 | | 0 | | | 26 | |
| 11:45 | 41 | 141 | 0 | | | 41 | 141 | 23:45 | 17 | 88 | 0 | | | 17 | 88 |
| TOTALS | | 873 | | | | | 873 | TOTALS | | 2501 | | | | | 2501 |
| SPLIT % | | 100.0% | | | | | 25.9% | SPLIT % | | 100.0% | | | | | 74.1% |


| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 3,374 | 0 | 0 | 0 | 3,374 |


| | NB | SB | EB | WB | Total | | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AM Peak Hour | 11:30 | | | | 11:30 | PM Peak Hour | 17:00 | | | | 17:00 |
| AM Pk Volume | 150 | | | | 150 | PM Pk Volume | 404 | | | | 404 |
| Pk Hr Factor | 0.833 | | | | 0.833 | Pk Hr Factor | 0.927 | | | | 0.927 |
| 7 - 9 Volume | 208 | 0 | 0 | 0 | 208 | 4 - 6 Volume | 768 | 0 | 0 | 0 | 768 |
| 7 - 9 Peak Hour | 07:45 | | | | 07:45 | 4 - 6 Peak Hour | 17:00 | | | | 17:00 |
| 7 - 9 Pk Volume | 122 | 0 | 0 | 0 | 122 | 4 - 6 Pk Volume | 404 | 0 | 0 | 0 | 404 |
| Pk Hr Factor | 0.824 | 0.000 | 0.000 | 0.000 | 0.824 | Pk Hr Factor | 0.927 | 0.000 | 0.000 | 0.000 | 0.927 |

Prepared by NDS/ATD

# VOLUME

## Loop Ramp from SB Sepulveda Blvd to W Century Blvd

**Day:** Saturday
**Date:** 8/9/2014

**City:** Los Angeles
**Project #:** CA14_5498_002

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 2,470 | 0 | 0 | 0 | 2,470 |

| AM Period | NB | | SB | EB | WB | TOTAL | | PM Period | NB | | SB | EB | WB | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:00 | 19 | | 0 | | | 19 | | 12:00 | 27 | | 0 | | | 27 | |
| 00:15 | 17 | | 0 | | | 17 | | 12:15 | 35 | | 0 | | | 35 | |
| 00:30 | 19 | | 0 | | | 19 | | 12:30 | 21 | | 0 | | | 21 | |
| 00:45 | 21 | 76 | 0 | | | 21 | 76 | 12:45 | 37 | 120 | 0 | | | 37 | 120 |
| 01:00 | 17 | | 0 | | | 17 | | 13:00 | 35 | | 0 | | | 35 | |
| 01:15 | 8 | | 0 | | | 8 | | 13:15 | 32 | | 0 | | | 32 | |
| 01:30 | 10 | | 0 | | | 10 | | 13:30 | 41 | | 0 | | | 41 | |
| 01:45 | 13 | 48 | 0 | | | 13 | 48 | 13:45 | 38 | 146 | 0 | | | 38 | 146 |
| 02:00 | 8 | | 0 | | | 8 | | 14:00 | 34 | | 0 | | | 34 | |
| 02:15 | 5 | | 0 | | | 5 | | 14:15 | 36 | | 0 | | | 36 | |
| 02:30 | 6 | | 0 | | | 6 | | 14:30 | 23 | | 0 | | | 23 | |
| 02:45 | 4 | 23 | 0 | | | 4 | 23 | 14:45 | 35 | 128 | 0 | | | 35 | 128 |
| 03:00 | 7 | | 0 | | | 7 | | 15:00 | 34 | | 0 | | | 34 | |
| 03:15 | 5 | | 0 | | | 5 | | 15:15 | 44 | | 0 | | | 44 | |
| 03:30 | 8 | | 0 | | | 8 | | 15:30 | 26 | | 0 | | | 26 | |
| 03:45 | 7 | 27 | 0 | | | 7 | 27 | 15:45 | 42 | 146 | 0 | | | 42 | 146 |
| 04:00 | 7 | | 0 | | | 7 | | 16:00 | 37 | | 0 | | | 37 | |
| 04:15 | 5 | | 0 | | | 5 | | 16:15 | 52 | | 0 | | | 52 | |
| 04:30 | 7 | | 0 | | | 7 | | 16:30 | 46 | | 0 | | | 46 | |
| 04:45 | 6 | 25 | 0 | | | 6 | 25 | 16:45 | 50 | 185 | 0 | | | 50 | 185 |
| 05:00 | 4 | | 0 | | | 4 | | 17:00 | 43 | | 0 | | | 43 | |
| 05:15 | 11 | | 0 | | | 11 | | 17:15 | 36 | | 0 | | | 36 | |
| 05:30 | 7 | | 0 | | | 7 | | 17:30 | 40 | | 0 | | | 40 | |
| 05:45 | 10 | 32 | 0 | | | 10 | 32 | 17:45 | 46 | 165 | 0 | | | 46 | 165 |
| 06:00 | 10 | | 0 | | | 10 | | 18:00 | 40 | | 0 | | | 40 | |
| 06:15 | 7 | | 0 | | | 7 | | 18:15 | 56 | | 0 | | | 56 | |
| 06:30 | 10 | | 0 | | | 10 | | 18:30 | 49 | | 0 | | | 49 | |
| 06:45 | 15 | 42 | 0 | | | 15 | 42 | 18:45 | 42 | 187 | 0 | | | 42 | 187 |
| 07:00 | 20 | | 0 | | | 20 | | 19:00 | 33 | | 0 | | | 33 | |
| 07:15 | 13 | | 0 | | | 13 | | 19:15 | 40 | | 0 | | | 40 | |
| 07:30 | 13 | | 0 | | | 13 | | 19:30 | 43 | | 0 | | | 43 | |
| 07:45 | 18 | 64 | 0 | | | 18 | 64 | 19:45 | 33 | 149 | 0 | | | 33 | 149 |
| 08:00 | 21 | | 0 | | | 21 | | 20:00 | 41 | | 0 | | | 41 | |
| 08:15 | 29 | | 0 | | | 29 | | 20:15 | 41 | | 0 | | | 41 | |
| 08:30 | 19 | | 0 | | | 19 | | 20:30 | 42 | | 0 | | | 42 | |
| 08:45 | 19 | 88 | 0 | | | 19 | 88 | 20:45 | 49 | 173 | 0 | | | 49 | 173 |
| 09:00 | 13 | | 0 | | | 13 | | 21:00 | 30 | | 0 | | | 30 | |
| 09:15 | 24 | | 0 | | | 24 | | 21:15 | 38 | | 0 | | | 38 | |
| 09:30 | 24 | | 0 | | | 24 | | 21:30 | 45 | | 0 | | | 45 | |
| 09:45 | 22 | 83 | 0 | | | 22 | 83 | 21:45 | 25 | 138 | 0 | | | 25 | 138 |
| 10:00 | 16 | | 0 | | | 16 | | 22:00 | 42 | | 0 | | | 42 | |
| 10:15 | 29 | | 0 | | | 29 | | 22:15 | 26 | | 0 | | | 26 | |
| 10:30 | 30 | | 0 | | | 30 | | 22:30 | 29 | | 0 | | | 29 | |
| 10:45 | 26 | 101 | 0 | | | 26 | 101 | 22:45 | 21 | 118 | 0 | | | 21 | 118 |
| 11:00 | 20 | | 0 | | | 20 | | 23:00 | 27 | | 0 | | | 27 | |
| 11:15 | 31 | | 0 | | | 31 | | 23:15 | 31 | | 0 | | | 31 | |
| 11:30 | 23 | | 0 | | | 23 | | 23:30 | 27 | | 0 | | | 27 | |
| 11:45 | 23 | 97 | 0 | | | 23 | 97 | 23:45 | 24 | 109 | 0 | | | 24 | 109 |
| **TOTALS** | | 706 | | | | | **706** | **TOTALS** | | 1764 | | | | | **1764** |
| **SPLIT %** | | 100.0% | | | | | **28.6%** | **SPLIT %** | | 100.0% | | | | | **71.4%** |

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 2,470 | 0 | 0 | 0 | 2,470 |

| | NB | SB | EB | WB | TOTAL | | NB | SB | EB | WB | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AM Peak Hour** | 11:30 | | | | **11:30** | **PM Peak Hour** | 16:15 | | | | **16:15** |
| **AM Pk Volume** | 108 | | | | **108** | **PM Pk Volume** | 191 | | | | **191** |
| **Pk Hr Factor** | 0.771 | | | | **0.771** | **Pk Hr Factor** | 0.918 | | | | **0.918** |
| **7 - 9 Volume** | 152 | 0 | 0 | 0 | **152** | **4 - 6 Volume** | 350 | 0 | 0 | 0 | **350** |
| **7 - 9 Peak Hour** | 08:00 | | | | **08:00** | **4 - 6 Peak Hour** | 16:15 | | | | **16:15** |
| **7 - 9 Pk Volume** | 88 | 0 | 0 | 0 | **88** | **4 - 6 Pk Volume** | 191 | 0 | 0 | 0 | **191** |
| **Pk Hr Factor** | 0.759 | 0.000 | 0.000 | 0.000 | **0.759** | **Pk Hr Factor** | 0.918 | 0.000 | 0.000 | 0.000 | **0.918** |

Prepared by NDS/ATD

# VOLUME

## Loop Ramp from SB Sepulveda Blvd to W Century Blvd

**Day:** Sunday
**Date:** 8/10/2014

**City:** Los Angeles
**Project #:** CA14_5498_002

| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 2,242 | 0 | 0 | 0 | 2,242 |

| AM Period | NB | | SB | EB | WB | TOTAL | | PM Period | NB | | SB | EB | WB | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:00 | 25 | | 0 | | | 25 | | 12:00 | 30 | | 0 | | | 30 | |
| 00:15 | 13 | | 0 | | | 13 | | 12:15 | 27 | | 0 | | | 27 | |
| 00:30 | 16 | | 0 | | | 16 | | 12:30 | 23 | | 0 | | | 23 | |
| 00:45 | 24 | 78 | 0 | | | 24 | 78 | 12:45 | 37 | 117 | 0 | | | 37 | 117 |
| 01:00 | 17 | | 0 | | | 17 | | 13:00 | 35 | | 0 | | | 35 | |
| 01:15 | 14 | | 0 | | | 14 | | 13:15 | 29 | | 0 | | | 29 | |
| 01:30 | 11 | | 0 | | | 11 | | 13:30 | 33 | | 0 | | | 33 | |
| 01:45 | 3 | 45 | 0 | | | 3 | 45 | 13:45 | 32 | 129 | 0 | | | 32 | 129 |
| 02:00 | 13 | | 0 | | | 13 | | 14:00 | 30 | | 0 | | | 30 | |
| 02:15 | 9 | | 0 | | | 9 | | 14:15 | 37 | | 0 | | | 37 | |
| 02:30 | 5 | | 0 | | | 5 | | 14:30 | 31 | | 0 | | | 31 | |
| 02:45 | 10 | 37 | 0 | | | 10 | 37 | 14:45 | 28 | 126 | 0 | | | 28 | 126 |
| 03:00 | 7 | | 0 | | | 7 | | 15:00 | 34 | | 0 | | | 34 | |
| 03:15 | 7 | | 0 | | | 7 | | 15:15 | 23 | | 0 | | | 23 | |
| 03:30 | 2 | | 0 | | | 2 | | 15:30 | 35 | | 0 | | | 35 | |
| 03:45 | 3 | 19 | 0 | | | 3 | 19 | 15:45 | 28 | 120 | 0 | | | 28 | 120 |
| 04:00 | 10 | | 0 | | | 10 | | 16:00 | 30 | | 0 | | | 30 | |
| 04:15 | 5 | | 0 | | | 5 | | 16:15 | 26 | | 0 | | | 26 | |
| 04:30 | 7 | | 0 | | | 7 | | 16:30 | 45 | | 0 | | | 45 | |
| 04:45 | 6 | 28 | 0 | | | 6 | 28 | 16:45 | 27 | 128 | 0 | | | 27 | 128 |
| 05:00 | 8 | | 0 | | | 8 | | 17:00 | 47 | | 0 | | | 47 | |
| 05:15 | 6 | | 0 | | | 6 | | 17:15 | 37 | | 0 | | | 37 | |
| 05:30 | 9 | | 0 | | | 9 | | 17:30 | 46 | | 0 | | | 46 | |
| 05:45 | 10 | 33 | 0 | | | 10 | 33 | 17:45 | 33 | 163 | 0 | | | 33 | 163 |
| 06:00 | 14 | | 0 | | | 14 | | 18:00 | 43 | | 0 | | | 43 | |
| 06:15 | 8 | | 0 | | | 8 | | 18:15 | 39 | | 0 | | | 39 | |
| 06:30 | 9 | | 0 | | | 9 | | 18:30 | 28 | | 0 | | | 28 | |
| 06:45 | 9 | 40 | 0 | | | 9 | 40 | 18:45 | 54 | 164 | 0 | | | 54 | 164 |
| 07:00 | 13 | | 0 | | | 13 | | 19:00 | 45 | | 0 | | | 45 | |
| 07:15 | 6 | | 0 | | | 6 | | 19:15 | 38 | | 0 | | | 38 | |
| 07:30 | 13 | | 0 | | | 13 | | 19:30 | 41 | | 0 | | | 41 | |
| 07:45 | 7 | 39 | 0 | | | 7 | 39 | 19:45 | 37 | 161 | 0 | | | 37 | 161 |
| 08:00 | 20 | | 0 | | | 20 | | 20:00 | 37 | | 0 | | | 37 | |
| 08:15 | 9 | | 0 | | | 9 | | 20:15 | 37 | | 0 | | | 37 | |
| 08:30 | 15 | | 0 | | | 15 | | 20:30 | 42 | | 0 | | | 42 | |
| 08:45 | 14 | 58 | 0 | | | 14 | 58 | 20:45 | 54 | 170 | 0 | | | 54 | 170 |
| 09:00 | 12 | | 0 | | | 12 | | 21:00 | 29 | | 0 | | | 29 | |
| 09:15 | 18 | | 0 | | | 18 | | 21:15 | 36 | | 0 | | | 36 | |
| 09:30 | 19 | | 0 | | | 19 | | 21:30 | 32 | | 0 | | | 32 | |
| 09:45 | 20 | 69 | 0 | | | 20 | 69 | 21:45 | 30 | 127 | 0 | | | 30 | 127 |
| 10:00 | 13 | | 0 | | | 13 | | 22:00 | 21 | | 0 | | | 21 | |
| 10:15 | 30 | | 0 | | | 30 | | 22:15 | 33 | | 0 | | | 33 | |
| 10:30 | 20 | | 0 | | | 20 | | 22:30 | 35 | | 0 | | | 35 | |
| 10:45 | 23 | 86 | 0 | | | 23 | 86 | 22:45 | 22 | 111 | 0 | | | 22 | 111 |
| 11:00 | 20 | | 0 | | | 20 | | 23:00 | 21 | | 0 | | | 21 | |
| 11:15 | 28 | | 0 | | | 28 | | 23:15 | 25 | | 0 | | | 25 | |
| 11:30 | 17 | | 0 | | | 17 | | 23:30 | 25 | | 0 | | | 25 | |
| 11:45 | 35 | 100 | 0 | | | 35 | 100 | 23:45 | 23 | 94 | 0 | | | 23 | 94 |
| **TOTALS** | 632 | | | | | **632** | | **TOTALS** | 1610 | | | | | **1610** | |
| **SPLIT %** | 100.0% | | | | | **28.2%** | | **SPLIT %** | 100.0% | | | | | **71.8%** | |


| DAILY TOTALS | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|
| | 2,242 | 0 | 0 | 0 | 2,242 |


| | NB | SB | EB | WB | Total | | NB | SB | EB | WB | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AM Peak Hour** | 11:45 | | | | **11:45** | **PM Peak Hour** | 18:45 | | | | **18:45** |
| **AM Pk Volume** | 115 | | | | **115** | **PM Pk Volume** | 178 | | | | **178** |
| **Pk Hr Factor** | 0.821 | | | | **0.821** | **Pk Hr Factor** | 0.824 | | | | **0.824** |
| **7 - 9 Volume** | 97 | 0 | 0 | 0 | **97** | **4 - 6 Volume** | 291 | 0 | 0 | 0 | **291** |
| **7 - 9 Peak Hour** | 08:00 | | | | **08:00** | **4 - 6 Peak Hour** | 17:00 | | | | **17:00** |
| **7 - 9 Pk Volume** | 58 | 0 | 0 | 0 | **58** | **4 - 6 Pk Volume** | 163 | 0 | 0 | 0 | **163** |
| **Pk Hr Factor** | 0.725 | 0.000 | 0.000 | 0.000 | **0.725** | **Pk Hr Factor** | 0.867 | 0.000 | 0.000 | 0.000 | **0.867** |

*FINAL REPORT*

# Los Angeles International Airport 2011 Passenger Survey

## Results and Findings


*Presented to:*
*Los Angeles World Airports*

Prepared By:

UNISON Consulting, Inc.

In Association With:
Maroon Society

# TABLE OF CONTENTS

# LIST OF TABLES AND CHARTS

# SECTION I – EXECUTIVE SUMMARY

The primary purpose of this survey is to gather up-to-date information about airport passengers. This information will be used as part of Los Angeles World Airports' ("LAWA") ongoing effort to modernize and improve airport ground transportation access, and also passenger, parking, and terminal facilities at Los Angeles International Airport ("LAX"). In particular, the survey is intended to help LAWA gain a better understanding of the air passenger market in terms of trip attributes such as airport ground access, parking, trip origin, and air passenger demographics.

## SURVEY METHODOLOGY

Unison Consulting, Inc., in association with Maroon Society (the "Unison Team") was commissioned to conduct the survey. The Unison Team took the following measures in the survey design, administration, and analysis to assure a high level of quality:

- The Unison Team consulted with LAWA to refine the survey questionnaire previously used in 2006 with nearly 100 multiple choice and open-ended questions to help elicit information regarding passenger demographics and travel behavior, specifically points of origination and ground transportation access to LAX. The refined survey questionnaire was converted into an electronic format and downloaded to handheld electronic tablets for survey administration. The electronic format allowed for a streamlined and efficient survey process. Moreover, for each survey, the interviewer and passenger would read and answer each question together to create an interactive survey process, which helped encourage passenger interest and participation, as well as minimize errors in interpretation by respondents.
- The Unison Team took various measures to obtain our target sample size as efficiently as possible, while ensuring that the sample was representative of the composition of passenger traffic at LAX. A stratified random sampling approach was adopted in planning the survey sample. The stratification was based on the actual distribution of passengers by terminal and airline. As shown on Table I-1, the survey sample closely matches the 2010 distribution of passengers for the 10 airlines with the largest market shares at LAX.

**Table I-1**
**Distribution by Airline (Top 10 Airlines)**
**Sample vs. 2010 Enplanements**

| Top 10 Airlines By Market Share | Survey Sample | Actual Market Share* | Difference |
|---|---|---|---|
| United | 19.9% | 19.5% | 0.4% |
| American | 15.8% | 15.9% | -0.1% |
| Delta | 11.9% | 11.5% | 0.4% |
| Southwest | 11.1% | 12.6% | -1.5% |
| Continental | 4.9% | 3.9% | 1.0% |
| Alaska | 4.0% | 4.4% | -0.4% |
| Virgin America | 2.8% | 3.3% | -0.4% |
| US Airways | 2.4% | 2.7% | -0.3% |
| Qantas | 2.6% | 2.1% | 0.5% |
| Air Canada | 2.4% | 1.4% | 1.0% |
| Top 10 Airlines | 77.9% | 77.3% | 0.6% |

*Source: LAWA file "YTD 2011 Departing Passengers"
Note: Differences in numbers are due to rounding

- The survey was administered using a staggered schedule from as early as 5:00 a.m. to as late as 1:00 a.m. during two non-consecutive seven-day periods. **The "peak" period survey was conducted August 22 to August 28, 2011**, which is one of the highest passenger volume travel months during the year. **The "off-peak" period survey was conducted during October 17 to October 24, 2011, a lower passenger volume travel month.**.

- Using electronic tablets to conduct one-on-one intercept surveys, interviewers randomly approached departing passengers waiting in the post-security holdrooms of each terminal: Terminals 1 through 8 and Tom Bradley International Terminal ("TBIT"). In addition, survey interviewers randomly approached departing passengers waiting in the pre-security lobby areas of TBIT, where many passengers linger before going to their gates. In total, the Unison Team administered surveys to nearly **23,000 passengers**, which exceeded our original sample goal of 13,000. The sample closely mirrored the actual distribution of passengers by airline as well as by terminal in 2011.[1] In addition, the sample size for each terminal is statistically significant with a margin of error of ±1% at a confidence level of 95%.

- To assess the comparability of 2011 data to the 2006 survey – which reported weighted data – Unison tested weighting of the 2011 peak and non-peak survey samples based on the actual 2011 passenger traffic ratios, assuming June through August is the peak period and the remaining nine months is the non-peak period. Unison found only statistically insignificant differences between weighted and un-weighted 2011 data. As such, comparisons between 2011 data presented in this report and past survey results are valid.

*Interactive survey process encouraged passenger participation and interest*

- Point of origination ZIP code data was geocoded for the purpose of conducting the geospatial analysis. The process of geocoding includes matching each ZIP code centroid (center) to its corresponding latitude and longitude coordinates.

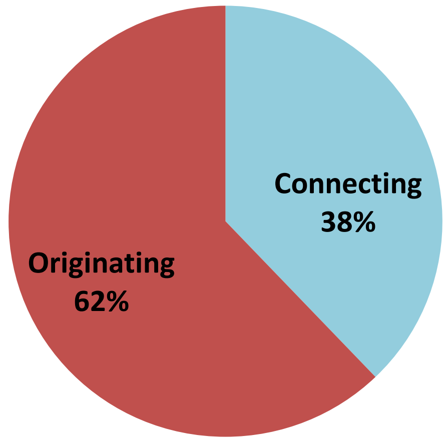
## ORIGINATING VERSUS CONNECTING PASSENGERS

The survey analysis differentiates between Originating and Connecting Passengers. The survey questionnaire began with a question to determine which category a respondent belonged, then branched into different questions based on the response. Originating Passengers are defined as air passengers who start their trip at LAX. Connecting Passengers are defined as air passengers who started their trip from another airport and depart from LAX on a connecting flight. Originating Passengers were asked questions

[1] A list of airlines by terminal at the time the survey was conducted is located in Appendix B of this report. In March 2012, Continental Airlines (in T-6) completed its merger with United Airlines. Also that month, Alaska Airlines relocated from T-3 to T-6. The 2011 passenger survey was conducted prior to these changes.

about point of origin, ground transportation, routes, parking, and visitor information. In 2011, 62% of air passengers surveyed are originating from LAX and 38% flew into LAX to connect to another departing flight (Figure I-1).

**Figure I-1**
**Originating and Connecting Passengers** (n=22,269)



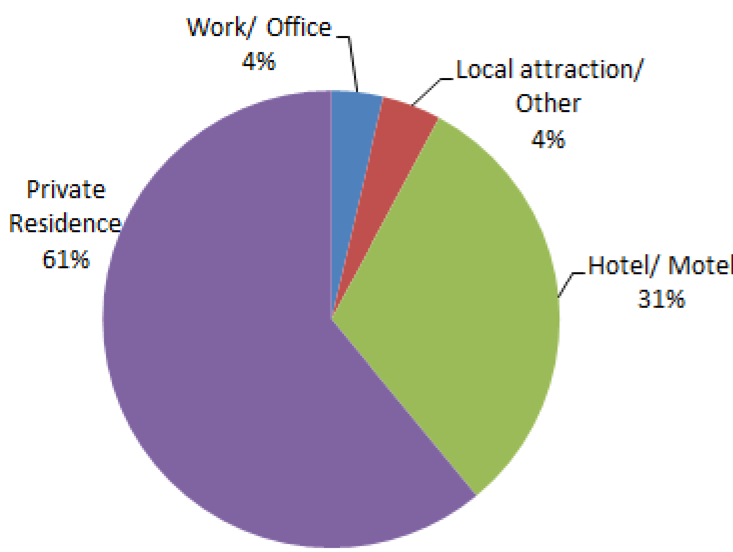

## ORIGINATING PASSENGERS

### Ground Trip Point Of Origin

Passengers originating from Southern California were asked where they started their ground trip to LAX to better understand airport ground transportation access. Sixty-one percent (61%) of Originating Passengers in 2011 come from a private residence (their home or someone else's home); 31% from a hotel/motel; 4% from a work place; and 4% from another place such as a local attraction, cruise, or college (Figure I-2).

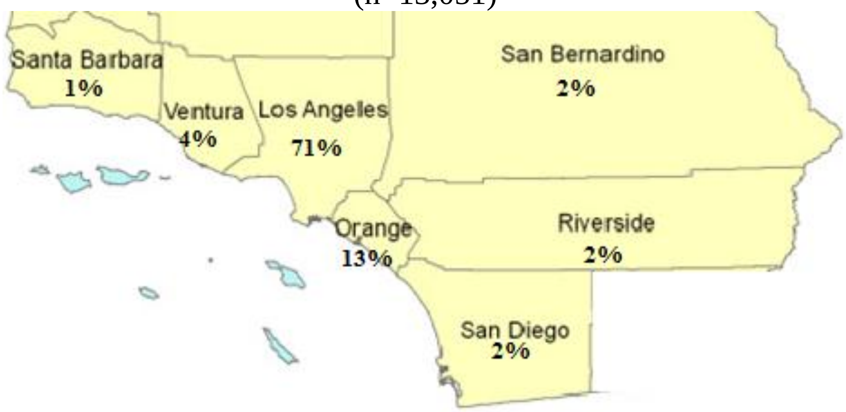
*41% of passengers are coming from their home and 20% from someone else's home*

**Figure I-2**
**Ground Trip Point of Origin** (n=13,816)



Originating Passengers were also asked their ZIP code of origination. Passengers who did not know the ZIP code were asked a series of questions and provided a map to help better identify their point of origination. In 2011, 71% of passengers arrive from a location in Los Angeles County, 13% arrive from Orange County, 4% from Ventura County, and 2% each from San Bernardino, Riverside, and San Diego Counties. One percent (1%) arrive from Santa Barbara (Figure I-3). Notably, the largest concentration of passengers arrive from the LAX and Westchester Area followed by Santa Monica, Hollywood, West LA, Long Beach, and Beverly Hills.

**Figure I-3**
**Southern California County of Origin**[2]
(n=13,051)




## Residents and Visitors

*59% of Originating Passengers are residents and 41% are visitors to the area*

Survey interviewers asked Originating Passengers if they are visitors to or residents of Southern California ("Residents"). Residents are defined as those living in the area north of the Mexican border and south of Santa Barbara; all others are defined as Visitors. In 2011, 59% of Originating Passengers are Residents and 41% are Visitors to Southern California. There are several differences between the travel behavior of Residents and Visitors as shown on Table I-2 and described below.

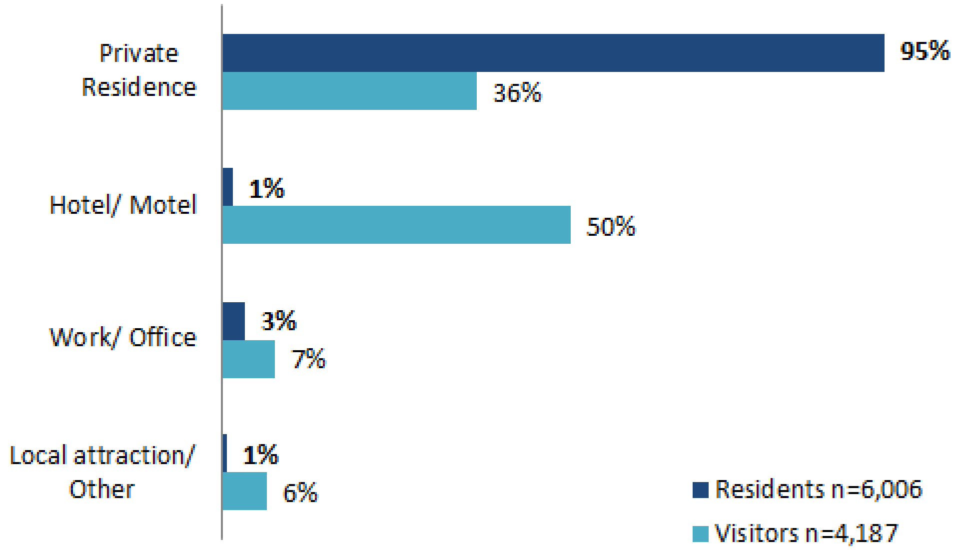
**Table I-2**
**Residents versus Visitors**

| Travel Characteristics | Residents | Visitors |
|---|---|---|
| Came from private residence | 95% | 36% |
| Used private vehicle | 75% | 33% |
| Parked off-Airport | 42% | 15% |
| Used I-105 to come to LAX | 33% | 22% |
| Traveling for vacation/ pleasure | 37% | 30% |
| Dwell time 2+ hours | 58% | 64% |
| Accompanied by well-wisher | 25% | 16% |

[2] Excludes 4% of passengers originating outside of Southern California.

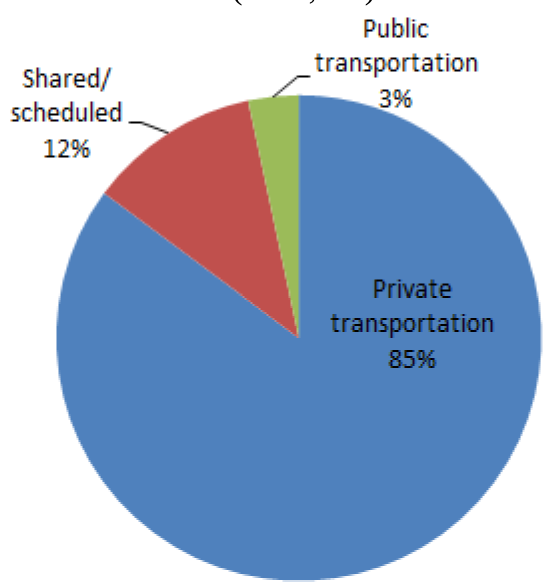
As shown in Figure I-4, the ground trip point of origin varied significantly between Residents and Visitors. The vast majority of Residents come from a private residence compared to 36% of Visitors. Another 50% of Visitors come from a hotel/motel, compared to1% of residents. Further, a larger percentage of Visitors come from a work place or local attraction/other location as compared to Residents.

**Figure I-4**
**Point of Origin - Residents versus Visitors**



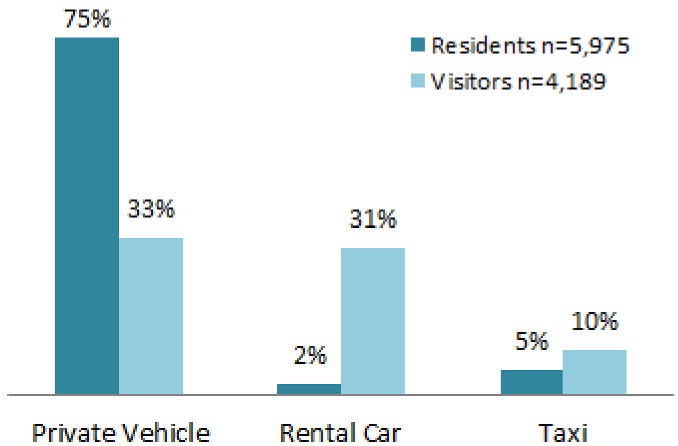

The majority of passengers travel to LAX via private transportation, either by private vehicle, taxi, town car/limousine, or private shuttle. Twelve percent (12%) of originating passengers use a shared shuttle/van or scheduled bus service, and 3% use public transportation (Figure I-5).

**Figure I-5A**
**Ground Mode of Transportation to LAX – All Originating Passengers**
(n=13,497)



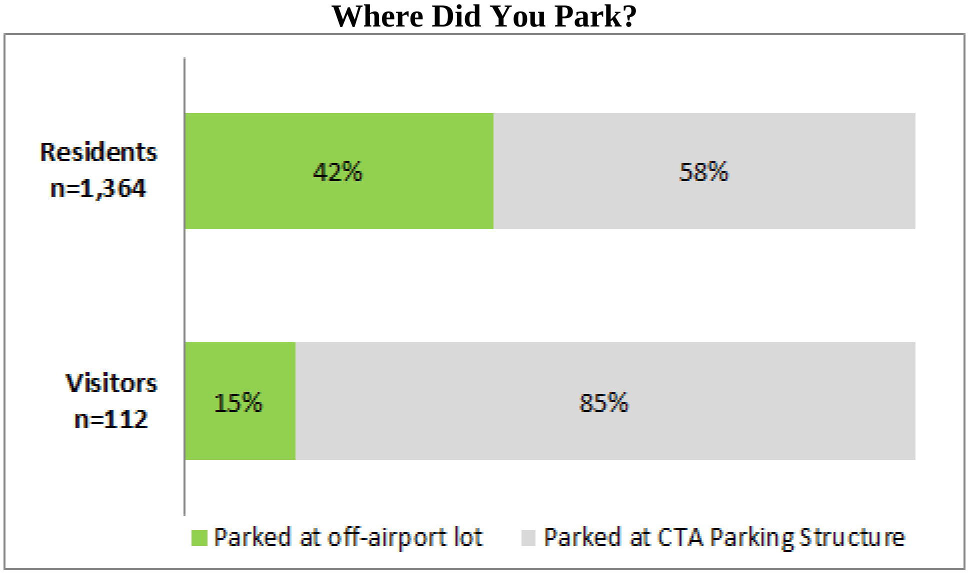
Of passengers who use private transportation to LAX, there is a notable difference between Residents and Visitors. Seventy-five percent (75%) of Residents use a private vehicle as their primary mode of ground transportation to LAX compared to 33% of Visitors (Figure I-5B). Only 2% of Residents compared to 31% of Visitors use a rental car. Five percent (5%) of residents and twice as many Visitors use a taxi as their mode of transportation to LAX.

**Figure I-5B**
**Ground Mode of Transportation to LAX – Residents versus Visitors**




In 2011, 76% of passengers using a private vehicle are dropped off at the terminals, and 24% park their car. The large majority of these are Residents: of the passengers using a private vehicle who park, 93% are Residents and 27% are Visitors. Of those who park, Residents are more likely to park in off-airport lots than Visitors. Forty-two percent (42%) of Residents compared to 15% of Visitors park in off-airport parking lots (Figure I-6). The most frequently used off-airport parking lots are Wally Park, Parking Spot, and Park One.

**Figure I-6**
**Where Did You Park?**




Unison Consulting, Inc.

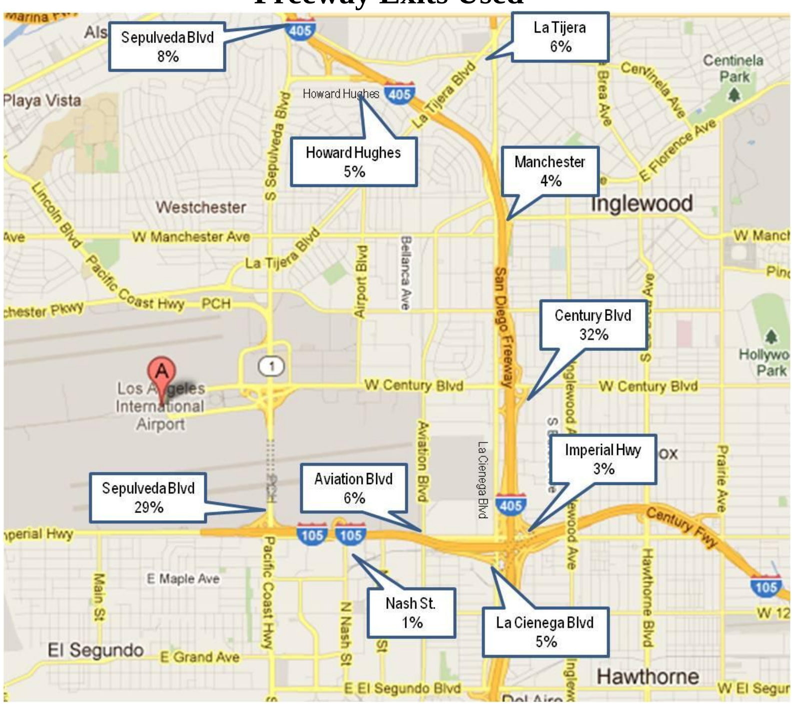
The majority of passengers who use a rental car drive directly to the rental car agency before arriving at LAX. Four percent (4%) of rental car users drop off passengers at the airport curb and then return the rental car. One percent (1%) park the rental car and then depart LAX (they did not return the car to the rental agency when flying out of LAX).

## Route to LAX

Passengers who travel to LAX via private transportation such as a private vehicle, rental car, private shuttle/ van, taxi, or limousine/town car were asked about their route to LAX; specifically, which freeway and exit they used. To help passengers answer this question, a map was provided to point out the various routes and exits to the airport. Forty-one percent of passengers use I-405 to access LAX, 27% use I-105, and 20% did not use a freeway. The Century Blvd exit from I-405 is the most frequently used exit, followed by the Sepulveda Blvd exit from I-105 (Figure I-7).

*Most frequently used routes are the I-405 (41%) and I-105 (27%)*

**Figure I-7**
**Freeway Exits Used[3]**

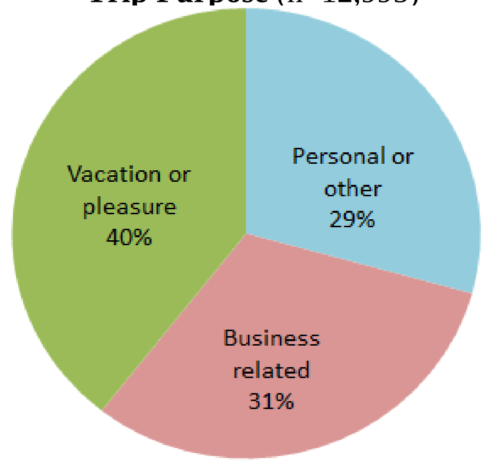



[3] Figure excludes 1% of passengers that use Imperial Highway from I-105.

## Trip Purpose

The largest share of passengers travel for vacation or pleasure, 31% travel for business related purposes, and the remaining 29% travel for other personal reasons (Figure I-8). Passengers who travel for vacation or pleasure purposes are most likely to check baggage and travel in larger groups.

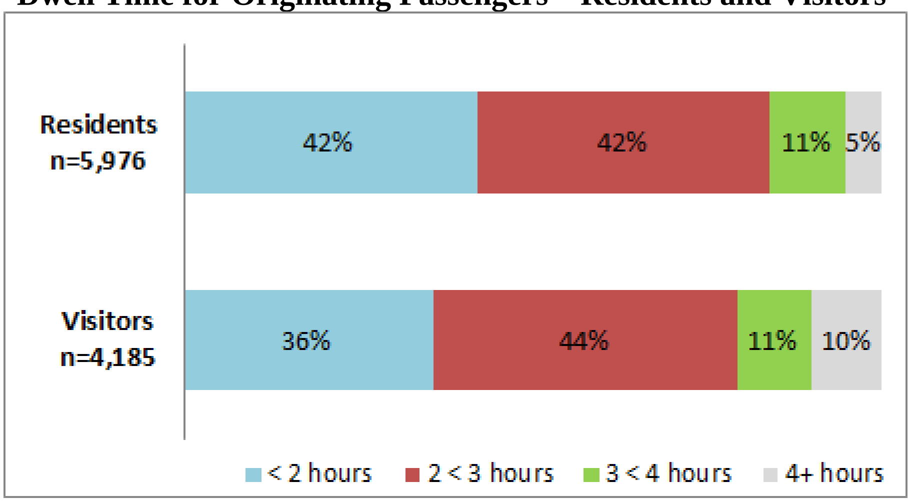
**Figure I-8**
**Trip Purpose** (n=12,995)




## Dwell Time

Originating Passengers were asked about their dwell time, which is defined as length of time spent at the airport prior to the scheduled departure time. In 2011, 34% of Originating Passengers report dwell times of less than two hours, 42% report dwell times of two to three hours, and 14% report dwell times of three to four hours. Ten percent (10%) of Originating Passengers report dwell times of over four hours. Not surprisingly, Residents report shorter dwell times: 42% of Residents arrive less than two hours before their departure, compared to 36% of Visitors (Figure I-9). It is not unusual that Visitors report longer dwell times than Residents, because Residents are generally more familiar with the airport and the time it takes to check in, pass security screening, and access the holdroom gates.

**Figure I-9**
**Dwell Time for Originating Passengers – Residents and Visitors**

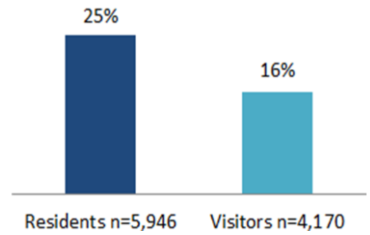


## Well-Wishers

*Visitors are less likely to be accompanied inside the terminal by a well-wisher*

Well-wishers are defined as non-passengers who enter the terminal with a passenger, typically to see off the passenger. The majority of Originating Passengers do not arrive at LAX with well-wishers: 78% of passengers do not have a well-wisher accompany them inside the terminal, while 22% are accompanied by at least one person see them off. A larger percentage of Resident passengers are accompanied by well-wishers: 25% of Residents compared to 16% of Visitors. The other 75% of Residents and 84% of Visitors are not accompanied by well-wishers.

**Figure I-10**
**Accompanied Inside Terminal by Well-Wisher**



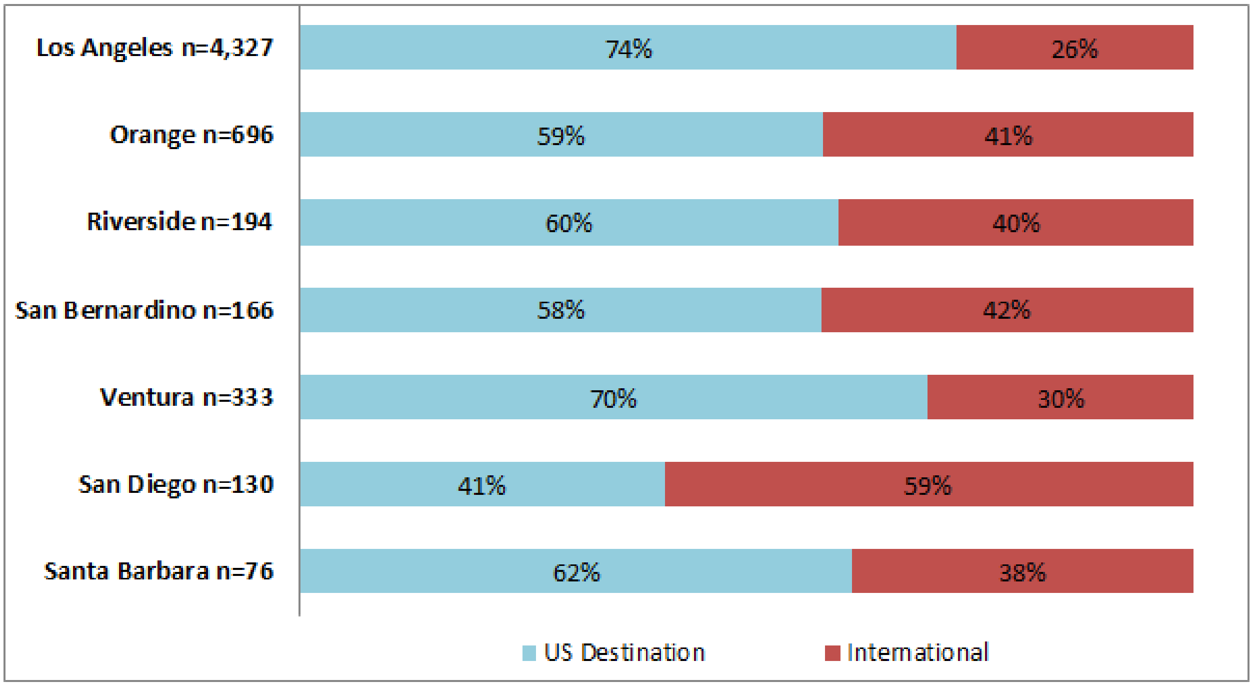

## Visitor Spending

Visitors spend an average of 6.6 nights in the Southern California area according to the survey data. Visitors spend an average of $1,284 for lodging, entertainment, meals, shopping, and off-airport transportation during their visit.

## Final Destination

The majority of Originating Passengers are destined for another state (55%), while 10% are headed to another city in California, and 35% of passengers travel to an international destination. A smaller percentage of Los Angeles County residents (26%) fly to an international destination in comparison to residents of other counties. For example, 59% of Resident passengers from San Diego County depart to an international destination from LAX. It appears logical that a larger percentage of San Diego County residents, as well as Residents from other counties, are more likely to use their local airport for domestic travel.

**Figure I-11**
**Final Destination**



## CONNECTING PASSENGERS

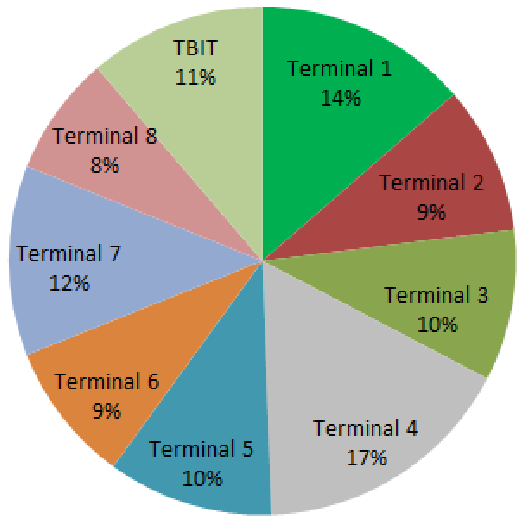
The discussion below highlights responses from Connecting Passengers:

- Sixteen percent (16%) of Connecting Passengers originate from another California airport, another 52% originate from a domestic airport outside of California, and 32% of Connecting Passengers start their trip from a non-US airport.
- Fifty-five percent (55%) of Connecting Passengers arrive in one terminal and depart from a different terminal. Seventy percent (70%) of these Connecting Passengers walk to their departure terminal, and 29% use inter-terminal shuttle bus.
- Seventy-eight percent (78%) of passengers have layover times of two hours or more while 22% have layover times of less than two hours.
- Five percent (5%) of Connecting Passengers leave the airport during their layover. Eighty percent (80%) of those who leave the airport spend money off-airport and spend an average of $310. The median spend amount (defined as the midpoint of the range of reported spend amounts) is $100. The majority of passengers use private transportation when returning to LAX (62%). Another 14% use hotel courtesy shuttles, 13% use shared shuttle services, and the remaining 12% use scheduled or chartered buses, vans or public transportation to return to LAX.
- Fifty-three percent (53%) of Connecting Passengers fly to another domestic airport destination outside of California, 31% fly to an international destination, and 16% of Connecting Passengers fly to another airport in California.

## GENERAL PASSENGER INFORMATION

The survey also gathered general information from all passengers regarding terminal used as well as basic demographic characteristics, such as income, age, and gender. Figure I-12 shows the largest subgroup of passengers surveyed use Terminal 4, followed by Terminals 1 and 7.

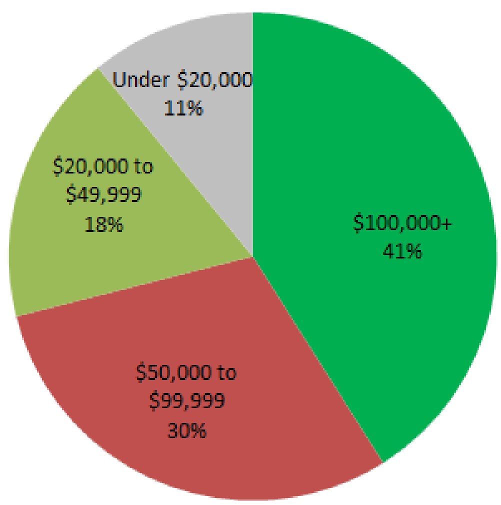
**Figure I-12**
**Departure Terminal Used** (n=22,624)




### Annual Household Income

The largest subgroup of passengers report household incomes $100,000 or more (Figure I-13). Thirty percent (30%) report household incomes between $50,000 and $100,000, and the remaining 29% report incomes of less than $50,000 annually.

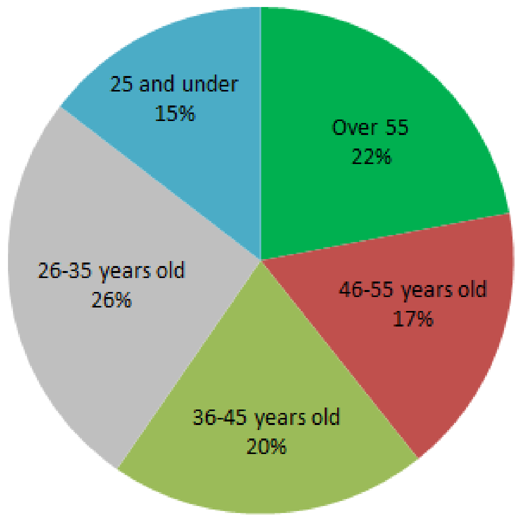
**Figure I-13**
**Annual Household Income (U.S. Residents Only)** (n=15,093)



## Age Range

The majority of passengers are 45 years old or younger (61%). Seventeen (17%) percent of passengers are between 46 to 55 years old, and 22% are over 55 years old.

**Figure I-14**
**Age Range of Passengers** (n=20,650)




## Gender

The survey results indicate a slightly greater percentage of male travelers. Fifty-three percent (53%) of passengers are male, compared to 47% female.

# SECTION II – SURVEY METHODOLOGY

The primary purpose of this survey was to gather up-to-date information on airport passengers as part of Los Angeles World Airports' ("LAWA") ongoing effort to modernize and improve ground transportation access, as well as passenger, parking, and terminal facilities at Los Angeles International Airport ("LAX"). In particular, the survey was intended to assist LAWA in analyzing the following information:

- Proportion of connecting passengers
- Proportion of passengers who are Residents versus Visitors
- Points of origin of Originating Passengers
- Trip duration and purpose
- Size of traveling party by passenger type (Resident versus Visitor)
- Mode of access to LAX by passenger type (Resident versus Visitor) and trip purpose
- Major ground access routes used by by passenger type (Resident versus Visitor) to reach LAX
- Types of parking facilities used
- Arrival times at LAX prior to flight departure times
- Proportion of passengers who are dropped off at the terminal curbside
- Proportion of passengers accompanied by non-fliers (residents versus visitors)
- Number of checked baggage items

Unison Consulting, in association with Maroon Society (the "Unison Team"), was commissioned to conduct the survey efforts to assist in this effort. Unison's approach to survey design and data analysis is based on theories and methods in economics and statistics, considering that this survey data is fundamental to LAWA's airport planning activities. The Unison Team used a stratified random sampling approach that is based on the distribution of passengers by terminal, air carrier, time of day, and day of the week to ensure a representative sample of passengers. A description of the survey methodology is described below.

## Hiring and Training

Approximately 50 interviewers – plus four supervisors – were hired to administer surveys. Twenty of the 50 interviewers were bilingual. Prior to survey administration, the Unison Team provided a comprehensive three-hour training session to ensure all interviewers were properly trained to approach passengers, use an electronic tablet, and maintain professionalism at all times. Throughout the survey period, supervisors and Unison Team managers provided ongoing coaching to interviewers in order to maintain survey standards.

## Survey Instrument

The Unison Team, in consultation with LAWA staff, used the 2006 survey questionnaire as a baseline and developed a questionnaire to gather the necessary data. The Team worked to ensure all questions were clear, concise, and easy to understand. Nearly 100 multiple choice and open-ended questions were developed to elicit information regarding passenger trip attributes, visitor spending, airport ground access, parking, origination, and demographic characteristics. The survey questionnaire was then converted into an electronic format and downloaded to handheld electronic tablets for use by interviewers in conducting the survey. An important element of the electronic questionnaire format was the built-in skip condition and branch logic feature, which allowed the Unison Team to program the questionnaire so that respondents would skip questions not applicable to their experience at LAX. For example, only Originating Passengers were asked questions related to airport access and origination while Connecting Passengers would skip these series of questions, making the survey process more streamlined and efficient.

*An electronic questionnaire streamlined the survey process, resulting in efficiency and increased productivity in survey administration*

The Unison Team conducted a pilot test on August 12, 2011. Using the electronic tablets, survey interviewers conducted one-on-one intercept surveys to approximately 50 departing passengers to identify any challenges in the design of the survey questionnaire, response rate, and time required to complete each survey. The survey questionnaire was then refined based on our observations from the pilot test. The final survey instrument is attached in Appendix A.

## Survey Sampling Design and Administration

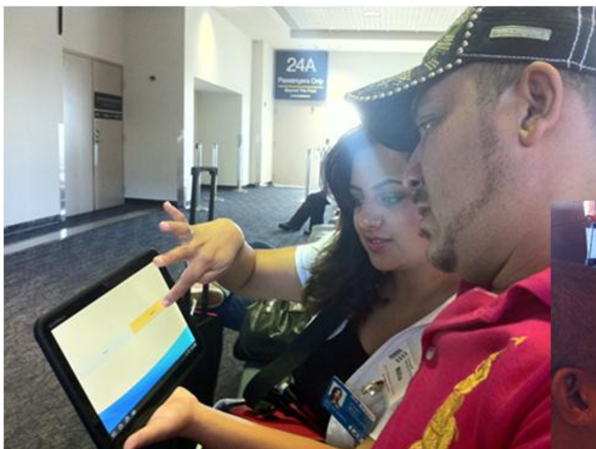
The Unison Team took various measures to obtain our target sample size as efficiently as possible, while ensuring that the sample was representative of the composition of passenger traffic at LAX. A stratified random sampling approach was adopted in selecting respondents. The stratification was based on the actual distribution of passengers by terminal and airline. Specific targets were established with respect to the total sample size as well as the proportional breakdown of the sample by terminal. In planning the schedule for survey administration, Unison reviewed published airline flight schedules – as well as historical enplanements – in order to develop sample targets.

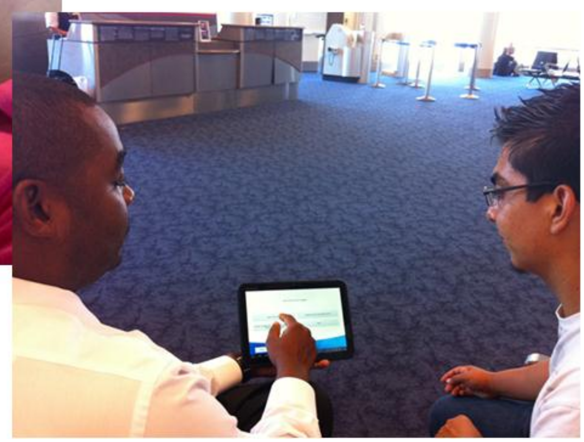
The survey was administered using a staggered schedule from as early as 5:00 a.m. to as late as 1:00 a.m. during two non-consecutive one-week periods to ensure all passenger groups were adequately captured. The survey was conducted in two waves using the same methodology to account for any differences in air passenger characteristics between peak and non-peak travel. The "peak" survey was conducted during the seven-day period from August 22 to August 28, 2011, which is one of the highest passenger volume travel months in the year. The "non-peak" survey was conducted during a lower passenger volume travel month, during the seven-day period from October 17 to October 24, 2011.

**Table II-1**
**Survey Sample**

| Survey | Dates | Sample Size |
|---|---|---|
| Peak | August 22-28, 2011 | 11,846 |
| Non-Peak | October 17-24, 2011 | 10,778 |

Unison Team supervisors reviewed the day's schedule of flight departures and gate assignments, and deployed survey staff members accordingly at the beginning of each survey day. Using the electronic tablets to conduct one-on-one intercept surveys, interviewers randomly approached departing passengers waiting in the post-security holdrooms of each terminal: Terminals 1 through 8 and Tom Bradley International Terminal ("TBIT"). In addition, survey interviewers randomly approached departing passengers waiting in the pre-security lobby areas of TBIT, where many passengers linger before going to their gates. Unison senior staff was available every hour the survey was conducted to ensure the utmost quality and professionalism regarding survey administration – as well as ensure surveys did not disrupt airport operations.



*Interactive survey process increased passenger interest and participation.*

The Unison Team interviewed nearly 23,000 passengers, which well exceeded our original sample goal of 13,000. Several factors contributed to the successful survey:

- The 2006 survey questionnaire was refined by re-wording questions and choices to help ensure clarity in responses, as well as programming additional skip logic functions to streamline the survey process.

- Unison upgraded its survey software to create an improved interactive survey experience for the passengers that resulted in greater efficiency during survey administration.

- The Unison Team provided on-going training and coaching to the survey interviewers, which helped increase passenger participation and interest in the survey.

The sample closely mirrors the actual distribution of passengers by terminal (Table II-2). The sample size for each terminal is statistically significant with a margin of error of ±1% at a confidence level of 95%, exceeding contract requirements.

**Table II-2**
**Survey Sample by Terminal**

*Nearly 23,000 surveys were collected. Margin of error is ±1%.*

*Sample also closely matches distribution by terminal.*

| | 2011 Sample Size | Terminal % | Actual Enplanements* |
|---|---|---|---|
| Terminal 1 | 3,080 | 14% | 14% |
| Terminal 2 | 2,131 | 9% | 8% |
| Terminal 3 | 2,180 | 10% | 12% |
| Terminal 4 | 3,793 | 17% | 18% |
| Terminal 5 | 2,389 | 11% | 10% |
| Terminal 6 | 2,030 | 9% | 9% |
| Terminal 7 | 2,739 | 12% | 10% |
| Terminal 8 | 1,731 | 8% | 6% |
| TBIT | 2,551 | 11% | 12% |

*LAWA website traffic report for CY 2011

### Data Tabulation and Analysis

The Unison Team used SPSS – statistical software commonly used for survey analysis – for initial processing and data cleaning of survey results. The Unison Team re-coded responses based on the logical choices for quality control,. For example, if a passenger chose "other" place of origination, but also indicated, for example, Marriott El Segundo Hotel, the response was re-coded to "hotel" as place of origination and the corresponding ZIP code and county data was then entered.

Further, verbatim responses were re-sorted to given categories wherever possible. For example, a respondent may have entered "a hospital visit" as a verbatim response in the "Other" trip purpose; however, this type of trip should fall under the "Personal" category and thus was re-coded as appropriate.

The Unison Team analyzed the survey data using standard statistical methods such as frequency and cross tabulation analysis. We also performed statistical analyses to determine whether significant differences exist among different types of passengers. Finally, the data was compared to results from previous passenger surveys to help determine if there are trends that can be used in future planning projects. To assess the comparability of the 2011 survey and past surveys, Unison tested weighting of the 2011 peak and off-peak survey samples, based on the actual ratio of passenger traffic, similar to the methodology of the 2006 survey. A review of weighted and un-weighted survey findings indicates no statistical difference in the data. Thus, current and past survey data can be directly compared.

Appendix B presents a summary of the "raw" survey responses. Section III provides a comprehensive discussion of the refined survey results, which means in some cases the discussion excludes "Don't Know", "Refused", or "Other" responses, for ease in interpreting the survey findings.

# SECTION III – SURVEY RESULTS

The survey results are reported and analyzed for two basic categories of departing passengers: Originating Passengers and Connecting Passengers. Originating Passengers are departing passengers who begin their trip at LAX. Connecting Passengers are departing passengers who arrive at LAX on one flight, then transfer to another flight to continue their trip to another airport.

Based on the passenger's initial response, the survey questionnaire branched into separate lines of questions for the two basic categories. Originating Passengers were asked questions about place of origination in Southern California, ground transportation, routes, parking, and visitor information. Connecting Passengers were directed to a more streamlined survey pertaining primarily to questions regarding their layover time at LAX. All passengers were asked about terminal use, demographic information, and trip characteristics. Table III-1 provides a summary of the questions for each passenger group.

**Table III-1**
**Summary of Questions by Passenger Category**

| All Passengers | Originating | Connecting |
|---|---|---|
| ◆ Terminal | ◆ Point of origin | ◆ Origination from U.S. Airport or Country |
| ◆ Airline | ◆ Zip code or location of origin | ◆ Terminal landed |
| ◆ U.S. or Non-U.S. Resident | ◆ Dwell time | ◆ Mode of transportation between terminals |
| ◆ Final Destination | ◆ Well wishers | ◆ Layover time |
| ◆ Income | ◆ Baggage information | ◆ Leave airport premises during layover |
| ◆ Age | ◆ Mode of transportation to LAX | ◆ Amount spent, if any off airport |
| ◆ Gender | ◆ Rental car behavior and usage | ◆ Mode of transportation back to LAX |
| ◆ Trip Purpose | ◆ Parking behavior and usage | ◆ Discretionary layover time |
| | ◆ Parking lot used | |
| | ◆ Route to LAX | |
| | ◆ Visitor or resident | |
| | ◆ Zip code or area of resident | |
| | ◆ Trip duration | |
| | ◆ Nights in S. California, if visitor | |
| | ◆ Amount spent off-airport, if visitor | |
| | ◆ Size of travel party | |

## ORIGINATING PASSENGERS

The discussion below highlights responses from Originating Passengers. The majority of LAX departing passengers are Originating Passengers, which is similar to the results from surveys conducted in 2001 and 2006. In 2011, 62% of departing passengers are Originating Passengers, while 38% of departing passengers are Connecting Passengers (Table III-2). These proportions are based on the total sample of surveys collected during the peak and non-peak periods. The difference between the peak and non-peak periods is minimal.

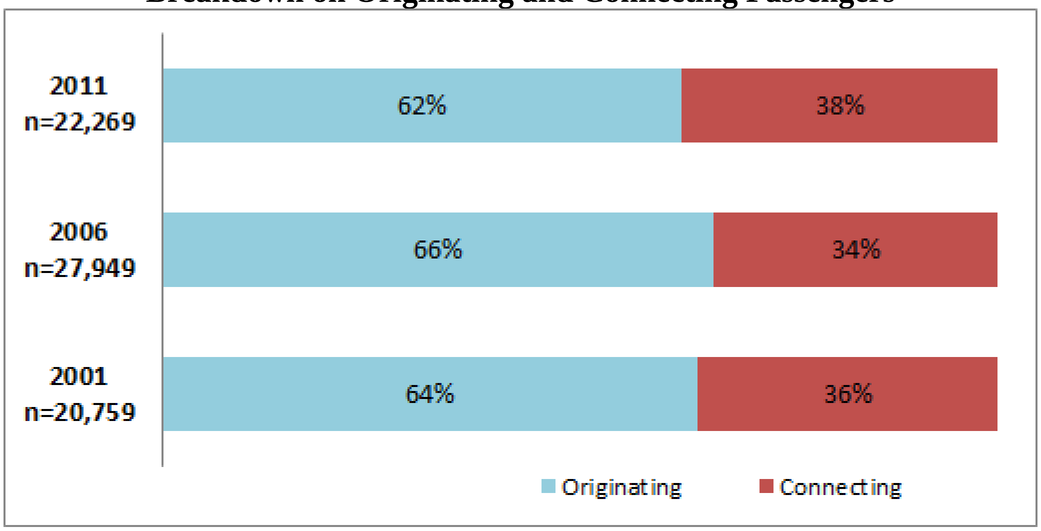
*% of O&D passengers is similar between peak and non-peak survey.*

**Table III-2**
**Breakdown on Originating and Connecting Passengers**

| Type of Passenger | Peak n=11,587 | Non-Peak n=10,682 | Total Sample n=22,269 |
|---|---|---|---|
| Originating | 62% | 63% | 62% |
| Connecting | 38% | 37% | 38% |

The percentage of Originating Passengers is slightly lower in 2011 compared to prior years: in 2006, 66% of passengers were Originating Passengers; in 2001, 64% (Figure III-1).

**Figure III-1**
**Breakdown on Originating and Connecting Passengers**




## Residents and Visitors

The survey asked Originating Passengers to indicate if they are residents of Southern California or visitors. The Southern California area is defined as the area between the Mexican border and Santa Barbara. Fifty-nine percent (59%) of Originating Passengers are residents and 41% are visitors to Southern California (Table III-3). The percentage of Originating Passengers who are Southern California residents is larger in the peak survey than the non-peak survey: 61% in the peak survey are residents of Southern California compared to 57% in the non-peak survey. Visitors represent 39% of Originating Passengers in the peak survey compared to 43% in the non-peak survey.

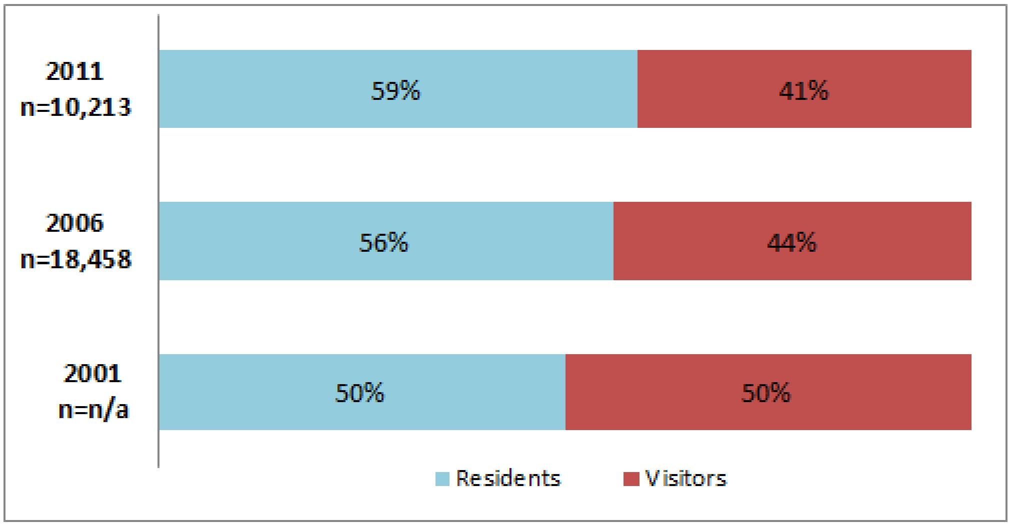
*In 2011, a greater percentage of residents are traveling in the peak season.*

**Table III-3**
**Breakdown on Visitors and Residents**

| Area of Residence | Peak n=5,158 | Non-Peak n=5,055 | Total Sample n=10,213 |
|---|---|---|---|
| Residents | 61% | 57% | 59% |
| Visitors | 39% | 43% | 41% |

The percentage of Visitors in 2011 represents a significant change from the previous surveys. In 2006, 44% of Originating Passengers were Visitors; in 2001, 53% (Figure III-2). As will be discussed throughout this analysis, some of the differences between the 2011 and 2006 findings may be related to the change in the market shares of Visitors and Residents.

**Figure III-2**
**Breakdown on Visitors and Residents**




## Ground Trip Point of Origin

Originating Passengers were asked to indicate their point of origination in order to update and assess ground transportation access patterns. In 2011, 41% of Originating Passengers come from their home, 31% from a hotel/motel, 20% from someone else's home, and 4% from the work place (Table III-4). Another 3% come from another place such as cruise ships or a college. The difference between peak and non-peak points of origination is notable for passengers who originate from a private residence or a hotel/ motel. The peak survey found that 63% of Originating Passengers come from their home or someone else's home compared to 58% in the non-peak survey.

*A greater percentage of passengers come from a private residence in the peak survey to LAX.*

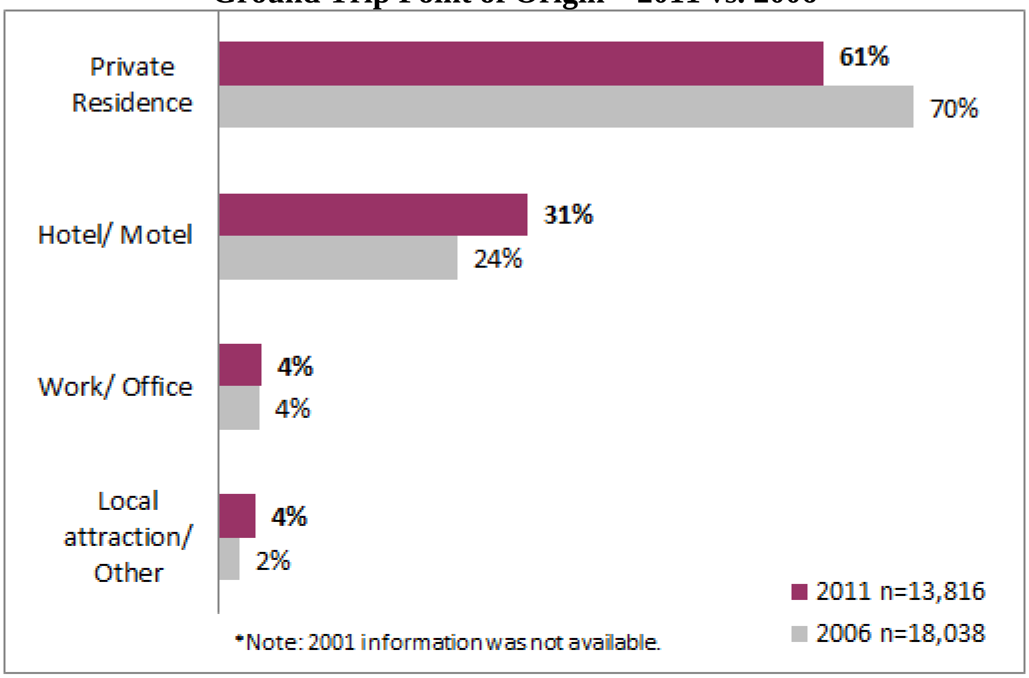
**Table III-4**
**Ground Trip Point of Origin**

| Originating Passengers Place of Origin | Peak n=7,142 | Non Peak n=6,674 | Total Sample n=13,816 |
|---|---|---|---|
| Your home | 42% | 40% | 41% |
| Hotel/ Motel | 30% | 33% | 31% |
| Someone else's home | 21% | 18% | 20% |
| Work/ Office | 4% | 4% | 4% |
| Another place | 2% | 3% | 3% |
| Local attraction | 1% | 1% | 1% |

Compared to the 2006 survey, a smaller percentage of Originating Passengers come from a private residence and more passengers come from a hotel/ motel. In 2006, 70% of Originating Passengers came from a private residence and 24% came from a hotel/ motel (Figure III-3). The percentage of passengers that come from the work place stayed the same at 4%.

**Figure III-3**
**Ground Trip Point of Origin – 2011 vs. 2006**

*In 2011, a greater percentage of passengers are coming from a hotel/ motel than in 2006.*



Part of the change between 2006 and 2011 is explained by the increased percentage of Visitors at the airport. In general, point of origin differs between Visitors and Residents. The majority of Residents come from a private residence: 95% of Residents in 2011 and 92% in 2006. Only 1% of Residents come from a hotel/motel in 2011, a slight decrease from 3% in 2006 (Figure III-4A). In contrast, the majority of Visitors come from a hotel/motel in both 2011 and 2006: 50% of Visitors in 2011 and 52% in 2006. Further, 36% of Visitors come from a private residence in 2011 and 40% in 2006 (Figure III-4B).

**Figure III-4A**
**Ground Trip Point of Origin**
**Residents**

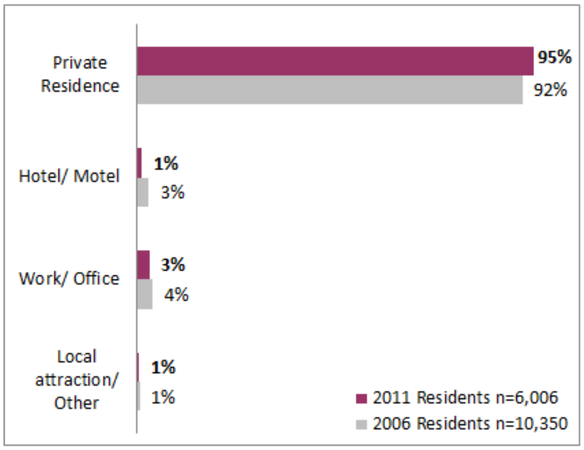
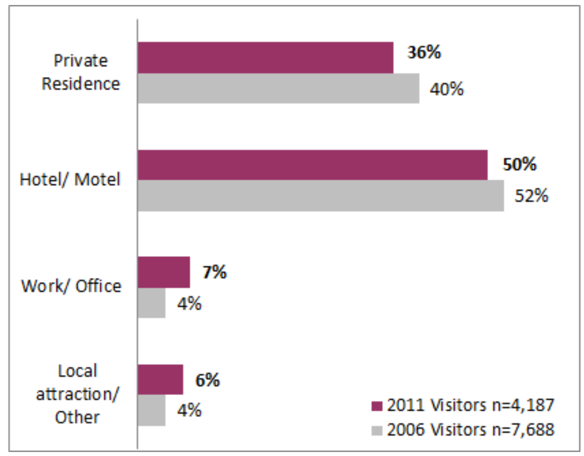



**Figure III-4B**
**Ground Trip Point of Origin**
**Visitors**




## County of Origin

Respondents were asked their ZIP code of origination. Respondents who did not know this information were asked a series of questions and provided a map to help identify their place of origination. The difference in county of origin among peak and non-peak passengers is minimal: the non-peak survey found that 72% of passengers originate from Los Angeles County compared to 70% in the peak survey (Table III-5). Thirteen percent (13%) of passengers originate from Orange County and 2% from Riverside County in both the peak and non-peak survey. Some Originating Passengers begin their trip from a farther distance: 2% of passengers start their trip from San Diego County, 1% from Santa Barbara County, and 4% from another county. In particular, some passengers drive from areas outside of Southern California, such as the San Francisco Bay Area or Las Vegas, Nevada.

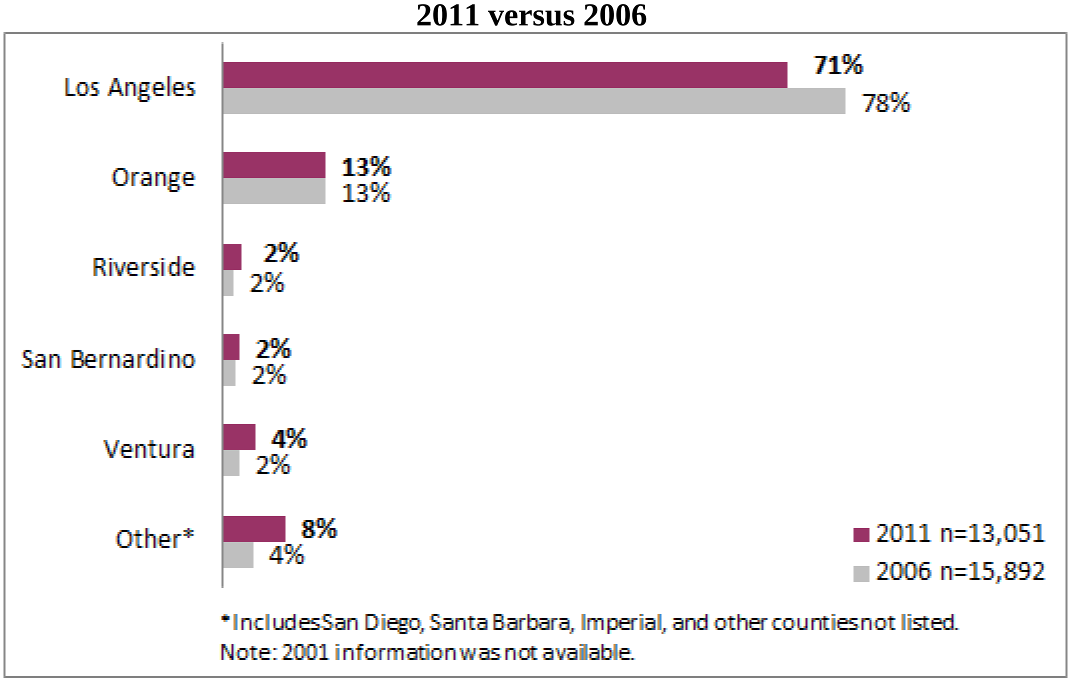
*A greater percentage of passengers are coming LA or Orange County during non-peak season.*

**Table III-5**
**County of Origin**

| Originating Passengers County of Origin | Peak n=6,666 | Non-Peak n=6,385 | Total Sample n=13,051 |
|---|---|---|---|
| Los Angeles County | 70% | 72% | 71% |
| Orange County | 13% | 13% | 13% |
| Ventura County | 4% | 4% | 4% |
| Riverside County | 2% | 2% | 2% |
| San Bernardino County | 3% | 2% | 2% |
| San Diego County | 2% | 2% | 2% |
| Santa Barbara County | 2% | 1% | 1% |
| Other County | 4% | 3% | 4% |

San Diego and Santa Barbara Counties were not separately reported in the 2006 survey; therefore, they were consolidated into the "Other County" category to make direct comparisons to the 2006 survey. In 2011, a smaller percentage of passengers originate from Los Angeles County: 71% in 2011 compared to 78% in 2006. The percentage of Originating Passengers who originate from Orange, Riverside, and San Bernardino Counties is the same in both the 2006 and 2011 surveys. However, the share of Originating Passengers from Ventura and other Counties (including Santa Barbara and San Diego) has increased substantially: 12% of Originating Passengers in 2011versus 6% in 2006.

**Figure III-5**
**Originating Passengers – What county did you begin your ground trip?**
**2011 versus 2006**




UNISON Consulting, Inc.

There are only minor differences between Residents and Visitors with respect to county of origin. Fourteen percent (14%) of Visitors originate from Orange County compared to 12% of Residents (Table III-6). Seventy-one percent (71%) of Residents compared to 72% of Visitors come from Los Angeles County. For passengers who originate from other counties, such as Ventura, Riverside, and San Bernardino County, the reverse is true, that is, there are slightly more Residents who originate from these areas.

*Over 80% of all originating trips originate in L.A. and Orange counties.*

**Table III-6**
**Residents and Visitors – County of Origin**

| Originating Passengers County of Origin | Residents n=5,844 | Visitors n=4,017 | Total Sample n=13,051 |
|---|---|---|---|
| Los Angeles County | 71% | 72% | 71% |
| Orange County | 12% | 14% | 13% |
| Ventura County | 5% | 4% | 4% |
| Riverside County | 3% | 2% | 2% |
| San Bernardino County | 3% | 2% | 2% |
| San Diego County | 2% | 2% | 2% |
| Santa Barbara County | 1% | 1% | 1% |
| Other County | 2% | 3% | 4% |

### Ground Transportation Access

The majority of Originating Passengers use private transportation to come to the Airport. The peak survey found that 52% come to the airport in their own vehicle compared to 49% in the non-peak survey (Table III-7). Seventeen percent (17%) of passengers that use a rental car is the same between the peak and non-peak survey. However, the percentage of Originating Passengers who use a taxi or private shuttle/van each increased one percentage point from the peak to non-peak surveys, a finding that is partially explained by the increase share of Visitors in the off-peak survey.

Thirteen percent (13%) of Originating Passengers use shared services or public transportion. Seven percent (7%) of Originating Passengers use shared shuttle services such as Super Shuttle, Prime Time, or Road Runner. Another 6% of passenger use the Flyaway, scheduled airport bus/ van, or charter bus services, and 1% use public transportation.

**Table III-7**
**Mode of Transportation**

| Originating Passengers Mode of transportation | Peak n=6,906 | Non-Peak n=6,591 | Total Sample n=13,497 |
|---|---|---|---|
| *Private transportation:* | 86% | 84% | 85% |
| Private vehicle | 52% | 49% | 51% |
| Rental vehicle | 17% | 17% | 17% |
| Taxi | 8% | 9% | 8% |
| Shuttle/ van (private) | 7% | 8% | 7% |
| Limousine/ town car | 2% | 2% | 2% |
| *Shared/ scheduled:* | 12% | 14% | 13% |
| Shared shuttle | 6% | 7% | 7% |
| Hotel courtesy van | 3% | 3% | 3% |
| Van Nuys Flyaway | 1% | 1% | 1% |
| Union Station Flyaway | 1% | 1% | 1% |
| Scheduled airport/ bus/ van | 1% | 1% | 1% |
| Chartered bus or van | ** | ** | ** |
| Westwood Flyaway | ** | ** | ** |
| Irvine Flyaway | ** | ** | ** |
| *Public transportation:* | 1% | 1% | 1% |
| MTA (Metro or other public) | 1% | 1% | 1% |
| Green line/ light rail | ** | ** | ** |
| Don't know or refused | ** | ** | ** |

**Less than 1% of responses

Note: Total sample w ill not alw ays equal 100% due to rounding

*A greater percentage of passengers use a private vehicle in the peak season.*

In order to make comparisons to the prior survey, Unison recategorized 2011 survey data to the same categories reported in the 2006 survey. Compared to the last survey, a larger percentage of Residents come to LAX via private vehicle: 75% in 2011 compared to 71% in 2006 (Figure III-6A). Also notable is a large increase in the percentage of Residents using the Flyaway or other scheduled airport bus/van services: 4% in 2011 versus 1% in 2006.

Among Visitors, the use of rental cars increased significantly from 2006 to 2011. Thirty-one percent (31%) of Visitors use a rental car in 2011 compared to 23% in 2006. The percentage of Visitors who use a hotel courtesy van decreased by five percentage points, from 9% in 2006 to 4% in 2011. This finding suggests that Visitors are staying further distances from LAX, which would help explain the increase in rental car usage and the decrease in the percentage of passengers arriving to LAX via hotel courtesy vans. Typically hotels in close proximity to the airport will offer passengers the use of hotel courtesy vans while hotels far away from the airport at less likely to offer shuttle services to LAX.

**Figure III-6A**
**Mode of Transportation – Residents****

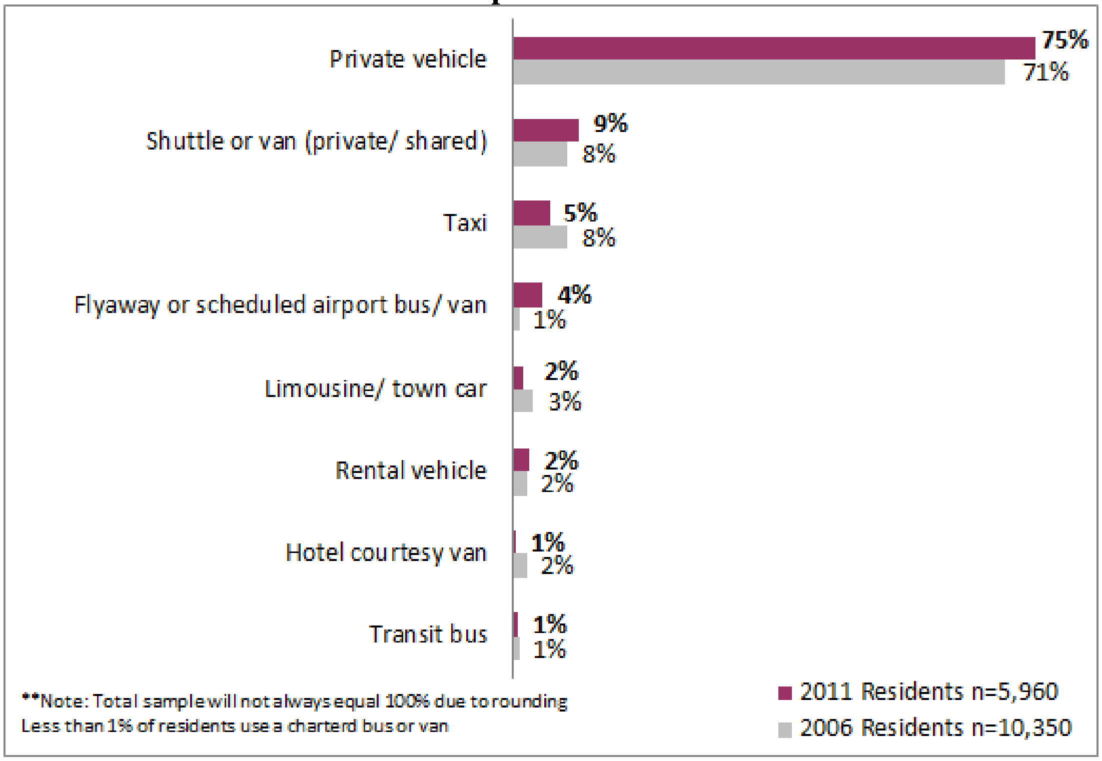
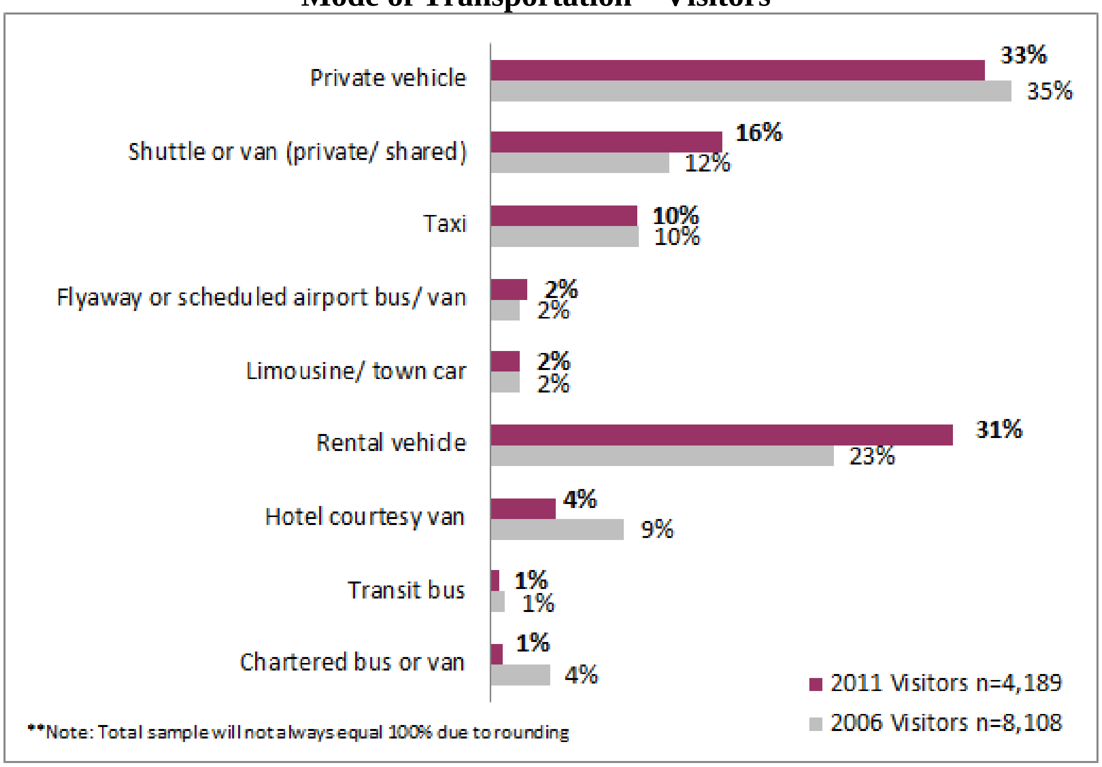
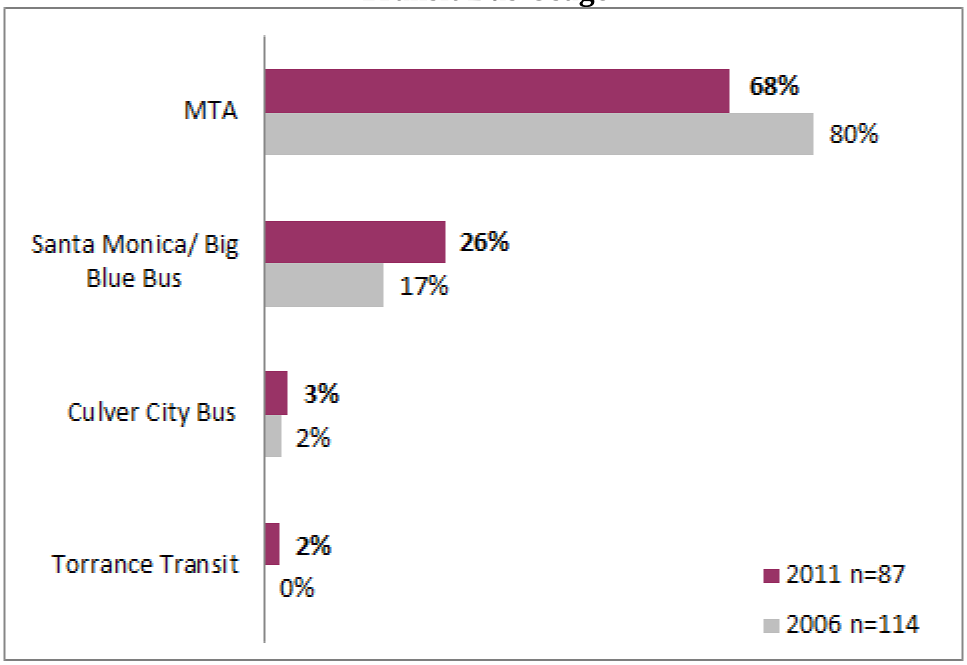



**Figure III-6B**
**Mode of Transportation – Visitors****



Although only a small proportion of Originating Passengers, the majority of passengers who use transit buses ride the MTA bus. However, there has been a substantial reduction in MTA usage: 68% of Originating Passengers who come to LAX via transit bus ride MTA buses, down from 80% in 2006. On the other hand, a larger percentage of passengers who use transit buses indicate they use the Santa Monica/ Big Blue Bus. Further, a slightly larger percentage of passengers use the Culver City Bus and the Torrance Transit in 2011 compared to 2006.

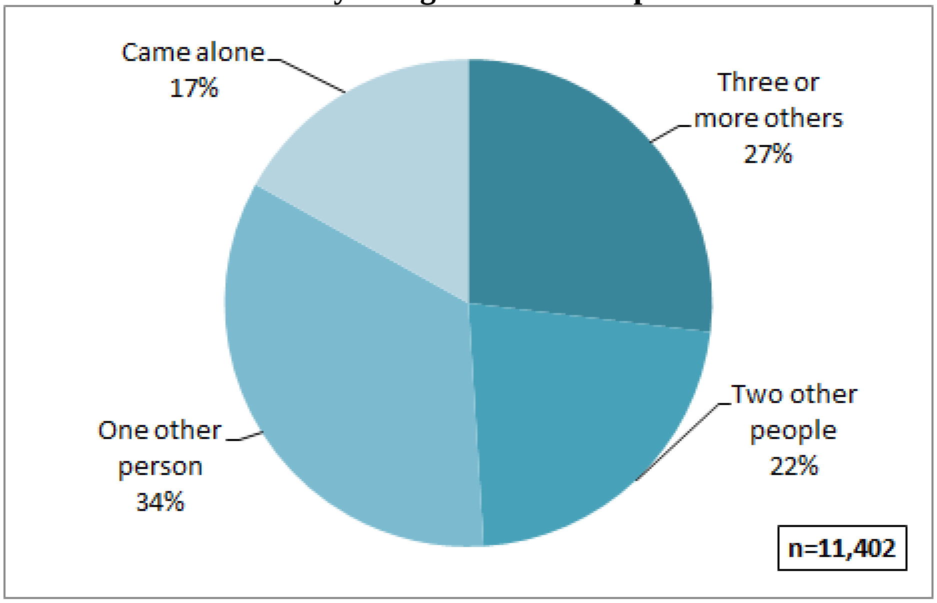
**Figure III-7**
**Transit Bus Usage**




Of the Originating Passengers who use private transportation, only 17% come to the airport alone. The majority of Originating Passengers who use private transportation share the vehicle with at least one other person. As shown on Figure III-8, 34% come with one other person, 22% with two others, and 27% with three or more people sharing the vehicle. The average size of the party in a private vehicle is 2.93, including the passenger who was surveyed.

*Most passengers using private transportation come with at least one other person.*

**Figure III-8**
**Size of Party Using Private Transportation**



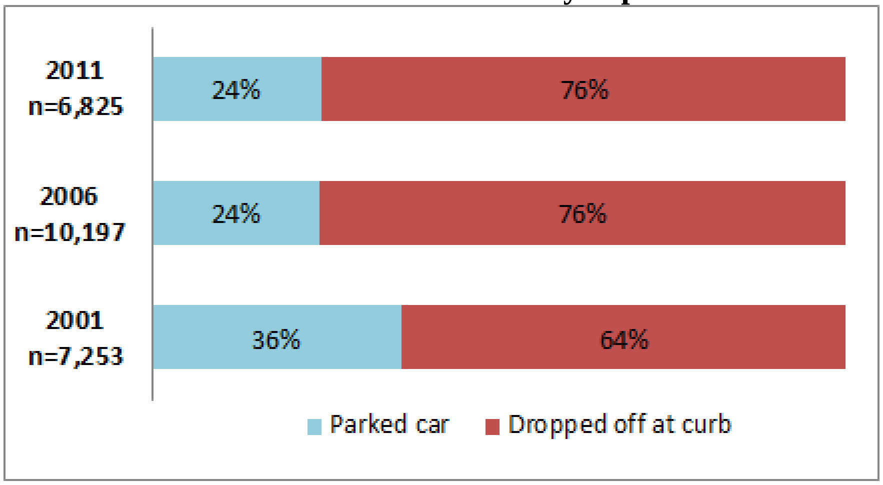

## Parking and Rental Car Usage

Passengers who use a private vehicle are asked if they park, and if so, where. Seventy-six percent (76%) of Originating Passengers in 2011 who use a private vehicle are dropped off at the airport and 24% of private vehicle users park. Differences between the peak and non-peak surveys are minimal (Table III-8). Moreover, this proportion is consistent with the findings in 2006 (Figure III-9). However this is a substantial change from 2001, when a much larger percentage of Originating Passengers parked their vehicle: 36% in 2001 compared to only 24% in 2006 and 2011. This result is not surprising considering the 2001 survey was conducted before the events of 9/11and non-ticketed persons were allowed post-security.

**Table III-8**
**Private Vehicle Users – Did you park?**

| Park or Drop Off | Peak n=3,612 | Non-Peak n=3,213 | Total Sample n=6,825 |
|---|---|---|---|
| Dropped off at curb | 75% | 76% | 76% |
| Vehicle was parked | 25% | 24% | 24% |

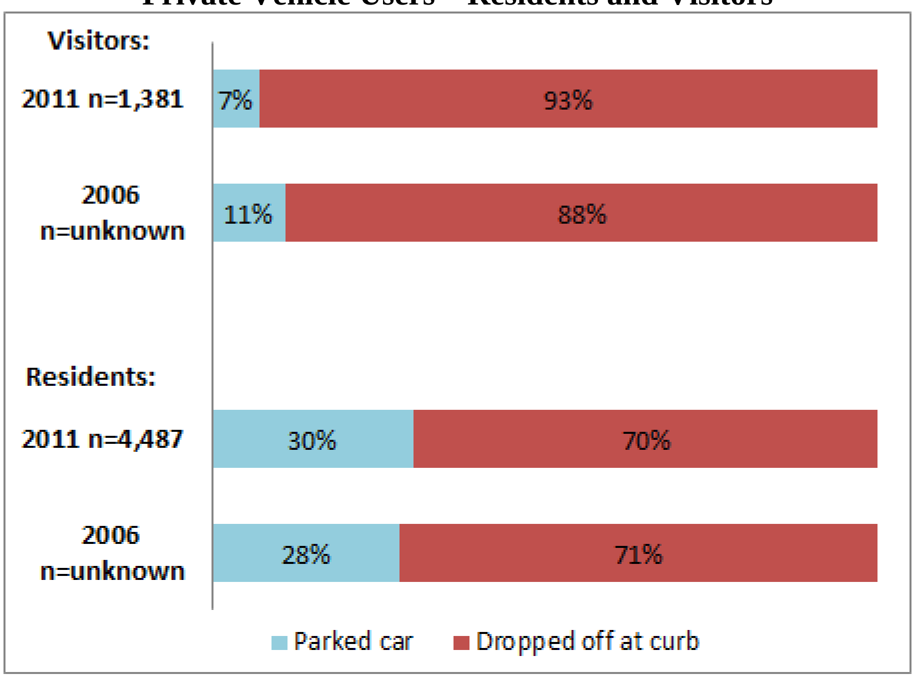
**Figure III-9**
**Private Vehicle Users – Did you park?**




There are some distinctions between parking patterns of Residents and Visitors. As shown in Figure III-10, a smaller percentage of Visitors park: 7% in 2011 and 11% in 2006. Thirty percent (30%) of Residents in 2011 and 28% in 2006 park their private vehicle.

**Figure III-10**
**Private Vehicle Users – Residents and Visitors**

*Residents are more likely to drive themselves and thus are more likely to park than visitors.*



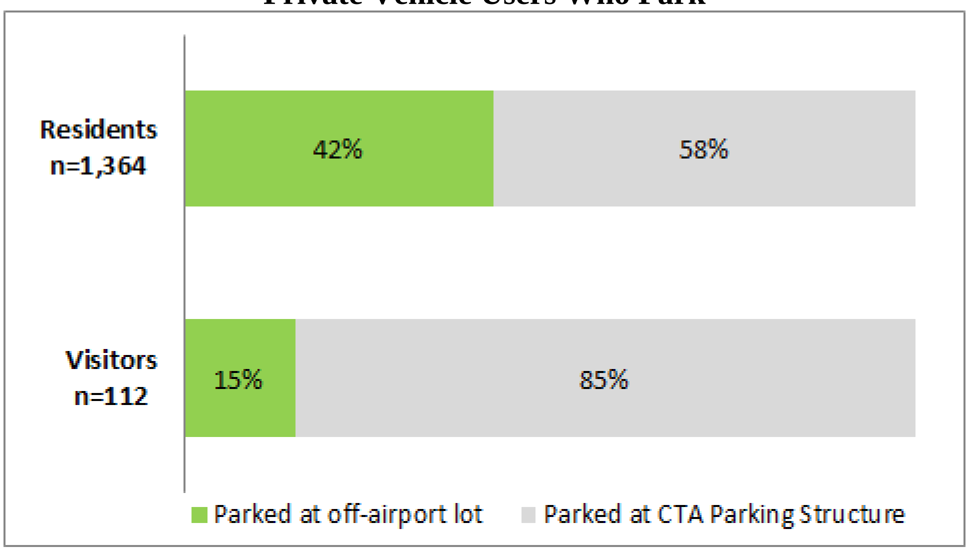

The survey results indicate a greater percentage of Originating Passengers who arrive to the Airport via private vehicle park in the CTA Parking Structure in the peak survey than in the non-peak survey: 66% in the peak survey compared to 60% in the non-peak survey park in the CTA Parking Structure (Table III-9). A smaller percentage of passengers park in the off-airport lot in the peak survey: 34% compared to 40% in the non-peak survey.

**Table III-9**
**Private Vehicle Users Who Park**

| Parking Lot Used | Peak n=916 | Non Peak n=767 | Total Sample n=1,683 |
|---|---|---|---|
| Parked at CTA Parking Structure | 66% | 60% | 63% |
| Parked at off-airport lot | 34% | 40% | 37% |

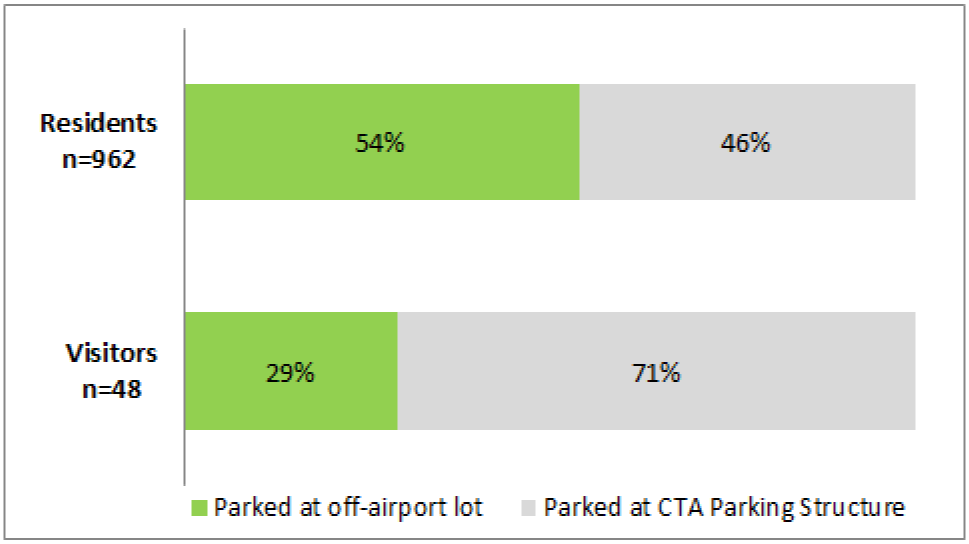
Cross tabulation analysis shows some notable differences among the parking behavior of Visitors and Residents. Of Visitors who come via private vehicle and park the car, 85% use the CTA Parking Structure compared to 58% of Residents (Figure III-11A). Fifteen percent (15%) of Visitors who park use an off-airport lot compared to 42% of Residents. When passengers who are accompanied to the airport by well-wishers are excluded, a smaller percentage of passengers park at the CTA Parking Structure: 71% of Visitors and 46% of Residents park at the airport (Figure III-11B).

**Figure III-11A**
**Private Vehicle Users Who Park**



*Passengers who did not have a well-wisher accompany them inside terminal are less likely to use CTA Parking Structure.*

**Figure III-11B**
**Private Vehicle Users Who Park**
**EXCLUDES THOSE WITH WELL-WISHERS**




The most utilized off-airport lot is Wally Park: 11% of off-airport parkers use this lot (Table III-10). The Parking Spot – Century location is used by 10% of off-airport parkers and 8% use the Parking Spot – Sepulveda location. Seven percent (7%) of off-airport parkers use the Park One lot, 6% use LAX Lot C, and another 5% use LAX Park. Appendix C provides a list of addresses for off-airport parking lots.

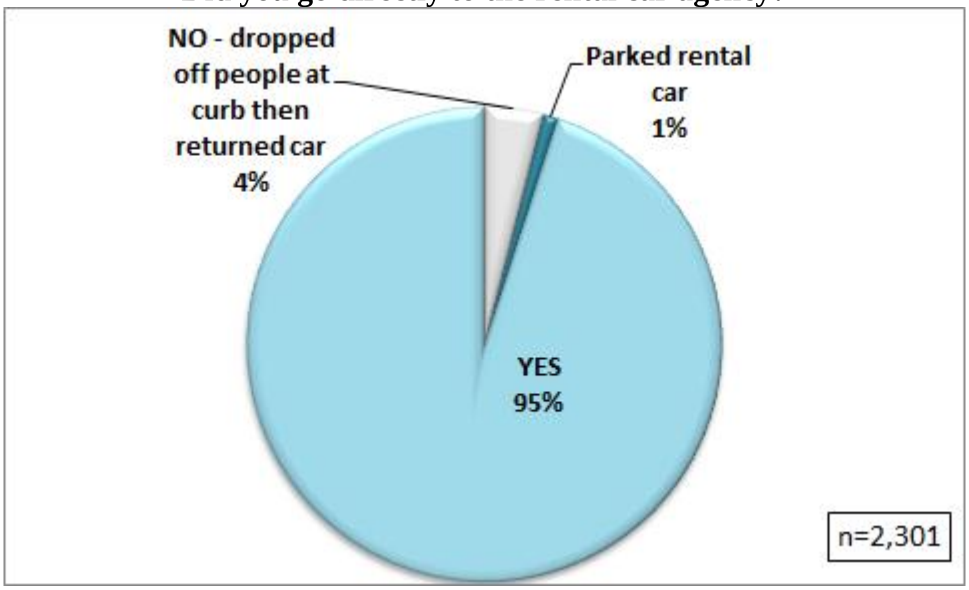
**Table III-10**
**Off-Airport Lot Usage**

| Off Airport Parking Lot | Frequency % | Sample Size |
|---|---|---|
| Wally Park | 11% | 67 |
| Parking Spot-Century | 10% | 61 |
| Parking Spot-Sepulveda | 8% | 48 |
| Park One | 7% | 41 |
| LAX Lot C | 6% | 34 |
| LAX Park | 5% | 32 |
| QuikPark | 5% | 30 |
| Airport Center Parking | 4% | 27 |
| 105 Airport Parking | 4% | 22 |
| Fox Auto Parks | 3% | 21 |
| All Star Parking | 3% | 17 |
| Easy Park | 3% | 17 |
| Hilton Hotel | 2% | 15 |
| Air Park | 2% | 15 |
| Park n Fly | 2% | 15 |
| Marriott Hotel | 2% | 14 |
| LAX Parking Center | 2% | 11 |
| Park Place | 1% | 9 |
| Valet Air Park | 1% | 9 |
| Park Air/ 5757 Park Air | 1% | 8 |
| Johnny Park | 1% | 7 |
| Westin Hotel | 1% | 7 |
| Auto Airport Parking | 1% | 5 |
| Sunrise LAX Parking | 1% | 4 |
| Central Parking Systems | ** | 3 |
| Aero Stars Airport Valet | ** | 1 |
| Other | 7% | 42 |
| Don’t know | 6% | 36 |

**Less than 1% of responses

Ninety-five percent (95%) of Originating Passengers who arrive at LAX via rental car directly drop off the rental car at the rental car agency (Figure III-12). Four percent (4%) drop off people at the curb first before returning the rental car; 1% park the rental car.

**Figure III-12**
**Rental Car Users**
**Did you go directly to the rental car agency?**




### Specific Areas of Origination

11,434 ZIP codes are collected in 2011 survey. Greatest concentration of passengers come from ZIP code 90045.

The 2011 passenger survey collected point of origination ZIP code data from 11,434 Originating Passenger respondents. The largest share of Originating Passengers (6.7%) come from the 90045 ZIP code, which includes LAX and the nearby hotels (Table III-11). Eighty-two percent (82%) of these passengers come from a hotel and 27.5% use a shuttle to arrive at the Airport. Seven other ZIP codes each account for more than 1.0% of Originating Passengers: Santa Monica (90404), 2.39%; Hollywood (90028), 2.07%; West Los Angeles, 1.76% (90025) and 1.03% (90024); Long Beach (90802), 1.6%; Beverly Hills (90210), 1.59%; and Downtown Los Angeles (90013), 1.5%.

The 2011 pattern of point of origination ZIP codes is moderately different from the previous survey. The 2006 survey reports that passengers originated primarily from “West Los Angeles,” Disneyland, and Long Beach. Specific analysis reveals the following ZIP codes with the highest shares of Originating Passengers in 2006: LAX (90045), 4.6%; Long Beach (90802), 1.6%; Manhattan Beach (90266), 1.4%; Hollywood (90028), 1.3%; Inglewood (90301), 1.3%; Disneyland (92802), 1.3%; Culver City (90230), 1.2%; and Hawthorne (90250), 1.2%.

In 2011, Disneyland (92802) accounts for 0.79% of all Originating Passengers. Further, 63% of these passengers are on vacation and 52.3% use a shuttle to travel to LAX. In addition to Disneyland, a majority of Originating Passengers who originate from Santa Monica and Hollywood are on vacation. The greatest percentage of passengers who arrive from hotels/motels come from the LAX area, Downtown Los Angeles, and Hollywood. Table III-11 provides details about trip purpose, starting point and transit mode for passengers who originate from ZIP codes with the highest shares of Originating Passengers.

**Table III-11**
**All Originating Passengers – ZIP Codes with Highest Concentration of Passengers**

| Location | ZIP Code | Origins (%) | Purpose (%) | | Start Trip (%) | | Transport to LAX (%) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Vacation | Business | Home[1] | Hotel | Car | Shuttle[2] | Taxi | Rental |
| 1 LAX | 90045 | 6.69 | 38.4 | 45.3 | 13.6 | 82.0 | 19.1 | 27.5 | 8.5 | 16.7 |
| 2 Santa Monica | 90404 | 2.39 | 57.7 | 23.8 | 28.1 | 65.3 | 23.6 | 10.5 | 23.9 | 36.0 |
| 3 Hollywood | 90028 | 2.07 | 55.6 | 23.0 | 23.8 | 71.7 | 25.5 | 22.6 | 15.0 | 28.0 |
| 4 West LA | 90025 | 1.76 | 32.4 | 24.2 | 50.4 | 43.9 | 43.4 | 13.5 | 13.6 | 18.4 |
| 5 Long Beach | 90802 | 1.60 | 41.0 | 35.2 | 28.0 | 40.5 | 27.5 | 29.4 | 8.1 | 22.5 |
| 6 Beverly Hills | 90210 | 1.59 | 39.5 | 32.7 | 33.6 | 61.4 | 34.1 | 9.1 | 20.0 | 27.7 |
| 7 Downtown | 90013 | 1.50 | 20.8 | 53.6 | 19.8 | 73.4 | 20.8 | 21.2 | 29.5 | 17.9 |
| 8 West LA | 90024[3] | 1.03 | 28.0 | 31.5 | 54.6 | 25.9 | 39.2 | 18.9 | 15.4 | 9.1 |
| 9 Disneyland | 92802 | 0.79 | 63.3 | 23.0 | 9.2 | 22.9 | 12.8 | 52.3 | 2.8 | 26.6 |

[1] Home and another person's home
[2] Shuttle includes private shuttles, shared shuttles, and scheduled bus/vans.
[3] 12.4% of passengers originating from Zip Code 90024 used the Westwood Flyaway.

Table III-12 provides a distribution of originations for all passengers, Southern California residents, US residents, and international passengers. This table illustrates how each passenger type contributes to the overall volume of passengers from each of the highest share ZIP codes. International travelers originate primarily from the most popular origination points listed; whereas, Southern California residents have a wider range of origination points.

**Table III-12**
**Originating Passengers – Comparison All, Southern California, US and International**

*Largest concentration of international passengers is coming from LAX area, Santa Monica, and Hollywood.*

| Location | ZIP Code | All Passengers (n=11,434) (%) | Southern California (n=5,727) (%) | US Residents (n=9,121) (%) | International (n=2,294) (%) |
|---|---|---|---|---|---|
| **LAX** | 90045 | 6.69 | 1.90 | 5.30 | 11.9 |
| **Santa Monica** | 90404 | 2.39 | 0.52 | 1.53 | 5.50 |
| **Hollywood** | 90028 | 2.07 | 0.65 | 1.28 | 4.90 |
| **West LA** | 90025 | 1.76 | 1.25 | 1.60 | 2.42 |
| **Long Beach** | 90802 | 1.60 | 0.37 | 1.45 | 2.25 |
| **Beverly Hills** | 90210 | 1.59 | 0.83 | 1.29 | 2.70 |
| **Downtown** | 90013 | 1.50 | 0.27 | 1.36 | 2.09 |
| **West LA** | 90024 | 1.03 | 0.88 | 1.09 | 0.93 |
| **Disneyland** | 92802 | 0.79 | 0.16 | 0.59 | 1.48 |

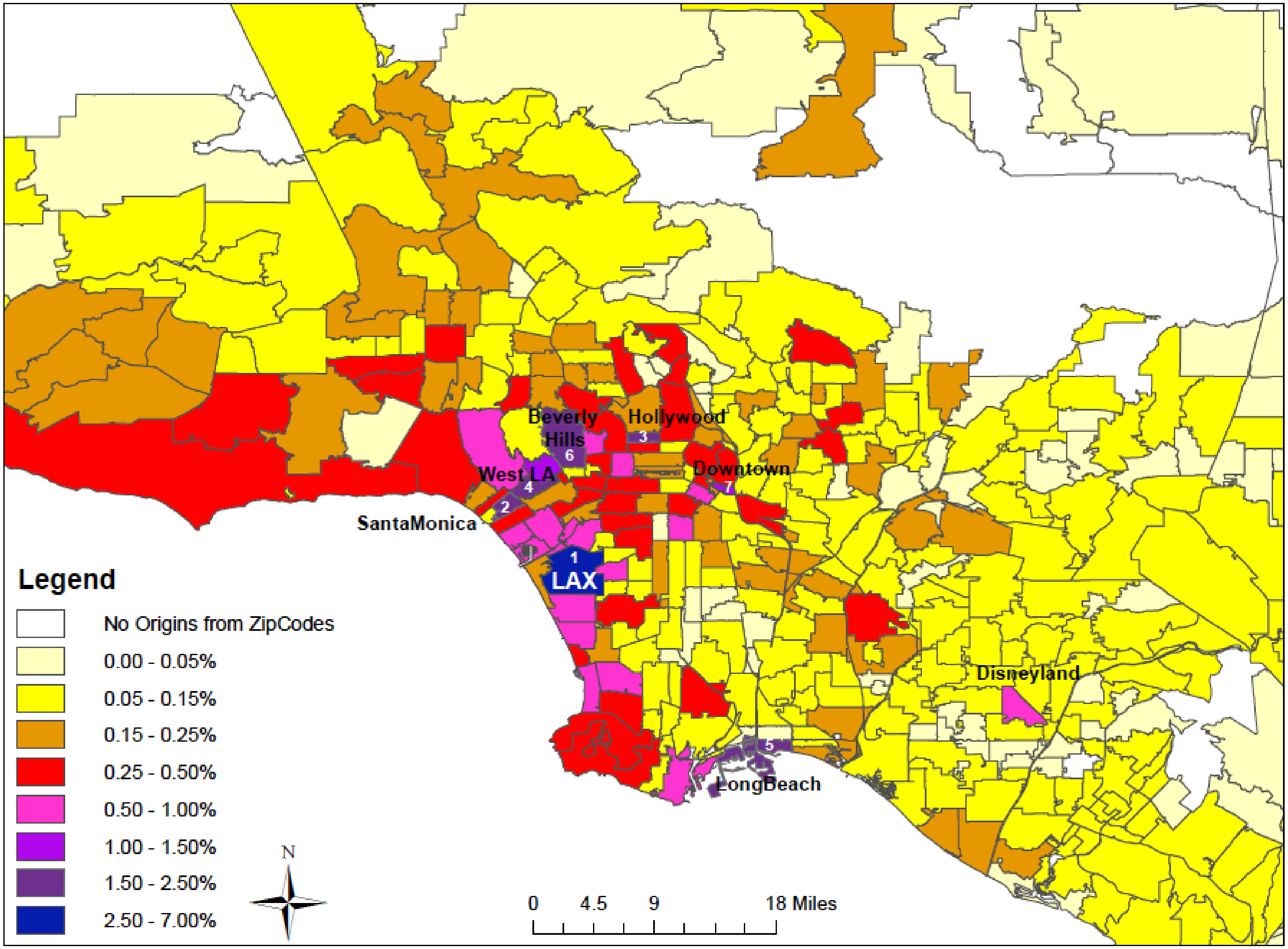
The map in Figure III-13, displays all Originating Passengers. The area surrounding (1) LAX accounts for the largest share of Originating Passengers, followed by (2) Santa Monica, (3) Hollywood, (4) West Los Angeles, (5) Long Beach, (6) Beverly Hills and (7) Downtown LA.

Figure III-14 displays Southern California residents. Most Southern California residents start their trip near (1) LAX. (2) West Los Angeles and (3) Beverly Hills account for a large portion of originating passengers, followed by (4) Hollywood and (5) Santa Monica.

Figure III-15 shows Originating Passengers who are U.S. residents. Most residents start originate from locations near (1) LAX. Other popular originations include (2) West LA, (3) Santa Monica, (4) Long Beach, (5) Downtown, (6) Beverly Hills, and (7) Hollywood.

Most international passengers displayed in Figure III-16, start their trip from a hotel/motel near (1) LAX. (2) Santa Monica and (3) Hollywood are frequent points of origination, followed by (4) Beverly Hills, (5) West LA, (6) Long Beach, and (7) Downtown.

**Figure III-13**
**All Originating Passengers by ZIP Code – 2011**




UNISON Consulting, Inc.

**Figure III-14**
**Southern California Resident - Originating Passengers by ZIP Code – 2011**

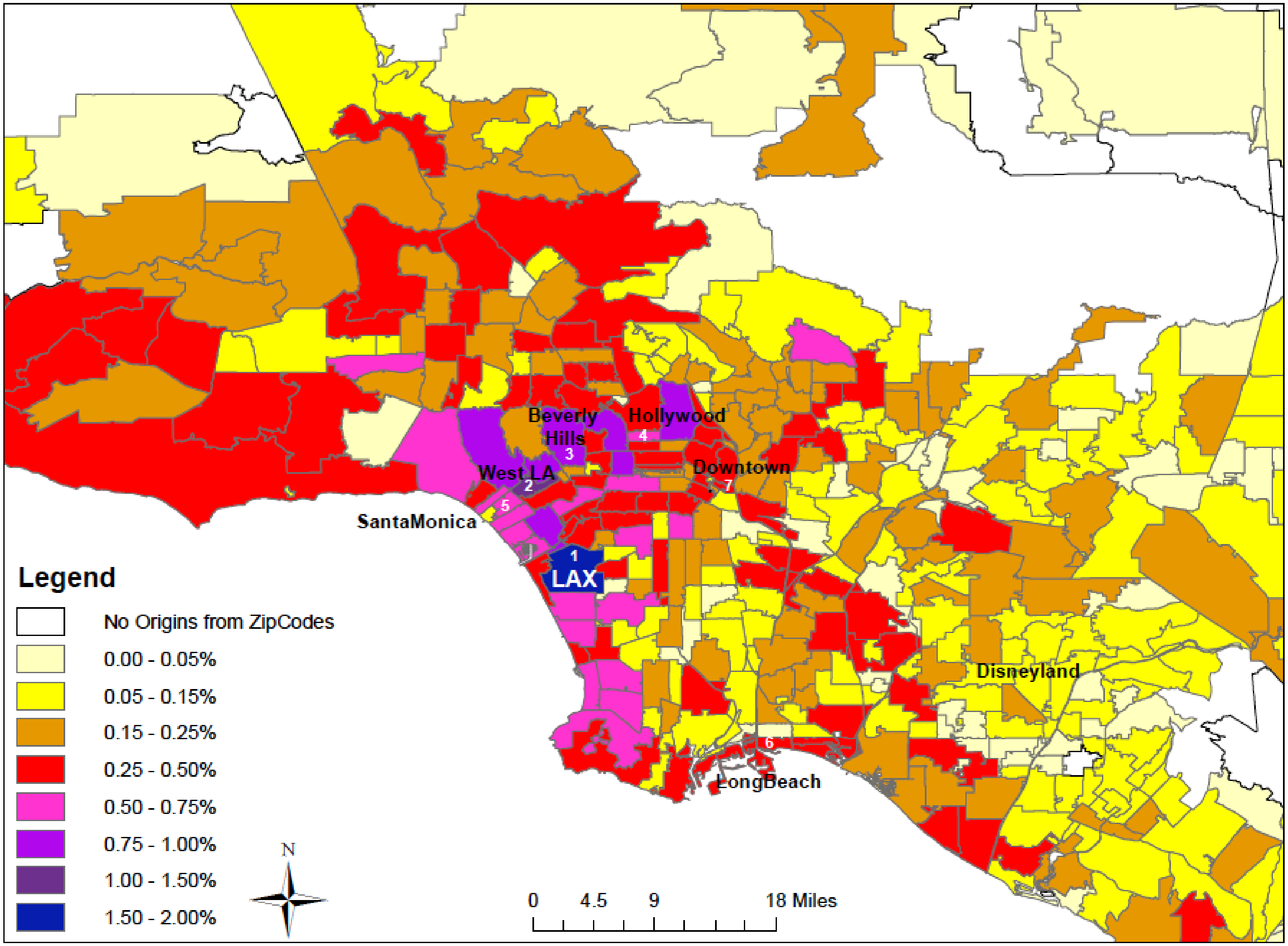


**Figure III-15**
**US Resident - Originating Passengers by ZIP Code – 2011**

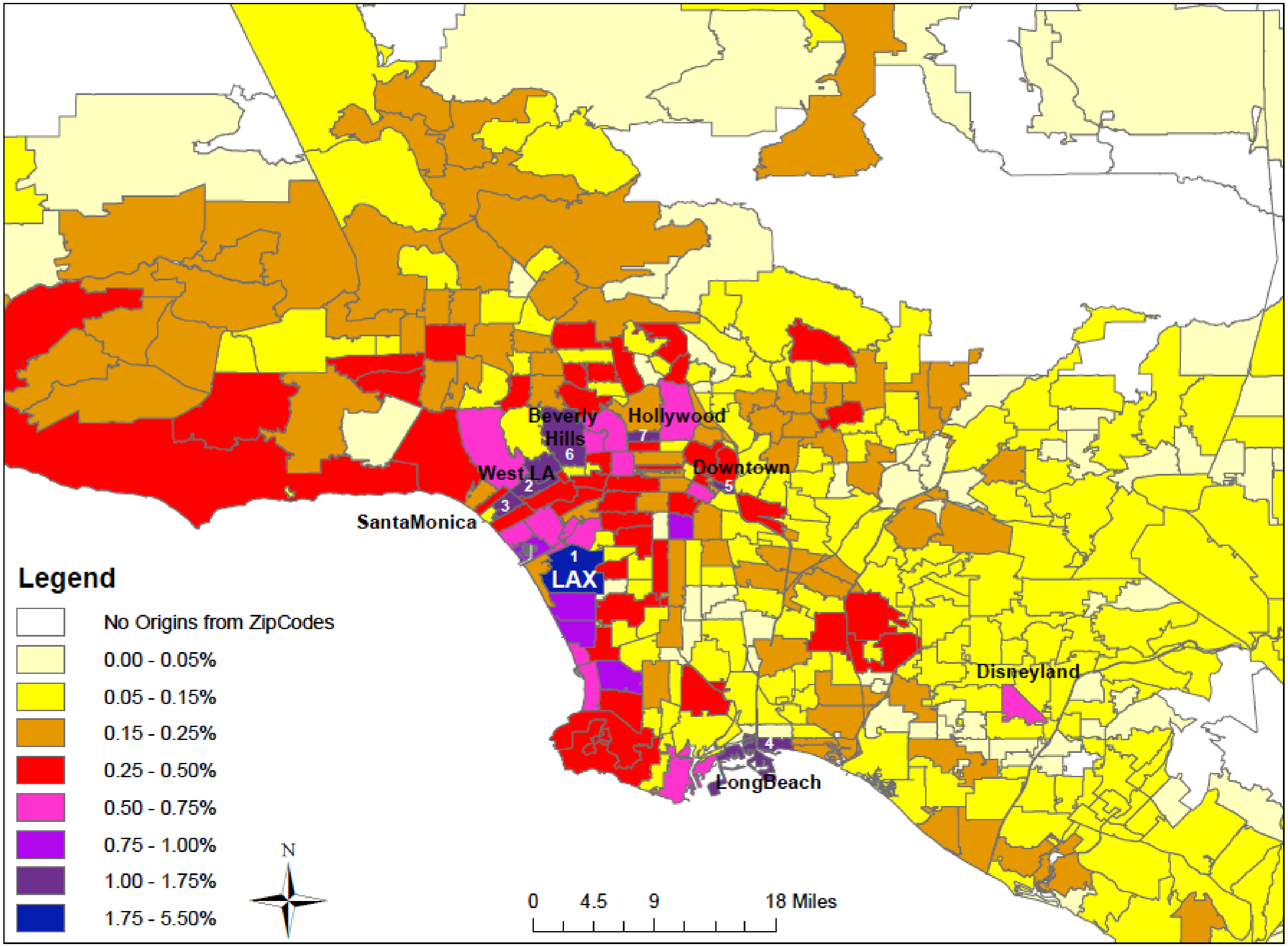
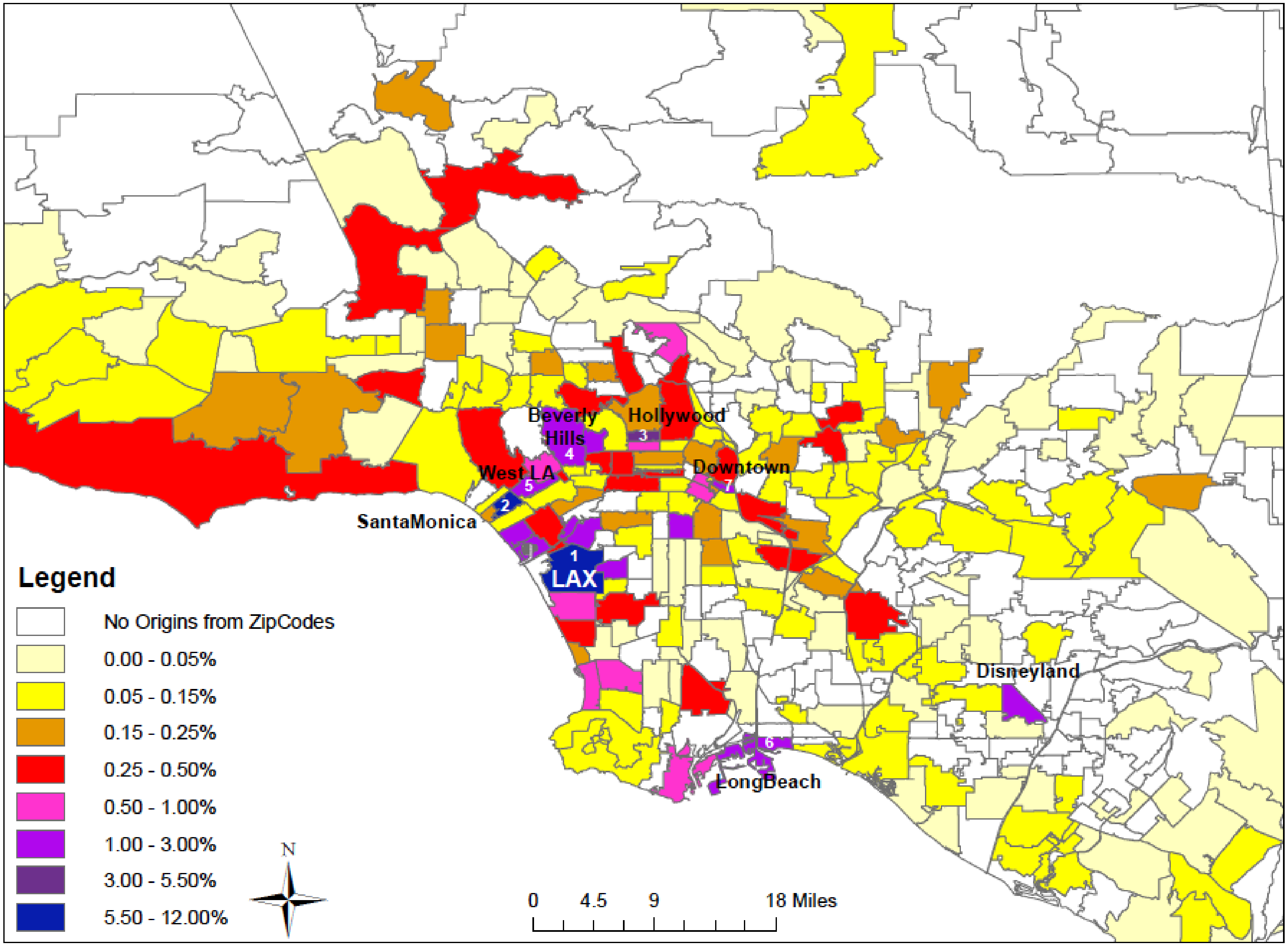


**Figure III-16**
**International - Originating Passengers by ZIP Code – 2011**




.

## Route to LAX

Passengers who come via private transportation such as a private vehicle, rental car, private shuttle/van, taxi, or limousine/town car were asked about their route to LAX, specifically which freeway and freeway exit they used. A map was provided to point out the various routes and exits to the Airport in order to help passengers answer this question,

The largest percentage of this group of passengers use I-405 to access LAX: 42% of passengers in the peak survey and 40% in the non-peak survey (Table III-13). The peak survey found that 26% use I-105 compared to 28% in the non-peak survey. Twenty percent (20%) in the peak survey did not use a freeway compared to 19% in the non-peak survey. Only 3% to 4% of these passengers use both I-405 and I-105 as their route to LAX.

*I-405 is used most frequently, especially during peak season.*

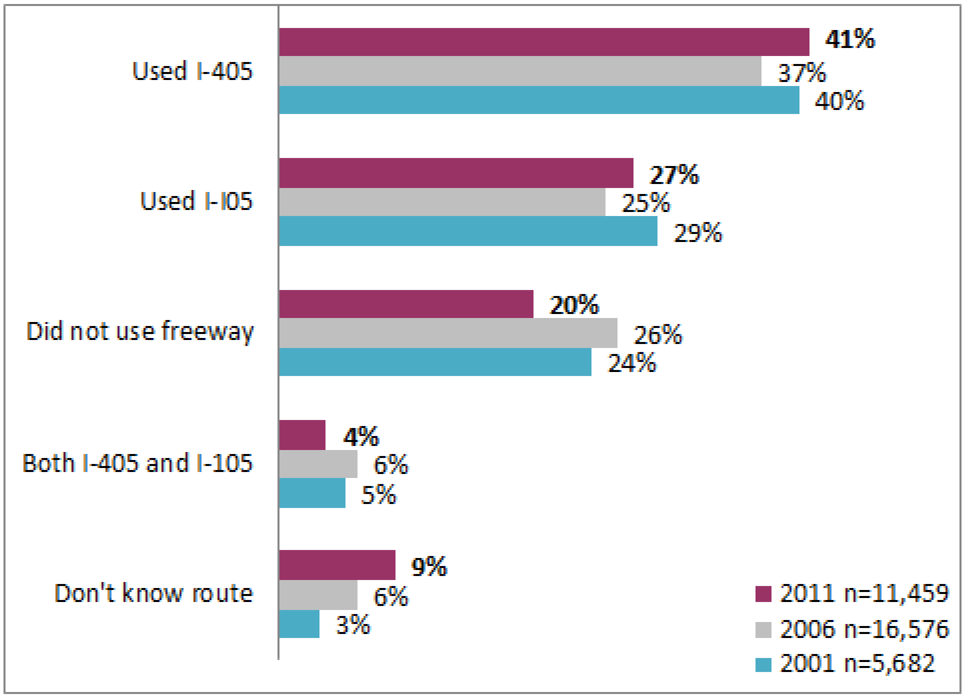
**Table III-13**
**Route to LAX**

| Route to LAX | Peak n=5,914 | Non-Peak n=5,545 | Total Sample* n=11,459 |
|---|---|---|---|
| Used I-405 | 42% | 40% | 41% |
| Used I-105 | 26% | 28% | 27% |
| Did not use freeway | 20% | 19% | 20% |
| Both I-405 and I-105 | 4% | 3% | 4% |
| Don't know route | 8% | 10% | 9% |

*Arrived to LAX via private transportation - vehicle, shuttle, taxi, limo, or rental car.

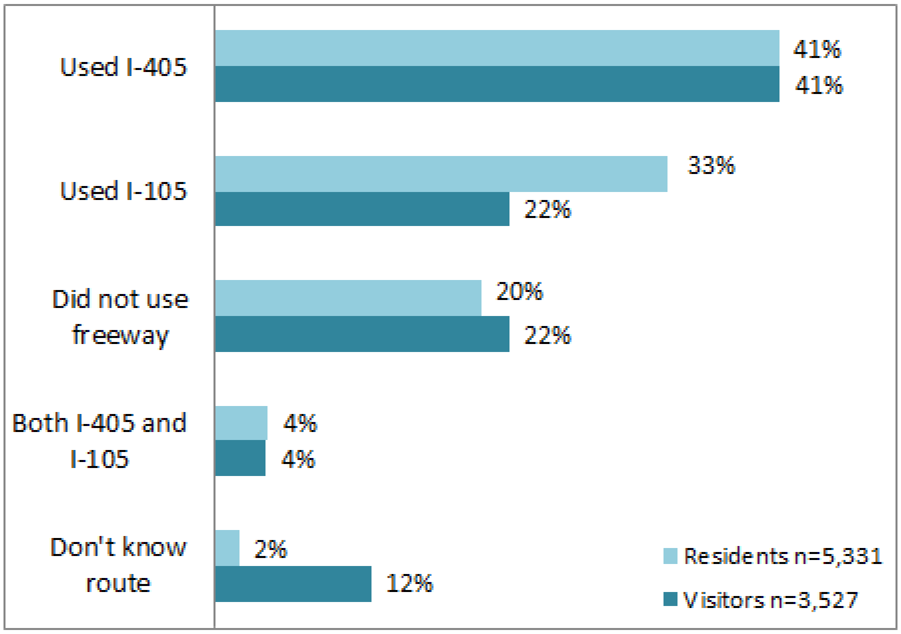
The percentage of passengers using I-405 or I-105 in 2011 is more similar to the findings in the 2001 survey, rather than the 2006 survey. Sixty-nine percent (69%) of passengers used either I-405 or I-105 in 2001 compared to 68% in 2011 and 62% in 2006 (Figure III-13). A smaller percentage of passengers in 2011 do not use the freeway when compared to the prior surveys: 20% do not use a freeway in 2011 compared to 26% in 2006 and 24% in 2001.

**Figure III-13**
**Route to LAX**




Cross tabulation analysis shows that Residents and Visitors use I-405 equally and most frequently: 41% of both Visitors and Residents (Figure III-14). However, Residents are more likely to use I-105 than Visitors. Thirty-three percent (33%) of Residents versus 22% of Visitors use I-105. Twenty percent (20%) of Residents and 22% of Visitors do not use a freeway and 4% of Residents and Visitors use both I-405 and I-105 (Table III-14). Nine percent (9%) of total passengers surveyed do not know their route, which is more often the case with Visitors than Residents: 12% of Visitors and 2% of Residents do not know their route to LAX.

**Figure III-14**
**Route to LAX – Residents and Visitors**




*Residents are more likely to use I-105 than visitors.*

The survey shows that 47% of passengers who use the I-405 freeway to come to LAX use the Century Boulevard exit (Table III-14). In 2011 20% of passengers who use the I-405 use the Sepulveda Blvd/ Howard Hughes exit, 9% use the La Tijera Boulevard exit, 6% use Manchester, and 4% use the Imperial Highway exit. The remaining 14% of passengers use another exit or don't know the exit they used.

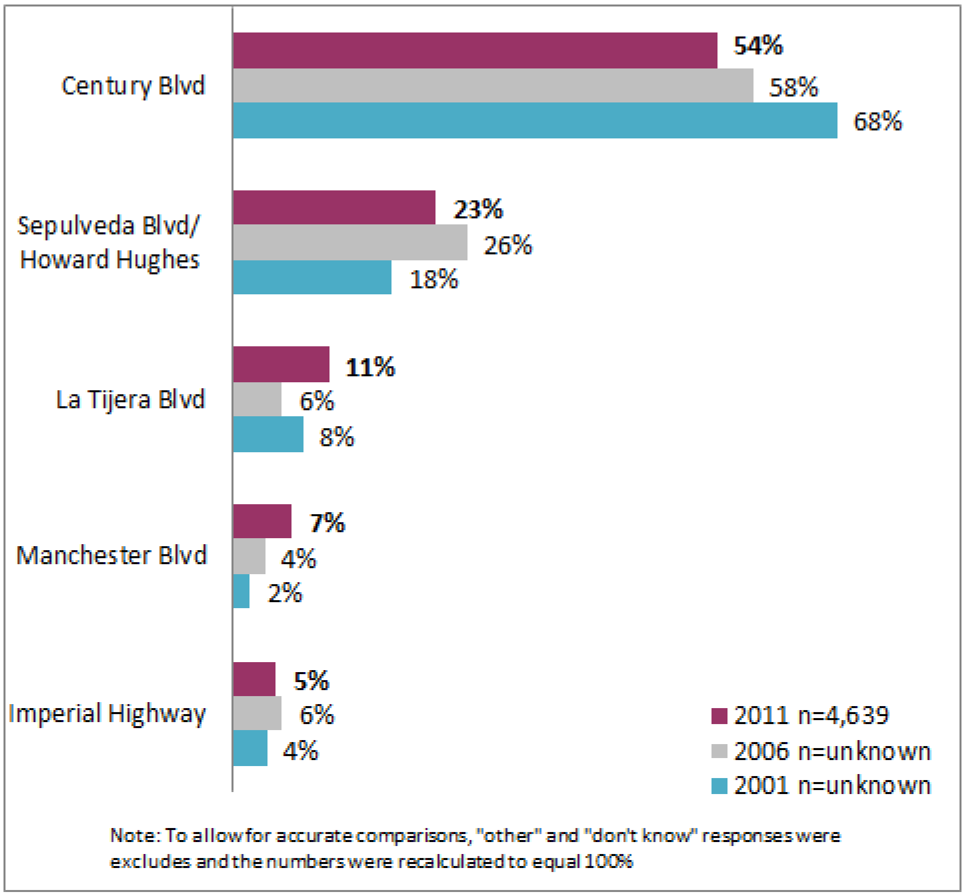
**Table III-14**
**I-405 Exit Usage**

| I-405 Exit Used | Peak n=2,478 | Non-Peak n=2,190 | Total Sample n=4,668 |
|---|---|---|---|
| Century Blvd | 46% | 47% | 47% |
| Sepulveda Blvd/ Howard Hughes | 20% | 19% | 20% |
| La Tijera Blvd | 9% | 10% | 9% |
| Manchester | 6% | 5% | 6% |
| Imperial Highway | 4% | 5% | 4% |
| Other | 1% | 3% | 1% |
| Don't Know | 13% | 13% | 13% |

Note: Total sample will not always equal 100% due to rounding

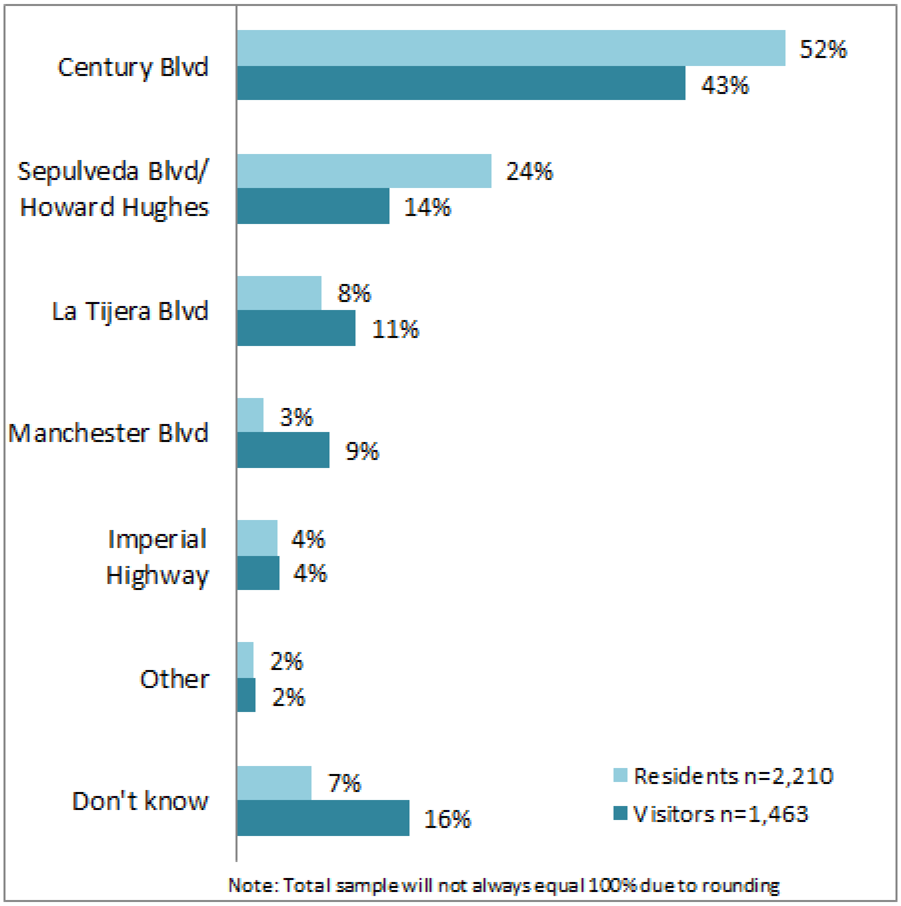
To allow for direct comparisons among the 2011, 2006, and 2001 surveys, Unison weighted previous survey results to equal 100%. Further, "Don't Know" and "Other" responses are excluded from the following analysis shown in Figure III-15. The majority of passengers who use I-405 use the Century Boulevard exit. Fifty-five (54%) percent of passengers use this exit in 2011, a slight drop from 58% in 2006. However, in 2001, 68% of passengers who used I-405 used the Century Boulevard exit. Twenty-three percent (23%) of passengers who use the I-405 use the Sepulveda Boulevard/Howard Hughes Parkway exit in 2011 compared to 26% in 2006 and 18% in 2001.

**Figure III-15**
**I-405 Exit Used**




As mentioned above, the largest percentage passengers who use the I-405 freeway also use the Century Boulevard exit. This is particularly true for Residents: 52% use the Century Boulevard exit compared to 43% of Visitors (Figure III-16). Twenty-four percent (24%) of Residents and 14% of Visitors use the Sepulveda Boulevard exit from I-405. However, the La Tijera Boulevard exit is used more by Visitors than Residents: 11% of Visitors who use I-405 as their primary route to LAX use this exit compared to 8% of Residents.

**Figure III-16**
**I-405 Exit Used –Residents vs. Visitors**



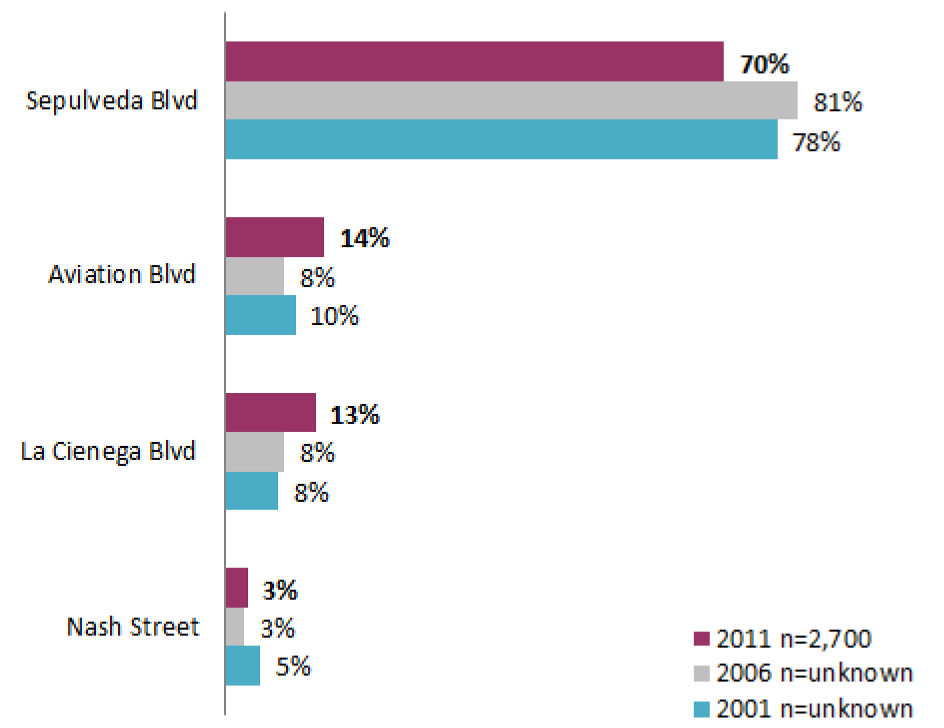

As shown on Table III-15, there is little difference between the peak and non-peak survey among passengers who use I-105. In general, the majority of respondents stated that they use the Sepulveda Boulevard exit from I-105: 61% in the peak survey and 60% in the non-peak survey use this exit. Twelve percent (12%) use Aviation Boulevard and 11% use La Cienega Boulevard.

**Table III-15**
**I-105 Exit Used**

| I-105 Exit Used | Peak n=1,549 | Non-Peak n=1,579 | Total Sample n=3,128 |
|---|---|---|---|
| Sepulveda Blvd | 61% | 60% | 60% |
| Aviation Blvd | 12% | 12% | 12% |
| La Cienega Blvd | 11% | 11% | 11% |
| Nash Street | 3% | 3% | 3% |
| Other | 1% | 1% | 1% |
| Don't Know | 12% | 14% | 13% |

It is important to note that Unison weighted prior survey results to equal 100% in order to allow for direct comparisons among the three surveys. Further, "Don't Know" and "Other" responses are excluded from the analysis shown in Figure III-17. A smaller percentage of passengers in 2011 who use I-105 use the Sepulveda Boulevard exit. Seventy percent (70%) of passengers in 2011 who use I-105 use this exit compared to 81% in 2006 and 78% in 2001. However, a larger percentage of passengers use the Aviation Boulevard and La Cienega Boulevard exits in 2011 than in prior surveys.

**Figure III-17**
**I-105 Exit Usage**

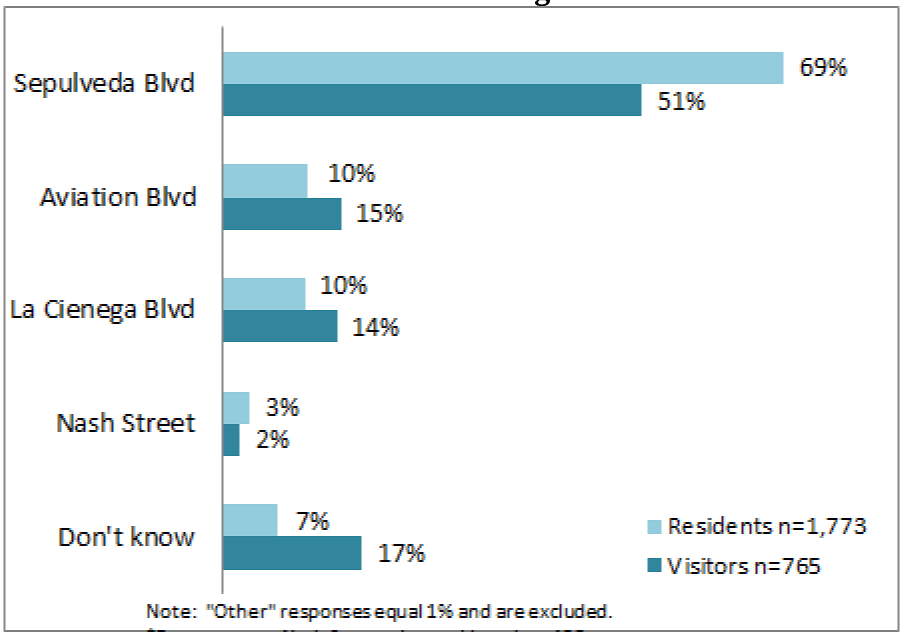



Note: To allow for direct comparisons between the surveys, the numbers were reclaculated to equal 100%. Don't know and "other"responses are excluded.

Residents who use the I-105 took the Sepulveda Boulevard exit more frequently than Visitors: 69% of Residents compared to 51% of Visitors report using this exit (Figure III-18). Visitors more frequently use the Aviation Boulevard and La Cienega Boulevard exits compared to Residents. Fifteen percent (15%) of Visitors use the Aviation Boulevard exit compared to 10% of Residents, and 14% of Visitors use the La Cienega Boulevard exit compared to 10% of Residents.

*Residents more likely to use Sepulveda Boulevard exit from I-105 while visitors are more likely to use Aviation Boulevard.*

**Figure III-18**
**I-105 Exit Usage**




In summary, Originating Passengers who come to LAX via private transportation most frequently use the Century Boulevard exit from I-405: 32% use this exit (Table III-16 and Figure III-19). Next, the Sepulveda Boulevard exit from I-105 is used by 29% of Originating Passengers who use private transportation. Thirteen percent (13%) use the Sepulveda Boulevard/ Howard Hughes exit from I-405.

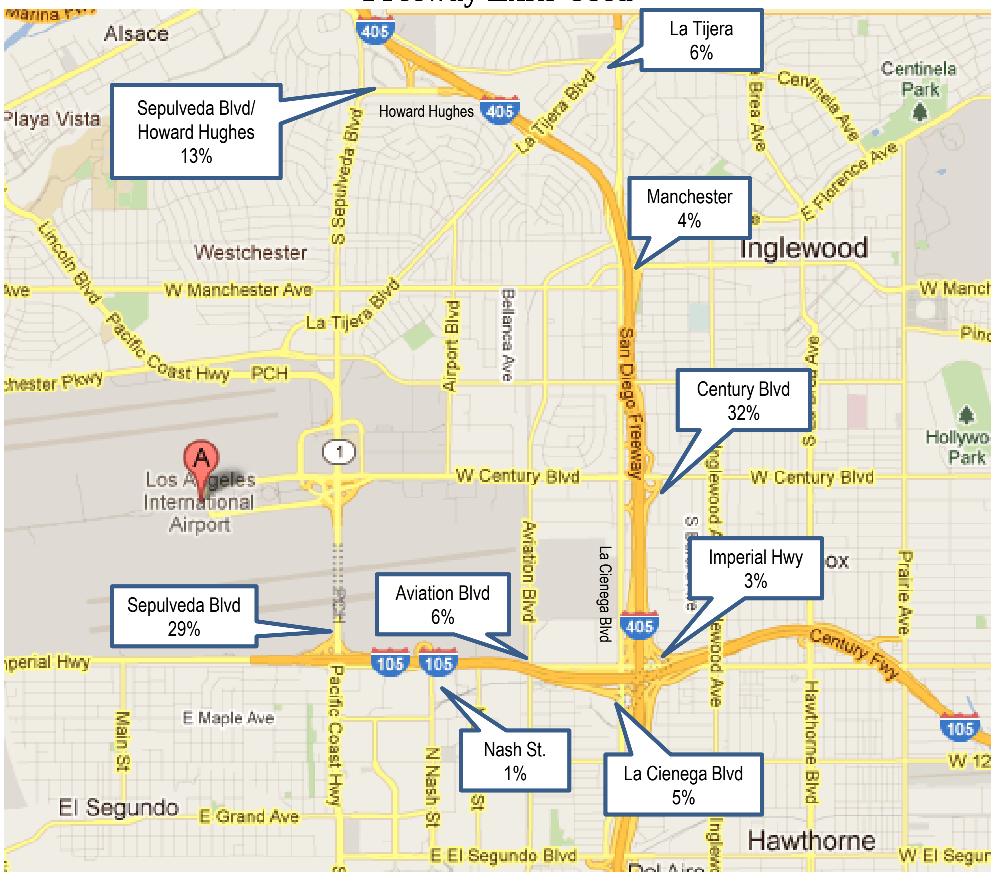
**Table III-16**
**All Originating Passengers using Private Transportation**

| Exit Used | Freeway | All | Sample Size |
|---|---|---|---|
| Century Blvd | I-405 | 32% | 2,227 |
| Sepulveda Blvd (from I-105) | I-105 | 29% | 2,043 |
| Sepulveda Blvd/Howard Hughes (from I-405) | I-405 | 13% | 909 |
| La Tijera Blvd | I-405 | 6% | 436 |
| Aviation Blvd | I-105 | 6% | 392 |
| La Cienega Blvd | I-105 | 5% | 363 |
| Manchester | I-405 | 4% | 265 |
| Imperial Highway (I-405) | I-405 | 3% | 207 |
| Nash Street | I-105 | 1% | 94 |
| Imperial Highway (I-105) | I-105 | ** | 23 |

Includes passengers using I-405, I-105, or both I-405/105
**Less than 1% of responses

*Century Boulevard exit from I-405 and Sepulveda Boulevard exit from I-105 are most frequently used.*

**Figure III-19**
**Freeway Exits Used**




### Trip Purpose

The largest share of Originating Passengers travel for vacation or pleasure purposes. Moreover, more Originating Passengers are traveling for vacation or pleasure during the peak survey period: 42% compared to 36% in the non-peak survey (Table III-17). The smaller share of vacation/pleasure travelers in the non-peak survey results in a relatively larger percentage of business-related travel in the non-peak season: 35% of Originating Passengers travel for business-related purposes in the non-peak season compared to 26% in the peak survey.

The percentage of passengers who visit friends or relatives is relatively the same between the peak (20%) and non-peak survey (19%). However, a larger percentage of passengers travel for school related purposes in the peak season than in the non-peak season. The peak survey was conducted in mid-August when students are more likely to travel, so this finding seems reasonable.

**Table III-17**
**Trip Purpose**

| Originating Passengers Trip Purpose | Peak n=6,674 | Non Peak n=6,321 | Total Sample n=12,995 |
|---|---|---|---|
| Vacation or pleasure | 42% | 36% | 39% |
| *Business related:* | | | |
| Business | 21% | 24% | 23% |
| Convention | 1% | 4% | 3% |
| Business and Pleasure | 4% | 7% | 6% |
| Military | 1% | ** | ** |
| *Personal or other:* | | | |
| Visiting friends or relatives | 20% | 19% | 19% |
| School related | 6% | 2% | 4% |
| Personal emergency | 2% | 1% | 1% |
| Other | 4% | 5% | 4% |

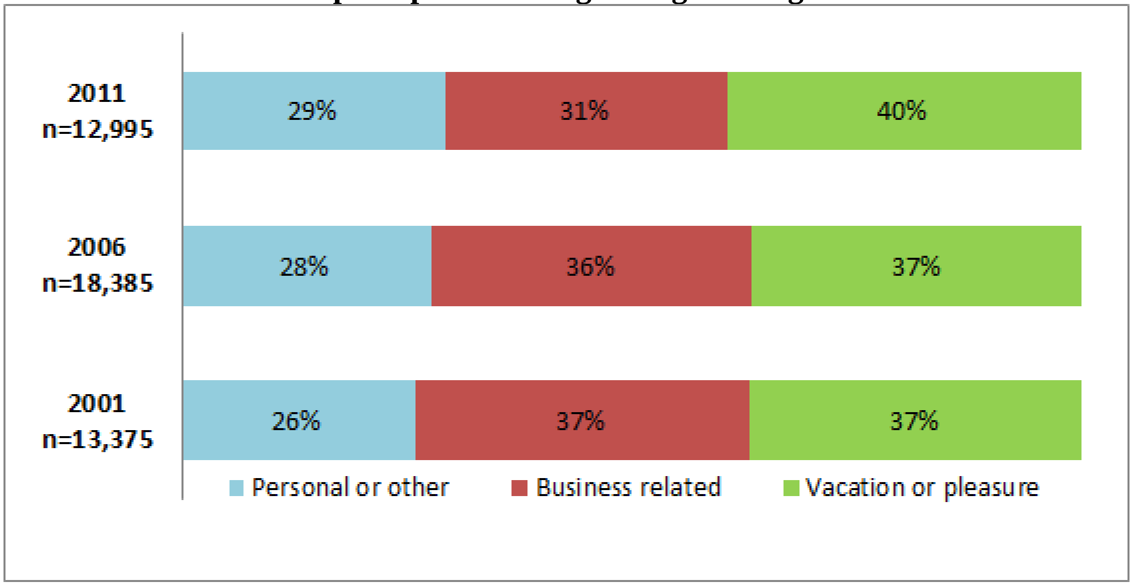
**Less than 1% of responses

Note: Total sample w ill not alw ays equal 100% due to rounding.

*More passengers traveled for vacation during the peak season and more business passengers traveled during the off-peak season.*

In order to make direct comparisons between the current and previous surveys, Unison grouped trip purpose into three major categories: personal or other, business-related, and vacation or pleasure. A slightly higher percentage of passengers are traveling for vacation or pleasure in 2011 than in previous survey years: 40% in 2011 compared to 37% in both 2006 and 2001 (Figure III-20). The percentage of passengers traveling for business related purposes is lower in 2011 than in previous years: 31% of passengers in 2011 are traveling for business-related purposes compared to 36% in 2006 and 37% in 2001.

**Figure III-20**
**Trip Purpose for Originating Passengers**



### Dwell Time at the Airport

Originating Passengers are asked about their airport dwell time, which is defined as the amount of time a passenger is at the airport, from entering the terminal through scheduled departure time. Thirty-four percent (34%) of Originating Passengers report dwell times of less than two hours, 42% report dwell times of two to three hours, and 14% report dwell times of three to four hours (Table III-18). Ten percent (10%) of Originating Passengers report dwell times of over four hours. Dwell times are generally shorter during the peak period: 36% of Originating Passengers in the peak survey report dwell times of less than two hours compared to 32% in the non-peak survey.

*Dwell times are longer in the non-peak season when more visitors are using the Airport.*

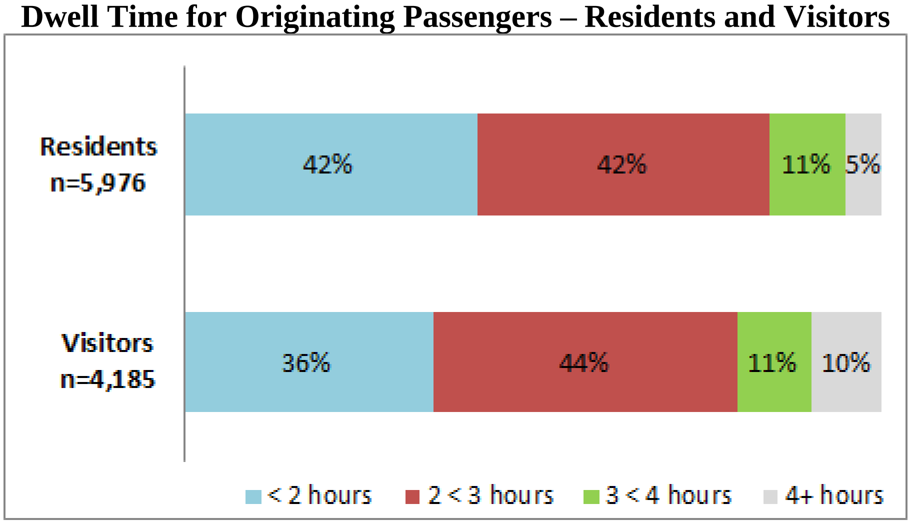
**Table III-18**
**Dwell Time for Originating Passengers**

| Originating Passengers Dwell Time | Peak n=6,907 | Non-Peak n=6,586 | Total Sample n=13,493 |
|---|---|---|---|
| Less than 2 hours | 36% | 32% | 34% |
| 2 < 3 hours | 40% | 45% | 42% |
| 3 < 4 hours | 13% | 14% | 14% |
| 4 < 6 hours | 7% | 6% | 6% |
| 6 < 8 hours | 2% | 2% | 2% |
| 8 hours or more | 2% | 1% | 2% |

*Dwell time information was not available in 2006 and 2001.

Residents report shorter dwell times than Visitors: 42% of Residents arrive less than two hours before their departure time, as compared to 36% of Visitors (Figure III-21). Moreover, a significantly smaller percentage of Residents than Visitors report dwell times of less than four hours. Five percent (5%) of Residents compared to 10% of Visitors report dwell times of more than four hours. These findings are not surprising because Visitors are less likely to be familiar with the airport and the time it takes to check in, pass security screening, and access the holdroom gates.

**Figure III-21**
**Dwell Time for Originating Passengers – Residents and Visitors**



### Well-Wishers

The majority of Originating Passengers are not accompanied by a non-traveler ("well-wisher") inside the terminal (Table III-19). Moderately more passengers are accompanied by well-wishers in the non-peak period: in the non-peak survey, 11% of passengers report one well-wisher and 14% report two or more well-wishers. In the peak survey, 9% of passengers are accompanied by one well-wisher and another 9% are accompanied by two or more well-wishers.

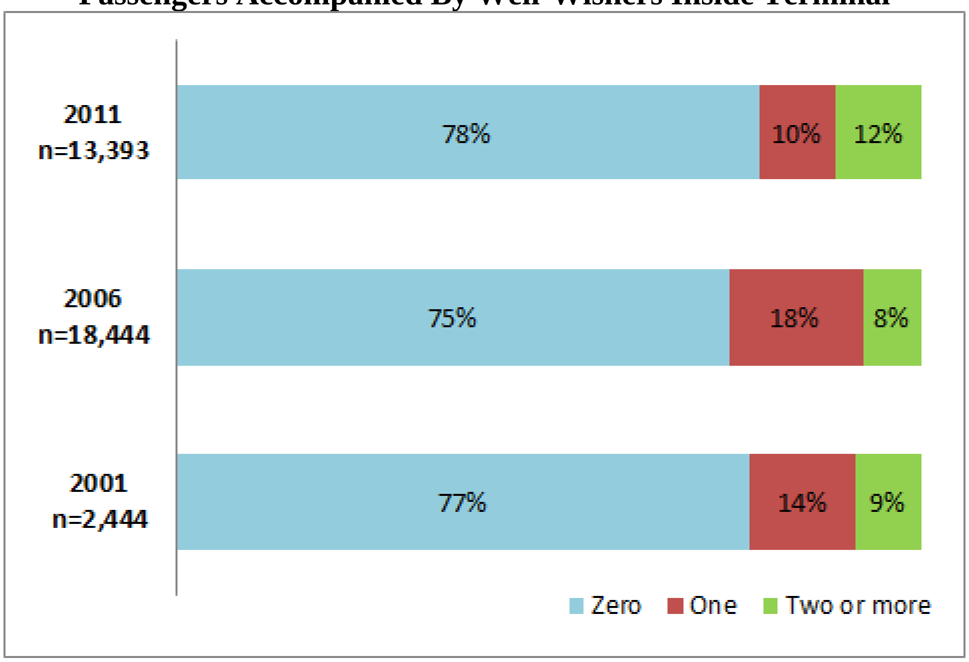
*A greater percentage of passengers have a well-wisher see them off during the non-peak season.*

**Table III-19**
**Passengers Accompanied By Well-Wishers Inside Terminal**

| Number of Well Wishers | Peak n=6,532 | Non-Peak n=6,862 | Total Sample n=13,393 |
|---|---|---|---|
| Zero | 82% | 75% | 78% |
| One | 9% | 11% | 10% |
| Two or more | 9% | 14% | 12% |

Compared to surveys in 2001 and 2006, a larger percentage of passengers do not have a well-wisher accompany them inside the terminal: 78% in 2011 compared to 75% in 2006, and 77% in 2001 (Figure III-22). Ten percent (10%) of passengers report one well-wisher in 2011 compared to 18% in 2006 and 14% in 2001.

**Figure III-22**
**Passengers Accompanied By Well-Wishers Inside Terminal**




Residents are more likely to come to the airport with a well-wisher than Visitors: 25% of Residents come to the airport with a well-wisher compared to 16% of Visitors (Figure III-

23). The average number of well-wishers is 0.51 for Residents and 0.33 for Visitors, with the overall average at 0.48 (Table III-20).

**Figure III-23**
**Passengers Accompanied By Well-Wishers Inside Terminal – Residents and Visitors**

*Visitors are less likely to be accompanied by a well-wisher than residents.*

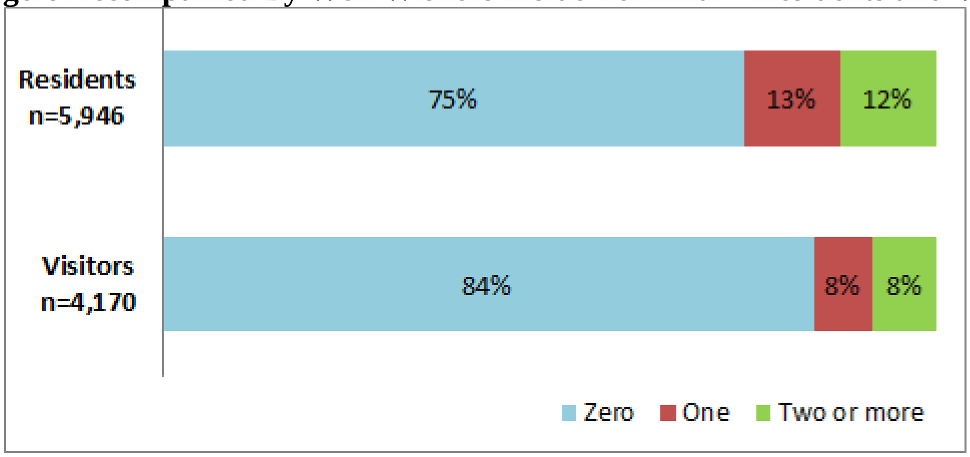



**Table III-20**
**Number of Well Wishers – Residents and Visitors**

| Number of Well Wishers | Residents n=5,946 | Visitors n=4,170 |
|---|---|---|
| Average | 0.51 | 0.33 |

## Size of Travel Party

As noted above, more than half of Originating Passengers at LAX travel alone. In 2011, 56% of passengers travel alone: 56% in the peak survey and 57% in the non-peak survey (Table III-21). Notable is that 29% of passengers in the non-peak survey travel with one other person, but only 23% in the peak survey. Further, 20% in the peak survey travel with two or more other travelers compared to only 15% in the non-peak survey. These results are not surprising considering family vacations more typically occur during a peak season such as August. The average travel party size is 1.94 in the peak survey and is 1.88 in the non-peak survey.

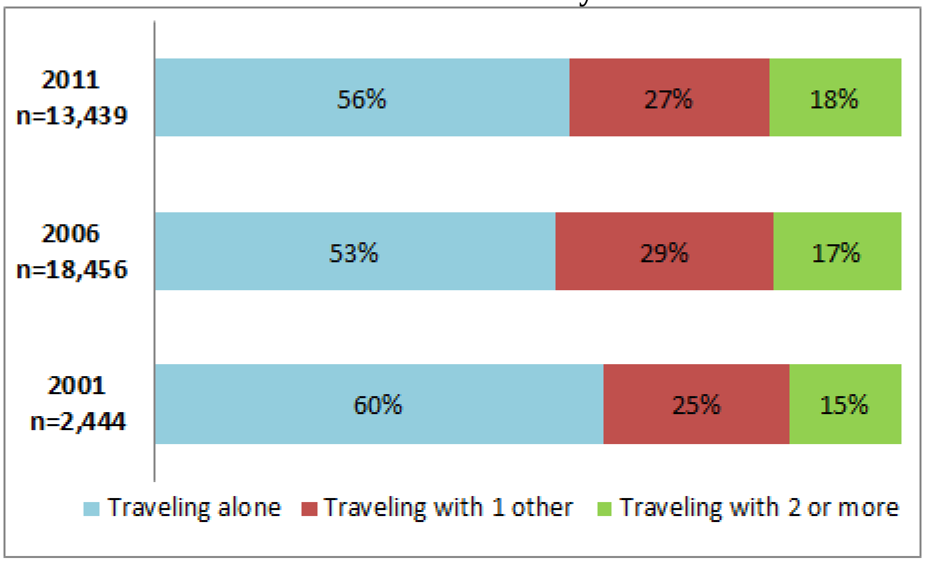
**Table III-21**
**Size of Travel Party**

*The size of travel party is not surprisingly larger in the peak season when more passengers are traveling for vacation.*

| Originating Passengers Size of Travel Party | Peak n=6,562 | Non Peak n=6,827 | Total Sample n=13,439 |
|---|---|---|---|
| Traveling alone | 56% | 57% | 56% |
| Traveling with 1 person | 23% | 29% | 27% |
| Traveling with 2 or more | 20% | 15% | 18% |

Fifty-six percent (56%) of passengers report traveling alone in 2011 compared to 53% in 2006 and 60% in 2001 (Figure III-24). Twenty-seven percent (27%) of passengers in 2011 report traveling with one other person compared to 29% in 2006 and 25% in 2001. However, in 2011 18% of passengers report traveling with two others compared to 17% in 2006 and 15% in 2001.

**Figure III-24**
**Size of Travel Party**




## Baggage

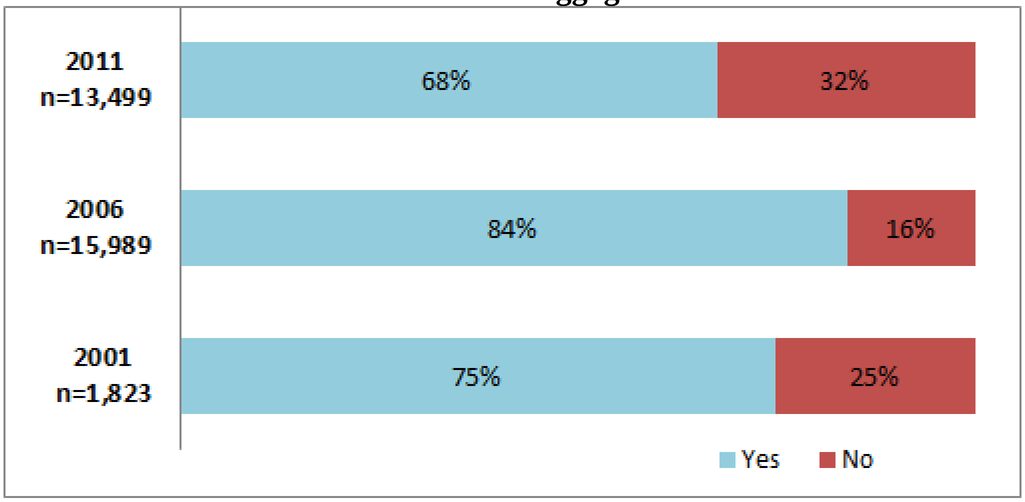
Approximately two-thirds of passengers check baggage (Table III-22). However, this represents a marked decrease from prior surveys: in 2006, 84% of passengers checked baggage and 75% in 2001 (Figure III-25). The decrease in the percentage of passengers who check baggage is not particularly unusual considering checked baggage fees have been widely introduced since the previous surveys.

**Table III-22**
**Checked Baggage**

| Checked in Baggage | Peak n=6,907 | Non-Peak n=6,592 | Sample n=13,499 |
|---|---|---|---|
| Yes | 68% | 67% | 68% |
| No | 32% | 33% | 32% |

**Figure III-25**
**Checked Baggage**

*Due to new baggage fees imposed by airlines, fewer passengers are checking baggage than in 2001 or 2006.*




As shown on Table III-23, the percentage of passengers who check baggage varies by trip purpose. Passengers who travel for business are less likely to check baggage: 57% of business passengers compared to 77% of vacationers and 68% traveling for personal reasons report checking baggage. Business travelers also check fewer bags. For passengers who check-in baggage, the average number of pieces is 1.47 for business passengers compared to 2.02 for vacationers and 1.75 for passengers who travel for personal reasons.

**Table III-23**
**Checked Baggage – Trip Purpose**

*Business travelers are least likely to check in baggage.*

| Checked in Baggage | Business n=4,064 | Vacation n=5,123 | Personal n=3,807 |
|---|---|---|---|
| Yes | 57% | 77% | 68% |
| No | 43% | 23% | 32% |
| **# of Bags:** | | | |
| Average | 1.47 | 2.02 | 1.75 |

Passengers traveling to international destinations are more likely than domestic passengers to check baggage. Ninety percent (90%) of international passengers check baggage compared to 56% of passengers traveling to domestic destinations. International passengers also check more baggage than domestic passengers. The average number of bags checked by international passengers is 2.07 compared to domestic passengers who check 1.56 bags (Table III-24).

*International travelers check-in the most baggage.*

**Table III-24**
**Checked Baggage – Destination**

| Checked in Baggage | US Destination n=8,984 | International Destination n=4,499 |
|---|---|---|
| Yes | 56% | 90% |
| No | 44% | 10% |
| **# of Bags:** | | |
| Average | 1.56 | 2.07 |

Eighty-seven percent (87%) of passengers who check baggage do so at airline ticket counters. Ten percent (10%) check in with the curbside skycap and 2% check baggage at off-airport locations(Table III-25). Of the passengers who check in baggage, the percentage using airline ticket counters has increased for each survey, from 64% in 2001 to 74% in 2006 and 87% in 2011 (Figure III-26).

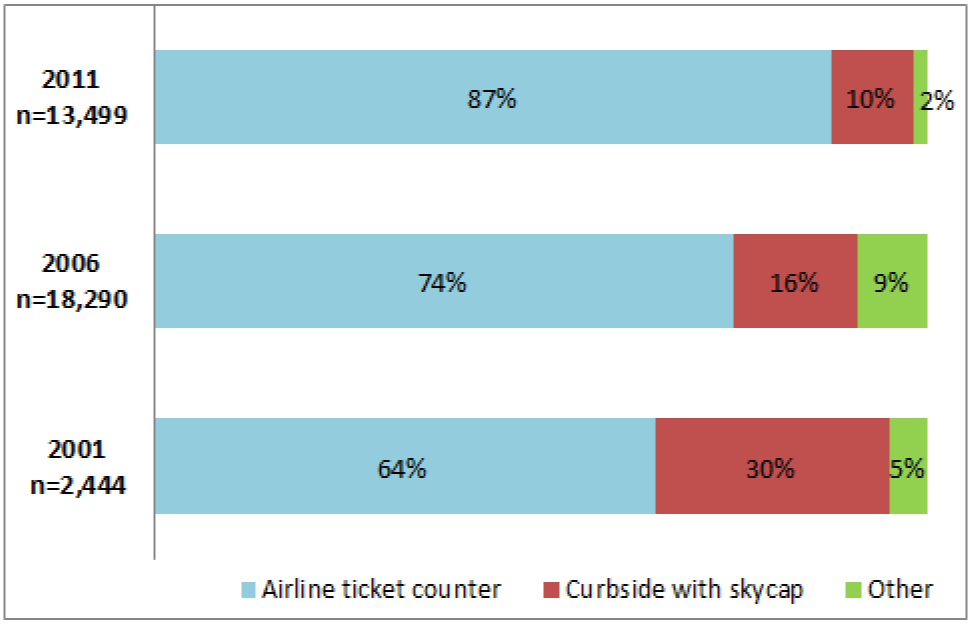
**Table III-25**
**Location of Baggage Check**

| | Peak n=4,679 | Non Peak n=4,436 | Total Sample n=9,115 |
|---|---|---|---|
| Airline ticket counter | 86% | 88% | 87% |
| Curbside with skycap | 11% | 10% | 10% |
| Outside of LAX | 3% | 1% | 2% |
| Other | ** | ** | ** |

**Less than 1% of responses
Note: Total sample will not always equal 100% due to rounding

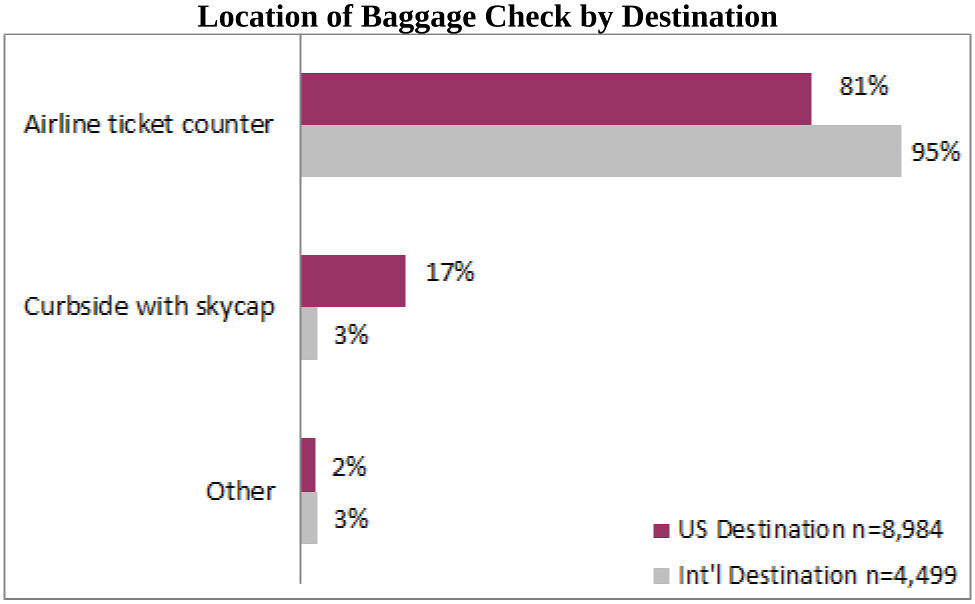
**Figure III-26**
**Location of Baggage Check**

*Percentage of passengers using airline ticket counter to check baggage continues to increase.*




International passengers are more likely to check baggage at the airline ticket counter: 95% of international passengers compared to 81% of domestic travelers (Figure III-27). However, passengers who travel domestically report being more likely to check in curbside with a sky cap compared to 3% of passengers who travel internationally.

**Figure III-27**
**Location of Baggage Check by Destination**



## Area of Residence

The majority of passengers are Southern California residents, which is more the case in the peak survey than the non-peak survey. Sixty-one percent (61%) of passengers in the peak survey are Residents compared to 57% of passengers in the non-peak survey. Table III-26 shows a smaller percentage of Visitors in the peak survey than the non-peak survey: 39% in the peak survey compared to 43% in the non-peak survey.

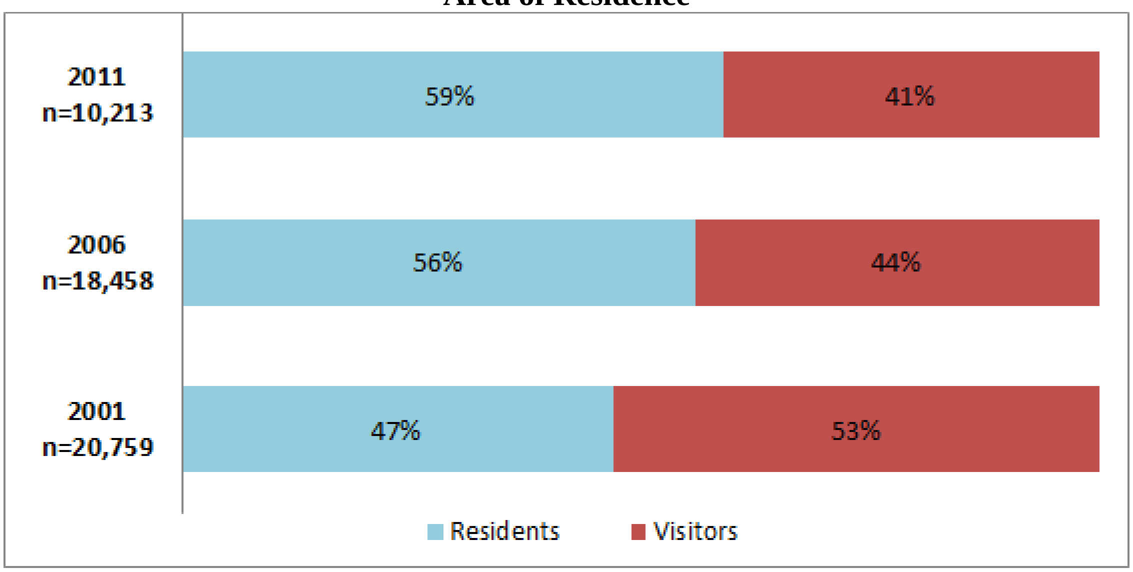
*More residents are traveling in the peak season and more visitors in the non-peak season.*

**Table III-26**
**Area of Residence**

| Area of Residence | Peak n=5,158 | Non-Peak n=5,055 | Total Sample n=10,213 |
|---|---|---|---|
| Residents | 61% | 57% | 59% |
| Visitors | 39% | 43% | 41% |

The data also indicate that the percentage of Originating Passengers who are Residents has increased, from 47% in 2001 to 56% in 2006 and 59% in 2011 (Figure III-28).

**Figure III-28**
**Area of Residence**




Seventy percent (70%) of travelers classified as Residents live in Los Angeles County (Table III-27). Orange County residents represent 11% and Ventura County residents represent 5% of Resident passengers in 2011.

*A greater percentage of LA and OC residents are traveling in the peak season. More Ventura residents are traveling in the non-peak season.*

**Table III-27**
**County of Residence**

| Originating Passengers Area of Residence | Peak n=3,252 | Non-Peak n=2,960 | Total Sample n=6,212 |
|---|---|---|---|
| Los Angeles County | 71% | 69% | 70% |
| Orange County | 12% | 11% | 11% |
| Ventura County | 4% | 6% | 5% |
| Riverside County | 3% | 3% | 3% |
| San Bernardino County | 3% | 3% | 3% |
| San Diego County | 2% | 2% | 2% |
| Santa Barbara County | 1% | 1% | 1% |
| Other County | 4% | 4% | 4% |

### Spent the Night in Nearby Hotel – Residents Only

A small percentage of Residents spend the night at a nearby hotel prior to their departure flight from LAX: 2% of Residents in the peak season and 1% in the non-peak season (Table III-28). A larger percentage of San Diego and Santa Barbara passengers spend the night at a nearby hotel prior to their flight than passengers from other Southern California counties.

*Residents of San Diego and Santa Barbara County are more likely to spend the night at nearly LAX hotel prior to flight.*

**Table III-28**
**Spent the Night at Nearby Hotel**

| Spent night at nearby hotel | Peak n=3,038 | Non Peak n=2,778 | Total Sample n=5,816 |
|---|---|---|---|
| Yes | 2% | 1% | 2% |
| No | 98% | 99% | 98% |

### Trip Duration – Residents Only

The majority of Residents report a trip duration of two or more nights: 93% in the peak and 94% in the non-peak survey spend two or more nights away from home (Table III-29). In the peak survey, trip duration is considerably longer than the non-peak survey. Passengers anticipate spending 12.5 nights away from home in the peak survey and 8.9 nights in the non-peak survey on average. The median number of nights local residents plan on being away from home is 6.0 nights in the peak survey and 5.0 nights in the non-peak survey.

**Table III-29**
**Trip Duration – Local Residents Only[1]**

| # of nights away from home | Peak n=2,727 | Non Peak n=2,692 | Total Sample n=5,419 |
|---|---|---|---|
| Zero | 2% | 2% | 2% |
| One | 5% | 4% | 5% |
| Two to four nights | 34% | 32% | 33% |
| Five to seven nights | 26% | 25% | 26% |
| More than seven nights | 33% | 36% | 34% |
| Average | 12.5 | 8.9 | 11.1 |
| Median | 6.0 | 5.0 | 6.0 |

Note: Total sample will not always equal 100% due to rounding

## Nights in Southern California – Visitors Only

Visitors spend an average of 6.6 nights in Southern California (Table III-30). This is lower than the average number of nights in 2006 (8.2 nights), but greater than 2001 (6.1 nights), as shown on Table III-31. The median number of nights is constant at four nights in each survey.

*With more vacationers in the peak season, Visitors are spending more nights in Southern California during this time.*

**Table III-30**
**Nights in Southern California – Visitors Only[2]**

| # of nights in So Cal | Peak n=1,970 | Non Peak n=2,159 | Total Sample n=4,129 |
|---|---|---|---|
| Zero | 3% | 3% | 3% |
| One | 9% | 10% | 10% |
| Two or more | 88% | 87% | 87% |
| Average | 7.6 | 5.6 | 6.6 |
| Median | 5.0 | 4.0 | 4.0 |

**Table III-31**
**Nights in Southern California – Visitors Only**

| # of nights in So Cal | 2011 n=4,129 | 2006 n=7,005 | 2001 n=1,199 |
|---|---|---|---|
| Zero | 3% | 2% | 5% |
| One | 10% | 3% | 9% |
| Two or more | 87% | 95% | 86% |
| Average | 6.6 | 8.2 | 6.1 |
| Median | 4.0 | 4.0 | 4.0 |

[1]Excludes the one-hundredth percentile of responses and passengers who indicate “college” as primary trip purpose.
[2]Excludes the one-hundredth percentile of responses.

### Visitor Spending

Visitors are asked how much money they spent for lodging, entertainment, food, retail purchases, and off-airport transportation while in Southern California. The amount varies significantly between peak and non-peak seasons. Visitors spend an average of $1,408 in the peak season and $1,105 in the non-peak season (Table III-32). The median amount Visitors spend was $750 in the peak season and $650 in the non-peak season. Visitor spending has increased substantially: in 2006, Visitors spent an average of $929 with a median spend amount of $500.

*With more vacationers in the peak season, visitors are spending more money in the peak season.*

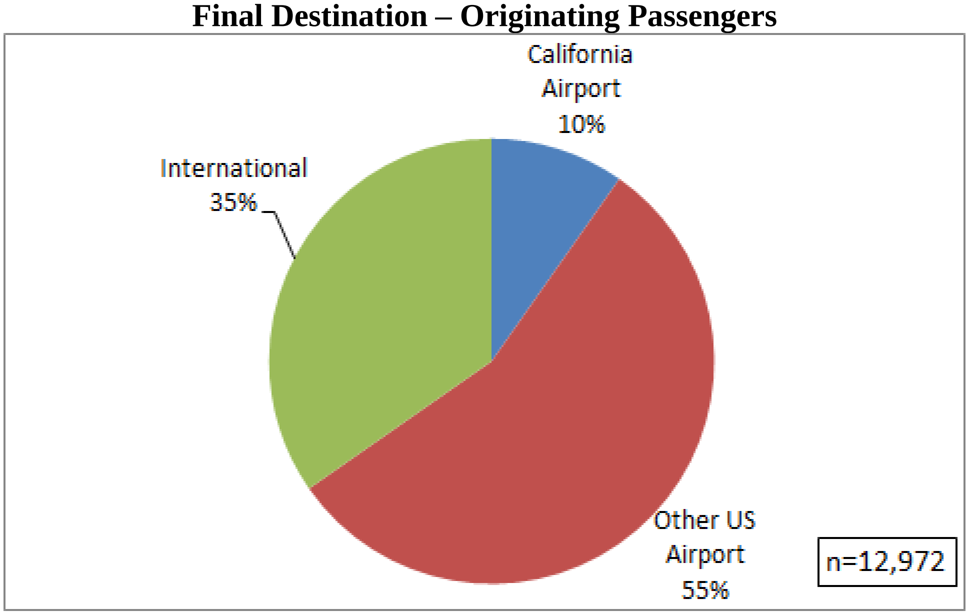
**Table III-32**
**Visitor Spending[3]**

| Visitor Spending | Peak n=2,672 | Non Peak n=2,636 | Total Sample n=5,308 |
|---|---|---|---|
| Average | $ 1,408 | $ 1,105 | $ 1,284 |
| Median | $ 750 | $ 650 | $ 700 |

### Final Destination

Most Originating Passengers are traveling to a domestic destination: 10% to a California city and 55% to another state (Figure III-29). International destinations make up the remaining 35% of Originating Passenger trips.

**Figure III-29**
**Final Destination – Originating Passengers**

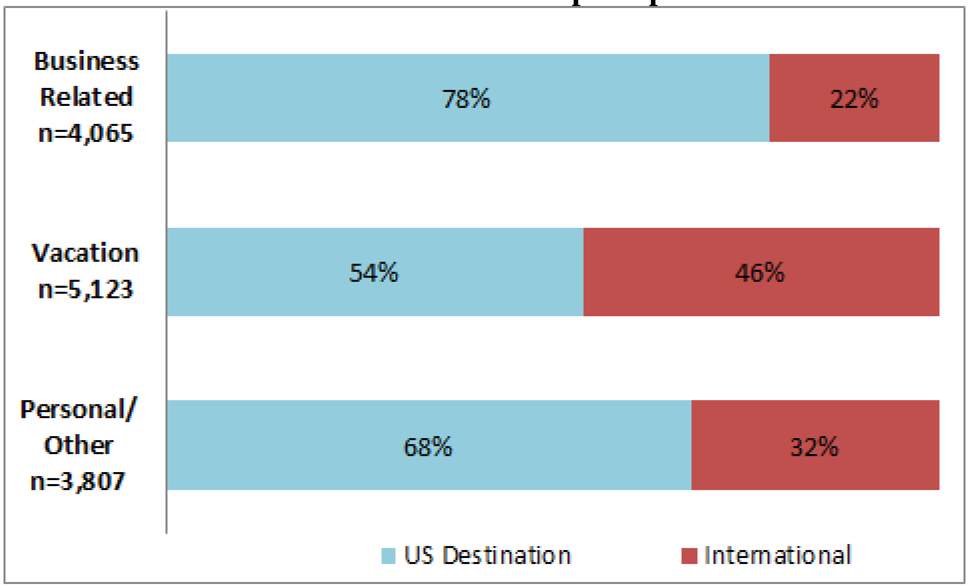



[3] Excludes 1% of responses in the upper range.

Originating Passengers' final destination varies depending on trip purpose. Forty-six percent (46%) of Originating Passengers traveling for vacation have an international destination, compared to 32% of those traveling for personal reasons, and 22% of business travelers (Figure III-30).

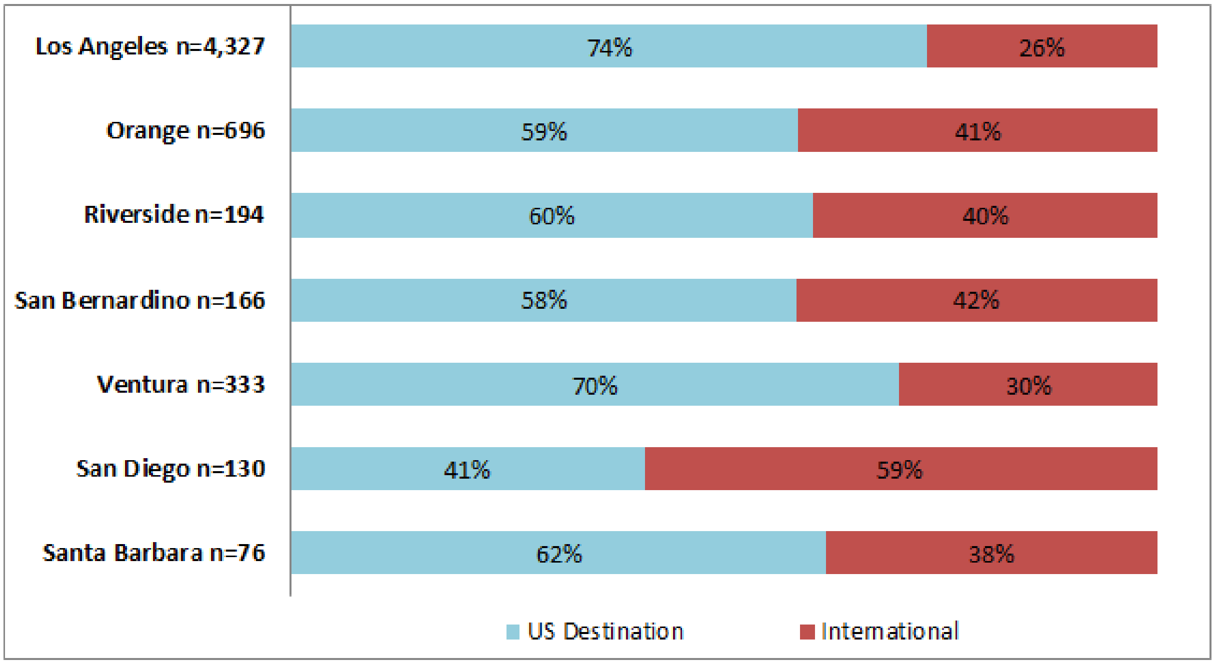
*More vacationers are traveling to international destinations than other passenger groups.*

**Figure III-30**
**Final Destination – Trip Purpose**




A smaller percentage of Los Angeles County residents (26%) fly to an international destination in comparison to residents of other counties (Figure III-31). Fifty-nine percent (59%) of Originating Passengers who are residents of San Diego County fly to an international destination from LAX, a substantially larger proportion than the residents of other Southern California counties. Since LAX offers more international flights than any other Southern California airport, a San Diego County resident may find the drive to LAX worthwhile when taking an international flight.

**Figure III-31**
**Final Destination – Southern California Residents**




*A large percentage of San Diego residents are traveling internationally and are more likely to spend the night at a nearby hotel.*

## CONNECTING PASSENGERS

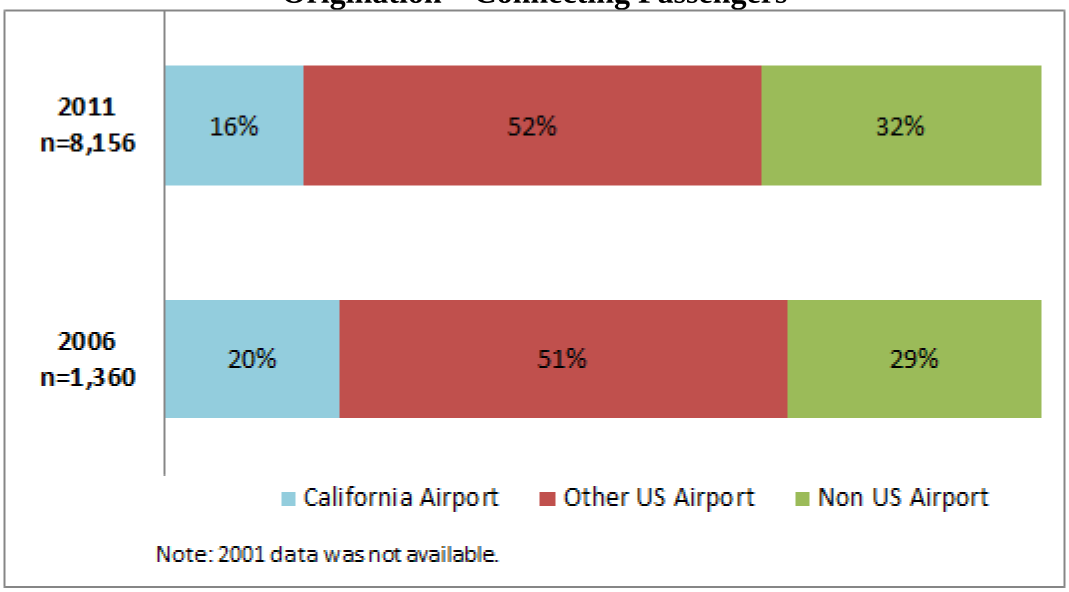
The discussion below highlights responses from Connecting Passengers. This survey added new questions to help better understand the travel behavior of Connecting Passengers, so comparisons to past surveys are not always possible.

### Area of Origination

Sixteen percent (16%) of Connecting Passengers originate from another California airport compared to 20% in 2006 (Figure III-32). Another 52% originate from a domestic airport outside of California this year, which is similar to the finding in 2006 when 51% of Connecting Passengers originated from a non-California domestic airport. The remaining 32% of Connecting Passengers start their trip from a non-U.S. airport, an increase from 29% in 2006.

*More connecting passengers are traveling internationally than in the prior survey.*

**Figure III-32**
**Origination – Connecting Passengers**




### Terminal Arrived

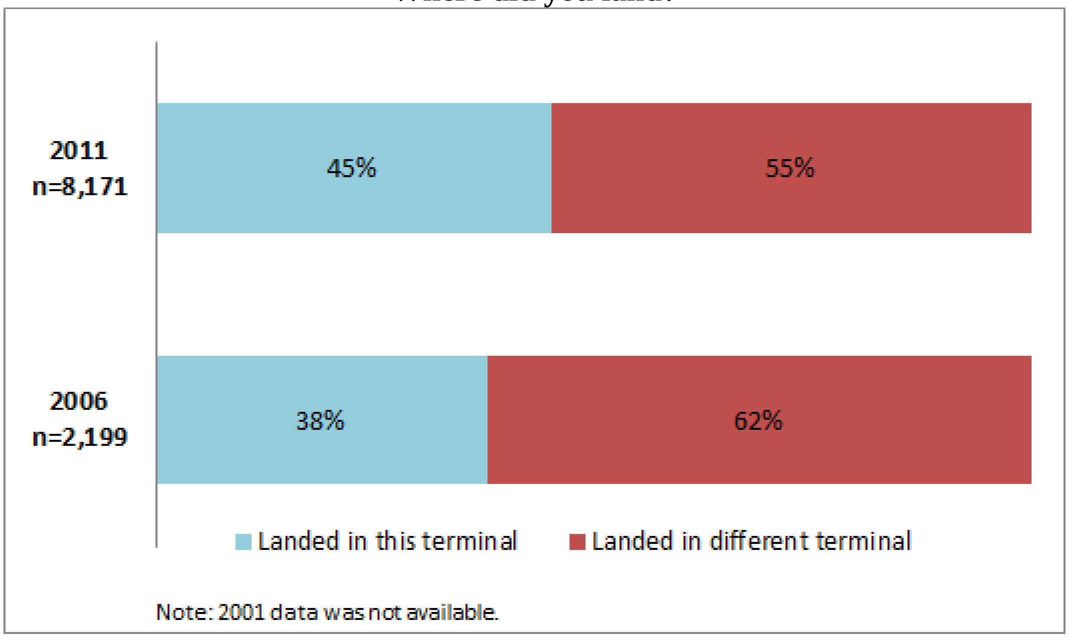
A majority of Connecting Passengers arrive in one terminal at LAX and depart from another, particularily during the peak season: 56% in the peak survey compared to 54% in the non-peak survey (Table III-33). The percentage of Connecting Passengers changing terminals is lower than the prior survey: 62% of Connecting Passengers changed terminals in 2006 compared to 55% in 2011 (Figure III-33).

*In the peak season more passengers landed in one terminal and departed from another.*

**Table III-33**
**Where did you land?**

| Connecting Passengers<br>Terminal Arrival | Peak<br>n=4,291 | Non-Peak<br>n=3,880 | Total Sample<br>n=8,171 |
|---|---|---|---|
| Landed in this terminal | 44% | 46% | 45% |
| Landed in different terminal | 56% | 54% | 55% |

**Figure III-33**
**Where did you land?**



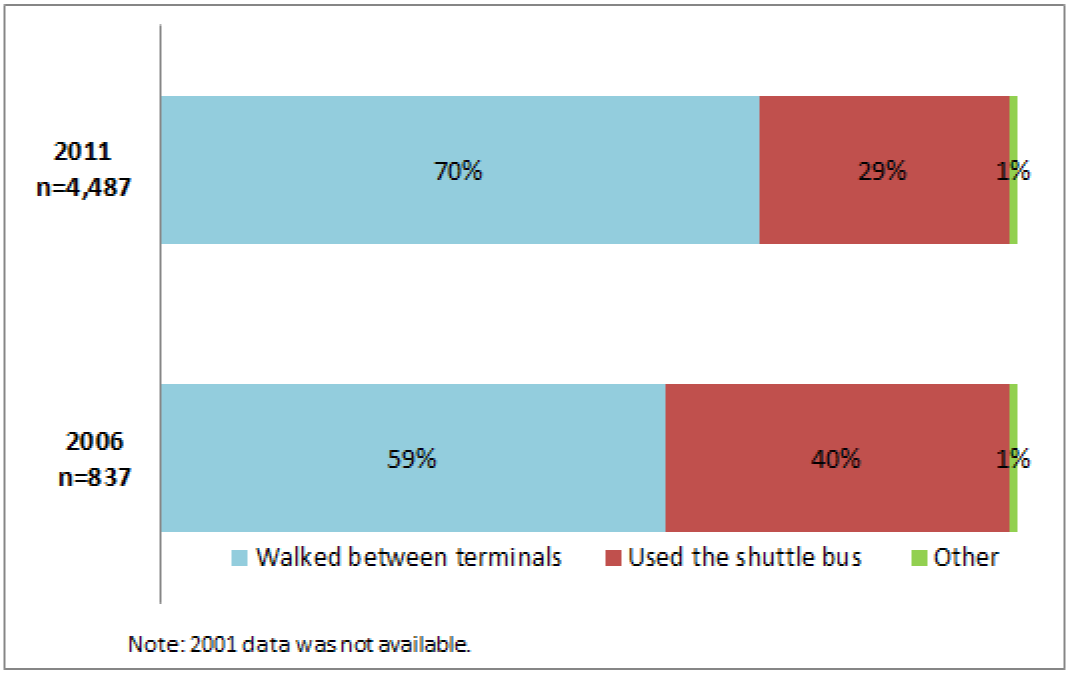

For Connecting Passengers who arrive in one terminal and depart from another terminal, the majority walk to their departure terminal. Seventy percent (70%) walk between terminals and 29% use the inter-terminal shuttle bus (Table III-345). Walking is more so the case in the peak survey: 72% walk between terminals compared to 67% in the non-peak survey. The 2006 survey found a smaller percentage of passengers who walked between terminals: 59% walked from their arrival terminal to their departure terminal in 2006 and 40% use the shuttle buses (Figure III-34).

**Table III-34**
**Travel Between Terminals**

| Connecting Passengers<br>Travel Between Terminals | Peak<br>n=2,390 | Non-Peak<br>n=2,097 | Total Sample<br>n=4,487 |
|---|---|---|---|
| Walked between terminals | 72% | 67% | 70% |
| Took shuttle bus | 27% | 32% | 29% |
| Other | 1% | 1% | 1% |

*Passengers are more likely to walk between terminals.*

**Figure III-34**
**Travel Between Terminals**




## Layover Time

In general, layover times for Connecting Passengers are long: 78% have layover times of two hours or more while 22% have layover times of less than two hours (Table III-35). Layover time is defined as the wait time from when a passenger arrives from their first flight to the scheduled departure time of their departing flight. The largest subgroup of Connecting Passengers have layover times between two and three hours. Further, layover times are slightly longer in the peak season than the non-peak season: 52% of passengers have layover times of three hours or longer in the peak season compared to 48% in the non-peak season.

*Layover times are long, especially during the peak season.*

**Table III-35**
**Layover Time**

| Connecting Passengers Layover Time | Peak n=4,284 | Non-Peak n=3,878 | Total Sample n=8,162 |
|---|---|---|---|
| Less than 2 hours | 22% | 22% | 22% |
| 2 < 3 hours | 27% | 31% | 29% |
| 3 < 4 hours | 19% | 17% | 18% |
| 4 < 6 hours | 17% | 16% | 17% |
| 6 < 8 hours | 8% | 7% | 7% |
| 8 hours or more | 8% | 8% | 7% |

UNISON Consulting, Inc.

## Leave Airport Premises

Considering the long layover times at LAX, Connecting Passengers were asked if they left the airport premises. Only 5% of Connecting Passengers leave LAX during their layover (Figure III-35). Cross tabulation analysis shows that Connecting Passengers with the longest layover times are most likely to leave the airport. Thirty-five percent (35%) of Connecting Passengers with layover times of eight hours or more leave LAX compared to 1% with layover times of less than two hours. In general, the longer the layover, the more likely a passenger is to leave the airport premises during their layover at LAX (Figure III-36).

*Connecting passengers with the longest layover times are more likely to leave the airport premises.*

**Figure III-35**
**Did you leave LAX during your layover?**

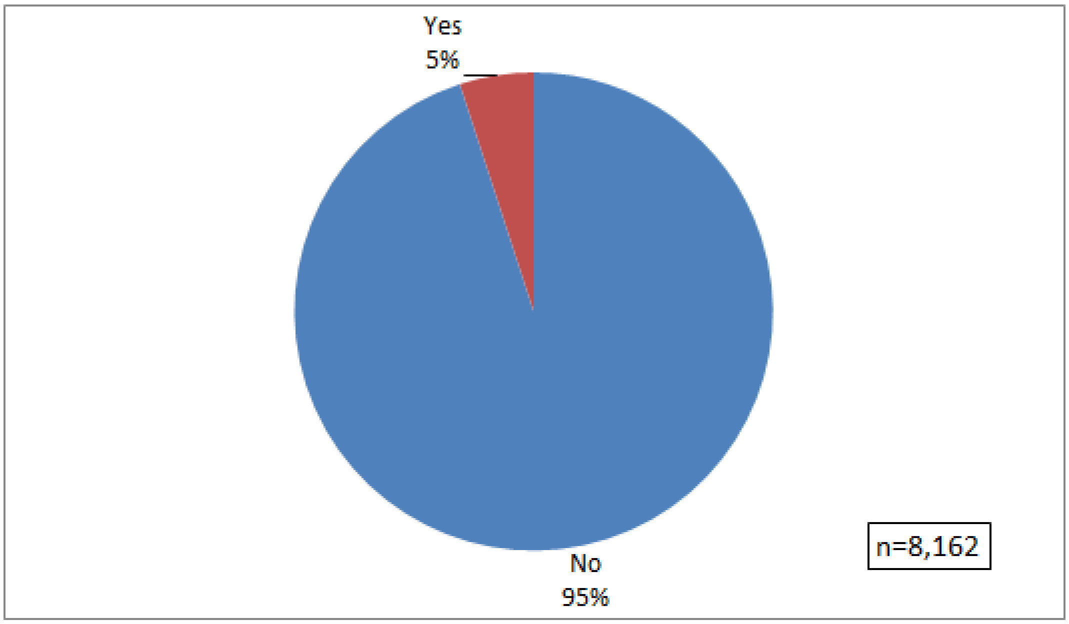
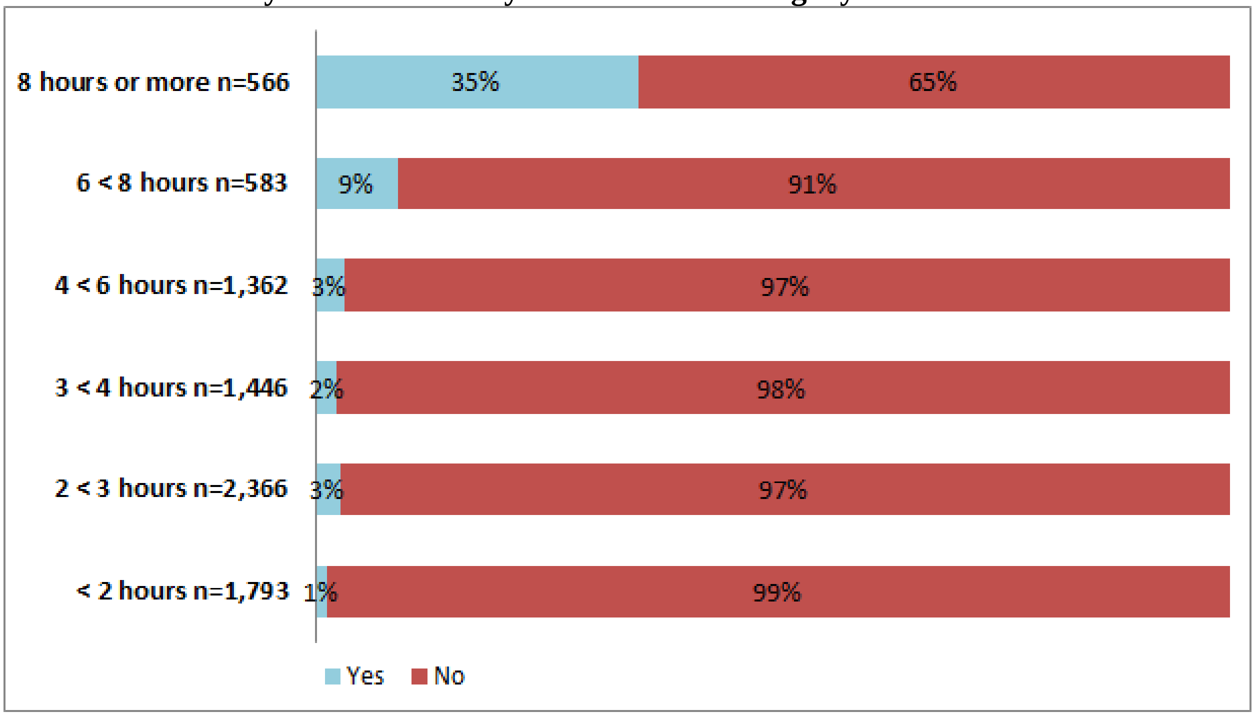


**Figure III-36**
**Layover Time - Did you leave LAX during layover?**




## Off-Airport Spending

Connecting Passengers who leave the airport were asked to report the amount of money spent away from the airport (excluding transportation costs). The majority of Connecting Passengers who leave the airport premises spend money away from the airport: 80% spend away from the airport; 20% did not have additional expenditures (Figure III-37). Thirty-one percent (31%) of passengers who spend money off-airport, spend less than \$50.00; 15% spend between \$50.00 and \$100.00; 22% spend \$100.00 to \$200.00. Off-airport spending averages \$310.00, but the median is \$100.00, suggesting that a small number of Connecting Passengers who leave the airport during their layover make substantial expenditures (Figure III-38). Howver, the majority of passengers who spend \$400.00 or more off-airport have layover times of 10 hours or more, which may indicate they spend the night at a hotel during their layover at LAX, resulting in a high spend amount. It is important to note that because few connecting passengers make off-Airport purchases (n=286) additional cross tabulation analysis by passenger type (domestic versus international passenger) may not produce statistically significant results due to the high margin of error associated with small samples.

**Figure III-37**
**Did you spend money off-Airport?**

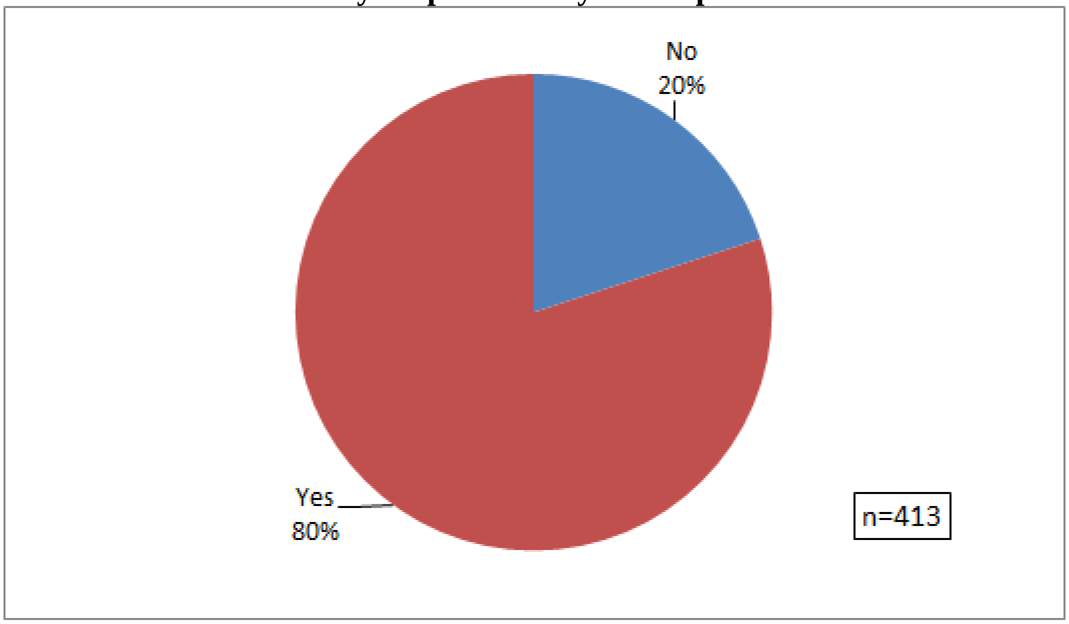
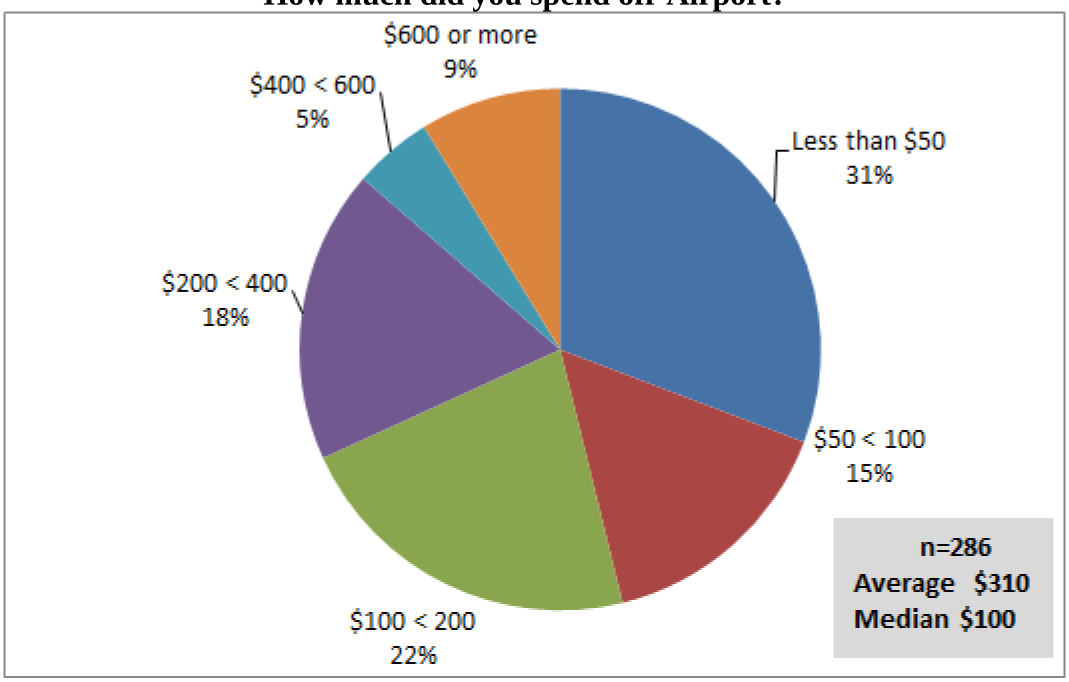



**Figure III-38**
**How much did you spend off-Airport?[4]**

*Connecting passengers who leave the airport premises spend an average of $310 on off-airport expenditures.*




[4] Excludes the one-hundredth percentile of responses in the upper range

## Travel Back to LAX

The majority of Connecting Passengers who leave the airport return to LAX via private transportation (62%). Another 14% use a hotel courtesy shuttle and 13% use shared shuttle services to return to LAX (Table III-36).

**Table III-36**
**Mode of Transportation Back to LAX[5]**

| Connecting Passengers | Sample Size = 364 |
|---|---|
| *Private transportation:* | |
| Private vehicle | 19% |
| Taxi | 17% |
| Shuttle/ van (private) | 13% |
| Rental vehicle | 12% |
| Limousine/ town car | 1% |
| | |
| *Shared/ scheduled:* | |
| Hotel courtesy van | 14% |
| Share shuttle | 13% |
| Scheduled airport/ bus/ van | 1% |
| Union Flyaway | 1% |
| Chartered bus or van | 1% |
| | |
| *Public transportation:* | |
| MTA (Metro or other public) | 8% |
| Green line/ light rail | 1% |

Note: Percentages will not always equal 100% due to rounding.

*Connecting passengers who leave the airport premises most likely use private transportation to return to LAX.*

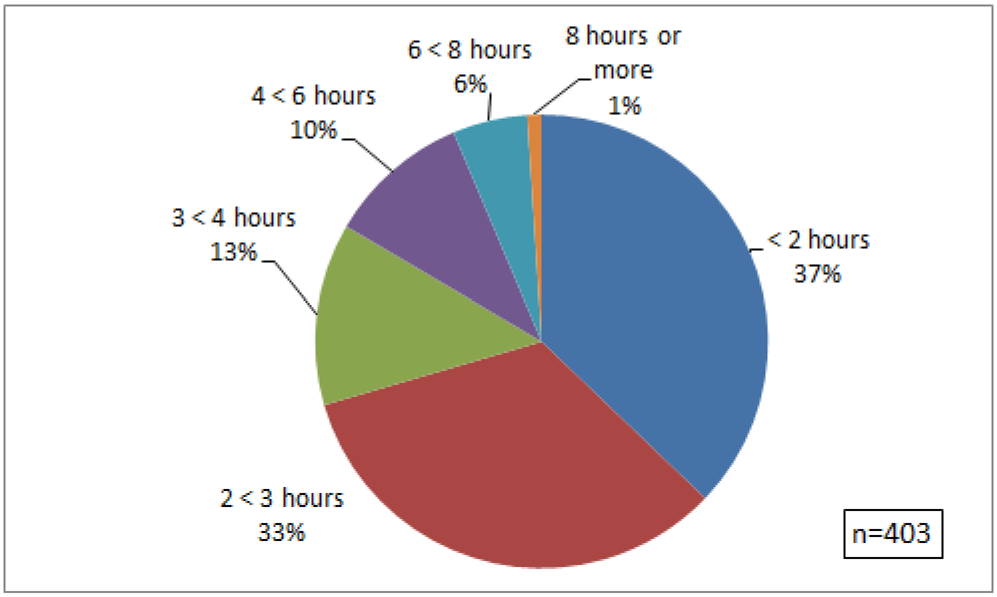
[5] Excludes "Don't Know" and "Other" responses.

### Discretionary Layover Time

In addition to their off-airport spending, we asked Connecting Passengers who leave the airport how long before their departing flight they returned to the airport. A large percentage of Connecting Passengers who leave the airport still have a significant amount of discretionary time at LAX: 63% of these passengers have two or more hours of wait time before their scheduled connecting flight (Figure III-39).

*Connecting passengers who leave the airport premises still spend a lot of time at LAX waiting for their departure flight.*

**Figure III-39**
**Discretionary Layover Time**

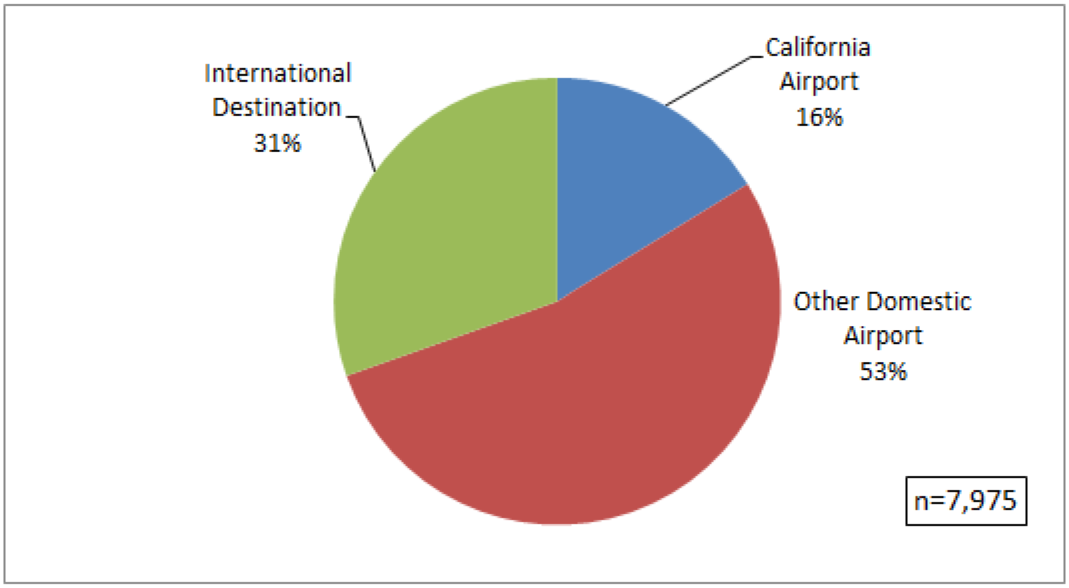


### Final Destination

The majority of Connecting Passengers fly to another domestic airport outside of California (53%), 31% fly to an international destination, and 16% fly to another airport in California (Figure III-40).

*Majority of connecting passengers are headed out of state.*

**Figure III-40**
**Final Destination – Connecting Passengers**



## ALL PASSENGERS

### Airline Distribution

Table III-37 shows the survey sample shares of the top 10 airlines used by survey respondents in 2011. The survey sample closely mirrors the actual distribution of passengers by airline as well as terminal in 2011[6]. The survey sample includes 19.9% United Airlines passengers, while the actual market share of United Airlines in 2011 is 19.5%. Further, American Airlines passengers represent 15.8% of the sample while the actual 2011 market share is 15.9%. Overall, the top 10 airlines comprises 77.9% of the total survey sample, while the actual market share for these airlines is 77.3%.

*Survey sample closely matches actual distribution by airline.*

**Table III-37**
**Top 10 Airlines Used (n=22,264)**

| Top 10 Airlines By Market Share | Survey Sample | Actual Market Share* | Difference |
|---|---|---|---|
| United | 19.9% | 19.5% | 0.4% |
| American | 15.8% | 15.9% | -0.1% |
| Delta | 11.9% | 11.5% | 0.4% |
| Southwest | 11.1% | 12.6% | -1.5% |
| Continental | 4.9% | 3.9% | 1.0% |
| Alaska | 4.0% | 4.4% | -0.4% |
| Virgin America | 2.8% | 3.3% | -0.4% |
| US Airways | 2.4% | 2.7% | -0.3% |
| Qantas | 2.6% | 2.1% | 0.5% |
| Air Canada | 2.4% | 1.4% | 1.0% |
| Top 10 Airlines | 77.9% | 77.3% | 0.6% |

*Source: LAWA file "YTD 2011 Departing Passengers"
Note: Differences in numbers are due to rounding

[6] A list of airlines by terminal at the time the survey was conducted is located in Appendix B of this report. In March 2012, Continental Airlines (in T-6) completed its merger with United Airlines. Also that month, Alaska Airlines relocated from T-3 to T-6. The 2011 passenger survey was conducted prior to these changes.

### Trip Purpose (All Passengers)

The largest subgroup of passengers – 41% of all passengers – travel for vacation or pleasure, but there is a substantial difference between the peak and non-peak seasons: 43% of all passengers travel for vacation or pleasure in the peak season compared to 39% in the non-peak season (Table III-38). With the share of vacation/pleasure travel decreasing in the non-peak season, business-related travel has a larger share: 36% of all passengers in the non-peak season are business travelers compared to 27% in the peak season. Finally, the non-peak season also has fewer passengers traveling for personal reasons. Twenty-five percent (25%) of passengers travel for personal reasons in the non-peak season compared to 31% in the peak season. However, note that the peak survey occurred in mid-August and reflects a relatively high percentage of passengers traveling for school-related reasons.

*Most passengers, whether connecting or originating, are traveling for vacation, especially during the peak season.*

**Table III-38**
**Trip Purpose – All Passengers**

| ALL PASSENGERS Trip Purpose | Peak n=10,795 | Non Peak n=10,057 | Total Sample n=20,852 |
|---|---|---|---|
| Vacation or pleasure | 43% | 39% | 41% |
| *Business related:* | | | |
| Business | 20% | 24% | 22% |
| Convention | 2% | 4% | 3% |
| Business and Pleasure | 4% | 7% | 6% |
| Military | 1% | 1% | 1% |
| *Personal or other:* | | | |
| Visiting friends or relatives | 18% | 18% | 18% |
| School related | 7% | 2% | 4% |
| Personal emergency | 2% | 1% | 1% |
| Other | 4% | 4% | 4% |

### Annual Household Income

U.S. residents were asked their annual household income. As shown in Table III-39 and Figure III-41, the largest subgroup of passengers report annual household incomes between $50,000 and $100,000, which was also the case in 2006. However, in 2011, a larger percentage of passengers report incomes in this range than in the 2006 survey. Thirty percent (30%) of passengers in the 2011 survey report incomes between $50,000 and $100,000 compared to 41% in 2006. The percentage of passengers reporting household incomes of $100,000 or more is also greater in 2011: 40% compared to 30% in 2006.

Household incomes of passengers are slightly lower in the peak survey: 32% of all passengers report annual household incomes of less than $50,000 in the peak survey compared to 27% in the non-peak survey.

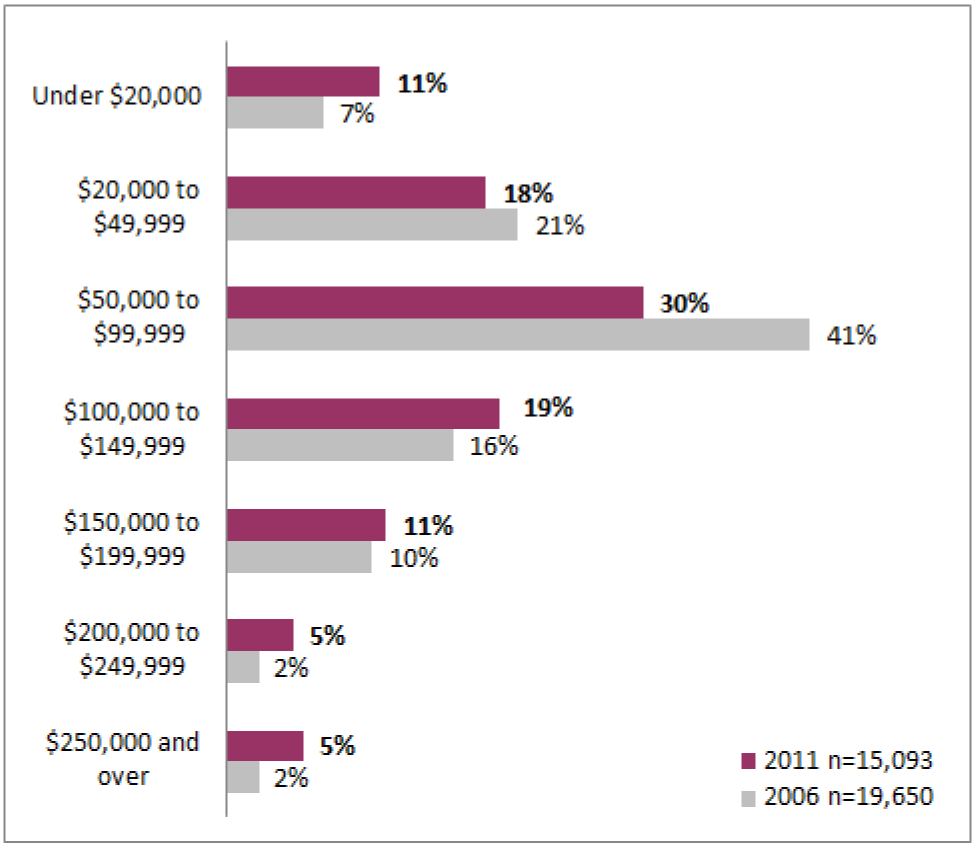
**Table III-39**
**Annual Household Income – U.S. Residents Only**

*LAX has an affluent market, with a large percentage having household incomes of $100,000+*

| Household Income | Peak n=7,773 | Non Peak n=7,320 | Total Sample n=15,093 |
|---|---|---|---|
| Under $20,000 | 13% | 9% | 11% |
| $20,000 to $49,999 | 19% | 18% | 18% |
| $50,000 to $99,999 | 29% | 31% | 30% |
| $100,000 to $149,999 | 18% | 20% | 19% |
| $150,000 to $199,999 | 11% | 12% | 11% |
| $200,000 to $249,999 | 5% | 5% | 5% |
| $250,000 and over | 5% | 5% | 5% |

*Excludes "don't know" or "refused" responses.

**Figure III-41**
**Annual Household Income**



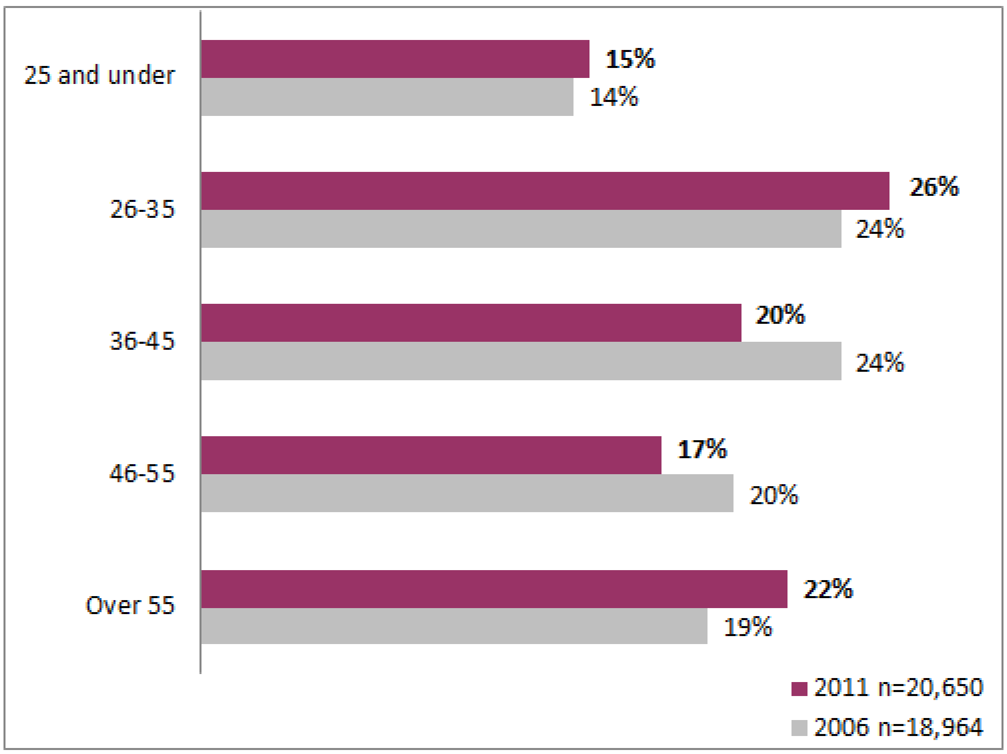

## Age Range

The peak season has a generally younger passenger market. Eighteen percent (18%) of passengers are under 25 years of age in the peak survey compared to only 10% in the non-peak survey (Table III-40). The passenger population has also become more diverse. In comparison to the 2006 survey, there are now more passengers 35 and younger (41% in 2011 compared to 38% in 2006), as well as more older passengers. Twenty-two percent (22%) of passengers are over the age of 55 in 2011 compared to 19% in 2006 (Figure III-42).

**Table III-40**
**Age Range of Passengers**

| Age Range | Peak n=10,753 | Non Peak n=9,897 | Total Sample n=20,650 |
|---|---|---|---|
| Under 25 | 18% | 10% | 15% |
| 25-34 | 26% | 26% | 26% |
| 35-44 | 19% | 22% | 20% |
| 45-54 | 17% | 18% | 17% |
| 55-65 | 14% | 16% | 15% |
| Over 65 | 6% | 8% | 7% |

**Figure III-42**
**Age Range of Passengers**



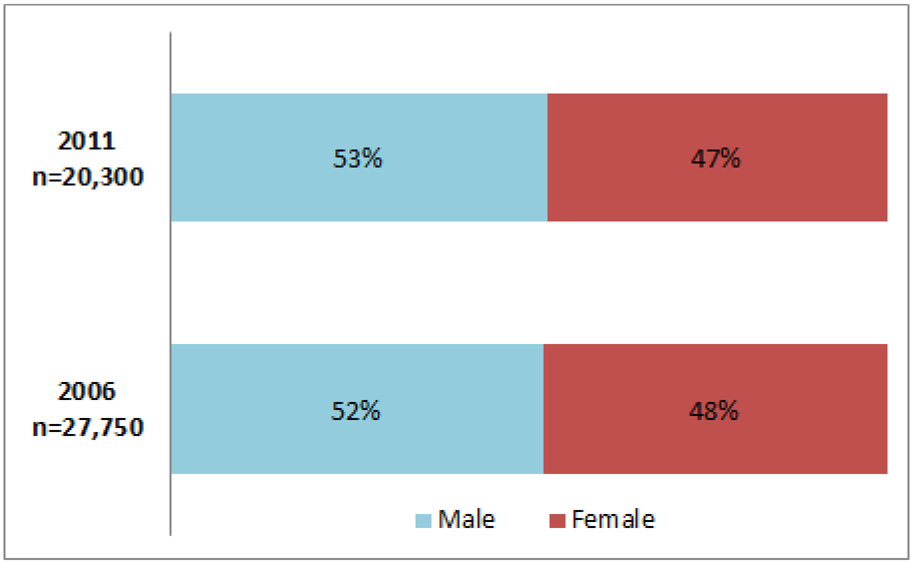

## Gender

LAX has a slightly greater percentage of male travelers. Fifty-three (53%) of passengers are male in 2011 compared to 47% who are female (Table III-41). The results are relatively consistent between peak and non-peak surveys as well as in comparison to the prior survey (Figure III-43).

**Table III-41**
**Gender of Passengers**

| Gender | Peak n=10,589 | Non Peak n=9,711 | Total Sample n=20,300 |
|---|---|---|---|
| Male | 52% | 53% | 53% |
| Female | 48% | 47% | 47% |

**Figure III-43**
**Gender of Passengers**



# SECTION IV – SUMMARY OF FINDINGS

The Unison Team collected surveys from nearly 23,000 passengers in 2011 in two waves: a peak survey in August and a non-peak survey in October. Similar to past surveys, the majority of passengers in 2011 are originating at LAX, travelling for non-business related purposes, and have long dwell times/ layover times at the airport. Other notable findings are as follows:

- Area of origination information was captured from over 90% of Originating Passengers, which included 11,434 responses with ZIP code data. An analysis of 2011 ZIP code data reveals the largest subgroup of Originating Passengers arrives from ZIP code 90045, the ZIP code which includes LAX and nearby hotels. Seven other ZIP codes are each the place of origination for more than 1% of Originating Passengers:
    - Santa Monica and Pico Neighborhood (90404)
    - Hollywood (90028)
    - West Los Angeles, East of 405 and North of Pico (90024 and 90025)
    - Downtown Long Beach and Harbor (90802)
    - Beverly Hills (90210)
    - Downtown Los Angeles, Bunker Hill, and Little Tokyo (90013)
- Vacationing passengers originate primarily from Disneyland, Santa Monica, and Hollywood.
- The largest percentage of passengers originating from hotels/motels come to LAX from Westchester (adjacent to LAX), Downtown Los Angeles, and Hollywood.
- A majority of Residents come from a private residence and use a private vehicle to get to LAX. Forty-two percent (42%) of Residents who park use off-airport parking compared to 15% of Visitors.
- A greater percentage of Residents using private transportation arrive from the I-105 freeway to access the airport as compared to Visitors.
- A greater percentage of Residents travel for vacation/pleasure purposes.
- Residents have shorter dwell times than Visitors.
- The size of the travel party and trip duration is also greater in the peak season, which is typically when families vacation.

- Vacationers are more likely traveling to an international destination than other passengers. Thus, it is not surprising that vacationers are more likely to check baggage and also checked more baggage than other passengers.

- The majority of Originating Passengers are destined for another state (55%), while 10% are headed to another city in California and 35% of passengers travel to an international destination. A smaller percentage of Los Angeles County residents (26%) fly to an international destination in comparison to residents of other counties. For example, 59% of Resident Originating Passengers from San Diego County depart to an international destination from LAX. It appears logical that a larger percentage of San Diego County residents, as well as residents from other counties, are more likely to use their local airport for domestic travel.

- The survey results indicate that there is a slightly smaller percentage of Originating Passengers who are accompanied inside the terminal by a well-wisher in comparison to 2006 data. This is likely because more Residents arrive to LAX via private vehicle, it is not unusual to see that a larger percentage of Residents are accompanied by a well-wisher than Visitors.

- Visitors represent a larger share of LAX passengers in 2011 compared to 2006. However, there is a higher percentage of Visitors using the airport in the non-peak season than the peak season.

- Visitors spend an average of 6.6 nights in the Southern California area. Visitor spending is approximately $1,284 per person for lodging, entertainment, meals, and off-airport shopping and transportation.

- Connecting Passengers also contribute to the local economy. Although only a small percentage of Connecting Passengers leave the airport during their layover, those who do spend have off-airport expenditures.

END OF REPORT

## Appendix A

## Frequency Tabulation Summary Tables

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 001 | Terminal / Single | What terminal are you departing from today? | Terminal 1 | T1 airlines |
| | | | Terminal 2 | T2 airlines |
| | | | Terminal 3 | T3 airlines |
| | | | Terminal 4 | T4 airlines |
| | | | Terminal 5 | T5 airlines |
| | | | Terminal 6 | T6 airlines |
| | | | Terminal 7 | T7 airlines |
| | | | Terminal 8 | T8 airlines |
| | | | TBIT Tom Bradley International Terminal | TBIT airlines |
| 002 | T1 airlines / Single | TERMINAL 1 What airline are you flying with today? | Southwest Airlines | Connecting flight |
| | | | US Airways | Connecting flight |
| | | | Other | Connecting flight |
| 003 | T2 airlines / Single | TERMINAL 2 What airline are you flying with today? | Aerovias De Mexico | Connecting flight |
| | | | Air Canada | Connecting flight |
| | | | Air China | Connecting flight |
| | | | Air France | Connecting flight |
| | | | Air New Zealand | Connecting flight |
| | | | Alitalia | Connecting flight |
| | | | Concesionaria Vuela Compania de Aviacion | Connecting flight |
| | | | Hawaiian | Connecting flight |
| | | | KLM Royal Dutch | Connecting flight |
| | | | Lineas Aereas | Connecting flight |
| | | | TACA | Connecting flight |
| | | | Virgin Atlantic | Connecting flight |
| | | | Volaris | Connecting flight |
| | | | Other | T2 OTHER airlines |
| 004 | T2 OTHER airlines / Verbatim | TERMINAL 2 What other airline are you flying with today? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Connecting flight |
| 005 | T3 airlines / Single | TERMINAL 3 What airline are you flying with today? | Air Tran | Connecting flight |
| | | | Alaska Airlines | Connecting flight |
| | | | Horizon Air | Connecting flight |
| | | | Jet Blue | Connecting flight |
| | | | Virgin America | Connecting flight |
| | | | Virgin Australia | Connecting flight |
| | | | Other | Next Question |
| 006 | T3 OTHER airlines / Verbatim | TERMINAL 3 What other airline are you flying with today? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Connecting flight |
| 007 | T4 airlines / Single | TERMINAL 4 What airline are you flying with today? | American Airlines | Connecting flight |
| | | | American Eagle Airlines | Connecting flight |
| | | | Qantas Airways | Connecting flight |
| | | | Other | Next Question |

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 008 | T4 OTHER airlines / Verbatim | TERMINAL 4 What other airline are you flying with today? | (Minimum Digits: 0) (Maximum Digits: 300) | Connecting flight |
| 009 | T5 airlines / Single | TERMINAL 5 What airline are you flying with today? | Delta | Connecting flight |
| | | | Other | Connecting flight |
| 010 | T6 airlines / Single | TERMINAL 6 - What airline are you flying with today? | Airtran Airways | Connecting flight |
| | | | Allegiant Air | Connecting flight |
| | | | Continental | Connecting flight |
| | | | Copa Airlines | Connecting flight |
| | | | Delta | Connecting flight |
| | | | Frontier | Connecting flight |
| | | | Jet Blue | Connecting flight |
| | | | Midwest Express | Connecting flight |
| | | | Skywest | Connecting flight |
| | | | Spirit | Connecting flight |
| | | | United | Connecting flight |
| | | | Other | Next Question |
| 011 | T6 OTHER airlines / Verbatim | TERMINAL 6 What other airline are you flying with today? | (Minimum Digits: 0) (Maximum Digits: 300) | Connecting flight |
| 012 | T7 airlines / Single | TERMINAL 7 - What airline are you flying with today? | United Airlines | Connecting flight |
| | | | Skywest Airlines | Connecting flight |
| | | | Other | Connecting flight |
| 013 | T8 airlines / Single | TERMINAL 8 - What airline are you flying with today? | Skywest Airlines | Connecting flight |
| | | | United Airlines | Connecting flight |
| | | | Other | Connecting flight |
| 014 | TBIT airlines / Single | TBIT - What airline are you flying with today? | Air Pacific | Connecting flight |
| | | | Air Tahiti Nui | Connecting flight |
| | | | Asiana | Connecting flight |
| | | | British Airways | Connecting flight |
| | | | Cathay Pacific | Connecting flight |
| | | | China Airlines | Connecting flight |
| | | | China Eastern | Connecting flight |
| | | | Emirates | Connecting flight |
| | | | Eva Airways | Connecting flight |
| | | | Japan Airlines | Connecting flight |
| | | | Korean Airlines | Connecting flight |
| | | | Lufthansa | Connecting flight |
| | | | Mexicana | Connecting flight |
| | | | Philippine Airlines | Connecting flight |
| | | | Qantas | Connecting flight |
| | | | Singapore Airlines | Connecting flight |
| | | | Swiss | Connecting flight |
| | | | Other | Next Question |

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 015 | TBIT OTHER airlines / Single | TBIT - What OTHER airline are you flying with today? | Aeroflot Russian | Connecting flight |
| | | | Air Berlin | Connecting flight |
| | | | Air Pacific | Connecting flight |
| | | | All Nippon | Connecting flight |
| | | | China Southern | Connecting flight |
| | | | El Al Israel | Connecting flight |
| | | | Lan Chile | Connecting flight |
| | | | Lan Peru | Connecting flight |
| | | | Malaysian | Connecting flight |
| | | | Thai | Connecting flight |
| | | | Turkish | Connecting flight |
| | | | Other | Next Question |
| 016 | TBIT OTHER airlines not listed / Verbatim | TBIT - What other airline are you flying with today? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Next Question |
| 017 | Connecting flight / Single | Are you connecting/ transferring flights here at Los Angeles Airport? | *No - Starting trip here at LA Airport* | Prior to arriving at LAX |
| | | | Yes - Connecting to another flight | Next Question |
| | | | Stopping at LA Airport but on same flight | End of Survey |
| | | | Refused to be surveyed | End of Survey |
| | | | Does not speak English | End of Survey |
| 018 | US or non US origination / Single | Where did you start your trip today? | U.S. Airport | US Airport Origination |
| | | | Non-U.S. Airport | Non US origination |
| 019 | US Airport Origination / ItemSelectionList | What U.S. airport did your flight come from? SKIP TO NEXT IF NOT LISTED | (FileName: LAX_excel_airport_list2.txt) | Next Question |
| 020 | Other US Airport Origination / Verbatim | What OTHER U.S. airport? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Terminal arrived |
| 021 | Non US origination / ItemSelectionList | What country did your flight come from? | (FileName: worldcountriesalphabetical_NO_US.txt) | Next Question |
| 022 | Terminal arrived / Single | Did you arrive in this terminal or a different terminal at LA Airport? | Landed in this terminal | Layover time |
| | | | Landed in different terminal | Travel between terminals |
| 023 | Travel between terminals / Single | How did you travel between terminals? | Walked between terminals | Layover time |
| | | | Used the shuttle bus between terminals | Layover time |
| | | | Other | Next Question |
| 024 | Other travel between terminals / Verbatim | How did you travel between terminals? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Next Question |
| 025 | Layover time / Single | How long is your layover here at LA Airport? | Less than 2 hours | Next Question |
| | | | 2 < 3 hours | Next Question |
| | | | 3 < 4 hours | Next Question |
| | | | 4 < 6 hours | Next Question |
| | | | 6 < 8 hours | Next Question |
| | | | 8 < 10 hours | Next Question |
| | | | 10 < 12 hours | Next Question |
| | | | More than 12 hours | Next Question |
| | | | Don't know | Next Question |

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 026 | Leave the premises / Single | During your layover, did you leave the Airport premises while waiting for your next flight? | No | Others traveling with you |
| | | | Yes | Next Question |
| 027 | Off airport expenses / Single | Not including transportation expenses from the LA Airport, approximately how much money did you spend while off the Airport? (For food, retail stores, entertainment, lodging, etc.) | Approximate amount | Approximate amount on.. |
| | | | Don't know | Transportation back to .. |
| | | | Refused | Transportation back to .. |
| | | | | |
| 028 | Approximate amount on off airport expense / | How much did you spend while off the Airport? (For food, retail stores, entertainment, lodging, etc.) | (Minimum Digits: 0) (Maximum Digits: 6) | Next Question |
| 029 | Transportation back to airport / Single | How did you get back to the airport? | Private vehicle | Dwell time connecting |
| | | | Shuttle/van (Private) | Dwell time connecting |
| | | | Union Station Flyaway | Dwell time connecting |
| | | | MTA (Metro) or other public | Dwell time connecting |
| | | | Rental vehicle | Dwell time connecting |
| | | | Hotel courtesy van | Dwell time connecting |
| | | | Van Nuys Flyaway | Dwell time connecting |
| | | | Green line/light rail | Dwell time connecting |
| | | | Taxi | Dwell time connecting |
| | | | Shared shuttle/van (Super Shuttle, Prime Time, Road Runner) | Dwell time connecting |
| | | | Westwood Flyaway | Dwell time connecting |
| | | | Chartered bus or van | Dwell time connecting |
| | | | Limousine/town car | Dwell time connecting |
| | | | Scheduled airport bus/van (Disneyland bus, Airport bus) | Dwell time connecting |
| | | | Irvine Flyaway | Dwell time connecting |
| | | | Don't know | Dwell time connecting |
| | | | Other | Next Question |
| 030 | What other means of transportation / Verbatim | What other means of transportation did you use to get back to the airport? | (Minimum Digits: 0) (Maximum Digits: 300) | Next Question |
| 031 | Dwell time connecting / Single | After you returned to LA Airport, how much longer do you have to wait for your flight to depart? | Less than 2 hours | Others traveling with you |
| | | | 2 < 3 hours | Others traveling with you |
| | | | 3 < 4 hours | Others traveling with you |
| | | | 4 < 6 hours | Others traveling with you |
| | | | 6 < 8 hours | Others traveling with you |
| | | | 8 < 10 hours | Others traveling with you |
| | | | 10 < 12 hours | Others traveling with you |
| | | | More than 12 hours | Others traveling with you |
| | | | Don't know | Others traveling with you |

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 032 | Prior to arriving at LAX / Single | Where did you come from prior to arriving at LA Airport today? | Your home | Zip code of origination |
| | | | Someone else's home | Zip code of origination |
| | | | Hotel/ Motel | Zip code of origination |
| | | | Work/ Office | Zip code of origination |
| | | | Local attraction | Attraction name |
| | | | Another place | Next Question |
| | | | Don't know | Zip code of origination |
| | | | Refused | Zip code of origination |
| 033 | OTHER Place Originating / Verbatim | What other place did you start your trip? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Next Question |
| 034 | Zip code of origination / Numeric | What is the ZIP code of the place you came from prior to arriving at LA Airport today? IF UNKNOWN PRESS NEXT | (Minimum Digits: 0)<br>(Maximum Digits: 5) | Next Question |
| 035 | So Cal County Origination / Single | What part of Southern California did you depart from prior to coming to the airport? | Los Angeles County | LA Neighborhood |
| | | | Orange County | Orange County |
| | | | Riverside County | Riverside County |
| | | | San Bernardino County | San Bernardino |
| | | | Ventura County | Ventura County |
| | | | San Diego County | San Diego County |
| | | | Santa Barbara County | Santa Barbara County |
| | | | Don't know | So Cal Map |
| | | | Other | Next Question |
| 036 | Other So Cal Area / Verbatim | What other area of Southern California did you come from prior to coming to this Airport? PLEASE BE SPECIFIC | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Dwell time OD |
| 037 | LA Neighborhood / ItemSelectionList | What part of the LA area did you come from prior to coming to this Airport? | (FileName: LA neighborhoods.txt) | Next Question |
| 038 | LA Neighborhood MAP / Info | | (Picturename: ) | Next Question |
| 039 | Other LA Area / Verbatim | What other area of Los Angeles did you come from prior to coming to this Airport? PLEASE BE SPECIFIC | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Dwell time OD |
| 040 | Orange County / ItemSelectionList | What part of the Orange County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER" | (FileName: Orange County Cities.txt) | Dwell time OD |
| 041 | Riverside County / ItemSelectionList | What part of the Riverside County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER" | (FileName: Riverside cities.txt) | Dwell time OD |

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 042 | San Bernardino / ItemSelectionList | What part of the San Bernardino County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER" | (FileName: san bernardino cities.txt) | Dwell time OD |
| 043 | Ventura County / ItemSelectionList | What part of the Ventura County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER" | (FileName: Ventura Cities.txt) | Dwell time OD |
| 044 | San Diego County / ItemSelectionList | What part of the San Diego County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER" | (FileName: San Diego cities.txt) | Dwell time OD |
| 045 | Santa Barbara County / ItemSelectionList | What part of the Santa Barbara County did you come from prior to coming to this Airport? IF UNKNOWN SELECT "DON'T KNOW" or IF OTHER SELECT "OTHER" | (FileName: Santa Barbara Cities.txt) | Dwell time OD |
| 046 | Attraction name / Single | What local attraction? | Anaheim Stadium | Dwell time OD |
| | | | Balboa Park in San Diego | Dwell time OD |
| | | | Beverly Hills | Dwell time OD |
| | | | Disneyland | Dwell time OD |
| | | | Dodger's Stadium | Dwell time OD |
| | | | Griffth Park/ Observatory | Dwell time OD |
| | | | Hollywood Blvd | Dwell time OD |
| | | | J Paul Getty Museum | Dwell time OD |
| | | | Knott's Berry Farm | Dwell time OD |
| | | | La Brea Tar Pits | Dwell time OD |
| | | | Legoland | Dwell time OD |
| | | | Magic Mountain | Dwell time OD |
| | | | Malibu | Dwell time OD |
| | | | Orange County Beach | Dwell time OD |
| | | | Petco Park in San Diego | Dwell time OD |
| | | | Raging Waters | Dwell time OD |
| | | | Sea World | Dwell time OD |
| | | | Staples/ Nokia Center | Dwell time OD |
| | | | Temecula Wine Country | Dwell time OD |
| | | | Universal Studios | Dwell time OD |
| | | | Wild Animal Park | Dwell time OD |
| | | | Venice Beach | Dwell time OD |
| | | | Other | Next Question |
| 047 | Attraction OTHER / Verbatim | What OTHER location attraction? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Dwell time OD |
| 048 | So Cal Map / Info | | (Picturename: ) | Next Question |

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 049 | Dwell time OD / Single | How much time before your flight did you arrive at the Airport today? (Prior to checking in bags or checking in with airline). | Less than 2 hours | Next Question |
| | | | 2 < 3 hours | Next Question |
| | | | 3 < 4 hours | Next Question |
| | | | 4 < 6 hours | Next Question |
| | | | 6 < 8 hours | Next Question |
| | | | 8 < 10 hours | Next Question |
| | | | 10 < 12 hours | Next Question |
| | | | More than 12 hours | Next Question |
| | | | Don't know | Next Question |
| 050 | People inside terminal / Numeric | How many people came inside the terminal with you to see you off today? (Enter 0 if none) | (Minimum Digits: 0) (Maximum Digits: 3) | Next Question |
| 051 | Check in luggage / Single | Did you check in luggage at this airport? | Yes | Location of check-in lug.. |
| | | | No | Primary form of transpo.. |
| 052 | Location of check-in luggage / Single | Where did you check in luggage? | Airline ticket counter | Pieces of luggage |
| | | | Curbside with sky cap/outside terminal | Pieces of luggage |
| | | | Checked in luggage but not at LA Airport (with cruise line or other transportation agent) | Pieces of luggage |
| | | | Other | Other location luggage .. |
| 053 | Other location luggage check in / Verbatim | What other location did you check in your luggage? | (Minimum Digits: 0) (Maximum Digits: 300) | Next Question |
| 054 | Pieces of luggage / Numeric | How many pieces of luggage did you check-in? | (Minimum Digits: 0) (Maximum Digits: 2) | Next Question |
| 055 | Primary form of transportation / Single | What was the primary form of transportation you used to get to LA Airport today? | Private vehicle | Dropped off or vehicle p.. |
| | | | Shuttle/van (Private) | Travel party using same.. |
| | | | Union Station Flyaway | US resident |
| | | | MTA (Metro) or other public | Specify transit agency a.. |
| | | | Rental vehicle | Rental car drop off |
| | | | Hotel courtesy van | US resident |
| | | | Van Nuys Flyaway | US resident |
| | | | Green line/light rail | Specify transit agency a.. |
| | | | Taxi | Travel party using same.. |
| | | | Shared shuttle/van (Super Shuttle, Prime Time, Road Runner) | US resident |
| | | | Westwood Flyaway | US resident |
| | | | Chartered bus or van | US resident |
| | | | Limousine/town car | Travel party using same.. |
| | | | Scheduled airport bus/van (Disneyland bus, Airport bus) | US resident |
| | | | Irvine Flyaway | US resident |
| | | | Don't know | US resident |
| | | | Other | Other primary transport.. |
| 056 | Other primary transportation / Verbatim | What was your other means of primary transportation used to get to LA airport today? | (Minimum Digits: 0) (Maximum Digits: 300) | Next Question |

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 057 | Specify transit agency and bus line or route / | Please, specify the transit agency and bus line or route you used to get to this airport | MTA (Metro) | Bus line Metro |
| | | | Santa Monica/Big Blue bus | Bus line number for San.. |
| | | | Culver City Bus | Bus line number for Cul.. |
| | | | Torrance Transit | Bus line number for Tor.. |
| | | | Other | What is the other transit.. |
| | | | Didn't use/ doesn't apply to me | US resident |
| | | | Don't know/ don't remember | US resident |
| 058 | Bus line Metro / Verbatim | MTA (Metro) What is the bus line number? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | US resident |
| 059 | Bus line number for Santa Monica + Big Blue | Santa Monica + Big Blue Bus What was the bus line number? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | US resident |
| 060 | Bus line number for Culver City bus / | Culver City What was the bus line number? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | US resident |
| 061 | Bus line number for Torrance Transit / | Torrance Transit What was the bus line number? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | US resident |
| 062 | What is the other transit agency / Verbatim | What is the other transit agency and bus line or route you used to get to the airport? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Use of I-405 or I-105 |
| 063 | Rental car drop off / Single | Did you go directly to rental car agency? | YES | Travel party using same.. |
| | | | NO - I dropped off people at curb first, then returned car | Travel party using same.. |
| | | | NEITHER - I parked the rental car | Vehicle parked at airport |
| 064 | Dropped off or vehicle parked / Single | Were you dropped off at the curb or was the vehicle parked by you or someone else? | Yes – dropped off at curb | Travel party using same.. |
| | | | No – vehicle was parked | Next Question |
| 065 | Vehicle parked at airport / Single | Was the vehicle parked in one of the Airport parking lots/ garages right here across the terminal | Yes – Parked at Airport lots/ garages | Travel party using same.. |
| | | | No – Did not park at Airport lots/garages | Next Question |

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 066 | Name of the lot / Single | What is the name of the lot where the car is parked? | 105 Airport Parking | Travel party using same.. |
| | | | Airport Center Parking | Travel party using same.. |
| | | | All Star Parking | Travel party using same.. |
| | | | Aero Stars Airport Valet | Travel party using same.. |
| | | | Air Park | Travel party using same.. |
| | | | Auto Airport Parking | Travel party using same.. |
| | | | Central Parking Systems | Travel party using same.. |
| | | | Fox Auto Parks | Travel party using same.. |
| | | | Johnny Park | Travel party using same.. |
| | | | LAX Lot C | Travel party using same.. |
| | | | LAX Park | Travel party using same.. |
| | | | LAX Parking Center | Travel party using same.. |
| | | | Park Air/ 5757 Park Air | Travel party using same.. |
| | | | Park One | Travel party using same.. |
| | | | Parking Spot-Century | Travel party using same.. |
| | | | Parking Spot-Sepulveda | Travel party using same.. |
| | | | QuikPark | Travel party using same.. |
| | | | Radisson Airport Park | Travel party using same.. |
| | | | Sunrise LAX Parking | Travel party using same.. |
| | | | Valet Air Park | Travel party using same.. |
| | | | Wally Park | Travel party using same.. |
| | | | Other | Name of other lot where.. |
| | | | Don’t know | Travel party using same.. |
| 067 | Name of other lot where car is parked / Verbatim | What is the name of the other lot where the car is parked? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Next Question |
| 068 | Travel party using same vehicle / Numeric | How many people were in the same vehicle with you? (If alone, enter "0") | (Minimum Digits: 0)<br>(Maximum Digits: 3) | Next Question |
| 069 | Use of I-405 or I-105 / Single | Did you use the San Diego Freeway (Interstate 405) or the Century Freeway (Interstate 105) to get to this airport today? | Yes, San Diego Freeway (I-405) | Which I-405 exit |
| | | | Yes, Century Freeway (I-105) | Which I-105 exit |
| | | | Yes, used both | Which exit used today |
| | | | No/neither freeway | Which surface street us.. |
| | | | Don't know | LA Street Map |
| 070 | Which I-405 exit / Single | Which San Diego Freeway (I-405) exit did you use to get to LA Airport? | Century Blvd. | US resident |
| | | | Howard Hughes Parkway | US resident |
| | | | Imperial Hwy | US resident |
| | | | La Tijera Blvd. | US resident |
| | | | Manchester Blvd. | US resident |
| | | | Sepulveda Blvd. | US resident |
| | | | Other | Other I-405 exit |
| | | | Don't know | LA Street Map |
| 071 | Other I-405 exit / Verbatim | Which other I-405 exit did you use? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | LA Street Map |

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 072 | Which I-105 exit / Single | Which Century Freeway (I-105) exit did you use to get to LA Airport? | La Cienega Blvd. | US resident |
| | | | Aviation Blvd. | US resident |
| | | | Nash Street | US resident |
| | | | Sepulveda Blvd. | US resident |
| | | | Other | Which other I-105 exit d.. |
| | | | Don't know | LA Street Map |
| 073 | Which other I-105 exit did you use / Verbatim | Which other I-105 exit did you use? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | LA Street Map |
| 074 | Which exit used today / Single | Which exit did you use to get to LA Airport today? | Aviation Blvd. | US resident |
| | | | Century Blvd. | US resident |
| | | | Imperial Hwy (from I-405) | US resident |
| | | | Imperial Hwy (from I-105) | US resident |
| | | | La Cienega Blvd. | US resident |
| | | | La Tijera Blvd. | US resident |
| | | | Manchester Ave. | US resident |
| | | | Nash Street | US resident |
| | | | Sepulveda Blvd./Howard Hughes Parkway (from I-405) | US resident |
| | | | Sepulveda Blvd. (from I-105) | US resident |
| | | | Other | Which other exit |
| | | | Don't know | LA Street Map |
| 075 | Which other exit / Verbatim | Which other exit did you use today to get to the airport? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | LA Street Map |
| 076 | Which surface street used / Multi Normal | Which of the following surface streets did you use to get to this airport? CHOOSE ALL THAT APPLY | Airport Blvd | Next Question |
| | | | Arbor Vitae St | |
| | | | Aviation Blvd | |
| | | | Century Blvd | |
| | | | El Segundo Blvd | |
| | | | Imperial Highway | |
| | | | La Cienega Blvd | |
| | | | La Tijera Blvd | |
| | | | Lincoln Blvd | |
| | | | Manchester Blvd | |
| | | | Sepulveda Blvd | |
| | | | Westchester Parkway | |
| | | | Other | |
| | | | Don't know | |
| | | | (Min: 0, Max: 0, Exclusive: 0) | |
| 077 | Which other surface street / Verbatim | Which other surface street did you use to get to the airport? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | LA Street Map |
| 078 | LA Street Map / Info | | (Picturename: ) | Next Question |

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 079 | US resident / Single | Do you currently live in the U.S? | Yes | Next Question |
| | | | No | Nights in So Cal |
| 080 | Home zip code / Numeric | What is your home zip code? | (Minimum Digits: 0)<br>(Maximum Digits: 5) | Next Question |
| 081 | Live in So Cal area / Single | Do you currently live in the Southern California area? (North of Mexico border to Santa Barbara) | Yes - I am a resident | Next Question |
| | | | No - I am a visitor | Nights in So Cal |
| 082 | So Cal County / Single | What county do you reside in? SOUTHERN CALIFORNIA RESIDENTS | Los Angeles County | Next Question |
| | | | Orange County | Next Question |
| | | | Riverside County | Next Question |
| | | | San Bernardino County | Next Question |
| | | | Ventura County | Next Question |
| | | | San Diego County | Next Question |
| | | | Santa Barbara County | Next Question |
| | | | Other | Next Question |
| 083 | Spend the night / Single | Did you spend the night at a nearby hotel prior to your flight today? | Yes | Next Question |
| | | | No | Next Question |
| 084 | Nights away from home / Numeric | In total, how many nights will you be away from home on this trip? (If returning same day, Enter "0") | (Minimum Digits: 0)<br>(Maximum Digits: 3) | Others traveling with you |
| 085 | Nights in So Cal / Numeric | How many nights did you stay in Southern California area? (If None, Enter "0") | (Minimum Digits: 0)<br>(Maximum Digits: 3) | Money spent in So Cal |
| 086 | Money spent in So Cal / Single | While you were in Southern California, about how much money did you spend on this trip? (Include lodging, meals, rental cars/ off-airport transportation, entertainment, and shopping) | Amount spent | Amount Spent |
| | | | Don't know/don't remember | Others traveling with you |
| | | | Refused | Others traveling with you |
| 087 | Amount Spent / Numeric | Amount spent (round to the nearest dollar) | (Minimum Digits: 0)<br>(Maximum Digits: 20) | Next Question |
| 088 | Amount of people included in spend / | How many people does this amount include? (Include yourself as “1”) | (Minimum Digits: 0)<br>(Maximum Digits: 3) | Next Question |
| 089 | Others traveling with you / Numeric | How many others are traveling with you today? (If traveling alone, enter "0") | (Minimum Digits: 0)<br>(Maximum Digits: 3) | Next Question |
| 090 | US or country destination / Single | Are you traveling to another country today? | No - I am flying to another U.S. city | US Airport Destination |
| | | | Yes - I am flying to another country | International destination |
| 091 | US Airport Destination / ItemSelectionList | What airport is your final U.S. DESTINATION? SKIP TO NEXT IF NOT LISTED | (FileName: LAX_excel_airport_list2.txt) | Next Question |
| 092 | Other US Airport Destination / Verbatim | What OTHER U.S. airport DESTINATION? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Main purpose of trip |
| 093 | International destination / ItemSelectionList | Where is your final international DESTINATION? | (FileName: worldcountriesalphabetical_NO_US.txt) | Next Question |

| Nbr | Question Name / Type | Header \| Question Text | Choices *(italic for randomized choices)* | Branching and Skip Patterns |
|---|---|---|---|---|
| 094 | Main purpose of trip / Single | What is the main purpose of your trip today? | Business | Age range |
| | | | Convention | Age range |
| | | | Business and pleasure | Age range |
| | | | Vacation or pleasure trip | Age range |
| | | | Visit friends or relatives | Age range |
| | | | School related | Age range |
| | | | Military | Age range |
| | | | Personal emergency | Age range |
| | | | Other | Age range |
| 095 | What the other main purpose of your trip / | What the other main purpose of your trip? | (Minimum Digits: 0)<br>(Maximum Digits: 300) | Next Question |
| 096 | Age range / Single | What is your age range, please? | Under 25 | Next Question |
| | | | 25-34 | Next Question |
| | | | 35-44 | Next Question |
| | | | 45-54 | Next Question |
| | | | 55-65 | Next Question |
| | | | Over 65 | Next Question |
| 097 | Total annual income / Single | Final Question \| What is the range of your total annual household income? | Under $20,000 | Next Question |
| | | | $20,000-$49,999 | Next Question |
| | | | $50,000-$99,999 | Next Question |
| | | | $100,000-$149,999 | Next Question |
| | | | $150,000-$199,999 | Next Question |
| | | | $200,000-$249,999 | Next Question |
| | | | $250,000 and over | Next Question |
| | | | Don't know | Next Question |
| | | | Refused | Next Question |
| 098 | End of survey / Info | Thank you for you participation | (Picturename: ) | Next Question |
| 099 | Gender / Single | INTERVIEWER USE ONLY Gender | Male | Next Question |
| | | | Female | Next Question |

Appendix B

**ALL PASSENGERS**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| | Terminal 1 | 13.6% | 3,080 |
| What terminal are you departing from today? | Terminal 2 | 9.4% | 2,131 |
| | Terminal 3 | 9.6% | 2,180 |
| | Terminal 4 | 16.8% | 3,793 |
| | Terminal 5 | 10.6% | 2,389 |
| | Terminal 6 | 9.0% | 2,030 |
| | Terminal 7 | 12.1% | 2,739 |
| | Terminal 8 | 7.7% | 1,731 |
| | TBIT Tom Bradley International Terminal | 11.3% | 2,551 |
| TERMINAL 1 What airline are you flying with today? | Southwest Airlines | 81.8% | 2,502 |
| | US Airways | 18.0% | 550 |
| | Other | 0.2% | 7 |
| TERMINAL 2 What airline are you flying with today? | Aeromexico | 3.9% | 83 |
| | Aerovias De Mexico | 5.8% | 124 |
| | Air Canada | 25.7% | 548 |
| | Air China | 0.9% | 19 |
| | Air France | 8.0% | 170 |
| | Air New Zealand | 13.8% | 295 |
| | Alitalia | 0.6% | 12 |
| | Hawaiian | 6.9% | 147 |
| | KLM Royal Dutch | 3.0% | 63 |
| | Lineas Aereas | 0.0% | - |
| | Sun Country | 1.6% | 35 |
| | TACA | 2.9% | 61 |
| | Virgin Atlantic | 8.8% | 188 |
| | Volaris | 4.6% | 99 |
| | WestJet | 12.2% | 260 |
| | Other | 1.2% | 26 |
| TERMINAL 3 What airline are you flying with today? | Air Tran | 9.0% | 197 |
| | Alaska Airlines | 41.6% | 906 |
| | Horizon Air | 2.7% | 59 |
| | Jet Blue | 8.5% | 186 |
| | Virgin America | 29.5% | 643 |
| | Virgin Australia | 8.1% | 176 |
| | Other | 0.6% | 12 |
| TERMINAL 4 What airline are you flying with today? | American Airlines | 90.6% | 3,434 |
| | American Eagle Airlines | 3.7% | 141 |
| | Qantas Airways | 5.5% | 208 |
| | Other | 0.2% | 6 |
| TERMINAL 5 What airline are you flying with today? | Delta | 99.4% | 2,373 |
| | Other | 0.6% | 14 |

**ALL PASSENGERS**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| TERMINAL 6 - What airline are you flying with today? | Airtran Airways | 0.0% | 1 |
| | Allegiant Air | 6.0% | 121 |
| | Continental | 54.4% | 1,103 |
| | Copa Airlines | 1.6% | 32 |
| | Delta | 15.8% | 321 |
| | Frontier | 8.1% | 165 |
| | Jet Blue | 0.7% | 14 |
| | Midwest Express | 0.0% | - |
| | Great Lakes | 0.4% | 8 |
| | Skywest | 0.0% | - |
| | Spirit | 9.6% | 195 |
| | United | 2.9% | 59 |
| | Other | 0.4% | 8 |
| TERMINAL 7 - What airline are you flying with today? | United Airlines | 96.3% | 2,638 |
| | Skywest Airlines | 3.2% | 87 |
| | Other | 0.5% | 14 |
| TERMINAL 8 - What airline are you flying with today? | Skywest Airlines | 2.2% | 38 |
| | United Airlines | 97.6% | 1,689 |
| | Other | 0.2% | 4 |

**ALL PASSENGERS**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| TBIT - What airline are you flying with today? | Aeroflot Russian | 0.2% | 13 |
| | Air Berlin | 0.8% | 59 |
| | Air Pacific | 64.5% | 4,544 |
| | Air Tahiti Nui | 1.5% | 108 |
| | All Nippon | 0.4% | 26 |
| | Asiana | 1.6% | 114 |
| | British Airways | 4.0% | 283 |
| | Cathay Pacific | 1.1% | 79 |
| | China Airlines | 1.4% | 101 |
| | China Eastern | 0.5% | 32 |
| | China Southern | 0.2% | 14 |
| | El Al Israel | 0.2% | 17 |
| | Emirates | 1.0% | 68 |
| | Eva Airways | 0.7% | 46 |
| | Iberia | 0.7% | 47 |
| | Japan Airlines | 0.2% | 17 |
| | Korean Airlines | 2.8% | 197 |
| | Lan Chile | 0.7% | 52 |
| | Lan Peru | 0.5% | 36 |
| | Lufthansa | 5.5% | 389 |
| | Malaysian | 0.4% | 25 |
| | Mexicana | 0.0% | 3 |
| | Philippine Airlines | 1.7% | 119 |
| | Qantas | 5.3% | 375 |
| | Singapore Airlines | 0.7% | 51 |
| | Swiss | 1.6% | 110 |
| | Thai | 0.5% | 38 |
| | Turkish | 0.7% | 48 |
| | Other | 0.5% | 38 |

**CONNECTING PASSENGERS ONLY**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| Are you connecting/ transferring flights here at Los Angeles Airport? | No - Starting trip here at LA Airport | 61.4% | 13,841 |
| | Yes - Connecting to another flight | 37.4% | 8,428 |
| | Stopping at LA Airport but on same flight | 0.8% | 178 |
| | Refused to be surveyed | 0.3% | 61 |
| | Does not speak English | 0.2% | 43 |
| | | | |
| | U.S. Airport | 69.0% | 5,790 |
| (Connecting passengers only) | Non-U.S. Airport | 31.0% | 2,606 |
| | | | |
| What U.S. airport did your flight come from? (Originating U.S. Airport) | TOP 10 Responses: | | |
| | Las Vegas McCarran | | 438 |
| | Honolulu | | 384 |
| | San Francisco | | 351 |
| | | | 271 |
| | Chicago O'Hare | | 205 |
| | New York - JFK | | 201 |
| | Seattle Tacoma | | 182 |
| | Denver | | 172 |
| | Sacramento | | 166 |
| | Phoenix Sky Harbor | | 147 |
| | | | |
| What country did your flight come from? (Originating Country) | TOP 10 Responses: | | |
| | Australia | | 684 |
| | China | | 249 |
| | Canada | | 212 |
| | New Zealand | | 176 |
| | Mexico | | 174 |
| | Japan | | 145 |
| | United Kingdom | | 85 |
| | Korea | | 78 |
| | Fiji | | 69 |
| | Germany | | 58 |
| | France | | 58 |

**CONNECTING PASSENGERS ONLY**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| Did you arrive in this terminal or a different terminal at LA Airport? | Landed in this terminal | 45.1% | 3,683 |
| | Landed in different terminal | 54.9% | 4,488 |
| How did you travel between terminals? | Walked between terminals | 69.5% | 3,125 |
| | Used the shuttle bus between terminals | 28.9% | 1,299 |
| | Wheelchair assistance | 0.3% | 12 |
| | Private vehicle/ taxi | 0.5% | 23 |
| | Other | 0.9% | 40 |
| How long is your layover here at LA Airport? | Less than 2 hours | 22.0% | 1,793 |
| | 2 < 3 hours | 29.0% | 2,366 |
| | 3 < 4 hours | 17.7% | 1,446 |
| | 4 < 6 hours | 16.7% | 1,362 |
| | 6 < 8 hours | 7.1% | 583 |
| | 8 < 10 hours | 2.6% | 210 |
| | 10 < 12 hours | 1.6% | 133 |
| | More than 12 hours | 2.7% | 223 |
| | Don't know | 0.6% | 46 |
| During your layover, did you leave the Airport premises while waiting for your next flight? | No | 94.9% | 7,749 |
| | Yes | 5.1% | 413 |
| Not including transportation expenses from the LA Airport, did you spend money while off the Airport? (For food, retail stores, entertainment, lodging, etc.) | Yes | 80.6% | 333 |
| | Don't know | 15.0% | 62 |
| | Refused | 4.4% | 18 |
| If yes, how much did you spend while off the Airport? *Mean $310* | Less than $50 | 30.8% | 88 |
| | $50 < $100 | 15.4% | 44 |
| | $100 < $200 | 22.0% | 63 |
| | $200 < $400 | 18.2% | 52 |
| | $400 < $ 600 | 4.9% | 14 |
| | $600 or more | 8.7% | 25 |

**CONNECTING PASSENGERS ONLY**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| How did you get back to the airport? | Private vehicle | 16.5% | 68 |
| | Taxi | 15.1% | 62 |
| | Hotel courtesy van | 12.4% | 51 |
| | Shuttle/van (Private) | 11.7% | 48 |
| | Shared shuttle/van (Super Shuttle, Prime Time, Road Runner) | 11.4% | 47 |
| | Rental vehicle | 10.2% | 42 |
| | MTA (Metro) or other public | 7.1% | 29 |
| | Union Station Flyaway | 1.0% | 4 |
| | Green line/light rail | 1.0% | 4 |
| | Scheduled airport bus/van (Disneyland bus, Airport bus) | 0.7% | 3 |
| | Chartered bus or van | 0.7% | 3 |
| | Limousine/town car | 0.7% | 3 |
| | Van Nuys Flyaway | 0.0% | - |
| | Westwood Flyaway | 0.0% | - |
| | Irvine Flyaway | 0.0% | - |
| | Don't know | 1.2% | 5 |
| | Walked | 7.3% | 30 |
| | Other | 2.9% | 12 |
| After you returned to LA Airport, how much longer do you have to wait for your flight to depart? | Less than 2 hours | 35.5% | 146 |
| | 2 < 3 hours | 31.9% | 131 |
| | 3 < 4 hours | 12.4% | 51 |
| | 4 < 6 hours | 9.7% | 40 |
| | 6 < 8 hours | 5.1% | 21 |
| | 8 < 10 hours | 1.0% | 4 |
| | 10 < 12 hours | 1.7% | 7 |
| | More than 12 hours | 0.7% | 3 |
| | Don't know | 1.9% | 8 |

**ORIGINATING PASSENGERS ONLY**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| Where did you come from prior to arriving at LA Airport today? | Your home | 41.0% | 5,674 |
| | Someone else's home | 19.9% | 2,751 |
| | Hotel/ Motel | 31.1% | 4,309 |
| | Work/ Office | 4.2% | 575 |
| | Local attraction | 0.9% | 123 |
| | Another place | 2.8% | 384 |
| | Don't know | 0.1% | 8 |
| | Refused | 0.1% | 11 |
| | | | |
| What other place did you start your trip? | Top Verbatim Responses: | | |
| | Cruise | | 111 |
| | University/ School | | 52 |
| | Convention | | 13 |
| | | | |
| Area did came from prior to arriving at LA Airport today? | Los Angeles County | 70.5% | 9,207 |
| | Orange County | 13.0% | 1,693 |
| | Riverside County | 2.4% | 307 |
| | San Bernardino County | 2.3% | 300 |
| | Ventura County | 4.3% | 558 |
| | San Diego County | 2.3% | 295 |
| | Santa Barbara County | 1.4% | 187 |
| | Other | 3.9% | 504 |

Appendix B

**ORIGINATING PASSENGERS ONLY**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| What was the primary form of transportation you used to get to LA Airport today? | Private vehicle | 50.6% | 6,832 |
| | Rental vehicle | 17.2% | 2,316 |
| | Taxi | 8.2% | 1,102 |
| | Shuttle/van (Private) | 7.2% | 978 |
| | Shared shuttle/van (Super Shuttle, Prime Time, Road Runner) | 6.8% | 912 |
| | Hotel courtesy van | 3.1% | 423 |
| | Limousine/town car | 1.6% | 217 |
| | Van Nuys Flyaway | 1.2% | 166 |
| | Union Station Flyaway | 1.0% | 135 |
| | Scheduled airport bus/van (Disneyland bus, Airport bus) | 0.9% | 120 |
| | MTA (Metro) or other public | 0.6% | 78 |
| | Chartered bus or van | 0.6% | 87 |
| | Westwood Flyaway | 0.3% | 34 |
| | Green line/ light rail | 0.2% | 21 |
| | Irvine Flyaway | 0.1% | 18 |
| | Walked | 0.1% | 7 |
| | Don't know | 0.1% | 10 |
| | Other | 0.3% | 41 |
| If using public transportation, please specify the transit agency and bus line or route you used to get to this airport (Choose all that apply) | MTA (Metro) | 39.3% | 59 |
| | Santa Monica/Big Blue bus | 15.3% | 23 |
| | Culver City Bus | 2.0% | 3 |
| | Torrance Transit | 1.3% | 2 |
| | Other | 14.7% | 22 |
| | Didn’t use/ doesn’t apply to me | 18.0% | 27 |
| | Don’t know/ don’t remember | 9.3% | 14 |
| MTA (Metro) What is the bus line number? | Verbatim response(s): | | |
| | Green line (and/or combination with green line) | | 14 |
| | Line 232 | | 5 |
| Santa Monica + Big Blue Bus What was the bus line number? | Verbatim response(s): | | |
| | Line 3 | | 14 |
| Culver City What was the bus line number? | Verbatim response(s): | | |
| | Line 6 | | 3 |
| Torrance Transit What was the bus line number? | Verbatim response(s): | | |
| | Line 8 | | 2 |
| Did you go directly to rental car agency? | YES | 95.0% | 2,185 |
| | NO - I dropped off people at curb first, then returned car | 4.0% | 93 |
| | NEITHER - I parked the rental car | 1.0% | 23 |

**ORIGINATING PASSENGERS ONLY**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| Were you dropped off at the curb or was the vehicle parked by you or someone else? | Yes – dropped off at curb | 75.6% | 5,159 |
| | No – vehicle was parked | 24.4% | 1,666 |
| Was the vehicle parked in one of the Airport parking lots/ garages right here across the terminal? | Yes – Parked at Airport lots/ garages | 63.3% | 1,065 |
| | No – Did not park at Airport lots/garages | 36.7% | 618 |
| What is the name of the lot where the car is parked? | Wally Park | 10.8% | 67 |
| | Parking Spot-Century | 9.9% | 61 |
| | Parking Spot-Sepulveda | 7.8% | 48 |
| | Park One | 6.6% | 41 |
| | LAX Lot C | 5.5% | 34 |
| | LAX Park | 5.2% | 32 |
| | QuikPark | 4.9% | 30 |
| | Airport Center Parking | 4.4% | 27 |
| | 105 Airport Parking | 3.6% | 22 |
| | Fox Auto Parks | 3.4% | 21 |
| | All Star Parking | 2.8% | 17 |
| | Easy Park | 2.8% | 17 |
| | Hilton Hotel | 2.4% | 15 |
| | Air Park | 2.4% | 15 |
| | Park n Fly | 2.4% | 15 |
| | Marriott Hotel | 2.3% | 14 |
| | LAX Parking Center | 1.8% | 11 |
| | Park Place | 1.5% | 9 |
| | Valet Air Park | 1.5% | 9 |
| | Park Air/ 5757 Park Air | 1.3% | 8 |
| | Johnny Park | 1.1% | 7 |
| | Westin Hotel | 1.1% | 7 |
| | Auto Airport Parking | 0.8% | 5 |
| | Sunrise LAX Parking | 0.6% | 4 |
| | Central Parking Systems | 0.5% | 3 |
| | Aero Stars Airport Valet | 0.2% | 1 |
| | Radisson Airport Park | 0.0% | - |
| | Other | 6.8% | 42 |
| | Don’t know | 5.8% | 36 |

**ORIGINATING PASSENGERS ONLY**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| How many people were in the same vehicle with you? (Excludes scheduled shared shuttle or other shared transportation) | Came alone | 16.9% | 1,931 |
| | One other person | 34.1% | 3,887 |
| | Two other people | 22.1% | 2,516 |
| | Three other people | 12.0% | 1,363 |
| | Four other people | 6.5% | 741 |
| | Five other people | 3.4% | 384 |
| | More than five people | 5.1% | 582 |
| Did you use the San Diego Freeway (Interstate 405) or the Century Freeway (Interstate 105) to get to this airport today? | Yes, San Diego Freeway (I-405) | 40.7% | 4,668 |
| | Yes, Century Freeway (I-105) | 27.2% | 3,122 |
| | No/neither freeway | 19.5% | 2,231 |
| | Yes, used both | 3.6% | 416 |
| | Don't know | 8.9% | 1,022 |
| Which San Diego Freeway (I-405) exit did you use to get to LA Airport? | Century Blvd. | 46.6% | 2,161 |
| | Sepulveda Blvd./ Howard Hughes | 19.6% | 909 |
| | La Tijera Blvd. | 9.4% | 436 |
| | Manchester Blvd. | 5.7% | 265 |
| | Imperial Hwy | 4.2% | 195 |
| | Other | 1.4% | 67 |
| | Don't know | 13.1% | 606 |
| Which other I-405 exit did you use? | Top Verbatim Responses: | | |
| | Florence | | 16 |
| | El Segundo | | 9 |
| | Rosecrans | | 4 |
| Which Century Freeway (I-105) exit did you use to get to LA Airport? | Sepulveda Blvd. | 60.4% | 1,890 |
| | Aviation Blvd. | 12.1% | 380 |
| | La Cienega Blvd. | 11.0% | 344 |
| | Nash Street | 2.7% | 86 |
| | Other | 0.8% | 24 |
| | Don't know | 12.9% | 404 |

**ORIGINATING PASSENGERS ONLY**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| Which of the following surface streets did you use to get to this airport? CHOOSE ALL THAT APPLY | In order of most used: | | |
| | El Segundo Blvd | 23.3% | 692 |
| | Manchester Blvd | 14.4% | 428 |
| | Don't know | 13.2% | 390 |
| | Century Blvd | 12.7% | 377 |
| | Sepulveda Blvd | 8.7% | 257 |
| | Aviation Blvd | 6.5% | 192 |
| | Arbor Vitae St | 5.7% | 168 |
| | La Cienega Blvd | 5.3% | 158 |
| | Imperial Highway | 3.7% | 109 |
| | La Tijera Blvd | 2.2% | 66 |
| | Airport Blvd | 2.2% | 65 |
| | Westchester Parkway | 1.1% | 32 |
| | Lincoln Blvd | 1.0% | 30 |
| Which other surface street did you use today to get to the airport? (Not listed above) | Top Verbatim Responses: | | |
| | Pacific Coast Highway | | 137 |
| | La Brea | | 26 |
| | Fairfax | | 13 |
| | Washington Blvd | | 11 |
| | Inglewood | | 11 |
| | Florence | | 7 |

Appendix B

**ORIGINATING PASSENGERS ONLY**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| How much time before your flight did you arrive at the Airport today? (Prior to checking in bags or checking in with airline). | Less than 2 hours | 34.1% | 4,599 |
| | 2 < 3 hours | 42.4% | 5,730 |
| | 3 < 4 hours | 13.6% | 1,835 |
| | 4 < 6 hours | 6.4% | 866 |
| | 6 < 8 hours | 1.9% | 253 |
| | 8 < 10 hours | 0.7% | 96 |
| | 10 < 12 hours | 0.4% | 49 |
| | More than 12 hours | 0.5% | 65 |
| | Don't know | 0.1% | 10 |
| How many people came inside the terminal with you to see you off today? | Zero | 78.2% | 10,470 |
| | One person | 10.3% | 1,379 |
| | Two or more people | 11.5% | 1,544 |
| Did you check in luggage at this airport? | Yes | 67.5% | 9,116 |
| | No | 32.5% | 4,383 |
| Where did you check in luggage? | Airline ticket counter | 87.1% | 7,946 |
| | Curbside with sky cap/outside terminal | 10.4% | 945 |
| | Checked in luggage but not at LAX *(with cruise line/other transportation agent)* | 2.1% | 193 |
| | Self serve kiosk | 0.2% | 17 |
| | Other | 0.3% | 24 |
| How many pieces of luggage did you check-in? | One bag | 52.6% | 4,782 |
| | Two bags | 31.6% | 2,868 |
| | Three bags | 7.5% | 685 |
| | Four bags | 4.9% | 448 |
| | Five bags | 1.5% | 138 |
| | More than five bags | 1.8% | 168 |

**ORIGINATING PASSENGERS ONLY**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| Do you currently live in the U.S? | Yes | 77.0% | 10,444 |
| | No | 23.0% | 3,114 |
| Do you currently live in the Southern California area? (North of Mexico border to Santa Barbara) | Yes - I live here | 58.9% | 6,018 |
| | No - I am a visitor | 41.1% | 4,195 |
| What county do you reside in? SOUTHERN CALIFORNIA RESIDENTS | Los Angeles County | 70.0% | 4,352 |
| | Orange County | 11.3% | 704 |
| | Ventura County | 5.4% | 333 |
| | Riverside County | 3.1% | 195 |
| | San Bernardino County | 2.7% | 166 |
| | San Diego County | 2.1% | 131 |
| | Santa Barbara County | 1.3% | 79 |
| | Other | 4.1% | 254 |
| Did you spend the night at a nearby hotel prior to your flight today? | Yes | 1.5% | 91 |
| | No | 98.5% | 6,023 |
| In total, how many nights will you be away from home on this trip? *Mean = 11.1 nights* | None - returning same day | 2.5% | 134 |
| | One night | 4.5% | 244 |
| | 2-4 nights | 32.9% | 1,785 |
| | 5-7 nights | 25.6% | 1,387 |
| | More than 7 nights | 34.5% | 1,869 |
| How many nights did you stay in Southern California area? (Visitors only) *Mean = 6.6 nights* | None - returning same day | 5.2% | 214 |
| | One night | 17.4% | 718 |
| | Two nights or more | 77.4% | 3,197 |
| While you were in Southern California, did you spend money on this trip? (Include lodging, meals, rental cars/ off-airport transportation, entertainment, and shopping) | Yes | 76.3% | 5,574 |
| | Don't know/don't remember | 18.3% | 1,340 |
| | Refused | 5.4% | 392 |
| If yes, amount spent *Mean = $1,284* | Less than $300 | 27.5% | 1,482 |
| | $301 to $500 | 15.2% | 819 |
| | $501 to $750 | 7.6% | 410 |
| | $751 to $1,000 | 15.5% | 832 |
| | $1,000 to $1,500 | 9.0% | 487 |
| | $1,501 to $2,000 | 9.5% | 510 |
| | Over $2,001 | 15.7% | 845 |

**ALL PASSENGERS**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| | Traveling alone | 55.6% | 12,009 |
| How many others are traveling with you today? | Traveling with one other person | 26.7% | 5,762 |
| *Mean = 1.92* | Traveling with two or more people | 17.7% | 3,828 |
| Are you traveling to another country today? | No - I am flying to another U.S. city | 68.0% | 14,744 |
| | Yes - I am flying to another country | 32.0% | 6,925 |
| What airport is your final U.S. DESTINATION? | TOP 10 Responses | | |
| (U.S. Destinations) | San Francisco | | 957 |
| | Las Vegas McCarran | | 931 |
| | Honolulu | | 832 |
| | JFK - New York | | 731 |
| | Chicago O'Hare | | 709 |
| | Dallas Fort Worth | | 443 |
| | Denver | | 436 |
| | Seattle Tacoma | | 430 |
| | Phoenix Sky Harbor | | 370 |
| | Sacramento | | 336 |
| | TOP 10 Responses | | |
| Where is your final international DESTINATION? | Canada | | 1,075 |
| (International Destinations) | Australia | | 922 |
| | Mexico | | 857 |
| | United Kingdom | | 517 |
| | Germany | | 327 |
| | New Zealand | | 238 |
| | Japan | | 226 |
| | France | | 201 |
| | Philippines | | 178 |
| | Italy | | 150 |
| What is the main purpose of your trip today? | Vacation or pleasure trip | 41.2% | 8,587 |
| | Business | 21.8% | 4,545 |
| | Visit friends or relatives | 18.0% | 3,755 |
| | Business and pleasure | 5.6% | 1,168 |
| | School related | 4.5% | 934 |
| | Convention | 2.6% | 533 |
| | Military | 0.7% | 156 |
| | Personal emergency | 1.5% | 304 |
| | Other | 4.2% | 870 |

Appendix B

**ALL PASSENGERS**

| Question: | Responses: | Frequency % | # of Responses |
|---|---|---|---|
| What is your age range, please? | Under 25 | 14.6% | 3,010 |
| | 25-34 | 25.8% | 5,330 |
| | 35-44 | 20.3% | 4,194 |
| | 45-54 | 17.3% | 3,574 |
| | 55-65 | 14.9% | 3,067 |
| | Over 65 | 7.1% | 1,475 |
| What is the range of your total annual household income? | Under $20,000 | 8.1% | 1,650 |
| | $20,000-$49,999 | 13.7% | 2,781 |
| | $50,000-$99,999 | 21.9% | 4,465 |
| | $100,000-$149,999 | 14.4% | 2,929 |
| | $150,000-$199,999 | 8.4% | 1,712 |
| | $200,000-$249,999 | 3.6% | 728 |
| | $250,000 and over | 4.1% | 828 |
| | Don't know | 8.8% | 1,789 |
| | Refused | 17.1% | 3,491 |
| Gender | Male | 52.6% | 10,678 |
| | Female | 47.4% | 9,622 |

## Appendi C

| Address | Business Name |
| --- | --- |
| 9700 Bellanca Ave 90045 | Wally Park |
| 5701 W Century Blvd 90045 | Parking Spot-Century |
| 9101 S Sepulveda Blvd 90045 | Parking Spot-Sepulveda |
| 6351 Wt Century Blvd 90045 | Park One |
| 6221 W 96th St 90045 | LAX Lot C |
| 8911 Bellanca Ave 90045 | LAX Park |
| 6151 W Century Blvd 90045 | QuikPark |
| 5933 W Century Blvd 90045 | Aireport Center Parking |
| 898 N Sepulveda Blvd 90245 | 105 Airport Parking |
| 10210 Glasgow Pl 90045 | Fox Auto Parks |
| 6141 W Century Blvd 90045 | All Star Parking |
| 6101 W 98th St 90045 | Easy Park |
| 5711 W Century Blvd 90045 | Hilton Hotel |
| 9800 S La Cienega Blvd 90301 | Air Park |
| 6351 W Century Blvd 90045 | Park n Fly |
| 5855 W Century Blvd 90045 | Marriott Hotel |
| 9920 S La Cienega Blvd 90301 | LAX Parking Center |
| 11333 S La Cienega Blvd 90045 | Park Place |
| 9600 S Sepulveda Blvd 90045 | Valet Air Park |
| 5757 W Century Blvd 90045 | Park Air/5757 Park Air |
| 11101 Hindry Ave 90045 | Johnny Park |
| 5400 W Century Blvd 90045 | Westin Hotel |
| 2222 E Imperial Highway 90245 | Auto Airport Parking |
| 6155 W 98th St 90045 | Sunrise LAX Parking |
| 892 N Sepulveda Blvd 90245 | Central Parking Systems |
| 8919 S Sepulveda Blvd 90045 | Aero Stars Airport Valet |
| 6225 W Century Blvd | Radisson airport Park |
| 5200 W Century Blvd 90045 | AmpCo System Parking |
| | |
| 1030 W Manchester Blvd 90301 | Advantage RAC |
| 9020 Aviation Blvd 90301 | Alamo/National RAC |
| 9217 Airport Blvd 90045 | Avis RAC |
| 9775 Airport Blvd 90045 | Budget RAC |
| 5630 Arbor Vitae St 90045 | Dollar RAC |
| 8734 Bellanca Ave 90045 | Enterprise RAC |
| 5500 W Century Blvd 90045 | Fox/Payless RAC |
| 9000 Airport Blvd 90045 | Hertz RAC |
| 5440 W Century Blvd 90045 | Thrifty RAC |

# Appendix L

Off-Airport Traffic

# Table of Contents

# List of Tables

# Appendix L. Off-Airport Traffic

The analysis presented in this document addresses the potential traffic impacts for the off-Airport surface transportation system adjacent to the Los Angeles International Airport (LAX) to traffic-related impacts associated with the operation of the LAX Landside Access Modernization Program (Proposed Action Alternative). The primary objective of this analysis is to evaluate the changes in existing and future traffic conditions associated with the implementation of the Proposed Action Alternative.

## L.1 Introduction

The off-Airport transportation analysis for the Proposed Action Alternative addresses operational traffic-related impacts outside the Airport boundaries, including arterial roads that serve traffic approaching and departing the Airport environs. The Proposed Action Alternative represents a major change in the ground access system used by passengers and employees to access the Airport. The primary focus of the off-Airport traffic analysis is on changes in traffic conditions that would result from the ground access system improvements proposed under the Proposed Action Alternative. The off-Airport transportation analysis completed for the Proposed Action Alternative accounts for increases in Airport-related traffic that would occur in conjunction with increases in Airport passenger activity projected to occur by 2024, 2030, and 2035. Such future growth in passenger activity levels at LAX is independent of the Proposed Action Alternative and would occur even if no improvements were implemented; however, under the Proposed Action Alternative, both existing and future passengers and employees would have more modal choices in how they access LAX resulting in a more balanced multi-modal ground access system. The following scenarios were analyzed in the Proposed Action Alternative off-Airport transportation impact analysis:

- Future (2024) No Action Alternative (i.e., future conditions with projected growth in background vehicle trips in the area surrounding LAX and roadway improvements and in Airport-related vehicle trips projected to occur by 2024, but without the Proposed Action Alternative components)
- Future (2024) Proposed Action Alternative (i.e., the future conditions described above for the 2024 No Action Alternative plus the ground access improvements associated with the Proposed Action Alternative components)
- Future (2030) No Action Alternative (i.e., future conditions with projected growth in background vehicle trips in the area surrounding LAX and roadway improvements and in Airport-related vehicle trips projected to occur by 2030, but without the Proposed Action Alternative components)

- Future (2030) Proposed Action Alternative (i.e., the future conditions described above for the 2030 Future Without the Proposed Action Alternative scenario plus the ground access improvements associated with the Proposed Action Alternative components)
- Future (2035) No Action Alternative (i.e., future conditions with projected growth in background vehicle trips in the area surrounding LAX and roadway improvements and in Airport-related vehicle trips projected to occur by 2035, but without the Proposed Action Alternative components)
- Future (2035) Proposed Action Alternative (i.e., the future conditions described above for the 2035 Future Without the Proposed Action Alternative scenario plus the ground access improvements associated with the Proposed Action Alternative components)

In addition to this appendix, further details regarding methodology, existing conditions, and supporting analyses can be found in the *Draft Transportation Study for the Landside Access Modernization Program* [Draft Environmental Impact Report] *DEIR*.[1]

## L.2 Methodology

The methodology and base assumptions used in this analysis were established in conjunction with the California Department of Transportation (Caltrans) and City of Los Angeles Department of Transportation (LADOT). The methodology and assumptions were shared with the City of Culver City, City of Inglewood, City of El Segundo, and the County of Los Angeles Department of Transportation.

### L.2.1 OFF-AIRPORT TRAFFIC ANALYSIS STUDY AREA

The off-Airport traffic analysis study area was delineated through coordination with the local jurisdictions, including the City of Los Angeles, City of Culver City, City of Inglewood, City of El Segundo, City of Hawthorne, County of Los Angeles and Caltrans. The traffic analysis study area encompasses approximately 8 square miles (see Figure 4-11); it is generally bounded on the north by Manchester Boulevard; on the south by Mariposa Avenue; on the west by Main Street/Loyola Boulevard; and on the east by Inglewood Avenue. A total of 70 intersections have been analyzed for the morning (a.m.) and evening (p.m.) peak hours; 34 of these intersections (immediately adjacent to or in the vicinity of the Proposed Project Area) have been selected for a midday off-peak hour traffic impact evaluation.

### L.2.2 INTERSECTION LEVEL OF SERVICE

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. LOS D is typically recognized as the minimum acceptable level of service in urban areas. LOS definitions for signalized and un-signalized intersections are provided in **Table L-1** and **Table L-2**.

[1] Raju Associates, Inc., *Draft Transportation Study for the Landside Access Modernization Program DEIR*, September 2016, Available: http://connectinglax.com/files/LAMP_DEIR_Appendix%20O_report.pdf, As revised in the LAX Landside Access Modernization Program Final EIR, Chapter 3, Available: http://www.connectinglax.org/files/LAX_LAMP_Final_EIR_Vol_11_20170217.pdf.

**Table L-1: Level of Service Definitions for Signalized Intersections**

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

SOURCE: Transportation Research Board, *Transportation Research Circular No. 212, Interim Materials on Highway Capacity*, January 1980.
PREPARED BY: Ricondo and Associates, Inc., July 2016.

**Table L-2: Level of Service Definitions for Stop-Controlled Intersections**

| LEVEL OF SERVICE | AVERAGE TOTAL DELAY (SECONDS/VEHICLE) |
|---|---|
| A | < 10.0 |
| B | > 10.0 and ≤ 15.0 |
| C | > 15.0 and ≤ 25.0 |
| D | > 25.0 and ≤ 35.0 |
| E | > 35.0 and ≤ 50.0 |
| F | > 50.0 |

SOURCE: Transportation Research Board, *Highway Capacity Manual,* 2010.
PREPARED BY: Ricondo and Associates, Inc., July 2016.

For the City of Los Angeles study locations, including those shared with other jurisdictions, the *Critical Movement Analysis-Planning*[2] (CMA) method of intersection capacity analysis was used to determine the intersection volume to capacity (V/C) ratio and corresponding level of service at the signalized study intersections. Level of service spreadsheets developed by LADOT were used to implement the CMA Circular 212 Method methodology. Table L-1 defines the ranges of V/C ratios and corresponding levels of service for signalized intersections.

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

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

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

### L.2.3 DESCRIPTION OF TRAFFIC MODEL

Utilizing TransCAD Version 7.0 modeling software, a detailed and updated travel demand forecasting model (updated City of Los Angeles Travel Demand Model) was developed for the traffic analysis study area using the Southern California Association of Governments' (SCAG) Regional Transportation Plan (RTP) 2012 Transportation Model (the most current regional model available at the time this analysis was being prepared) and the calibrated and validated City of Los Angeles' Travel Demand Model as the base. The Model produces a.m. and p.m. peak period results; midday off-peak period results; vehicular and transit flows on the transportation network within the traffic analysis study area based on comprehensive land use and socio-economic input data (SED); and a detailed representation of the transportation network. The model uses a conventional 4-step process consisting of trip generation, trip distribution, modal split, and assignment.

The updates to the updated City of Los Angeles Model included both the network enhancements for the various simulation time periods as well as the required updates to the land use and socioeconomic data used as input into the modeling process. Network enhancements included the following modifications: incorporation of freeway ramps and collector streets; verification of key roadway attributes; update of the Traffic Analysis Zone (TAZ) structure and network; and incorporation of all traffic analysis study area roadway links, intersections, and on-street parking. The land use and socioeconomic data for the model was modified to include: updated population, dwelling units, and employment; known and related projects in the traffic analysis study area; and verification of land use and socio-economic data within the TAZs.

Working closely with the surrounding jurisdictions, a total of 212 probable development projects were analyzed. Therefore, the impact analysis for off-airport traffic includes cumulative growth projections related to vehicle trips in the area surrounding LAX and traffic generated by reasonably foreseeable planned development. The location and size of all the probable development projects within the traffic analysis study area was compared to the model input growth data for the corresponding TAZ. Appropriate increases to land use data were made to increase all the probable development projects' growth in these TAZs. The networks in the model were modified to reflect roadway modifications in the traffic analysis study area, regional improvement plans, local specific plans, and programmed improvements.

Utilizing the calibrated model, the future years 2024 and 2035 conditions (including the base highway network and land use/socioeconomic data changes) were forecast in a manner consistent with the regional SCAG 2012 Transportation Model.

## L.2.4 EXISTING TRAFFIC CONDITIONS

### L.2.4.1 Traffic Count Data

Existing traffic volumes were compiled using video footage during morning and evening peak hours collected between 2013 and 2015. Data for 42 of 70 intersections was collected in 2015; data for 26 intersections was collected in 2014. Traffic counts at the remaining two intersections were obtained from 2013.[3] Consistent with the City of Los Angeles Traffic Impact Guidelines, traffic counts at intersections within the City of Los Angeles jurisdiction were generally obtained from 7:00-10:00 a.m. and from 3:00-6:00 p.m. The counts at the remaining intersections under other jurisdictions were obtained from 7:00-9:00 a.m. and 4:00-6:00 p.m. In addition to morning and evening peak hour traffic counts, traffic counts were also conducted at 34 intersections for the midday peak hour. The counts were generally obtained between 11:00 a.m. and 2:00 p.m.

### L.2.4.2 Existing Trip Generation

LAWA publishes an annual traffic generation report for LAX, including all trips associated with LAX and its facilities. The 2014 report, *Traffic Generation Report – Los Angeles International Airport*,[4] summarizes August 2014 traffic generation for LAX. These trips include hotel and rental car shuttles, on-Airport parking, off-Airport parking, employee parking, cargo facilities and rental car facilities. All traffic entering and exiting the CTA was recorded and counted using LAWA's Traffic and Automated Vehicle Identification System (TRAVIS) and loop counts. Traffic counts at other driveways to various Airport-related facilities that make up the overall trip generation are collected annually on Fridays in August. Utilizing the August 2014 data, a trip generation model was developed as part of the On-Airport Traffic analysis and calibrated for non-summer commuter peak weekday for LAX facilities including the CTA, on-Airport parking, off-Airport parking and rental car facilities. The trip generation of the remaining LAX facilities such as the cargo area and the West Aircraft Maintenance Area was compiled from the driveway counts collected as part of the annual surveys.

The resulting existing 2015 trip generation estimates are summarized in **Table L-3**. As indicated in the table, under the existing 2015 peak weekday conditions, LAX and associated facilities generate a total of approximately 12,300 trips in the morning peak hour, 16,000 trips in the midday peak hour, and 12,800 trips in the evening peak hour.

---

3 Traffic data collected in years 2013 and 2014 were adjusted upwards by 1.5 percent per year to represent existing 2015 conditions. These traffic volumes reflect typical weekday operations during current year 2015 conditions.

4 Los Angeles World Airports, *Traffic Generation Report, Los Angeles International Airport, August 2014*, December 2014.

**Table L-3: Summary of Existing (2015) Trip Generation**

| | 2015 | | |
|---|---|---|---|
| | **IN** | **OUT** | **TOTAL** |
| **AM PEAK HOUR** | | | |
| Central Terminal Area (CTA) | 4,039 | 3,776 | 7,815 |
| Airport Parking | 148 | 19 | 167 |
| Off-Airport Parking | 233 | 55 | 288 |
| Rental Car Facilities | 766 | 513 | 1,279 |
| Employee Parking | 759 | 280 | 1,039 |
| Cargo Facilities | 978 | 772 | 1,750 |
| **TOTAL** | **6,923** | **5,415** | **12,338** |
| **MD PEAK HOUR** | | | |
| Central Terminal Area (CTA) | 5,219 | 5,377 | 10,596 |
| Airport Parking | 114 | 51 | 165 |
| Off-Airport Parking | 191 | 97 | 288 |
| Rental Car Facilities | 1,232 | 863 | 2,095 |
| Employee Parking | 639 | 549 | 1,188 |
| Cargo Facilities | 949 | 816 | 1,765 |
| **TOTAL** | **8,344** | **7,753** | **16,097** |
| **PM PEAK HOUR** | | | |
| Central Terminal Area (CTA) | 3,956 | 4,428 | 8,384 |
| Airport Parking | 102 | 38 | 140 |
| Off-Airport Parking | 116 | 106 | 222 |
| Rental Car Facilities | 541 | 573 | 1,114 |
| Employee Parking | 338 | 586 | 924 |
| Cargo Facilities | 940 | 1,116 | 2,056 |
| **TOTAL** | **5,993** | **6,847** | **12,840** |

SOURCE: Ricondo and Associates, Inc., July 2016.
PREPARED BY: Ricondo and Associates, Inc., July 2016.

### L.2.4.3 Existing Operating Conditions

A summary of the number of intersections operating at each LOS is shown in **Table L-4**. Existing intersection operations during the weekday morning, midday, and evening peak hours are shown in **Table L-5**. Table L-5 summarizes the V/C ratios and corresponding LOS at each of the analyzed locations.

The existing traffic volumes presented in Table L-3 for a.m. and p.m. peak hours were used in conjunction with the level of service methodologies described earlier, and the current intersection characteristics, to determine the existing operating conditions at the analyzed intersections.

**Table L-4: Summary of Intersection Level of Service Analysis – 2015 Existing Conditions**

| LEVEL OF SERVICE | AM PEAK HOUR | MD PEAK HOUR | PM PEAK HOUR |
|---|---|---|---|
| A | 25 | 24 | 21 |
| B | 13 | 6 | 9 |
| C | 19 | 3 | 22 |
| D | 11 | 0 | 10 |
| E | 1 | 1 | 6 |
| F | 1 | 0 | 2 |
| Total | 70 | 34 | 70 |

NOTE:

SOURCE: Raju Associates, Inc., *Draft Transportation Study for the Landside Access Modernization Program DEIR*, September 2016.
PREPARED BY: Ricondo and Associates, Inc., September 2016.

## L.2.5 FUTURE TRAFFIC CONDITIONS

### L.2.5.1 Future Traffic Volumes

The future traffic volume forecasts were developed using models and the land use and socioeconomic data from SCAG's 2012 Regional Transportation Plan model data set; however, the data set was also updated to include planned roadway improvements, as outlined in Section L.5. To determine the future trip generation, adjustments were made to the 2014 passenger mode splits to reflect how changes to the regional transportation network would affect passenger mode choice and resultant vehicle activity at the Airport.

**Table L-5 (1 of 3): Detailed Intersection Level of Service Analysis – 2015 Existing Conditions**

| MAP NO. | INTERSECTION | A.M. PEAK HOUR V/C | A.M. PEAK HOUR LOS | M.D. PEAK HOUR V/C | M.D. PEAK HOUR LOS | P.M. PEAK HOUR V/C | P.M. PEAK HOUR LOS |
|---|---|---|---|---|---|---|---|
| 1 | Sepulveda Boulevard and Manchester Avenue | 0.715 | C | 0.597 | A | 0.808 | D |
| 2 | Sepulveda Boulevard and La Tijera Boulevard | 0.656 | B | 0.639 | B | 0.712 | C |
| 3 | Sepulveda Boulevard and Westchester Parkway | 0.735 | C | 0.748 | C | 0.784 | C |
| 4 | Sepulveda Boulevard and Lincoln Boulevard | 0.601 | B | 0.478 | A | 0.620 | B |
| 5 | Sepulveda Boulevard and Century Boulevard | 0.754 | C | 0.594 | A | 0.689 | B |
| 6 | Sepulveda Boulevard and I-105 Westbound Ramps (n/o Imperial Highway) | 1.078 | F | 0.921 | E | 0.901 | E |
| 7 | Sepulveda Boulevard and Imperial Highway | 0.774 | C | 0.684 | B | 1.089 | F |
| 8 | Sepulveda Boulevard and Mariposa Avenue | 0.748 | C | --- | --- | 0.782 | C |
| 9 | Sepulveda Boulevard and Grand Avenue | 0.820 | D | --- | --- | 0.875 | D |
| 10 | Sepulveda Boulevard and El Segundo Boulevard | 0.815 | D | --- | --- | 0.967 | E |
| 11 | Sepulveda Eastway and Westchester Parkway | 0.407 | A | --- | --- | 0.602 | B |
| 12 | La Tijera Boulevard and Manchester Avenue | 0.508 | A | 0.524 | A | 0.504 | A |
| 13 | Jenny Avenue and Westchester Parkway | 0.197 | A | 0.232 | A | 0.330 | A |
| 14 | Avion Drive and Century Boulevard | 0.381 | A | 0.320 | A | 0.292 | A |
| 15 | La Tijera Boulevard and Airport Boulevard | 0.442 | A | 0.349 | A | 0.475 | A |
| 16 | Airport Boulevard and Manchester Avenue | 0.573 | A | 0.633 | B | 0.699 | B |
| 17 | Airport Boulevard and Arbor Vitae Street/Westchester Parkway | 0.661 | B | 0.587 | A | 0.763 | C |
| 18 | Airport Boulevard and 96th Street | 0.279 | A | 0.332 | A | 0.376 | A |
| 19 | Airport Boulevard and 98th Street | 0.374 | A | 0.397 | A | 0.467 | A |
| 20 | Airport Boulevard and Century Boulevard | 0.565 | A | 0.451 | A | 0.459 | A |
| 21 | Nash Street /I-105 Westbound Ramps and Imperial Highway | 0.414 | A | --- | --- | 0.350 | A |
| 22 | Nash Street and El Segundo Boulevard | 0.551 | A | --- | --- | 0.579 | A |
| 23 | Douglas Street and Imperial Highway | 0.346 | A | --- | --- | 0.579 | A |
| 24 | Douglas Street and El Segundo Boulevard | 0.736 | C | --- | --- | 0.854 | D |
| 25 | I-405 Northbound Ramps and La Tijera Boulevard | 0.804 | D | 0.706 | C | 0.773 | C |
| 26 | I-405 Southbound Ramps and La Tijera Boulevard | 0.740 | C | 0.588 | A | 0.754 | C |
| 27 | Bellanca Avenue and Century Boulevard | 0.471 | A | --- | --- | 0.437 | A |
| 28 | Aviation Boulevard/Florence Avenue and Manchester Avenue | 0.697 | B | 0.583 | A | 0.629 | B |
| 29 | Aviation Boulevard and Arbor Vitae Street | 0.802 | D | 0.521 | A | 0.720 | C |
| 30 | Aviation Boulevard and Century Boulevard | 0.730 | C | 0.554 | A | 0.729 | C |

## Table L-5 (2 of 3): Detailed Intersection Level of Service Analysis – 2015 Existing Conditions

| MAP NO. | INTERSECTION | A.M. PEAK HOUR V/C | A.M. PEAK HOUR LOS | M.D. PEAK HOUR V/C | M.D. PEAK HOUR LOS | P.M. PEAK HOUR V/C | P.M. PEAK HOUR LOS |
|---|---|---|---|---|---|---|---|
| 31 | Aviation Boulevard and 104th Street | 0.520 | A | 0.388 | A | 0.507 | A |
| 32 | Aviation Boulevard and 111th Street | 0.475 | A | 0.327 | A | 0.459 | A |
| 33 | Aviation Boulevard and Imperial Highway | 0.576 | A | 0.517 | A | 0.736 | C |
| 34 | Aviation Boulevard and West 120th Street | 0.856 | D | --- | --- | 0.728 | C |
| 35 | Aviation Boulevard and El Segundo Boulevard | 0.863 | D | --- | --- | 0.955 | E |
| 36 | Hindry Avenue and Manchester Boulevard | 0.640 | B | --- | --- | 0.593 | A |
| 37 | Hindry Avenue and Arbor Vitae Street | 19.0 s | C | 13.2 s | B | 14.6 s | B |
| 38 | Concourse Way and Century Boulevard | 0.249 | A | --- | --- | 0.323 | A |
| 39 | I-105 Ramps (e/o Aviation Boulevard) and Imperial Highway | 0.622 | B | 0.275 | A | 0.531 | A |
| 40 | La Cienega Boulevard and Florence Avenue | 0.715 | C | 0.722 | C | 0.952 | E |
| 41 | La Cienega Boulevard and Manchester Boulevard | 0.705 | C | 0.672 | B | 0.718 | C |
| 42 | La Cienega Boulevard and Arbor Vitae Street | 0.740 | C | 0.562 | A | 0.711 | C |
| 43 | La Cienega Boulevard and I-405 Southbound Ramps (n/o Century Boulevard) | 0.742 | C | 0.494 | A | 0.610 | B |
| 44 | La Cienega Boulevard and Century Boulevard | 0.891 | D | 0.511 | A | 0.823 | D |
| 45 | La Cienega Boulevard and I-405 Southbound Ramps (s/o Century Boulevard) | 0.352 | A | --- | --- | 0.267 | A |
| 46 | La Cienega Boulevard and 104th Street | 0.309 | A | --- | --- | 0.300 | A |
| 47 | La Cienega Boulevard and Lennox Boulevard | 0.447 | A | --- | --- | 0.576 | A |
| 48 | La Cienega Boulevard and 111th Street | 0.276 | A | --- | --- | 0.233 | A |
| 49 | La Cienega Boulevard and I-405 Southbound Ramps (n/o Imperial Highway) | 0.442 | A | --- | --- | 0.275 | A |
| 50 | La Cienega Boulevard and Imperial Highway | 0.406 | A | 0.176 | A | 0.648 | B |
| 51 | La Cienega Boulevard and West 120th Street | 0.644 | B | --- | --- | 0.841 | D |
| 52 | La Cienega Boulevard and El Segundo Boulevard | 0.616 | B | --- | --- | 0.814 | D |
| 53 | I-405 Northbound Off-Ramp/Ash Avenue and Manchester Avenue | 0.842 | D | 0.655 | B | 0.707 | C |
| 54 | I-405 Northbound Ramps and Century Boulevard | 0.879 | D | 0.584 | A | 0.715 | C |
| 55 | I-405 Northbound Ramps (e/o La Cienega Boulevard) and Imperial Highway | 0.618 | B | --- | --- | 0.852 | D |
| 56 | I-405 Northbound Ramps and El Segundo Boulevard | 0.705 | C | --- | --- | 0.726 | C |
| 57 | Inglewood Avenue and Manchester Boulevard | 0.731 | C | --- | --- | 0.740 | C |
| 58 | Inglewood Avenue and Arbor Vitae Street | 0.642 | B | --- | --- | 0.703 | C |
| 59 | Inglewood Avenue and Century Boulevard | 0.784 | C | --- | --- | 0.877 | D |

**Table L-5 (3 of 3): Detailed Intersection Level of Service Analysis – 2015 Existing Conditions**

| MAP NO. | INTERSECTION | A.M. PEAK HOUR V/C | A.M. PEAK HOUR LOS | M.D. PEAK HOUR V/C | M.D. PEAK HOUR LOS | P.M. PEAK HOUR V/C | P.M. PEAK HOUR LOS |
|---|---|---|---|---|---|---|---|
| 60 | Inglewood Avenue and Lennox Boulevard | 0.828 | D | --- | --- | 0.915 | E |
| 61 | Inglewood Avenue and Imperial Highway | 0.945 | E | --- | --- | 1.021 | F |
| 62 | Inglewood Avenue and El Segundo Boulevard | 0.776 | C | --- | --- | 0.900 | D |
| 63 | La Brea Avenue and Manchester Boulevard | 0.792 | C | --- | --- | 0.746 | C |
| 64 | La Brea Avenue and Arbor Vitae Street | 0.553 | A | --- | --- | 0.690 | B |
| 65 | La Brea Avenue/Hawthorne Boulevard and Century Boulevard | 0.757 | C | --- | --- | 0.778 | C |
| 66 | Hawthorne Boulevard and Lennox Boulevard | 0.689 | B | --- | --- | 0.761 | C |
| 67 | Hawthorne Boulevard and I-105 Westbound Ramps/111th Street | 0.843 | D | --- | --- | 0.982 | E |
| 68 | Hawthorne Boulevard and Imperial Avenue | 0.697 | B | --- | --- | 0.851 | D |
| 69 | Hawthorne Boulevard and 120th Street | 0.570 | A | --- | --- | 0.711 | C |
| 70 | Hawthorne Boulevard and El Segundo Boulevard | 0.644 | B | --- | --- | 0.765 | C |

NOTES: --- = not studied

SOURCES: Raju Associates, Inc., *Draft Transportation Study for the Landside Access Modernization Program DEIR*, September 2016.
PREPARED BY: Ricondo and Associates, Inc., February 2017.

The passenger mode splits represent the proportion of total airline passengers using each vehicle mode during the peak hours analyzed. The volume of vehicles by mode were determined based on a calibrated trip generation model constructed using the traffic data collected on August 8, 2014. This model used the LAX 2011 Passenger Survey as the basis for estimating the passenger mode splits. The 2024 and 2035 mode split estimates were calculated based on the general mode split trends derived between the LAX 2006 Passenger Survey[5], the LAX 2011 Passenger Survey[6] and the LAX 2015 Passenger Survey[7], together with inputs from LAWA, including defining the modes to be relocated to each of the ITFs (see Appendix K for future mode shares). The LAX 2015 Passenger Survey showed that passengers were using Transportation Network Companies (TNCs) as an alternative transportation method and, as a result, the percentages of private vehicles, taxis, and shared ride vans decreased when compared to the 2011 Passenger Survey. The traffic volumes by mode for each of the ITFs were estimated by using the mode splits derived as explained above and from the calibration parameters from the 2014 calibrated model.

5 Applied Management and Planning Group, *2006 Air Passenger Survey Final Report Los Angeles International Airport*, conducted between July 31 and August 27, 2006 (peak) as well as October 03 and October 22, 2006 (non-peak), December 2007.

6 Unison Consulting Inc., *Los Angeles International Airport 2011 Passenger Survey*, conducted between August 22 and August 28, 2011 (peak) as well as October 17 and October 24, 2011 (non-peak), August 2012.

7 Unison Consulting Inc., *Final Report, Los Angeles International Airport 2015 Passenger Survey Results and Findings*, February 2016.

### L.2.5.2 Future Trip Generation

Future trip generation models were developed for LAX using Airport passenger and employee trip generation data from the Federal Aviation Administration (FAA) Terminal Area Forecast (TAF[8]), and SCAG's regional aviation forecasts included in the 2012 RTP. Based on the FAA TAF and SCAG analysis, the passenger and employee forecasts for this analysis included the following parameters:

- 86 million annual passengers (MAP) for 2024;
- 95 MAP for 2030/2035;[9]
- Peak month average day airline passenger schedule;
- Traffic Model for the LAX Central Terminal Area (CTA) validated based on observed counts in 2011, 2014, and 2015, and automated automatic vehicle identification (AVI) count data that provides number of vehicles by terminal by mode by time of day;
- A Parking Allocation Model for LAX based on transaction data and surveys of LAWA and private parking lots; and
- Employee trip generation is based on various factors including passengers, tenant facilities, current and future work shifts, etc. The existing employee trip generation was factored 1.5 percent per year to account for the growth in employment associated with increased activity.

The trip generation estimates for LAX for 2024 and 2030/2035 are shown in **Table L-6** and **Table L-7**, respectively. The future forecasts for traffic conditions from the travel demand forecasting model were converted to intersection turning movement volume forecasts utilizing a set of post-processing techniques detailed in the National Cooperative Highway Research Program (NCHRP) Report 255 – Highway Traffic Data for Urbanized Area Project Planning and Design.[10] Specifically, using the existing traffic count data and growth factors, the future traffic volume estimates at the intersections were developed.

## L.2.6 FUTURE CONDITIONS COMPARISON METHODOLOGY

The off-airport transportation study includes analysis of impacts projected to occur at the 2024, 2030, and 2035 horizon years. Projected traffic conditions for both future years include increases in background traffic volumes due to ambient area-wide growth between 2015, 2024, 2030, and 2035, as well as changes in the transportation network (i.e., roads and intersections) during that period. While 2030 and 2035 would have the same passengers at LAX, and thus the same Airport-related traffic, background conditions for these years would be slightly different; therefore, separate analyses for 2030 and 2035 were conducted.

---

8 Federal Aviation Administration, *APO Terminal Area Forecast 2014*, January 2015.

9 As discussed in Appendix D, for planning purposes related to the proposed LAX Landside Access Modernization Program, LAWA is planning for a future condition (2035) of 95 MAP under both the No Action and Proposed Action Alternatives.

10 Transportation Research Board, National Research Council, National Cooperative Highway Research Program Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design*, December 1982.

## Table L-6: 2024 Trip Generation

| | FUTURE 2024 NO ACTION ALTERNATIVE TRIPS | | | FUTURE 2024 PROPOSED ACTION ALTERNATIVE TRIPS | | |
|---|---|---|---|---|---|---|
| | IN | OUT | TOTAL | IN | OUT | TOTAL |
| **AM PEAK HOUR** | | | | | | |
| Airport Parking | 130 | 16 | 146 | 119 | 29 | 148 |
| Employee Parking | 861 | 318 | 1,179 | 861 | 318 | 1,179 |
| Cargo Facilities | 1,154 | 911 | 2,065 | 1,154 | 911 | 2,065 |
| Rental Car Facilities | 797 | 493 | 1,290 | 0 | 0 | 0 |
| Off-Airport Parking | 184 | 61 | 245 | 184 | 58 | 242 |
| ITF West | 0 | 0 | 0 | 810 | 810 | 1,620 |
| Manchester Square | 0 | 0 | 0 | 1,141 | 837 | 1,978 |
| CTA | 4,602 | 4,228 | 8,830 | 3,415 | 3,093 | 6,508 |
| **TOTAL** | **7,728** | **6,027** | **13,755** | **7,684** | **6,056** | **13,740** |
| **MD PEAK HOUR** | | | | | | |
| Airport Parking | 91 | 56 | 147 | 94 | 59 | 153 |
| Employee Parking | 725 | 623 | 1,348 | 725 | 623 | 1,348 |
| Cargo Facilities | 1,120 | 963 | 2,083 | 1,120 | 963 | 2,083 |
| Rental Car Facilities | 1,393 | 773 | 2,166 | 0 | 0 | 0 |
| Off-Airport Parking | 170 | 104 | 274 | 166 | 102 | 268 |
| ITF West [1] | 0 | 0 | 0 | 1,063 | 1,063 | 2,126 |
| Manchester Square | 0 | 0 | 0 | 1,863 | 1,243 | 3,106 |
| CTA [1] | 6,321 | 6,538 | 12,859 | 4,760 | 4,918 | 9,678 |
| **TOTAL** | **9,820** | **9,057** | **18,877** | **9,791** | **8,971** | **18,762** |
| **PM PEAK HOUR** | | | | | | |
| Airport Parking | 91 | 55 | 146 | 74 | 58 | 132 |
| Employee Parking | 384 | 665 | 1,049 | 384 | 665 | 1,049 |
| Cargo Facilities | 1,109 | 1,317 | 2,426 | 1,109 | 1,317 | 2,426 |
| Rental Car Facilities | 677 | 784 | 1,461 | 0 | 0 | 0 |
| Off-Airport Parking | 114 | 121 | 235 | 110 | 119 | 229 |
| ITF West | 0 | 0 | 0 | 990 | 990 | 1,980 |
| Manchester Square | 0 | 0 | 0 | 1,114 | 1,208 | 2,322 |
| CTA | 6,026 | 6,767 | 12,793 | 4,481 | 5,063 | 9,544 |
| **TOTAL** | **8,401** | **9,709** | **18,110** | **8,262** | **9,420** | **17,682** |

SOURCE: Ricondo and Associates, Inc., July 2016.
PREPARED BY: Ricondo and Associates, Inc., July 2016.

**Table L-7: 2030/2035 Trip Generation**

| | FUTURE 2035 NO ACTION ALTERNATIVE TRIPS | | | FUTURE 2035 PROPOSED ACTION ALTERNATIVE TRIPS | | |
|---|---|---|---|---|---|---|
| | IN | OUT | TOTAL | IN | OUT | TOTAL |
| **AM PEAK HOUR** | | | | | | |
| Airport Parking | 119 | 32 | 151 | 103 | 34 | 137 |
| Employee Parking | 987 | 364 | 1,351 | 987 | 364 | 1,351 |
| Cargo Facilities | 1,369 | 1,081 | 2,450 | 1,369 | 1,081 | 2,450 |
| Rental Car Facilities | 815 | 481 | 1,296 | 0 | 0 | 0 |
| Off-Airport Parking | 155 | 64 | 219 | 151 | 61 | 212 |
| ITF West | 0 | 0 | 0 | 864 | 864 | 1,728 |
| Manchester Square | 0 | 0 | 0 | 1,186 | 852 | 2,038 |
| CTA | 4,828 | 4,387 | 9,215 | 3,574 | 3,134 | 6,708 |
| **TOTAL** | **8,273** | **6,409** | **14,682** | **8,234** | **6,390** | **14,624** |
| **MD PEAK HOUR** | | | | | | |
| Airport Parking | 77 | 59 | 136 | 83 | 64 | 147 |
| Employee Parking | 831 | 714 | 1,545 | 831 | 714 | 1,545 |
| Cargo Facilities | 1,329 | 1,142 | 2,471 | 1,329 | 1,142 | 2,471 |
| Rental Car Facilities | 1,489 | 718 | 2,207 | 0 | 0 | 0 |
| Off-Airport Parking | 158 | 110 | 268 | 154 | 106 | 260 |
| ITF West | 0 | 0 | 0 | 1,155 | 1,155 | 2,310 |
| Manchester Square | 0 | 0 | 0 | 2,007 | 1,236 | 3,243 |
| CTA | 6,587 | 6,840 | 13,427 | 4,947 | 5,104 | 10,051 |
| **TOTAL** | **10,471** | **9,583** | **20,054** | **10,506** | **9,521** | **20,027** |
| **PM PEAK HOUR** | | | | | | |
| Airport Parking | 85 | 64 | 149 | 57 | 70 | 127 |
| Employee Parking | 439 | 762 | 1,201 | 439 | 762 | 1,201 |
| Cargo Facilities | 1,316 | 1,562 | 2,878 | 1,316 | 1,562 | 2,878 |
| Rental Car Facilities | 759 | 912 | 1,671 | 0 | 0 | 0 |
| Off-Airport Parking | 113 | 129 | 242 | 110 | 125 | 235 |
| ITF West | 0 | 0 | 0 | 1,150 | 1,150 | 2,300 |
| Manchester Square | 0 | 0 | 0 | 1,274 | 1,406 | 2,680 |
| CTA | 6,281 | 7,185 | 13,466 | 4,659 | 5,308 | 9,967 |
| **TOTAL** | **8,993** | **10,614** | **19,607** | **9,005** | **10,383** | **19,388** |

SOURCE: Ricondo and Associates, Inc., July 2016.
PREPARED BY: Ricondo and Associates, Inc., July 2016.

Operational impacts associated with the future Proposed Action Alternative were assessed against the future No Action Alternative, as discussed in Section L.7.

# L.3 Existing Conditions

## L.3.1 EXISTING STREET SYSTEM

The existing street system within the traffic analysis study area consists of a regional highway system including major arterials and a local street system including secondary arterials, collectors, and local streets. The San Diego (I-405) Freeway, the Glenn Anderson (I-105) Freeway, and the Marina (SR-90) Freeway provide regional access to the Proposed Project Area. Brief descriptions of these roadway facilities, including number of lanes, speed limits, parking availability, and functional classes per the City of Los Angeles Mobility Plan 2035, are listed below.

- **Airport Boulevard** is a Boulevard II arterial roadway that runs north-south with two to three lanes in each direction plus left-turn channelization at major intersections in the traffic analysis study area. Parking is generally prohibited on both sides of Airport Boulevard, and the posted speed limit is 35 mph.
- **Arbor Vitae Street** is classified as a Boulevard II arterial roadway north of LAX that runs east-west with generally two lanes in each direction plus left-turn channelization at most major intersections throughout the traffic analysis study area. Restricted parking is allowed along certain segments of Arbor Vitae Street, and the posted speed limit is 35 mph.
- **Aviation Boulevard** is classified as a Boulevard II arterial roadway that runs north-south with two lanes in each direction plus left-turn channelization at major intersections in the traffic analysis study area. Parking is generally prohibited on both sides of Aviation Boulevard, and the posted speed limit is 40 mph.
- **Century Boulevard** is a modified Boulevard I arterial roadway that runs east-west and directly feeds into the LAX CTA. It has three to four lanes in each direction plus left-turn channelization at major intersections throughout the traffic analysis study area. Parking is not allowed along Century Boulevard, and the posted speed limit is 35 mph.
- **Douglas Street** is a secondary arterial in the City of El Segundo that runs north-south with two to three lanes in each direction plus left-turn channelization at major intersections throughout the traffic analysis study area. Parking is generally not allowed along Douglas Street but there are some segments with restricted parking. The posted speed limit is 40 mph.
- **El Segundo Boulevard** is classified as a major arterial in the City of El Segundo. It runs east-west with one to three lanes in each direction plus left-turn channelization at major intersections throughout the traffic analysis study area. Parking is allowed on certain segments, and the posted speed limit ranges from 35 to 40 mph.
- **Florence Avenue** is classified as a major arterial in the City of Inglewood. It runs east-west with two to three lanes in each direction and left-turn channelization at major intersections throughout the traffic analysis study area. Parking is generally not allowed along this roadway, although some parking is permitted east of La Brea Avenue. The posted speed limit is 35 mph.

- **Hawthorne Boulevard/La Brea Avenue** is a major arterial that runs north-south with three to four lanes in each direction plus left-turn channelization at major intersections throughout the traffic analysis study area. Parking is generally allowed along most of Hawthorne Boulevard/La Brea Avenue, with some center median parking provided. The posted speed limit is 35 mph.
- **Imperial Highway** is classified as a Boulevard II arterial roadway that runs east-west with two to three lanes in each direction plus left-turn channelization at major intersections throughout the traffic analysis study area. Parking is not allowed on Imperial Highway, and the posted speed limit ranges from 40 to 50 mph. Bike lanes currently exist on both sides of Imperial Highway between Vista del Mar and Aviation Boulevard.
- **Inglewood Avenue** is a minor arterial that runs north-south with one to two lanes in each direction plus left-turn channelization at most major intersections throughout the traffic analysis study area. Parking is generally allowed on both sides of Inglewood Avenue, and the posted speed limit is 35 mph.
- **La Cienega Boulevard** is classified as a Boulevard II arterial roadway in the City of Los Angeles and a major arterial highway in the City of Inglewood. This roadway runs north-south with two to three lanes in each direction plus left-turn channelization at most major intersections in the traffic analysis study area. Parking is generally allowed south of La Tijera Boulevard. The speed limit in the traffic analysis study area ranges from 40 to 55 mph.
- **La Tijera Boulevard** is classified as a Boulevard II arterial roadway that runs northeast-southwest with two to three lanes in each direction plus left-turn channelization at major intersections. Parking is allowed on certain segments of La Tijera Boulevard, and it has a posted speed limit of 35 mph.
- **Lincoln Boulevard** is classified as a Boulevard I (major) arterial roadway that runs in a north-south direction from its southern terminus at Sepulveda Boulevard and extends northerly across several jurisdictions. This roadway generally provides three to four travel lanes in each direction. Parking is allowed on certain segments of Lincoln Boulevard, and the posted speed limit ranges from 40 to 55 mph. Lincoln Boulevard is State Route 1 in the traffic analysis study area. Bike lanes currently exist on both sides of Lincoln Boulevard between Jefferson Boulevard and Loyola Marymount University (LMU) Drive/Bluff Trail Road.
- **Manchester Avenue** is classified as a Boulevard II arterial roadway in the City of Los Angeles and a major arterial roadway in the City of Inglewood. It runs east-west and generally has two lanes in each direction plus left-turn channelization at major intersections throughout the traffic analysis study area. Parking is allowed along most of Manchester Avenue with some restricted segments. The posted speed limit along Manchester Avenue ranges from 25 to 35 mph. This arterial is known as Manchester Boulevard in the City of Inglewood. Bike lanes currently exist on both sides of Manchester Avenue between Lincoln Boulevard and Sepulveda Boulevard.
- **Nash Street** is a secondary arterial roadway in the City of El Segundo. It runs in a north/south direction with two lanes in each direction plus left-turn channelization at major intersections through the traffic analysis study area. Parking is generally not allowed along this roadway. The posted speed limit is 35 mph. The I-105 Freeway has a westbound off-ramp at Nash Street.

- **Pershing Drive** is classified as an Avenue II arterial roadway from its northern terminus at Culver Boulevard to Waterview Street and as a Boulevard II arterial roadway from Waterview Street to its southern terminus at Imperial Highway. Within the traffic analysis study area, Pershing Drive provides three to four travel lanes, two lanes in the southbound direction and one to two in the northbound direction. Parking is allowed on both sides of Pershing Drive between Westchester Parkway and its northerly terminus at Culver Boulevard. Although parking is prohibited between Imperial Highway and Westchester Parkway, there are bike lanes within these limits. Bike lanes currently exist on both sides of Pershing Drive between Westchester Parkway and Imperial Highway.
- **Sepulveda Boulevard** is classified as a Boulevard I arterial roadway in the City of Los Angeles and as a primary arterial roadway in Culver City. South of Lincoln Boulevard, it is designated as State Route 1 under Caltrans jurisdiction. The roadway generally offers three to four travel lanes in each direction with left-turn lanes at major intersections. The posted speed limit along this roadway within the traffic analysis study area ranges from 35 to 40 mph. Within the traffic analysis study area, parking is generally prohibited on both sides of the street except within the Westchester Business District. Sepulveda Boulevard provides one of the primary access/egress options to the LAX CTA and connects to the I-405 Freeway to the south. Bike lanes currently exist on both sides of Sepulveda Boulevard between Centinela Avenue and Manchester Avenue. The segment of Sepulveda Boulevard in Culver City offers four to six travel lanes, two to three lanes per direction, with a central left-turn lane, with a posted speed limit of 35 mph. Bike lanes are provided on both sides of the street north of Venice Boulevard. Parking is allowed along many stretches of this roadway.
- **Westchester Parkway** is a Boulevard II arterial roadway that runs east-west with two lanes plus bike lanes in each direction. Its limits are Pershing Drive to the west and Airport Boulevard to the east. Parking is generally not allowed along Westchester Parkway. The posted speed limit ranges from 30 to 50 mph. East of Airport Boulevard, this roadway is referred to as Arbor Vitae Street. There are bike lanes on both sides of Westchester Parkway between Sepulveda Boulevard and Pershing Drive.

### L.3.2 EXISTING TRAFFIC CONDITIONS

Existing traffic conditions are discussed in Section L.2.4.

## L.4 Significance Thresholds

Each study intersection was evaluated for potential significant traffic impacts based on the significant traffic impact criteria adopted and accepted by various jurisdictions that the study intersections lie in. Intersections lying on the boundary of multiple jurisdictions were evaluated using the more conservative criteria. A description of the significant impact criteria for each jurisdiction is presented below.

### L.4.1 CITY OF LOS ANGELES

The City of Los Angeles Department of Transportation has established threshold criteria that determine if a project has a significant traffic impact at a specific signalized intersection. For intersections under the City of Los Angeles jurisdiction, a project impact is considered significant if the conditions in **Table L-8** are met. These impact criteria represent intersection conditions with project-related traffic.

**Table L-8: City of Los Angeles – Significant Impact Criteria**

| LEVEL OF SERVICE (LOS) | FINAL VOLUME/CAPACITY (V/C) RATIO | PROJECT-RELATED INCREASE IN V/C |
|---|---|---|
| C | > 0.701 – 0.800 | Equal or greater than 0.040 |
| D | > 0.801 – 0.900 | Equal or greater than 0.020 |
| E or F | > 0.901 | Equal or greater than 0.010 |

SOURCE: Los Angeles Department of Transportation, *Traffic Study Policies and Procedures*, August 2014.
PREPARED BY: Ricondo and Associates, Inc., July 2016.

## L.4.2 CITY OF EL SEGUNDO

For intersections under the City of El Segundo jurisdiction, an impact is considered to be significant if the following threshold is exceeded:[11]

- If the project's traffic results in an intersection level of service change from LOS D or better to LOS E or F; or
- If there is increase in intersection capacity utilization (ICU) value of 0.020 or more, when the "With Project" intersection Level of Service (LOS) is at LOS E or F (ICU = 0.901 or greater).

## L.4.3 CITY OF INGLEWOOD

For the City of Inglewood, an impact is considered to be significant if the following threshold is exceeded:[12]

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

## L.4.4 CITY OF HAWTHORNE

The City of Hawthorne applies the Los Angeles County criteria defined in their Traffic Impact Analysis Report Guidelines. For intersections under the City of Hawthorne jurisdiction, an impact is considered to be significant if the thresholds in **Table L-9** are exceeded.

**Table L-9: City of Hawthorne – Significant Impact Criteria**

| LEVEL OF SERVICE (LOS) | FINAL VOLUME/CAPACITY (V/C) RATIO | PROJECT-RELATED INCREASE IN V/C |
|---|---|---|
| C | > 0.71 – 0.80 | Equal or greater than 0.040 |
| D | > 0.81 – 0.90 | Equal or greater than 0.020 |
| E or F | > 0.91 | Equal or greater than 0.010 |

SOURCE: Raju Associates, Inc., *Draft Transportation Study for the Landside Access Modernization Program DEIR*, September 2016.
PREPARED BY: Ricondo and Associates, Inc., July 2016.

---

11 Raju Associates, Inc., *Technical Memorandum Landside Access Modernization Program (LAMP) Project EIR Assumptions and Methodology for Traffic Study* to the City of El Segundo, November 30, 2015.

12 Raju Associates, Inc., *Technical Memorandum Landside Access Modernization Program (LAMP) Project EIR Assumptions and Methodology for Traffic Study* to the City of Inglewood, October 27, 2015.

### L.4.5 COUNTY OF LOS ANGELES

For intersections under the County of Los Angeles jurisdiction, the County of Los Angeles has established threshold criteria for determining the significance of impacts of a project at a specific location. According to the criteria provided by the County of Los Angeles, a project impact is considered significant if the conditions in **Table L-10** are met.

**Table L-10: County of Los Angeles – Significant Impact Criteria**

| LEVEL OF SERVICE (LOS) | FINAL VOLUME/CAPACITY (V/C) RATIO | PROJECT-RELATED INCREASE IN V/C |
|---|---|---|
| C | > 0.71 – 0.80 | Equal or greater than 0.040 |
| D | > 0.81 – 0.90 | Equal or greater than 0.020 |
| E or F | > 0.91 | Equal or greater than 0.010 |

SOURCE: Los Angeles County Department of Public Works, *Traffic Impact Analysis Report Guidelines*, December 2013.
PREPARED BY: Ricondo and Associates, Inc., July 2016.

## L.5 Off-Airport Transportation System Improvements

The roadway network for the future conditions within the traffic analysis study area is affected by a number of regional improvement plans, local specific plans, and programmed improvements that have been planned and funded separately from the Proposed Action Alternative. Specific improvements are planned for the following intersections:[13]

- Aviation Boulevard and Arbor Vitae Street
- Sepulveda Boulevard and La Tijera Boulevard
- Sepulveda Boulevard and Imperial Highway
- La Cienega Boulevard and I-405 Freeway Southbound Ramps (north of Century Boulevard)
- Airport Boulevard and Manchester Avenue

## L.6 Proposed Action Alternative-Related Improvements

The following describes the off-Airport transportation system improvements included in the future Proposed Action Alternative traffic analysis conditions, and how such improvements would affect passenger flow and vehicle operations, including:

- Roadway Improvements
  - West Way Relocation

13 City of Los Angeles, Los Angeles World Airport. *Final Environmental Impact Report for Los Angeles International Airport (LAX) Bradley West Project*, September 2009.

- Improvements to Center Way
- Elimination of Sky Way / W. 96th Street Bridge Demolition
- New Ramps to Arrivals and Departures from Sepulveda Boulevard Southbound
- Vicksburg Avenue cul-de-sac
- W. 96th Street Improvements
- New ‘A’ Street
- New Intersection at ‘A’ Street and 96th Street
- W. 96th Street Closure and Jenny Avenue Demolition
- New ‘B’ Street
- W. 98th Street Improvements
- Airport Boulevard Improvements
- New ‘D’ Street
- Demolition of Belford Avenue
- Century Boulevard Corridor Improvements
- W. 98th Street Extension
- Aviation Boulevard Improvements
- New 98th Street
- Concourse Way Extension
- Demolition of Secondary Roadways in Manchester Square
- 98th Street Access to CONRAC
- La Cienega Boulevard Improvements
- I-405 Freeway Off-Ramp Improvements
- Arbor Vitae Street Improvements
- 111th Street Improvements
- New ‘C’ Street
- I-105 Freeway Ramp Improvements

- Intersection Improvements
  - Avion Drive and Century Boulevard
  - Airport Boulevard and Westchester Parkway/W. Arbor Vitae Street
  - Airport Boulevard and W. 96th Street
  - Airport Boulevard and W. 98th Street
  - Airport Boulevard and W. Century Boulevard
  - Bellanca Avenue and W. Century Boulevard
  - Aviation Boulevard and W. Arbor Vitae Street
  - Aviation Boulevard and W. Century Boulevard
  - Hindry Avenue and W. Arbor Vitae Street
  - Concourse Way and W. Century Boulevard

- I-105 Freeway Ramps/New 'C' Street and Imperial Highway
- La Cienega Boulevard and W. Arbor Vitae Street
- La Cienega Boulevard and I-405 Freeway Southbound Ramp/W. 98th Street Extension

# L.7 Evaluation of Traffic Conditions for Future Conditions and Impact Analysis

The trip generation and distribution models described previously were used to estimate the future No Action and Proposed Action Alternatives traffic volumes required to evaluate off-Airport intersection operations. This section discusses the results of the analyses for 2024, 2030, and 2035.

## L.7.1 FUTURE 2024 OFF-AIRPORT TRAFFIC IMPACTS

A summary of the number of intersections operating at each LOS is shown in **Table L-11**. The intersection impacts for a.m., p.m., and midday peaks of the future (2024) Proposed Action Alternative, as compared to the future (2024) No Action Alternative, are shown in **Table L-12**. Under the Proposed Action Alternative, two intersections have a reduction in LOS in 2024 when compared to the No Action Alternative. At La Cienega Boulevard and Manchester Boulevard, the afternoon peak LOS changes from D (fair) under the No Action Alternative to E (poor) under the Proposed Action Alternative. The second intersection, La Cienega Boulevard and Arbor Vitae Street has a reduction in LOS during the morning peak from LOS D (fair) to LOS E (poor). Based on the local jurisdiction's guidance, these were determined not to be local impacts.

**Table L-11: Intersection Level of Service Analysis – Future 2024 Proposed Action Alternative**

| LEVEL OF SERVICE | AM PEAK HOUR | MIDDAY PEAK HOUR | PM PEAK HOUR |
|---|---|---|---|
| A | 19 | 10 | 11 |
| B | 14 | 15 | 14 |
| C | 17 | 5 | 9 |
| D | 13 | 3 | 18 |
| E | 4 | 1 | 12 |
| F | 3 | 0 | 6 |
| Total | 70 | 34 | 70 |

SOURCE: Raju Associates, Inc., *Draft Transportation Study for the Landside Access Modernization Program DEIR*, September 2016.
PREPARED BY: Ricondo and Associates, Inc., February 2017.

**Table L-12 (1 of 2): Future (2024) Off-Airport Traffic Impacts**

| | | 2024 NO ACTION ALTERNATIVE | | | | | | 2024 PROPOSED ACTION ALTERNATIVE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a.m. | | midday | | p.m. | | a.m. | | midday | | p.m. | | REDUCTION IN LOS TO E OR F | | |
| # | INTERSECTION | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | a.m. | midday | p.m. |
| 1 | Sepulveda Boulevard and Manchester Avenue | 0.736 | C | 0.697 | B | 0.917 | E | 0.733 | C | 0.680 | B | 0.901 | E | --- | --- | --- |
| 2 | Sepulveda Boulevard and La Tijera Boulevard | 0.579 | A | 0.613 | B | 0.677 | B | 0.593 | A | 0.608 | B | 0.696 | B | --- | --- | --- |
| 3 | Sepulveda Boulevard and Westchester Parkway | 0.768 | C | 0.910 | E | 0.914 | E | 0.799 | C | 0.890 | D | 0.880 | D | --- | --- | --- |
| 4 | Sepulveda Boulevard and Lincoln Boulevard | 0.645 | B | 0.609 | B | 0.692 | B | 0.659 | B | 0.597 | A | 0.688 | B | --- | --- | --- |
| 5 | Sepulveda Boulevard and Century Boulevard | 0.789 | C | 0.643 | B | 0.834 | D | 0.729 | C | 0.601 | B | 0.793 | C | --- | --- | --- |
| 6 | Sepulveda Boulevard and I-105 Westbound Ramps (n/o Imperial Highway) | 1.085 | F | 1.002 | F | 0.973 | E | 1.044 | F | 0.948 | E | 0.935 | E | --- | --- | --- |
| 7 | Sepulveda Boulevard and Imperial Highway | 0.769 | C | 0.632 | B | 0.910 | E | 0.712 | C | 0.632 | B | 0.849 | D | --- | --- | --- |
| 8 | Sepulveda Boulevard and Mariposa Avenue | 0.886 | D | --- | --- | 0.835 | D | 0.882 | D | --- | --- | 0.835 | D | --- | --- | --- |
| 9 | Sepulveda Boulevard and Grand Avenue | 1.146 | F | --- | --- | 0.983 | E | 1.144 | F | --- | --- | 0.989 | E | --- | --- | --- |
| 10 | Sepulveda Boulevard and El Segundo Boulevard | 0.840 | D | --- | --- | 1.036 | F | 0.844 | D | --- | --- | 1.033 | F | --- | --- | --- |
| 11 | Sepulveda Eastway and Westchester Parkway | 0.450 | A | --- | --- | 0.727 | C | 0.472 | A | --- | --- | 0.723 | C | --- | --- | --- |
| 12 | La Tijera Boulevard and Manchester Avenue | 0.562 | A | 0.612 | B | 0.624 | B | 0.579 | A | 0.622 | B | 0.600 | A | --- | --- | --- |
| 13 | Jenny Avenue and Westchester Parkway | 0.208 | A | 0.295 | A | 0.432 | A | 0.336 | A | 0.339 | A | 0.388 | A | --- | --- | --- |
| 14 | Avion Drive and Century Boulevard | 0.436 | A | 0.445 | A | 0.555 | A | 0.439 | A | 0.381 | A | 0.512 | A | --- | --- | --- |
| 15 | La Tijera Boulevard and Airport Boulevard | 0.522 | A | 0.550 | A | 0.658 | B | 0.560 | A | 0.520 | A | 0.647 | B | --- | --- | --- |
| 16 | Airport Boulevard and Manchester Avenue | 0.607 | B | 0.688 | B | 0.750 | C | 0.640 | B | 0.607 | B | 0.683 | B | --- | --- | --- |
| 17 | Airport Boulevard and Arbor Vitae Street/Westchester Parkway | 0.696 | B | 0.787 | C | 1.032 | F | 0.669 | B | 0.539 | A | 0.834 | D | --- | --- | --- |
| 18 | Airport Boulevard and 96th Street | 0.311 | A | 0.483 | A | 0.504 | A | 0.496 | A | 0.621 | B | 0.680 | B | --- | --- | --- |
| 19 | Airport Boulevard and 98th Street | 0.392 | A | 0.523 | A | 0.561 | A | 0.633 | B | 0.688 | B | 0.692 | B | --- | --- | --- |
| 20 | Airport Boulevard and Century Boulevard | 0.611 | B | 0.691 | B | 0.660 | B | 0.540 | A | 0.669 | B | 0.681 | B | --- | No | No |
| 21 | Nash Street /I-105 Westbound Ramps and Imperial Highway | 0.521 | A | --- | --- | 0.446 | A | 0.520 | A | --- | --- | 0.410 | A | --- | --- | --- |
| 22 | Nash Street and El Segundo Boulevard | 0.635 | B | --- | --- | 0.694 | B | 0.631 | B | --- | --- | 0.679 | B | --- | --- | --- |
| 23 | Douglas Street and Imperial Highway | 0.369 | A | --- | --- | 0.706 | C | 0.403 | A | --- | --- | 0.699 | B | --- | --- | --- |
| 24 | Douglas Street and El Segundo Boulevard | 0.830 | D | --- | --- | 0.967 | E | 0.826 | D | --- | --- | 0.963 | E | --- | --- | --- |
| 25 | I-405 Northbound Ramps and La Tijera Boulevard | 0.877 | D | 0.833 | D | 0.842 | D | 0.813 | D | 0.771 | C | 0.787 | C | --- | --- | --- |
| 26 | I-405 Southbound Ramps and La Tijera Boulevard | 0.777 | C | 0.609 | B | 0.906 | E | 0.774 | C | 0.602 | B | 0.819 | D | --- | --- | --- |
| 27 | Bellanca Avenue and Century Boulevard | 0.613 | B | --- | --- | 0.688 | B | 0.381 | A | --- | --- | 0.493 | A | --- | --- | --- |
| 28 | Aviation Boulevard/Florence Avenue and Manchester Avenue | 0.749 | C | 0.755 | C | 0.814 | D | 0.673 | B | 0.685 | B | 0.663 | B | --- | --- | --- |
| 29 | Aviation Boulevard and Arbor Vitae Street | 0.912 | E | 0.638 | B | 0.792 | C | 0.813 | D | 0.601 | B | 0.696 | B | --- | No | No |
| 30 | Aviation Boulevard and Century Boulevard | 0.863 | D | 0.838 | D | 1.013 | F | 0.750 | C | 0.763 | C | 0.865 | D | --- | --- | --- |
| 31 | Aviation Boulevard and 104th Street | 0.640 | B | 0.640 | B | 0.784 | C | 0.620 | B | 0.668 | B | 0.741 | C | --- | --- | --- |
| 32 | Aviation Boulevard and 111th Street | 0.739 | C | 0.696 | B | 0.731 | C | 0.727 | C | 0.723 | C | 0.757 | C | --- | --- | --- |
| 33 | Aviation Boulevard and Imperial Highway | 0.724 | C | 0.667 | B | 0.865 | D | 0.602 | B | 0.609 | B | 0.867 | D | --- | --- | --- |
| 34 | Aviation Boulevard and West 120th Street | 0.821 | D | --- | --- | 0.920 | E | 0.814 | D | --- | --- | 0.918 | E | --- | --- | --- |
| 35 | Aviation Boulevard and El Segundo Boulevard | 0.971 | E | --- | --- | 1.063 | F | 0.969 | E | --- | --- | 1.060 | F | --- | --- | --- |
| 36 | Hindry Avenue and Manchester Boulevard | 0.722 | C | --- | --- | 0.790 | C | 0.710 | C | --- | --- | 0.663 | B | --- | --- | --- |
| 37 | Hindry Avenue and Arbor Vitae Street | 23.4s | C | 14.7 s | B | 18.0s | C | 0.563 | A | 0.347 | A | 0.514 | A | --- | --- | --- |

**Table L-12 (2 of 2): Future (2024) Off-Airport Traffic Impacts**

| | | 2024 NO ACTION ALTERNATIVE | | | | | | 2024 PROPOSED ACTION ALTERNATIVE | | | | | | REDUCTION IN LOS TO E OR F | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a.m. | | midday | | p.m. | | a.m. | | midday | | p.m. | | | | |
| # | INTERSECTION | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | a.m. | midday | p.m. |
| 38 | Concourse Way and Century Boulevard | 0.306 | A | --- | --- | 0.466 | A | 0.637 | B | --- | --- | 0.617 | B | --- | --- | --- |
| 39 | I-105 Ramps (e/o Aviation Boulevard) and Imperial Highway | 0.781 | C | 0.412 | A | 0.679 | B | 0.768 | C | 0.548 | A | 0.689 | B | --- | --- | --- |
| 40 | La Cienega Boulevard and Florence Avenue | 0.769 | C | 0.956 | E | 1.125 | F | 0.695 | B | 0.864 | D | 1.056 | F | --- | --- | No |
| 41 | La Cienega Boulevard and Manchester Boulevard | 0.749 | C | 0.859 | D | 0.838 | D | 0.819 | D | 0.857 | D | 0.959 | E | --- | --- | --- |
| 42 | La Cienega Boulevard and Arbor Vitae Street | 0.813 | D | 0.667 | B | 0.806 | D | 0.910 | E | 0.653 | B | 0.865 | D | No | --- | --- |
| 43 | La Cienega Boulevard and I-405 Southbound Ramps (n/o Century Bl) | 0.783 | C | 0.653 | B | 0.642 | B | 0.665 | B | 0.557 | A | 0.547 | A | --- | --- | --- |
| 44 | La Cienega Boulevard and Century Boulevard | 0.930 | E | 0.693 | B | 0.915 | E | 0.858 | D | 0.709 | C | 0.923 | E | No | --- | No |
| 45 | La Cienega Boulevard and I-405 Southbound Ramps (s/o Century Bl) | 0.362 | A | --- | --- | 0.343 | A | 0.313 | A | --- | --- | 0.365 | A | --- | --- | --- |
| 46 | La Cienega Boulevard and 104th Street | 0.406 | A | --- | --- | 0.419 | A | 0.419 | A | --- | --- | 0.416 | A | --- | --- | --- |
| 47 | La Cienega Boulevard and Lennox Boulevard | 0.515 | A | --- | --- | 0.748 | C | 0.560 | A | --- | --- | 0.758 | C | --- | --- | --- |
| 48 | La Cienega Boulevard and 111th Street | 0.320 | A | --- | --- | 0.374 | A | 0.316 | A | --- | --- | 0.397 | A | --- | --- | --- |
| 49 | La Cienega Boulevard and I-405 Southbound Ramps (n/o Imperial Hwy) | 0.511 | A | --- | --- | 0.393 | A | 0.513 | A | --- | --- | 0.389 | A | --- | --- | --- |
| 50 | La Cienega Boulevard and Imperial Highway | 0.466 | A | 0.296 | A | 0.834 | D | 0.503 | A | 0.301 | A | 0.830 | D | --- | --- | --- |
| 51 | La Cienega Boulevard and West 120th Street | 0.814 | D | --- | --- | 0.962 | E | 0.784 | C | --- | --- | 0.968 | E | --- | --- | --- |
| 52 | La Cienega Boulevard and El Segundo Boulevard | 0.719 | C | --- | --- | 0.901 | E | 0.716 | C | --- | --- | 0.908 | E | --- | --- | --- |
| 53 | I-405 Northbound Off-Ramp/Ash Avenue and Manchester Avenue | 0.882 | D | 0.748 | C | 0.845 | D | 0.873 | D | 0.718 | C | 0.838 | D | --- | --- | --- |
| 54 | I-405 Northbound Ramps and Century Boulevard | 0.952 | E | 0.716 | C | 0.826 | D | 0.973 | E | 0.589 | A | 0.864 | D | --- | --- | --- |
| 55 | I-405 Northbound Ramps (e/o La Cienega Bl) and Imperial Highway | 0.619 | B | --- | --- | 0.803 | D | 0.639 | B | --- | --- | 0.779 | C | --- | --- | --- |
| 56 | I-405 Northbound Ramps and El Segundo Boulevard | 0.784 | C | --- | --- | 0.802 | D | 0.795 | C | --- | --- | 0.807 | D | --- | --- | --- |
| 57 | Inglewood Avenue and Manchester Boulevard | 0.771 | C | --- | --- | 0.850 | D | 0.772 | C | --- | --- | 0.847 | D | --- | --- | --- |
| 58 | Inglewood Avenue and Arbor Vitae Street | 0.662 | B | --- | --- | 0.763 | C | 0.670 | B | --- | --- | 0.743 | C | --- | --- | --- |
| 59 | Inglewood Avenue and Century Boulevard | 0.837 | D | n/a | n/a | 1.000 | E | 0.732 | C | n/a | n/a | 0.895 | D | --- | n/a | No |
| 60 | Inglewood Avenue and Lennox Boulevard | 0.904 | E | --- | --- | 1.023 | F | 0.902 | E | --- | --- | 1.023 | F | --- | --- | --- |
| 61 | Inglewood Avenue and Imperial Highway | 1.055 | F | --- | --- | 1.144 | F | 1.057 | F | --- | --- | 1.148 | F | --- | --- | --- |
| 62 | Inglewood Avenue and El Segundo Boulevard | 0.853 | D | --- | --- | 0.991 | E | 0.865 | D | --- | --- | 0.997 | E | --- | --- | --- |
| 63 | La Brea Avenue and Manchester Boulevard | 0.834 | D | --- | --- | 0.866 | D | 0.836 | D | --- | --- | 0.866 | D | --- | --- | --- |
| 64 | La Brea Avenue and Arbor Vitae Street | 0.597 | A | --- | --- | 0.764 | C | 0.593 | A | --- | --- | 0.775 | C | --- | --- | --- |
| 65 | La Brea Avenue/Hawthorne Boulevard and Century Boulevard | 0.834 | D | --- | --- | 0.903 | E | 0.857 | D | --- | --- | 0.904 | E | --- | --- | --- |
| 66 | Hawthorne Boulevard and Lennox Boulevard | 0.772 | C | --- | --- | 0.856 | D | 0.765 | C | --- | --- | 0.838 | D | --- | --- | --- |
| 67 | Hawthorne Boulevard and I-105 Westbound Ramps/111th Street | 0.890 | D | --- | --- | 1.020 | F | 0.884 | D | --- | --- | 1.005 | F | --- | --- | --- |
| 68 | Hawthorne Boulevard and Imperial Avenue | 0.812 | D | --- | --- | 0.985 | E | 0.799 | C | --- | --- | 0.990 | E | --- | --- | --- |
| 69 | Hawthorne Boulevard and 120th Street | 0.645 | B | --- | --- | 0.802 | D | 0.652 | B | --- | --- | 0.810 | D | --- | --- | --- |
| 70 | Hawthorne Boulevard and El Segundo Boulevard | 0.741 | C | --- | --- | 0.867 | D | 0.750 | C | --- | --- | 0.871 | D | --- | --- | --- |

NOTE: --- = NOT AVAILABLE / NO

SOURCE: Raju Associates, Inc., *Draft Transportation Study for the Landside Access Modernization Program DEIR*, September 2016.
PREPARED BY: Ricondo and Associates, Inc., February 2017.

### L.7.2 FUTURE 2030 OFF-AIRPORT TRAFFIC IMPACTS

A summary of the number of intersections operating at each LOS is shown in **Table L-13**. The intersection impacts for a.m., p.m., and midday peaks of the future (2030) Proposed Action Alternative, as compared to the future (2030) No Action Alternative, are shown in **Table L-14**. During the afternoon peak hour, the No Action Alternative level of service went from LOS D (fair) to LOS F (failure) under the Proposed Action Alternative. This is considered both a reduction in LOS and a local impact according to the City of Inglewood's published guidance. However, the Proposed Action Alternative's LOS could be improved by adding additional right-of-way to widen this intersection. The City of Inglewood expressed its intent in meetings with LAWA staff not to widen the intersection given the residential uses east of the I-405 freeway along Arbor Vitae Street. Because the local jurisdiction prefers not to minimize this impact, and when considering operational traffic impacts as a whole, the Proposed Action Alternative would not disrupt local traffic patterns or substantially reduce the levels of service of roads serving LAX and its surrounding communities, no significant surface transportation impact would occur when comparing the Proposed Action Alternative to the No Action Alternative.

**Table L-13: Intersection Level of Service Analysis – Future 2030 Proposed Action Alternative**

| LEVEL OF SERVICE | AM PEAK HOUR | MIDDAY PEAK HOUR | PM PEAK HOUR |
|---|---|---|---|
| A | 16 | 7 | 9 |
| B | 15 | 14 | 9 |
| C | 15 | 6 | 16 |
| D | 17 | 4 | 15 |
| E | 4 | 3 | 12 |
| F | 3 | 0 | 9 |
| Total | 70 | 34 | 70 |

SOURCE: Raju Associates, Inc., *Draft Transportation Study for the Landside Access Modernization Program DEIR*, September 2016.
PREPARED BY: Ricondo and Associates, Inc., February 2017.

### L.7.3 FUTURE 2035 OFF-AIRPORT TRAFFIC IMPACTS

A summary of the number of intersections operating at each LOS is shown in **Table L-15**. The intersection impacts for a.m., p.m., and midday peaks of the future (2035) Proposed Action Alternative, as compared to the future (2035) No Action Alternative, are shown in **Table L-16**. In 2035, the La Cienega Boulevard and Arbor Vitae Street intersection again experiences a reduction in LOS, in the morning and afternoon peak hours, of the future (2035) Proposed Action Alternative when compared the No Action Alternative. In 2035, the LOS for both the morning and afternoon peak hours is reduced from LOS D (fair) to LOS F (failure). While this is considered a reduction in level of service, because the local jurisdiction prefers to not minimize this impact, and when considering operational traffic impacts as a whole, the Proposed Action Alternative would not disrupt local traffic patterns or substantially reduce the levels of service of roads serving LAX and its surrounding communities, no significant surface transportation impact would occur when comparing the Proposed Action Alternative to the No Action Alternative.

THIS PAGE INTENTIONALLY LEFT BLANK

## Table L-14 (1 of 2): Future (2030) Off-Airport Traffic Impacts

| | | 2030 NO ACTION ALTERNATIVE | | | | | | 2030 PROPOSED ACTION ALTERNATIVE | | | | | | REDUCTION IN LOS TO E OR F | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a.m. | | midday | | p.m. | | a.m. | | midday | | p.m. | | | | |
| # | INTERSECTION | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | a.m. | midday | p.m. |
| 1 | Sepulveda Boulevard and Manchester Avenue | 0.748 | C | 0.722 | C | 0.947 | E | 0.734 | C | 0.689 | B | 0.918 | E | --- | --- | --- |
| 2 | Sepulveda Boulevard and La Tijera Boulevard | 0.581 | A | 0.630 | B | 0.697 | B | 0.592 | A | 0.610 | B | 0.697 | B | --- | --- | --- |
| 3 | Sepulveda Boulevard and Westchester Parkway | 0.799 | C | 0.946 | E | 0.955 | E | 0.806 | D | 0.909 | E | 0.894 | D | --- | --- | --- |
| 4 | Sepulveda Boulevard and Lincoln Boulevard | 0.682 | B | 0.641 | B | 0.706 | C | 0.689 | B | 0.610 | B | 0.699 | B | --- | --- | --- |
| 5 | Sepulveda Boulevard and Century Boulevard | 0.825 | D | 0.771 | C | 0.928 | E | 0.831 | D | 0.773 | C | 0.852 | D | --- | --- | --- |
| 6 | Sepulveda Boulevard and I-105 Westbound Ramps (n/o Imperial Highway) | 1.096 | F | 1.019 | F | 0.993 | E | 1.040 | F | 0.950 | E | 0.935 | E | --- | --- | --- |
| 7 | Sepulveda Boulevard and Imperial Highway | 0.775 | C | 0.640 | B | 0.934 | E | 0.707 | C | 0.639 | B | 0.847 | D | --- | --- | --- |
| 8 | Sepulveda Boulevard and Mariposa Avenue | 0.887 | D | --- | --- | 0.824 | D | 0.883 | D | --- | --- | 0.828 | D | --- | --- | --- |
| 9 | Sepulveda Boulevard and Grand Avenue | 1.146 | F | --- | --- | 0.984 | E | 1.147 | F | --- | --- | 0.988 | E | --- | --- | --- |
| 10 | Sepulveda Boulevard and El Segundo Boulevard | 0.846 | D | --- | --- | 1.042 | F | 0.848 | D | --- | --- | 1.042 | F | --- | --- | --- |
| 11 | Sepulveda Eastway and Westchester Parkway | 0.472 | A | --- | --- | 0.763 | C | 0.497 | A | --- | --- | 0.750 | C | --- | --- | --- |
| 12 | La Tijera Boulevard and Manchester Avenue | 0.588 | A | 0.635 | B | 0.668 | B | 0.597 | A | 0.642 | B | 0.629 | B | --- | --- | --- |
| 13 | Jenny Avenue and Westchester Parkway | 0.208 | A | 0.317 | A | 0.454 | A | 0.343 | A | 0.433 | A | 0.471 | A | --- | --- | --- |
| 14 | Avion Drive and Century Boulevard | 0.482 | A | 0.554 | A | 0.614 | B | 0.469 | A | 0.457 | A | 0.528 | A | --- | --- | --- |
| 15 | La Tijera Boulevard and Airport Boulevard | 0.570 | A | 0.609 | B | 0.705 | C | 0.599 | A | 0.567 | A | 0.674 | B | --- | --- | --- |
| 16 | Airport Boulevard and Manchester Avenue | 0.643 | B | 0.740 | C | 0.800 | D | 0.672 | B | 0.647 | B | 0.715 | C | --- | --- | --- |
| 17 | Airport Boulevard and Arbor Vitae Street/Westchester Parkway | 0.728 | C | 0.841 | D | 1.119 | F | 0.739 | C | 0.663 | B | 0.922 | E | --- | --- | --- |
| 18 | Airport Boulevard and 96th Street | 0.320 | A | 0.532 | A | 0.569 | A | 0.478 | A | 0.501 | A | 0.570 | A | --- | --- | --- |
| 19 | Airport Boulevard and 98th Street | 0.418 | A | 0.564 | A | 0.597 | A | 0.649 | B | 0.619 | B | 0.661 | B | --- | --- | --- |
| 20 | Airport Boulevard and Century Boulevard | 0.627 | B | 0.787 | C | 0.715 | C | 0.622 | B | 0.669 | B | 0.707 | C | --- | --- | --- |
| 21 | Nash Street /I-105 Westbound Ramps and Imperial Highway | 0.534 | A | --- | --- | 0.466 | A | 0.541 | A | --- | --- | 0.480 | A | --- | --- | --- |
| 22 | Nash Street and El Segundo Boulevard | 0.641 | B | --- | --- | 0.707 | C | 0.639 | B | --- | --- | 0.696 | B | --- | --- | --- |
| 23 | Douglas Street and Imperial Highway | 0.395 | A | --- | --- | 0.736 | C | 0.428 | A | --- | --- | 0.714 | C | --- | --- | --- |
| 24 | Douglas Street and El Segundo Boulevard | 0.841 | D | --- | --- | 0.982 | E | 0.844 | D | --- | --- | 0.978 | E | --- | --- | --- |
| 25 | I-405 Northbound Ramps and La Tijera Boulevard | 0.934 | E | 0.868 | D | 0.863 | D | 0.853 | D | 0.808 | D | 0.800 | C | --- | --- | --- |
| 26 | I-405 Southbound Ramps and La Tijera Boulevard | 0.776 | C | 0.633 | B | 0.951 | E | 0.767 | C | 0.618 | B | 0.863 | D | --- | --- | --- |
| 27 | Bellanca Avenue and Century Boulevard | 0.631 | B | | | 0.743 | C | 0.426 | A | | | 0.499 | A | --- | --- | --- |
| 28 | Aviation Boulevard/Florence Avenue and Manchester Avenue | 0.776 | C | 0.818 | D | 0.872 | D | 0.682 | B | 0.715 | C | 0.706 | C | --- | --- | --- |
| 29 | Aviation Boulevard and Arbor Vitae Street | 0.960 | E | 0.703 | C | 0.871 | D | 0.868 | D | 0.645 | B | 0.775 | C | --- | --- | --- |
| 30 | Aviation Boulevard and Century Boulevard | 0.927 | E | 0.873 | D | 1.043 | F | 0.811 | D | 0.849 | D | 0.910 | E | --- | --- | --- |
| 31 | Aviation Boulevard and 104th Street | 0.781 | C | 0.717 | C | 0.850 | D | 0.729 | C | 0.760 | C | 0.818 | D | --- | --- | --- |
| 32 | Aviation Boulevard and 111th Street | 0.883 | D | 0.812 | D | 0.819 | D | 0.773 | C | 0.822 | D | 0.763 | C | --- | --- | --- |
| 33 | Aviation Boulevard and Imperial Highway | 0.822 | D | 0.693 | B | 0.896 | D | 0.603 | B | 0.615 | B | 0.898 | D | --- | --- | --- |
| 34 | Aviation Boulevard and West 120th Street | 0.873 | D | --- | --- | 0.955 | E | 0.837 | D | --- | --- | 0.923 | E | --- | --- | --- |
| 35 | Aviation Boulevard and El Segundo Boulevard | 0.984 | E | --- | --- | 1.074 | F | 0.980 | E | --- | --- | 1.076 | F | --- | --- | --- |
| 36 | Hindry Avenue and Manchester Boulevard | 0.723 | C | --- | --- | 0.839 | D | 0.726 | C | --- | --- | 0.738 | C | --- | --- | --- |
| 37 | Hindry Avenue and Arbor Vitae Street | 28.4 s | D | 15.6 s | C | 20.4 s | C | 0.615 | B | 0.373 | A | 0.627 | B | --- | --- | --- |

**Table L-14 (2 of 2): Future (2030) Off-Airport Traffic Impacts**

| | | 2030 NO ACTION ALTERNATIVE | | | | | | 2030 PROPOSED ACTION ALTERNATIVE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a.m. | | midday | | p.m. | | a.m. | | midday | | p.m. | | REDUCTION IN LOS TO E OR F | | |
| # | INTERSECTION | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | a.m. | midday | p.m. |
| 38 | Concourse Way and Century Boulevard | 0.327 | A | --- | --- | 0.508 | A | 0.621 | B | --- | --- | 0.620 | B | --- | --- | --- |
| 39 | I-105 Ramps (e/o Aviation Boulevard) and Imperial Highway | 0.819 | D | 0.428 | A | 0.705 | C | 0.800 | C | 0.537 | A | 0.733 | C | --- | --- | --- |
| 40 | La Cienega Boulevard and Florence Avenue | 0.801 | D | 1.000 | F | 1.149 | F | 0.735 | C | 0.919 | E | 1.095 | F | --- | --- | --- |
| 41 | La Cienega Boulevard and Manchester Boulevard | 0.780 | C | 0.890 | D | 0.865 | D | 0.749 | C | 0.886 | D | 0.888 | D | --- | --- | --- |
| 42 | La Cienega Boulevard and Arbor Vitae Street | 0.861 | D | 0.700 | B | 0.834 | D | 0.974 | E | 0.735 | C | 1.037 | F | Yes | --- | **Yes** |
| 43 | La Cienega Boulevard and I-405 Southbound Ramps (n/o Century Bl) | 0.801 | D | 0.690 | B | 0.689 | B | 0.677 | B | 0.628 | B | 0.611 | B | --- | --- | --- |
| 44 | La Cienega Boulevard and Century Boulevard | 0.952 | E | 0.769 | C | 1.036 | F | 0.875 | D | 0.777 | C | 0.950 | E | --- | --- | --- |
| 45 | La Cienega Boulevard and I-405 Southbound Ramps (s/o Century Bl) | 0.373 | A | --- | --- | 0.370 | A | 0.281 | A | --- | --- | 0.395 | A | --- | --- | --- |
| 46 | La Cienega Boulevard and 104th Street | 0.453 | A | --- | --- | 0.476 | A | 0.453 | A | --- | --- | 0.473 | A | --- | --- | --- |
| 47 | La Cienega Boulevard and Lennox Boulevard | 0.545 | A | --- | --- | 0.799 | C | 0.527 | A | --- | --- | 0.749 | C | --- | --- | --- |
| 48 | La Cienega Boulevard and 111th Street | 0.402 | A | --- | --- | 0.423 | A | 0.350 | A | --- | --- | 0.429 | A | --- | --- | --- |
| 49 | La Cienega Boulevard and I-405 Southbound Ramps (n/o Imperial Hwy) | 0.539 | A | --- | --- | 0.414 | A | 0.496 | A | --- | --- | 0.426 | A | --- | --- | --- |
| 50 | La Cienega Boulevard and Imperial Highway | 0.515 | A | 0.320 | A | 0.875 | D | 0.597 | A | 0.324 | A | 0.877 | D | --- | --- | --- |
| 51 | La Cienega Boulevard and West 120th Street | 0.832 | D | --- | --- | 0.980 | E | 0.826 | D | --- | --- | 0.984 | E | --- | --- | --- |
| 52 | La Cienega Boulevard and El Segundo Boulevard | 0.738 | C | --- | --- | 0.910 | E | 0.750 | C | --- | --- | 0.914 | E | --- | --- | --- |
| 53 | I-405 Northbound Off-Ramp/Ash Avenue and Manchester Avenue | 0.905 | E | 0.771 | C | 0.880 | D | 0.891 | D | 0.745 | C | 0.890 | D | --- | --- | --- |
| 54 | I-405 Northbound Ramps and Century Boulevard | 0.976 | E | 0.740 | C | 0.868 | D | 0.846 | D | 0.605 | B | 0.771 | C | --- | --- | --- |
| 55 | I-405 Northbound Ramps (e/o La Cienega Bl) and Imperial Highway | 0.639 | B | --- | --- | 0.819 | D | 0.683 | B | --- | --- | 0.834 | D | --- | --- | --- |
| 56 | I-405 Northbound Ramps and El Segundo Boulevard | 0.792 | C | --- | --- | 0.812 | D | 0.809 | D | --- | --- | 0.798 | C | --- | --- | --- |
| 57 | Inglewood Avenue and Manchester Boulevard | 0.789 | C | --- | --- | 0.873 | D | 0.788 | C | --- | --- | 0.890 | D | --- | --- | --- |
| 58 | Inglewood Avenue and Arbor Vitae Street | 0.669 | B | --- | --- | 0.789 | C | 0.688 | B | --- | --- | 0.785 | C | --- | --- | --- |
| 59 | Inglewood Avenue and Century Boulevard | 0.857 | D | --- | --- | 1.039 | F | 0.752 | C | --- | --- | 0.945 | E | --- | --- | --- |
| 60 | Inglewood Avenue and Lennox Boulevard | 0.935 | E | --- | --- | 1.066 | F | 0.929 | E | --- | --- | 1.043 | F | --- | --- | --- |
| 61 | Inglewood Avenue and Imperial Highway | 1.079 | F | --- | --- | 1.176 | F | 1.052 | F | --- | --- | 1.164 | F | --- | --- | --- |
| 62 | Inglewood Avenue and El Segundo Boulevard | 0.869 | D | --- | --- | 1.001 | F | 0.886 | D | --- | --- | 1.007 | F | --- | --- | --- |
| 63 | La Brea Avenue and Manchester Boulevard | 0.851 | D | --- | --- | 0.893 | D | 0.853 | D | --- | --- | 0.908 | E | --- | --- | --- |
| 64 | La Brea Avenue and Arbor Vitae Street | 0.618 | B | --- | --- | 0.790 | C | 0.614 | B | --- | --- | 0.794 | C | --- | --- | --- |
| 65 | La Brea Avenue/Hawthorne Boulevard and Century Boulevard | 0.859 | D | --- | --- | 0.961 | E | 0.695 | B | --- | --- | 0.797 | C | --- | --- | --- |
| 66 | Hawthorne Boulevard and Lennox Boulevard | 0.805 | D | --- | --- | 0.885 | D | 0.791 | C | --- | --- | 0.869 | D | --- | --- | --- |
| 67 | Hawthorne Boulevard and I-105 Westbound Ramps/111th Street | 0.905 | E | --- | --- | 1.028 | F | 0.901 | E | --- | --- | 1.020 | F | --- | --- | --- |
| 68 | Hawthorne Boulevard and Imperial Avenue | 0.844 | D | --- | --- | 1.016 | F | 0.809 | D | --- | --- | 1.021 | F | --- | --- | --- |
| 69 | Hawthorne Boulevard and 120th Street | 0.656 | B | --- | --- | 0.822 | D | 0.658 | B | --- | --- | 0.832 | D | --- | --- | --- |
| 70 | Hawthorne Boulevard and El Segundo Boulevard | 0.760 | C | --- | --- | 0.886 | D | 0.781 | C | --- | --- | 0.889 | D | --- | --- | --- |

NOTES: --- = NOT AVAILABLE / NO

SOURCE: Raju Associates, Inc., *Draft Transportation Study for the Landside Access Modernization Program DEIR*, September 2016.
PREPARED BY: Ricondo and Associates, Inc., February 2017

**Table L-15: Intersection Level of Service Analysis – Future 2035 Proposed Action Alternative**

| LEVEL OF SERVICE | AM PEAK HOUR | MIDDAY PEAK HOUR | PM PEAK HOUR |
|---|---|---|---|
| A | 13 | 11 | 9 |
| B | 14 | 12 | 6 |
| C | 14 | 6 | 12 |
| D | 20 | 3 | 15 |
| E | 5 | 2 | 18 |
| F | 4 | 0 | 10 |
| Total | 70 | 33 1/ | 70 |

NOTE:

1/ Data for one intersection was unavailable.

SOURCE: Raju Associates, Inc., *Draft Transportation Study for the Landside Access Modernization Program DEIR*, September 2016.
PREPARED BY: Ricondo and Associates, Inc., February 2017.

Also in 2035, at La Cienega Boulevard and Manchester Boulevard, the p.m. peak LOS changes from D (fair) under the No Action Alternative to E (poor) under the Proposed Action Alternative. Although this is a reduction in level of service, based on the local jurisdiction's guidance, this was determined not to be a local impact. The The I-405 Northbound Off-Ramp/Ash Avenue and Manchester Avenue intersection also experiences a reduction in level of service in the afternoon peak hour going from LOS D (fair) under the No Action Alternative to LOS E (poor) under the Proposed Action Alternative. However, the local jurisdiction's impact criteria do not consider this a local impact.

# L.8 Conclusions

The results from the above analyses show that implementation of the Proposed Action Alternative would not cause significant off-Airport traffic-related impacts to the intersections during a.m., midday, or p.m. peak hours for 2024, 2030 or 2035. The results of the off-Airport traffic analysis demonstrated that with implementation of the Proposed Action Alternative, the overall level of service on surrounding roadways would generally improve compared to the No Action Alternative. Even in cases where LOS was not improved, there was a reduction in the V/C ratio leading to an improved experience for Airport users.

THIS PAGE INTENTIONALLY LEFT BLANK

**Table L-16 (1 of 2): Future (2035) Off-Airport Traffic Impacts**

| | | 2035 NO ACTION ALTERNATIVE | | | | | | 2035 PROPOSED ACTION ALTERNATIVE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a.m. | | midday | | p.m. | | a.m. | | midday | | p.m. | | REDUCTION IN LOS TO E OR F | | |
| # | INTERSECTION | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | a.m. | midday | p.m. |
| 1 | Sepulveda Boulevard and Manchester Avenue | 0.752 | C | 0.739 | C | 0.961 | E | 0.750 | C | 0.722 | C | 0.937 | E | --- | --- | --- |
| 2 | Sepulveda Boulevard and La Tijera Boulevard | 0.589 | A | 0.651 | B | 0.733 | C | 0.612 | B | 0.649 | B | 0.734 | C | --- | --- | --- |
| 3 | Sepulveda Boulevard and Westchester Parkway | 0.812 | D | 0.965 | E | 0.971 | E | 0.831 | D | 0.954 | E | 0.912 | E | --- | --- | --- |
| 4 | Sepulveda Boulevard and Lincoln Boulevard | 0.685 | B | 0.648 | B | 0.715 | C | 0.706 | C | 0.632 | B | 0.719 | C | --- | --- | --- |
| 5 | Sepulveda Boulevard and Century Boulevard | 0.839 | D | 0.777 | C | 0.947 | E | 0.844 | D | 0.780 | C | 0.887 | D | No | No | --- |
| 6 | Sepulveda Boulevard and I-105 Westbound Ramps (n/o Imperial Highway) | 1.104 | F | 1.025 | F | 1.001 | F | 1.063 | F | 0.975 | E | 0.963 | E | --- | --- | --- |
| 7 | Sepulveda Boulevard and Imperial Highway | 0.792 | C | 0.647 | B | 0.940 | E | 0.733 | C | 0.658 | B | 0.893 | D | --- | --- | --- |
| 8 | Sepulveda Boulevard and Mariposa Avenue | 0.888 | D | --- | --- | 0.823 | D | 0.888 | D | --- | --- | 0.827 | D | --- | --- | --- |
| 9 | Sepulveda Boulevard and Grand Avenue | 1.146 | F | --- | --- | 0.984 | E | 1.149 | F | --- | --- | 0.987 | E | --- | --- | --- |
| 10 | Sepulveda Boulevard and El Segundo Boulevard | 0.848 | D | --- | --- | 1.050 | F | 0.850 | D | --- | --- | 1.049 | F | --- | --- | --- |
| 11 | Sepulveda Eastway and Westchester Parkway | 0.491 | A | --- | --- | 0.787 | C | 0.506 | A | --- | --- | 0.755 | C | --- | --- | --- |
| 12 | La Tijera Boulevard and Manchester Avenue | 0.613 | B | 0.649 | B | 0.695 | B | 0.624 | B | 0.667 | B | 0.664 | B | --- | --- | --- |
| 13 | Jenny Avenue and Westchester Parkway | 0.212 | A | 0.338 | A | 0.457 | A | 0.356 | A | 0.442 | A | 0.468 | A | --- | --- | --- |
| 14 | Avion Drive and Century Boulevard | 0.515 | A | 0.572 | A | 0.640 | B | 0.483 | A | 0.466 | A | 0.537 | A | --- | --- | --- |
| 15 | La Tijera Boulevard and Airport Boulevard | 0.619 | B | 0.621 | B | 0.725 | C | 0.629 | B | 0.573 | A | 0.682 | B | --- | --- | --- |
| 16 | Airport Boulevard and Manchester Avenue | 0.682 | B | 0.761 | C | 0.832 | D | 0.701 | C | 0.657 | B | 0.725 | C | --- | --- | --- |
| 17 | Airport Boulevard and Arbor Vitae Street/Westchester Parkway | 0.744 | C | 0.858 | D | 1.153 | F | 0.754 | C | 0.677 | B | 0.933 | E | --- | --- | --- |
| 18 | Airport Boulevard and 96th Street | 0.341 | A | 0.553 | A | 0.580 | A | 0.475 | A | 0.500 | A | 0.568 | A | --- | --- | --- |
| 19 | Airport Boulevard and 98th Street | 0.433 | A | 0.573 | A | 0.625 | B | 0.657 | B | 0.618 | B | 0.655 | B | --- | --- | --- |
| 20 | Airport Boulevard and Century Boulevard | 0.672 | B | 0.800 | C | 0.725 | C | 0.650 | B | 0.671 | B | 0.717 | C | --- | --- | --- |
| 21 | Nash Street /I-105 Westbound Ramps and Imperial Highway | 0.547 | A | --- | --- | 0.480 | A | 0.549 | A | --- | --- | 0.496 | A | --- | --- | --- |
| 22 | Nash Street and El Segundo Boulevard | 0.646 | B | --- | --- | 0.721 | C | 0.642 | B | --- | --- | 0.708 | C | --- | --- | --- |
| 23 | Douglas Street and Imperial Highway | 0.398 | A | --- | --- | 0.739 | C | 0.438 | A | --- | --- | 0.715 | C | --- | --- | --- |
| 24 | Douglas Street and El Segundo Boulevard | 0.848 | D | --- | --- | 0.989 | E | 0.855 | D | --- | --- | 0.986 | E | --- | --- | --- |
| 25 | I-405 Northbound Ramps and La Tijera Boulevard | 0.981 | E | 0.887 | D | 0.876 | D | 0.878 | D | 0.817 | D | 0.804 | D | --- | --- | --- |
| 26 | I-405 Southbound Ramps and La Tijera Boulevard | 0.773 | C | 0.639 | B | 0.975 | E | 0.766 | C | 0.623 | B | 0.885 | D | --- | --- | --- |
| 27 | Bellanca Avenue and Century Boulevard | 0.654 | B | --- | --- | 0.761 | C | 0.455 | A | --- | --- | 0.498 | A | --- | --- | --- |
| 28 | Aviation Boulevard/Florence Avenue and Manchester Avenue | 0.795 | C | 0.843 | D | 0.895 | D | 0.703 | C | 0.732 | C | 0.712 | C | --- | --- | --- |
| 29 | Aviation Boulevard and Arbor Vitae Street | 0.996 | E | 0.731 | C | 0.902 | E | 0.884 | D | 0.675 | B | 0.778 | C | --- | No | No |
| 30 | Aviation Boulevard and Century Boulevard | 0.961 | E | 0.900 | D | 1.051 | F | 0.824 | D | 0.869 | D | 0.948 | E | --- | --- | --- |
| 31 | Aviation Boulevard and 104th Street | 0.790 | C | 0.752 | C | 0.875 | D | 0.782 | C | 0.776 | C | 0.866 | D | --- | --- | --- |
| 32 | Aviation Boulevard and 111th Street | 0.957 | E | 0.867 | D | 0.872 | D | 0.842 | D | 0.819 | D | 0.820 | D | --- | --- | --- |
| 33 | Aviation Boulevard and Imperial Highway | 0.878 | D | 0.694 | B | 0.923 | E | 0.652 | B | 0.640 | B | 0.923 | E | --- | --- | --- |
| 34 | Aviation Boulevard and West 120th Street | 0.905 | E | --- | --- | 0.968 | E | 0.869 | D | --- | --- | 0.941 | E | --- | --- | --- |
| 35 | Aviation Boulevard and El Segundo Boulevard | 0.991 | E | --- | --- | 1.076 | F | 0.987 | E | --- | --- | 1.078 | F | --- | --- | --- |
| 36 | Hindry Avenue and Manchester Boulevard | 0.731 | C | --- | --- | 0.862 | D | 0.737 | C | --- | --- | 0.757 | C | --- | --- | --- |
| 37 | Hindry Avenue and Arbor Vitae Street | 49.4s | E | 16.5 s | C | 24.1s | C | 0.667 | B | 0.389 | A | 0.656 | B | --- | --- | --- |

**Table L-16 (2 of 2): Future (2035) Off-Airport Traffic Impacts**

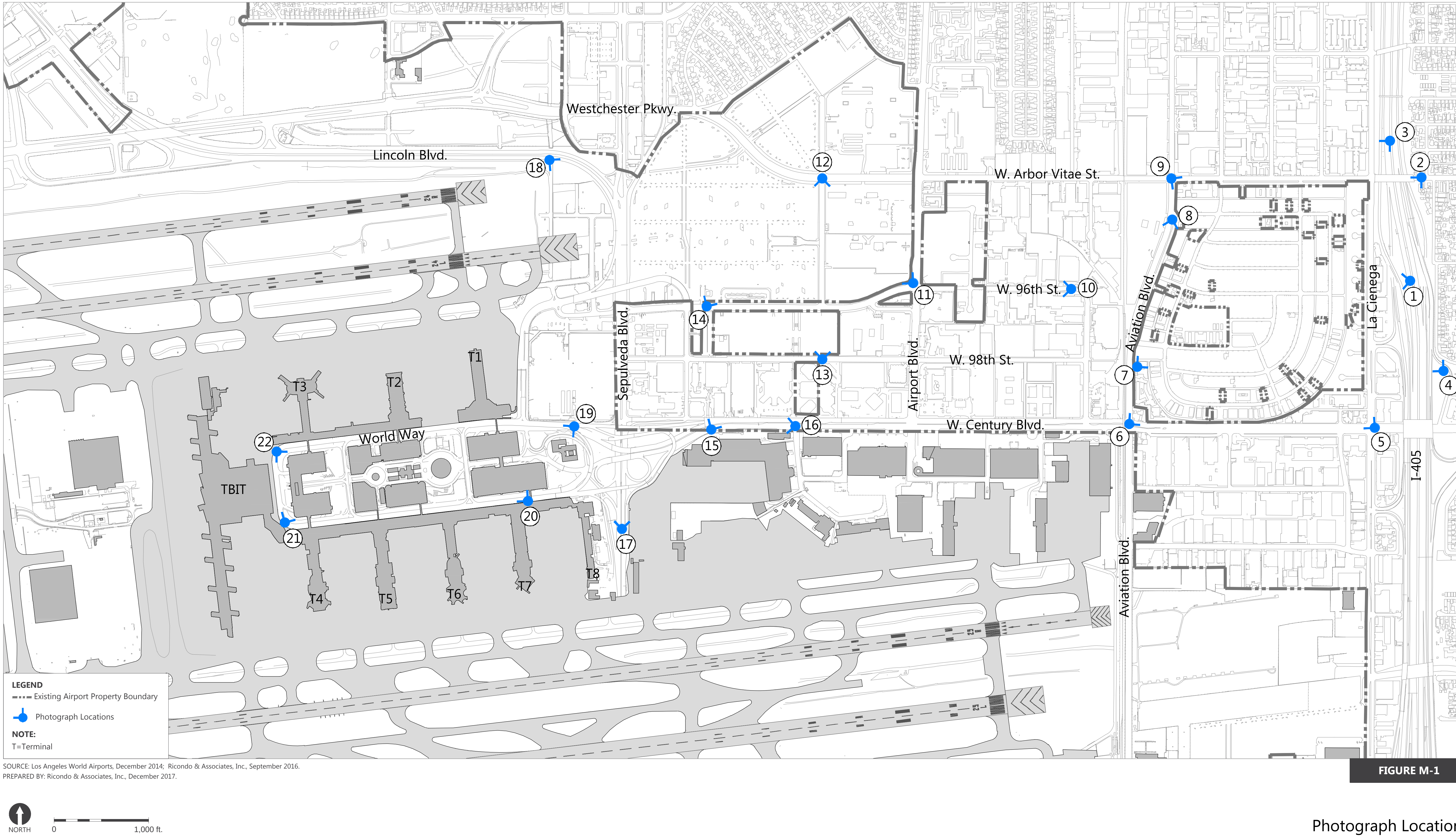
| | | 2035 NO ACTION ALTERNATIVE | | | | | | 2035 PROPOSED ACTION ALTERNATIVE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a.m. | | midday | | p.m. | | a.m. | | midday | | p.m. | | REDUCTION IN LOS TO E OR F | | |
| # | INTERSECTION | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | V/C | LOS | a.m. | midday | p.m. |
| 38 | Concourse Way and Century Boulevard | 0.337 | A | --- | --- | 0.528 | A | 0.562 | A | --- | --- | 0.637 | B | --- | --- | --- |
| 39 | I-105 Ramps (e/o Aviation Boulevard) and Imperial Highway | 0.838 | D | 0.440 | A | 0.713 | C | 0.815 | D | 0.536 | A | 0.749 | C | --- | --- | No |
| 40 | La Cienega Boulevard and Florence Avenue | 0.826 | D | 1.022 | F | 1.162 | F | 0.738 | C | 0.936 | A | 1.107 | F | --- | --- | No |
| 41 | La Cienega Boulevard and Manchester Boulevard | 0.801 | D | 0.908 | E | 0.880 | D | 0.761 | C | 0.902 | A | 0.902 | E | --- | No | No |
| 42 | La Cienega Boulevard and Arbor Vitae Street | 0.887 | D | 0.724 | C | 0.852 | D | 1.022 | F | 0.760 | A | 1.070 | F | **Yes** | --- | **Yes** |
| 43 | La Cienega Boulevard and I-405 Southbound Ramps (n/o Century Bl) | 0.809 | D | 0.703 | C | 0.705 | C | 0.682 | B | 0.616 | B | 0.605 | B | --- | --- | --- |
| 44 | La Cienega Boulevard and Century Boulevard | 0.985 | E | 0.813 | D | 1.088 | F | 0.877 | D | 0.816 | A | 0.963 | E | No | No | No |
| 45 | La Cienega Boulevard and I-405 Southbound Ramps (s/o Century Bl) | 0.385 | A | --- | --- | 0.381 | A | 0.327 | A | --- | --- | 0.407 | A | --- | --- | --- |
| 46 | La Cienega Boulevard and 104th Street | 0.478 | A | --- | --- | 0.506 | A | 0.461 | A | --- | --- | 0.477 | A | --- | --- | --- |
| 47 | La Cienega Boulevard and Lennox Boulevard | 0.583 | A | --- | --- | 0.836 | D | 0.619 | B | --- | --- | 0.845 | D | --- | --- | --- |
| 48 | La Cienega Boulevard and 111th Street | 0.433 | A | --- | --- | 0.453 | A | 0.445 | A | --- | --- | 0.453 | A | --- | --- | --- |
| 49 | La Cienega Boulevard and I-405 Southbound Ramps (n/o Imperial Hwy) | 0.565 | A | --- | --- | 0.424 | A | 0.592 | A | --- | --- | 0.421 | A | --- | --- | --- |
| 50 | La Cienega Boulevard and Imperial Highway | 0.532 | A | 0.341 | A | 0.899 | D | 0.598 | A | 0.357 | A | 0.899 | D | --- | --- | --- |
| 51 | La Cienega Boulevard and West 120th Street | 0.848 | D | --- | --- | 0.999 | E | 0.810 | D | --- | --- | 1.004 | F | --- | --- | --- |
| 52 | La Cienega Boulevard and El Segundo Boulevard | 0.748 | C | --- | --- | 0.918 | E | 0.744 | C | --- | --- | 0.926 | E | --- | --- | --- |
| 53 | I-405 Northbound Off-Ramp/Ash Avenue and Manchester Avenue | 0.923 | E | 0.778 | C | 0.896 | D | 0.907 | E | 0.746 | C | 0.913 | E | --- | --- | --- |
| 54 | I-405 Northbound Ramps and Century Boulevard | 0.993 | E | 0.761 | C | 0.890 | D | 0.995 | E | 0.752 | C | 0.908 | E | --- | --- | --- |
| 55 | I-405 Northbound Ramps (e/o La Cienega Bl) and Imperial Highway | 0.653 | B | --- | --- | 0.832 | D | 0.689 | B | --- | --- | 0.813 | D | --- | --- | --- |
| 56 | I-405 Northbound Ramps and El Segundo Boulevard | 0.801 | D | --- | --- | 0.818 | D | 0.812 | D | --- | --- | 0.814 | D | --- | --- | --- |
| 57 | Inglewood Avenue and Manchester Boulevard | 0.804 | D | --- | --- | 0.887 | D | 0.801 | D | --- | --- | 0.907 | E | --- | --- | --- |
| 58 | Inglewood Avenue and Arbor Vitae Street | 0.674 | B | --- | --- | 0.802 | D | 0.698 | B | --- | --- | 0.798 | C | --- | --- | --- |
| 59 | Inglewood Avenue and Century Boulevard | 0.873 | D | n/a | n/a | 1.064 | F | 0.757 | C | n/a | n/a | 0.958 | E | --- | n/a | No |
| 60 | Inglewood Avenue and Lennox Boulevard | 0.952 | E | --- | --- | 1.086 | F | 0.950 | E | --- | --- | 1.086 | F | --- | --- | --- |
| 61 | Inglewood Avenue and Imperial Highway | 1.095 | F | --- | --- | 1.195 | F | 1.095 | F | --- | --- | 1.198 | F | --- | --- | --- |
| 62 | Inglewood Avenue and El Segundo Boulevard | 0.879 | D | --- | --- | 1.007 | F | 0.896 | D | --- | --- | 1.009 | F | --- | --- | --- |
| 63 | La Brea Avenue and Manchester Boulevard | 0.863 | D | --- | --- | 0.911 | E | 0.870 | D | --- | --- | 0.925 | E | --- | --- | --- |
| 64 | La Brea Avenue and Arbor Vitae Street | 0.626 | B | --- | --- | 0.805 | D | 0.623 | B | --- | --- | 0.803 | D | --- | --- | --- |
| 65 | La Brea Avenue/Hawthorne Boulevard and Century Boulevard | 0.876 | D | --- | --- | 0.986 | E | 0.884 | D | --- | --- | 0.985 | E | --- | --- | --- |
| 66 | Hawthorne Boulevard and Lennox Boulevard | 0.821 | D | --- | --- | 0.902 | E | 0.806 | D | --- | --- | 0.880 | D | --- | --- | --- |
| 67 | Hawthorne Boulevard and I-105 Westbound Ramps/111th Street | 0.919 | E | --- | --- | 1.039 | F | 0.910 | E | --- | --- | 1.025 | F | --- | --- | --- |
| 68 | Hawthorne Boulevard and Imperial Avenue | 0.861 | D | --- | --- | 1.037 | F | 0.849 | D | --- | --- | 1.037 | F | --- | --- | --- |
| 69 | Hawthorne Boulevard and 120th Street | 0.669 | B | --- | --- | 0.833 | D | 0.668 | B | --- | --- | 0.847 | D | --- | --- | --- |
| 70 | Hawthorne Boulevard and El Segundo Boulevard | 0.775 | C | --- | --- | 0.898 | D | 0.784 | C | --- | --- | 0.899 | D | --- | --- | --- |

NOTES: --- = NOT AVAILABLE / NO

SOURCE: Raju Associates, Inc., *Draft Transportation Study for the Landside Access Modernization Program DEIR*, September 2016.
PREPARED BY: Ricondo and Associates, Inc., February 2017.

## Appendix M

Visual Effects




SOURCE: Los Angeles World Airports, December 2014; Ricondo & Associates, Inc., September 2016.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-1**

Photograph Locations


NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-2**

West-Facing View
from I-405 toward CONRAC

PHOTOGRAPH LOCATION 2


BEFORE


AFTER

NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-3**

Southwest-Facing View
from Arbor Vitae Street toward CONRAC

PHOTOGRAPH LOCATION 3


BEFORE

AFTER

NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-4**

## Southwest-Facing View toward CONRAC from I-405 South



NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-5**

Northwest-Facing View toward CONRAC
from Century Boulevard On-Ramp to I-405 North.



NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc.,December 2017.

**FIGURE M-6**

North-West Facing View
from Century Boulevard/La Cienega Boulevard toward CONRAC

PHOTOGRAPH LOCATION 6

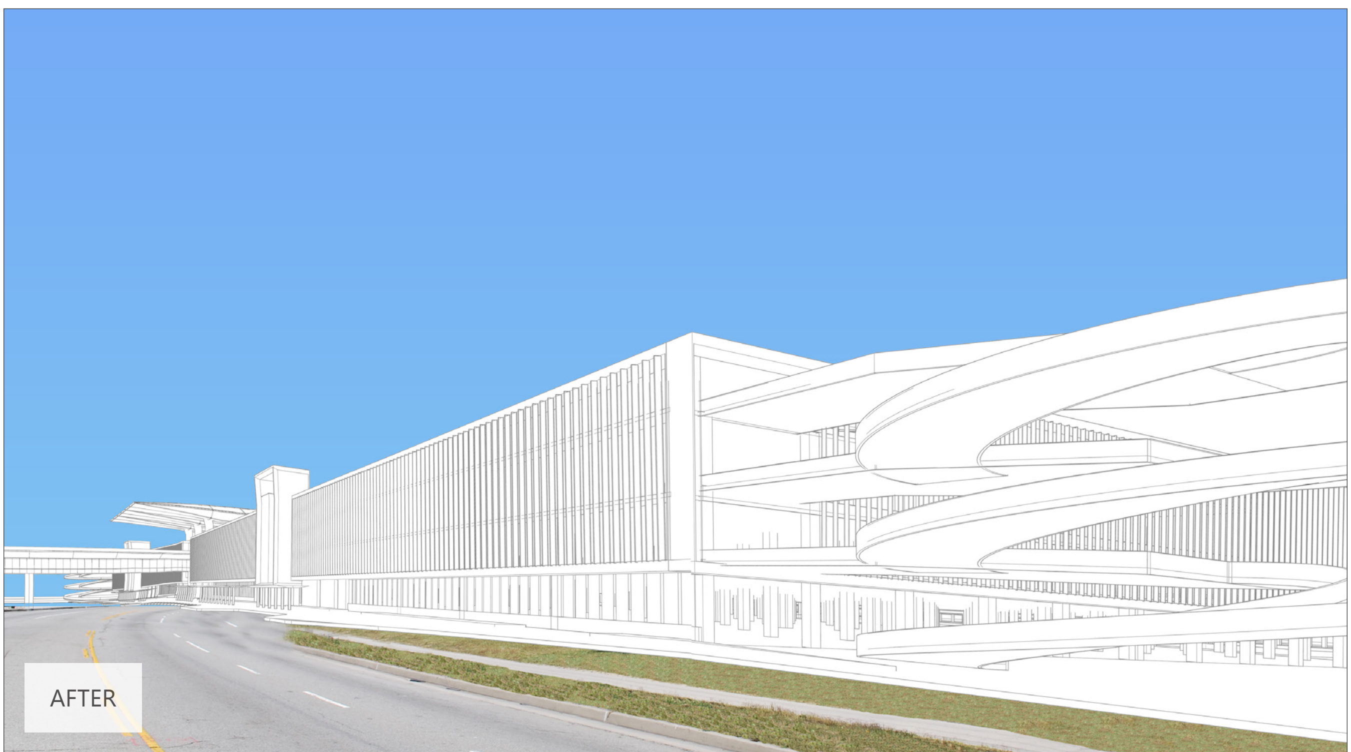

BEFORE


AFTER

NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-7**

Northeast-Facing View
from Century Boulevard/Aviation Boulevard toward ITF East


NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc. December 2017.

**FIGURE M-8**

Northeast-Facing View
from Aviation Boulevard toward ITF East


NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-9**

Southwest-Facing View of Aviation Boulevard toward APM and ITF East

PHOTOGRAPH LOCATION 9


BEFORE


AFTER

NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-10**

Southeast-Facing View
from Arbor Vitae Street/Aviation Boulevard toward CONRAC


NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-11**

West-Facing View along 96th Street/APM Alignment


NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-12**

Northwest-Facing View from 96th Street toward ITF West



NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-13**

South-Facing View
from Westchester Parkway along Jenny Avenue toward ITF West

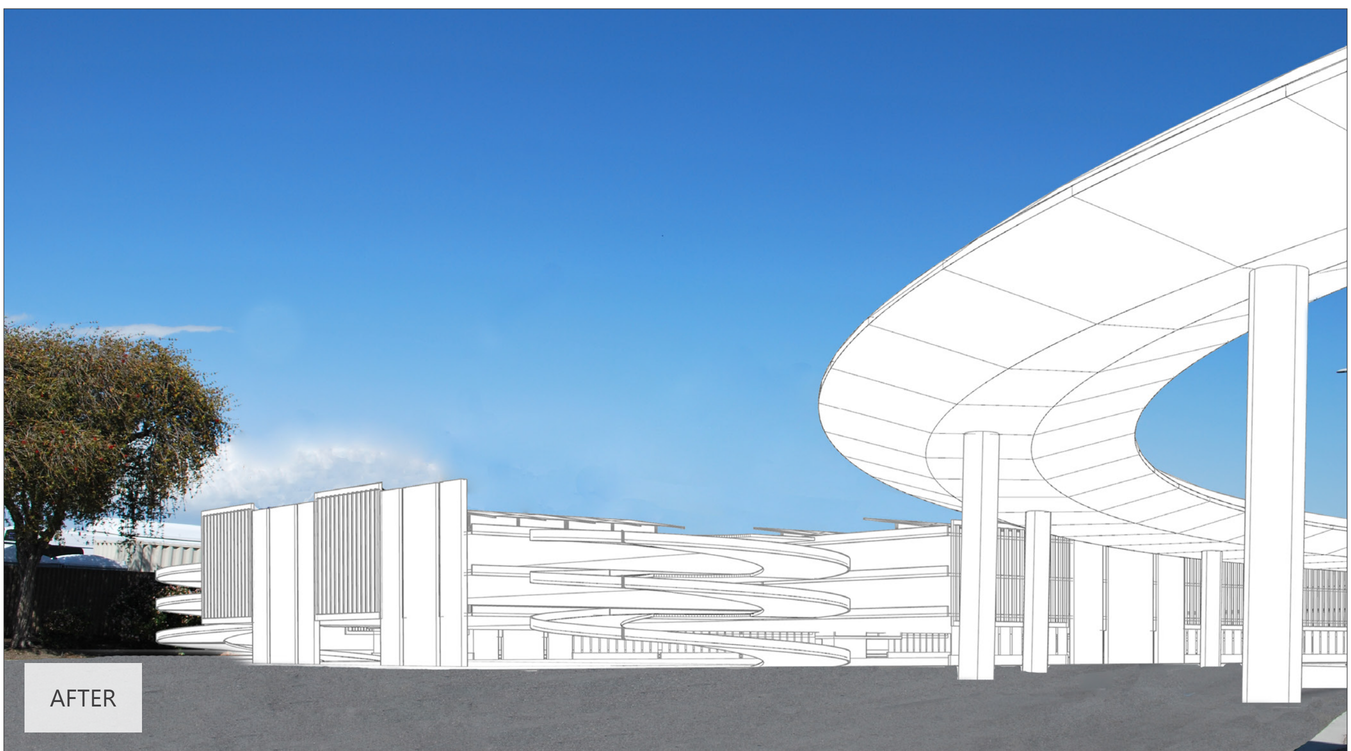

NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-14**

North-Facing View from 98th Street toward ITF West

PHOTOGRAPH LOCATION 14


BEFORE


AFTER

NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-15**

Northeast-Facing View from 96th Street toward ITF West


NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-16**

Northeast-Facing View
from Century Boulevard toward APM Alignment

PHOTOGRAPH LOCATION 16

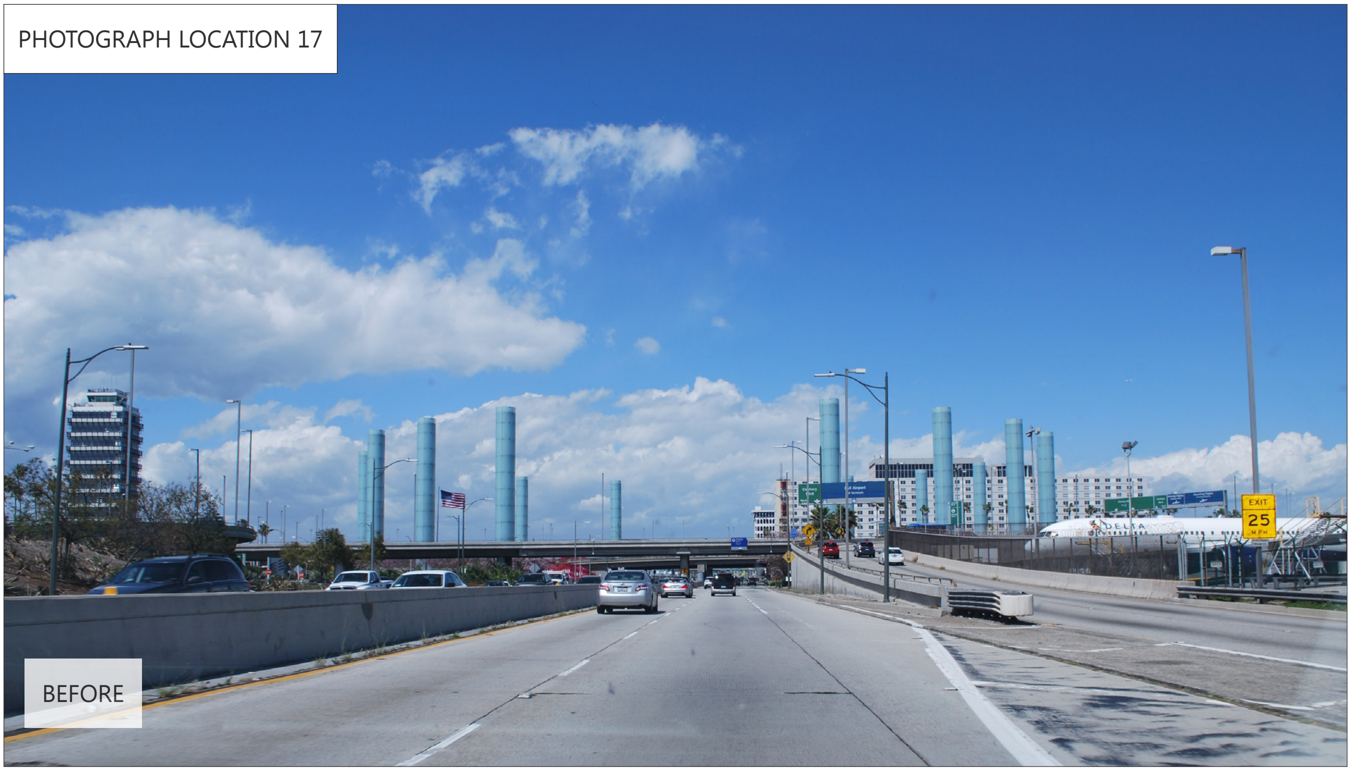


NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-17**

West-Facing View along Century Boulevard toward APM Alignment

PHOTOGRAPH LOCATION 17





NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-18**

North-Facing View along Sepulveda Boulevard



NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-19**

Southeast-Facing View from Lincoln Boulevard



NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-20**

West-Facing View of CTA from World Way (upper deck)

PHOTOGRAPH LOCATION 20

BEFORE

AFTER

NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-21**

Northwest-Facing View of CTA from World Way (upper deck)



NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc.,December 2017.

**FIGURE M-22**

Northeast-Facing View from World Way toward P4 Parking Garage



NOTE: Photograph location corresponds to the key map in Figure M-1.
SOURCE: Meridian Consultants, October 2015; Ricondo & Associates, Inc., November 2015.
PREPARED BY: Ricondo & Associates, Inc., December 2017.

**FIGURE M-23**

Southeast-Facing View from World Way toward P3 Parking Garage

# Appendix N

Scoping Report

Los Angeles World Airports

# LAX Landside Access Modernization Program Environmental Assessment Scoping Report

PREPARED FOR:

Los Angeles World Airports

PREPARED BY:

RICONDO & ASSOCIATES, Inc.

**December 2017**

# Table of Contents



# List of Tables



# List of Attachments

THIS PAGE INTENTIONALLY LEFT BLANK.

# 1. Public Scoping Meeting

A scoping meeting was conducted to disseminate information about the proposed LAX Landside Access Modernization Program, the Environmental Assessment (EA) process, and identify concerns federal, state, and local agencies; community groups; special interest groups; and the general public may have about the proposed project and EA process. This report contains the information provided to attendees of the scoping meeting, mailing lists, sign-in sheets, and comments received.

## 1.1 Scoping Meeting Summary

A scoping meeting was held June 22, 2016 from 5:00 p.m. to approximately 8:00 p.m. at Los Angeles Fire Station #5 located at 8900 S. Emerson Avenue, 90045 in Los Angeles, CA. Letters describing the project and inviting federal, state, and local agencies were sent to 162 individuals. A copy of the scoping letter and mailing list is included in **Attachment 1**. Presentation boards describing the proposed project were displayed, Frequently Asked Questions and Fact Sheets were provided, and Airport and consultant staff were available to describe the project and answer questions. A copy of the scoping meeting presentation materials and sign-in sheets are also included in Attachment 1. Two written comments were received at the meeting (see **Attachment 2**) and are summarized in **Table 1-1**.

## 1.2 Scoping Comments Received

Scoping comments were solicited over a 38-day period, commencing on June 3, 2016 with publication of the public notice in *the LA Times,* followed by *The Argonaut* and the *Daily* Breeze on June 9, 2016, and concluding on July 11, 2016 at 5:00 p.m. During this time, interested parties, responsible agencies, and the general public were encouraged to provide input on the purpose and need for the project, alternatives considered, and to identify any specific concerns that should be examined in the EA.

A total of 4 comment letters, comment forms, or emails were received during the scoping period (see Attachment 2). The commenters and their comments are summarized in Table 1-1.

**Table 1-1 Summary of Scoping Comments Received**

| DATE | COMMENTER | SUMMARY OF COMMENT(S) |
|---|---|---|
| June 30, 2016 | Henry Wong, M.S., P.E., T.E., Los Angeles County Department of Public Works | Requested the Environmental Assessment be provided once released so that the project can be analyzed for potential impacts to Unincorporated County communities, infrastructures, and Los Angeles County Flood Control District facilities in the vicinity of the project. |
| July 10, 2016 | William Cumming, Chair, Los Angeles International Airport Area Advisory Committee | Noted that the latest LAWA and LAMP planning documents include an increase in annual passengers (MAP) from the LAX Master Plan. Noted it appears the EIR will not evaluate the environmental impacts or mitigation for the increase in MAP. Asserts the LAMP would facilitate the increase in passengers. The committee noted that congestion would occur on major roadways (Lincoln Blvd., Sepulveda Blvd., etc.) located near the LAMP and suggested routing of traffic onto dedicated side streets for direct access to LAMP, staggered lighting, and other mitigation measures along nearby roadways and intersections. Also noted was the lack of connectivity to the new facilities from northbound I-405. Improved connections were recommended. Additional South Bay intersections were recommended for analysis. Commenter also noted that parking accommodations are expensive which has led to travelers parking on surrounding city streets. Notes the LAMP project could exacerbate the problem. Recommends the EIR make parking a major consideration. |
| July 11, 2016 | Jean Armbruster, M.A., Director, PLACE Program, Los Angeles County Department of Public Health | Noted that multimodal transportation accommodations should be provided along with nearby intersection improvements. Commenter noted that efforts should be made to ensure that residents would not be impacted by construction debris, noise and traffic congestion. |
| July 11, 2016 | Joseph Petta, Shute, Mihaly & Weinberger LLP, on behalf of the City of El Segundo | Noted that the NEPA document should provide an analysis of the project's growth inducing effects. Anticipates the NEPA document should be an EIS. Asserts the project would remove existing ground access constraints and allow LAX to process a higher volume of passengers than previous planning documents considered. The EA must examine the direct and secondary effects of updating the 2004 Master Plan's growth forecast, including the entrance of new aircraft operators. EA should identify and analyze the impacts of the potential growth in MAP numbers and flights that the Project would facilitate. LAWA must fully analyze the Project's and Future Development's traffic impacts, including during construction. The noise analysis must also address aviation noise effects caused by ongoing and increased operations at LAX. The EA must assess to what extent the Project will undermine air quality improvements that will occur due to technological advances and federal and state regulations. The EA's climate change analysis must include greenhouse gas ("GHG") emissions attributable to a higher MAP scenario. LAWA should evaluate a constrained growth alternative whereby the proposed Project would accommodate passenger levels up to some number at or below 82.9 MAP, the low end of the range forecast for LAX in the 2040 RTP/SCS. In order to adequately evaluate the effects of these essential "enabling" components of the project, LAWA must provide details of the current uses of each of these buildings, specify exactly when and where those uses will be relocated, and analyze any effects of shifting these uses to new locations. The City urges that any proposed construction staging be located away from El Segundo. The EA must identify and analyze the Project's effects when considered with these and other past, present, and reasonably foreseeable development at the airport and in the surrounding area. The City strongly encourages LAWA to coordinate its responsibilities under NEPA and CEQA by combining its analysis into a joint NEPA/CEQA document. |
| June 22, 2016 | Robert Acherman | How much publicity was done? Resident turnout was low. |
| June 22, 2016 | Raynald Davis | People mover safety must be first and foremost. Regarding security, there must be a remote check-in/inspection at the transit station. Only small baggage (limit 2) on the tram. |

# Attachment 1

Scoping Meeting Materials

**NOTICE OF PUBLIC SCOPING MEETING**
**Los Angeles International Airport (LAX)**
**Environmental Assessment**

The Los Angeles World Airports (LAWA) will hold a public scoping meeting/information workshop on an Environmental Assessment (EA) of the proposed LAX Landside Access Modernization Program.

**Wednesday, June 22, 2016**
**5:00 PM to 8:00 PM**

**Los Angeles Fire Station #5**
**8900 S. Emerson Avenue**
**Los Angeles, CA 90045**

**PROPOSED ACTION:** LAWA proposes to implement the LAX Landside Access Modernization Program to continue to transform LAX into a world-class airport by relieving traffic congestion within the Central Terminal Area (CTA) and on the surrounding street network, improving the travel experience for passengers, and providing connection to the regional Los Angeles County Metropolitan Transportation Agency (MTA or Metro) rail system. The LAX Landside Access Modernization Program (the Project) consists of several primary components. An Automated People Mover (APM) system with 6 stations would transport passengers between the CTA and the other main components of the Project located east of the CTA, including a Consolidated Rental Car Facility (CONRAC), new public parking facilities and multiple locations for passenger pick up and drop off. To provide the opportunity for passengers to access the Metro regional rail system, the APM system would include a station at the multi-modal/transit facility at 96th Street/Aviation Boulevard planned by Metro as a separate and independent project. The LAX Landside Access Modernization Program would reduce traffic volumes and congestion within the CTA as well as on local streets.

Project components associated with the LAX Landside Access Modernization Program include: 1) an APM system with six APM stations connecting the CTA to new ground transportation facilities proposed between Sepulveda Boulevard and Interstate 405; 2) passenger walkway systems connecting the APM stations to passenger terminals or ground transportation facilities; 3) modifications to existing passenger terminals and parking garages within the CTA for passenger walkway system connections and vertical circulation to the arrival, departure, and concourse levels; 4) intermodal transportation facilities (ITF) that would provide pick up and drop off areas outside the CTA for airport passengers and commercial shuttles, meet and greet areas, passenger processing facilities, and other amenities, parking, and access to the APM system; 5) a CONRAC that would be designed to consolidate car rental agencies in a centralized location with access to the CTA via the APM; 6) roadway improvements designed to improve access to the CTA from the freeway and provide access to the proposed ITFs and CONRAC; and 7) utilities needed to support the LAX Landside Access Modernization Program.

**PURPOSE OF PUBLIC SCOPING MEETING:** The meeting will provide an opportunity for public comment concerning the Proposed Action, purpose and need for the Proposed Action, alternatives to the Proposed Action, and potential environmental effects of the LAX Landside Access Modernization Program to be analyzed in the Draft EA. The scoping meeting will be held in an informal open house format. Representatives from LAWA and study team will be available to talk with citizens about the environmental review. Graphics will be on display so citizens can review project details and attendees will have an opportunity to provide oral and written comments on the scope and content of the Draft EA.

**ENVIRONMENTAL ASSESSMENT:** The EA will be prepared in accordance with the National Environmental Policy Act (NEPA) to examine potential impact categories as required by Federal Aviation Administration Order 1050.1F and Order 5050.4B. Once prepared, the Draft EA will be available for public and agency review and comment on the projectǒs website http://www.connectinglax.com.

**SCOPING COMMENTS:** Comments can be submitted on the LAX website (http://www.connectinglax.com) or sent to Ms. Evelyn Quintanilla, Chief of Airport Planning, at the following address:

Los Angeles World Airports
1 World Way, Room 218
Los Angeles, CA 90045
Phone: (800) 919-3766

Comments must be received by LAWA **no later than 5:00 p.m. on July 11, 2016**.

Sign Language Interpreters, Communication Access Real-Time Transcription, Assistive Listening Devices, or other auxiliary aids and/or services may be provided upon request. To ensure availability, you are advised to make your request at least 72 hours prior to the. Due to difficulties in securing Sign Language Interpreters, five or more business daysô notice is strongly recommended. For additional information, please contact: LAWAôs Coordinator for Disability Services at (424) 646-5005 or via California Relay Service at 711.

Si desea esta información en español, visite www.OurLAX.org o llame a (424) 646-7690

Los Angeles Times
MEDIA GROUP

**Sold To:**
**Ricondo & Associates - CU00542081**
**1208 Mile Post Dr**
**Atlanta,GA 30338-4709**

**Bill To:**
**Ricondo & Associates - CU00542081**
**1208 Mile Post Dr**
**Atlanta,GA 30338-4709**

Los Angeles Times
MEDIA GROUP

**PROOF OF PUBLICATION**
**(2015.5 C.C.P.)**

**STATE OF ILLINOIS**
**County of Cook**

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the action for which the attached notice was published.

I am a principal clerk of the Los Angeles Times, which was adjudged a newspaper of general circulation on May 21, 1952, Cases 598599 for the City of Los Angeles, County of Los Angeles, and State of California. Attached to this Affidavit is a true and complete copy as was printed and published on the following date(s):

Jun 03, 2016

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated at Chicago, Illinois
on this 06 day of 06, 2016.

Erin Julian
___________________________
[signature]

435 N. Michigan Ave.
Chicago, IL 60611

# PROOF OF PUBLICATION
## (2015.5 C.C.P.)

STATE OF CALIFORNIA
County of Los Angeles

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of The Argonaut, a newspaper of general circulation, printed and published weekly in the County of Los Angeles, State of California, under the date of March 7, 1973, modified October 5, 1976, Case Number C47170; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

6/9

All in the year 2016

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at

California, Los Angeles

Signature:

Chantal Marselis

Chantal Marselis

The Argonaut
Local News & Culture.

Located at:
5301 Beethoven St. Suite 183
Los Angeles, CA 90066
(310) 822-1629 x 103

Proof of Publication of

Professions Code).

**NOTICE OF PUBLIC SCOPING MEETING**
**Los Angeles International Airport (LAX)**
**Environmental Assessment**

The Los Angeles World Airports (LAWA) will hold a public scoping meeting/information workshop on an Environmental Assessment (EA) of the proposed LAX Landside Access Modernization Program.

**Wednesday, June 22, 2016**
**5:00 PM to 8:00 PM**

**Los Angeles Fire Station #5**
**8900 S. Emerson Avenue**
**Los Angeles, CA 90045**

**PROPOSED ACTION:** LAWA proposes to implement the LAX Landside Access Modernization Program to continue to transform LAX into a world-class airport by relieving traffic congestion within the Central Terminal Area (CTA) and on the surrounding street network, improving the travel experience for passengers, and providing connection to the regional Los Angeles County Metropolitan Transportation Agency (MTA or Metro) rail system. The LAX Landside Access Modernization Program (the Project) consists of several primary components. An Automated People Mover (APM) system with 6 stations would transport passengers between the CTA and the other main components of the Project located east of the CTA, including a Consolidated Rental Car Facility (CONRAC), new public parking facilities and multiple locations for passenger pick up and drop off. To provide the opportunity for passengers to access the Metro regional rail system, the APM system would include a station at the multi-modal/transit facility at 96th Street/Aviation Boulevard planned by Metro as a separate and independent project. The LAX Landside Access Modernization Program would reduce traffic volumes and congestion within the CTA as well as on local streets.

Project components associated with the LAX Landside Access Modernization Program include: 1) an APM system with six APM stations connecting the CTA to new ground transportation facilities proposed between Sepulveda Boulevard and Interstate 405; 2) passenger walkway systems connecting the APM stations to passenger terminals or ground transportation facilities; 3) modifications to existing passenger terminals and parking garages within the CTA for passenger walkway system connections and vertical circulation to the arrival, departure, and concourse levels; 4) intermodal transportation facilities (ITF) that would provide pick up and drop off areas outside the CTA for airport passengers and commercial shuttles, meet and greet areas, passenger processing facilities, and other amenities, parking, and access to the APM system; 5) a CONRAC that would be designed to consolidate car rental agencies in a centralized location with access to the CTA via the APM; 6) roadway improvements designed to improve access to the CTA from the freeway and provide access to the proposed ITFs and CONRAC; and 7) utilities needed to support the LAX Landside Access Modernization Program.

**PURPOSE OF PUBLIC SCOPING MEETING:** The meeting will provide an opportunity for public comment concerning the Proposed Action, purpose and need for the Proposed Action, alternatives to the Proposed Action, and potential environmental effects of the LAX Landside Access Modernization Program to be analyzed in the Draft EA. The scoping meeting will be held in an informal open house format. Representatives from LAWA and study team will be available to talk with citizens about the environmental review. Graphics will be on display so citizens can review project details and attendees will have an opportunity to provide oral and written comments on the scope and content of the Draft EA.

**ENVIRONMENTAL ASSESSMENT:** The EA will be prepared in accordance with the National Environmental Policy Act (NEPA) to examine potential impact categories as required by Federal Aviation Administration Order 1050.1F and Order 5050.4B. Once prepared, the Draft EA will be available for public and agency review and comment on the project's website http://www.connectinglax.com.

**SCOPING COMMENTS:** Comments can be submitted on the LAX website (http://www.connectinglax.com) or sent to Ms. Evelyn Quintanilla, Chief of Airport Planning, at the following address:

Los Angeles World Airports
1 World Way, Room 218
Los Angeles, CA 90045
Phone: (800) 919-3766

Comments must be received by LAWA **no later than 5:00 p.m. on July 11, 2016.**

Sign Language Interpreters, Communication Access Real-Time Transcription, Assistive Listening Devices, or other auxiliary aids and/or services may be provided upon request. To ensure availability, you are advised to make your request at least 72 hours prior to the. Due to difficulties in securing Sign Language Interpreters, five or more business days' notice is strongly recommended. For additional information, please contact: LAWA's Coordinator for Disability Services at (424) 646-5005 or via California Relay Service at 711.

Si desea esta información en español, visite www.OurLAX.org o llame a (424) 646-7690

**Daily Breeze**
21250 Hawthorne Blvd, Ste 170
Torrance, CA 90503-4077
310-543-6635
Fax: 310-316-6827

RICONDO & ASSOCIATES INC.
2077 CONVENTION CENTER CONCOURSE,
SUITE 285
ATLANTA, GA 30337

| | | | |
|---|---|---|---|
| *Account Number:* | 5173517 | | |
| *Ad Order Number:* | 0010810140 | | |
| *Customer's Reference / PO Number:* | DB 6-9 | | |
| *Publication:* | Daily Breeze | | |
| *Publication Dates:* | 06/09/2016 | | |
| *Amount:* | $786.55 | | |
| *Payment Amount:* | $786.55 | *Payment Method:* | Credit Card |

*Invoice Text:* **DB 6-9**

**NOTICE OF PUBLIC SCOPING MEETING**
**Los Angeles International Airport (LAX)**
**Environmental Assessment**

The Los Angeles World Airports (LAWA) will hold a public scoping meeting/information workshop on an Environmental Assessment (EA) of the proposed LAX Landside Access Modernization Program.
**Wednesday, June 22, 2016**
**5:00 PM to 8:00 PM**

**Los Angeles Fire Station #5**
**8900 S. Emerson Avenue**
**Los Angeles, CA 90045**

**PROPOSED ACTION:** LAWA proposes to implement the LAX Landside Access Modernization Program to continue to transform LAX into a world-class airport by relieving traffic congestion within the Central Terminal Area (CTA) and on the surrounding street network, improving the travel experience for passengers, and providing connection to the regional Los Angeles County Metropolitan Transportation Agency (MTA or Metro) rail system. The LAX Landside Access Modernization Program (the Project) consists of several primary components. An Automated People Mover (APM) system with 6 stations would transport passengers between the CTA and the other main components of the Project located east of the CTA, including a Consolidated Rental Car Facility (CONRAC), new public parking facilities and multiple locations for passenger pick up and drop off. To provide the opportunity for passengers to access the Metro regional rail system, the APM system would include a station at the multi-modal/transit facility at 96th Street/Aviation Boulevard planned by Metro as a separate and independent project. The LAX Landside Access Modernization Program would reduce traffic volumes and congestion within the CTA as well as on local streets.

Project components associated with the LAX Landside Access Modernization Program include: 1) an APM system with six APM stations connecting the CTA to new ground transportation facilities proposed between Sepulveda Boulevard and Interstate 405; 2) passenger walkway systems connecting the APM stations to passenger terminals or ground transportation facilities; 3) modifications to existing passenger terminals and parking garages within the CTA for passenger walkway system connections and vertical circulation to the arrival, departure, and concourse levels; 4) intermodal transportation facilities (ITF) that would provide pick up and drop off areas outside the CTA for airport passengers and commercial shuttles, meet and greet areas, passenger processing facilities, and other amenities, parking, and access to the APM system; 5) a CONRAC that would be designed to consolidate car rental agencies in a centralized location with access to the CTA via the APM; 6) roadway improvements designed to improve access to the CTA from the freeway and provide access to the proposed ITFs and CONRAC; and 7) utilities needed to support the LAX Landside Access Modernization Program.

**PURPOSE OF PUBLIC SCOPING MEETING:** The meeting will provide an opportunity for public comment concerning the Proposed Action, purpose and need for the Proposed Action, alternatives to the Proposed Action, and potential environmental effects of the LAX Landside Access Modernization Program to be analyzed in the Draft EA. The scoping meeting will be held in an informal open house format. Representatives from LAWA and study team will be available to talk with citizens about the environmental review. Graphics will be on display so citizens can review project details and attendees will have an opportunity to provide oral and written comments on the scope and content of the Draft EA.

**ENVIRONMENTAL ASSESSMENT:** The EA will be prepared in accordance with the National Environmental Policy Act (NEPA) to examine potential impact categories as required by Federal Aviation Administration Order 1050.1F and Order 5050.4B. Once prepared, the Draft EA will be available for public and agency review and comment on the project's website http://www.connectinglax.com.

**SCOPING COMMENTS:** Comments can be submitted on the LAX website (http://www.connectinglax.com) or sent to Ms. Evelyn Quintanilla, Chief of Airport Planning, at the following address:

Los Angeles World Airports
1 World Way, Room 218
Los Angeles, CA 90045
Phone: (800) 919-3766

Comments must be received by LAWA **no later than 5:00 p.m. on July 11, 2016.**

Sign Language Interpreters, Communication Access Real-Time Transcription, Assistive Listening Devices, or other auxiliary aids and/or services may be provided upon request. To ensure availability, you are advised to make your request at least 72 hours prior to the. Due to difficulties in securing Sign Language Interpreters, five or more business days' notice is strongly recommended. For additional information, please contact: LAWA's Coordinator for Disability Services at (424) 646-5005 or via California Relay Service at 711.

Si desea esta información en español, visite www.OurLAX.org o llame a (424) 646-7690

Published: June 9, 2016

**Daily Breeze**
21250 Hawthorne Blvd, Ste 170
Torrance, CA 90503-4077
310-543-6635
Fax: 310-316-6827

5173517

RICONDO & ASSOCIATES INC.
2077 CONVENTION CENTER CONCOURSE, SUITE 28
ATLANTA, GA 30337

**FILE NO. DB 6-9**

# PROOF OF PUBLICATION
# (2015.5 C.C.P.)

## STATE OF CALIFORNIA
## County of Los Angeles

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of THE DAILY BREEZE, a newspaper of general circulation, printed and published in the City of Torrance*, County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of County of Los Angeles, State of California, under the date of June 10, 1974, Case Number SWC7146. The notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

**06/09/2016**

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Dated at Torrance, California
On this 13th day of June, 2016.

Signature

*The Daily Breeze circulation includes the following cities: Carson, Compton, Culver City, El Segundo, Gardena, Harbor City, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Lomita, Long Beach, Manhattan Beach, Palos Verdes Peninsula, Palos Verdes, Rancho Palos Verdes, Rancho Palos Verdes Estates, Redondo Beach, San

(Space below for use of County Clerk Only)

Legal No. **0010810140**

**DB 6-9**

**NOTICE OF PUBLIC SCOPING MEETING**
**Los Angeles International Airport (LAX)**
**Environmental Assessment**

The Los Angeles World Airports (LAWA) will hold a public scoping meeting/information workshop on an Environmental Assessment (EA) of the proposed LAX Landside Access Modernization Program.

**Wednesday, June 22, 2016**
**5:00 PM to 8:00 PM**

**Los Angeles Fire Station #5**
**8900 S. Emerson Avenue**
**Los Angeles, CA 90045**

**PROPOSED ACTION:** LAWA proposes to implement the LAX Landside Access Modernization Program to continue to transform LAX into a world-class airport by relieving traffic congestion within the Central Terminal Area (CTA) and on the surrounding street network, improving the travel experience for passengers, and providing connection to the regional Los Angeles County Metropolitan Transportation Agency (MTA or Metro) rail system. The LAX Landside Access Modernization Program (the Project) consists of several primary components. An Automated People Mover (APM) system with 6 stations would transport passengers between the CTA and the other main components of the Project located east of the CTA, including a Consolidated Rental Car Facility (CONRAC), new public parking facilities and multiple locations for passenger pick up and drop off. To provide the opportunity for passengers to access the Metro regional rail system, the APM system would include a station at the multi-modal/transit facility at 96th Street/Aviation Boulevard planned by Metro as a separate and independent project. The LAX Landside Access Modernization Program would reduce traffic volumes and congestion within the CTA as well as on local streets.

Project components associated with the LAX Landside Access Modernization Program include: 1) an APM system with six APM stations connecting the CTA to new ground transportation facilities proposed between Sepulveda Boulevard and Interstate 405; 2) passenger walkway systems connecting the APM stations to passenger terminals or ground transportation facilities; 3) modifications to existing passenger terminals and parking garages within the CTA for passenger walkway system connections and vertical circulation to the arrival, departure, and concourse levels; 4) intermodal transportation facilities (ITF) that would provide pick up and drop off areas outside the CTA for airport passengers and commercial shuttles, meet and greet areas, passenger processing facilities, and other amenities, parking, and access to the APM system; 5) a CONRAC that would be designed to consolidate car rental agencies in a centralized location with access to the CTA via the APM; 6) roadway improvements designed to improve access to the CTA from the freeway and provide access to the proposed ITFs and CONRAC; and 7) utilities needed to support the LAX Landside Access Modernization Program.

**PURPOSE OF PUBLIC SCOPING MEETING:** The meeting will provide an opportunity for public comment concerning the Proposed Action, purpose and need for the Proposed Action, alternatives to the Proposed Action, and potential environmental effects of the LAX Landside Access Modernization Program to be analyzed in the Draft EA. The scoping meeting will be held in an informal open house format. Representatives from LAWA and study team will be available to talk with citizens about the environmental review. Graphics will be on display so citizens can review project details and attendees will have an opportunity to provide oral and written comments on the scope and content of the Draft EA.

**ENVIRONMENTAL ASSESSMENT:** The EA will be prepared in accordance with the National Environmental Policy Act (NEPA) to examine potential impact categories as required by Federal Aviation Administration Order 1050.1F and Order 5050.4B. Once prepared, the Draft EA will be available for public and agency review and comment on the project's website http://www.connectinglax.com.

**SCOPING COMMENTS:** Comments can be submitted on the LAX website (http://www.connectinglax.com) or sent to Ms. Evelyn Quintanilla, Chief of Airport Planning, at the following address:

Los Angeles World Airports
1 World Way, Room 218
Los Angeles, CA 90045
Phone: (800) 919-3766

Comments must be received by LAWA **no later than 5:00 p.m. on July 11, 2016.**

Sign Language Interpreters, Communication Access Real-Time Transcription, Assistive Listening Devices, or other auxiliary aids and/or services may be provided upon request. To ensure availability, you are advised to make your request at least 72 hours prior to the. Due to difficulties in securing Sign Language Interpreters, five or more business days' notice is strongly recommended. For additional information, please contact: LAWA's Coordinator for Disability Services at (424) 646-5005 or via California Relay Service at 711.

Si desea esta información en español, visite www.OurLAX.org o llame a (424) 646-7690

**Published: June 9, 2016**

Los Angeles
World Airports

June 10, 2016

LAX Area Advisory Committee
Attention: Rose Cote
Los Angeles World Airports



**Subject:** Environmental Assessment for Los Angeles International Airport (LAX), Landside Access Modernization Program

Dear LAXAAC Members:

LAWA proposes to implement the LAX Landside Access Modernization Program to continue to transform LAX into a world-class airport by improving connectivity and mobility for passengers and employees, relieving traffic congestion within the Central Terminal Area (CTA) and on the surrounding street network, improving the travel experience for passengers, and providing connection to the regional Los Angeles County Metropolitan Transportation Agency (MTA or Metro) rail system. The EA is being prepared to comply with Federal Aviation Administration (FAA) requirements under the National Environmental Policy Act (NEPA).

The Proposed Action includes the following components as shown on **Exhibit 1**:

**Table 1: LAX Landside Access Modernization Program Project Elements**

| PROJECT ELEMENT | GENERAL DESCRIPTION |
|---|---|
| APM System | A 2.25-mile Automated People Mover (APM) system with six APM stations connecting the CTA to new proposed ground transportation facilities; passenger walkway systems connecting the APM stations to passenger terminals, parking garages, and ground transportation facilities; modifications to existing passenger terminals and parking garages to support the APM walkway system connections, including vertical circulation cores to the arrival, departure, and concourse levels; |
| APM Maintenance and Storage Facility | The APM Maintenance and Storage Facility where the APM train cars would be cleaned, repaired, and washed; it would also be the operating center of the APM system. |
| APM Power Substations | Three traction power substations (TPSS) would provide power to the APM guideway. |
| ITF West | The ITF West facility would include an APM station, two new adjacent and interconnected public parking structures (one with four elevated parking decks and one with five elevated parking decks), a commercial vehicle curb, and internal circulation roads. |
| ITF East | The ITF East facility would include an APM station, an adjacent and interconnected public parking structure, a commercial vehicle curb, and internal circulation roads |
| CONRAC Facility | The CONRAC would provide a centralized location for car rental agencies serving LAX passengers. It would include a customer service building, APM station, ready/return garage, idle storage garage, and quick turnaround areas. |
| Roadway Improvements | |

| PROJECT ELEMENT | GENERAL DESCRIPTION |
|---|---|
| New 'A' St | New 2,400-foot roadway between Westchester Parkway and Century Blvd |
| New 'B' St | New 1,700-foot roadway between new 'A' St and Airport Blvd |
| New 'C' St | New 1,200-foot roadway between Imperial Hwy and W. 111th St (I-105 ramp improvements) |
| New 'D' St | New 1,100-foot roadway between W. 96th St and W. Arbor Vitae St |
| New 98th St | New 3,400-foot roadway between Bellanca Ave and La Cienega Blvd |
| New Concourse Way | New 500-foot roadway between Century Blvd and new 98th St |
| Sepulveda Blvd | Sepulveda Tunnel to W. 96th St – widen to up to 4 lanes in each direction. Improvements include new ramps to Sky Way to/from World Way, to/from Century Boulevard, to/from new "A" St. |
| Airport Blvd | W. 98th St to West Arbor Vitae St – widen to provide up to 3 lanes in each direction |
| West Arbor Vitae St | Airport Blvd to La Cienega Blvd – widen to provide up to 3 lanes in each direction |
| West Arbor Vitae St Overcrossing | La Cienega Blvd to City Limits – widen to provide up to 3 lanes in east direction and 2 lanes in west direction |
| West 96th St | Airport Blvd to Bellanca Ave – widen by 15 feet |
| West 98th St | New 'A' St to Bellanca Blvd – widen to provide up to 2 lanes in each direction |
| Century Blvd | New 'A' St. to Aviation Blvd – widen to provide up to additional lane in east direction |
| Aviation Blvd | Century Blvd to West Arbor Vitae St – widen to provide up to 3 lanes in each direction |
| La Cienega Blvd | Century Blvd to W. Arbor Vitae St – widen to provide up to 3 lanes in each direction |
| I-405 ramps at La Cienega Boulevard | Widen to provide 2 additional lanes at the La Cienega Blvd intersection |
| Parking Garage P2A | Existing parking garage would be demolished and a replacement garage would be constructed in the CTA. |
| Parking Garage P2B | Existing parking garage would be demolished and a replacement garage would be constructed in the CTA. |
| Parking Garage P5 | Existing parking garage would be demolished and a replacement garage would be constructed in the CTA. |
| Clifton Moore Administration Building (1 World Way) | Building would be demolished and LAWA administrative offices would be relocated to the existing LAWA-owned Skyview Center located at 6033 and 6053 W. Century Boulevard. |
| Bob Hope Hollywood USO | Building would be demolished. Existing uses would be accommodated elsewhere on-Airport property. |
| Restaurant Building | Building would be demolished. |
| Metro Bus Terminal | Transportation center would be demolished and relocated to the Metro Airport Metro Connector (AMC) station to be constructed adjacent to the ITF East. |
| Delta Hangar Complex | Buildings would be demolished. Replacement facilities would be constructed on-Airport property. |
| Reliant Medical Center | Building would be demolished. Existing uses would be accommodated elsewhere on-Airport property. |

**Purpose and Need for Project**

The purpose of the proposed project is to improve connectivity and mobility for passengers and employees by developing a flexible transportation system that provides time-certain travel options; improves access options by creating new convenient locations for passenger pick-up, drop-off, and parking outside of the Central Terminal Area, including a direct connection to public transit; provides easier and more efficient access to rental cars; and relieves congestion in the CTA and on the surrounding streets.

The need for the project is described in the following paragraphs. Access to the airport is restricted to a single entrance at the intersection of Sepulveda Boulevard and West Century Boulevard, which all passengers, employees, and commercial drivers transporting those passengers must utilize in order to access the passenger terminals. During peak travel periods, this causes traffic congestion within the Central Terminal Area that frequently spills out onto the surrounding street network, causing delays and gridlock affecting local arterials including Interstate 105.

Passengers lack convenient access options that provide a time-certain arrival or an efficient exit, which negatively affects the passenger experience and increases traffic congestion. Passengers who choose to park remotely or stay in local hotels, or take public transit to LAX, must take a bus, shuttle, taxi or similar service into or out of the CTA to the appropriate terminal. The hotel, off-airport parking, and rental car shuttles circle through the airport roadways in order to drop-off then pick-up passengers, adding to the congestion along World Way. LAX also lacks a direct connection to the Los Angeles County Metropolitan Transit Agency (Metro) commuter train system. Currently passengers and employees desiring to take public transportation to LAX must either take buses the entire way, or take a Metro commuter train line to Imperial and Aviation and then transfer to buses to get to the airport.

Unlike most major U.S. airports, LAX does not have a consolidated rental car facility that provides a convenient and centralized location for airport passengers to rent and return cars. Currently, there are over 20 properties located north and east of the airport that are used by the various rental car companies for their individual operational needs. As a result, there are over 50 directional signs scattered around the airport directing rental car customers to the various rental car lots, which leads to driver confusion and challenging wayfinding, causing traffic and congestion on the surrounding streets. Rental car shuttles add over 3,200 shuttle trips a day on airport and surrounding streets contributing to traffic congestion, vehicle miles travelled, and air emissions.

**Alternatives**

The alternatives which will be discussed in the EA include a range of alternative APM alignments, CONRAC configurations, and roadway improvements;, the Proposed Action; and the No Action Alternative. The EA will document the methodology used to determine the alternatives to be considered as well as the screening process used to conclude which alternatives would feasibly satisfy the purpose of and need for the proposed project.

**Environmental Consequences**

The potential environmental impacts of the proposed project will be analyzed and documented in the EA. Federal guidance for the environmental process encourages public involvement to assist the lead agency in identifying potential issues to be analyzed in the EA. Known potential environmental issues that will be assessed include:

- Air Quality and Climate
- Hazardous Materials, Solid Waste, and Pollution Prevention

- Historical, Architectural, Archaeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks including traffic
- Visual Effects
- Water Resources
- Cumulative Impacts

EA Process and Schedule

LAWA is in the process of developing the EA, and plans to release the draft EA for public and agency review in the first quarter of 2017. The EA will document the project's purpose and need, the Proposed Action and alternatives to the Proposed Action, the affected environment, and environmental consequences. If you or someone in your organization has any specific concerns with the project, or recommend that particular environmental impacts, alternatives, purpose and need considerations or other issue(s) should be addressed in the EA, we would appreciate written correspondence by July 11, 2016 to discuss your concerns. Please address all comments to:

Ms. Evelyn Quintanilla
Chief of Airport Planning
Los Angeles World Airports
1 World Way, Room 218
Los Angeles, CA 90045
Phone: (800) 919-3766

A public information workshop/scoping meeting on the initiation of the EA will be held on Wednesday, June 22, 2016 from 5:00 PM to 8:00 PM at the Los Angeles Fire Station #5, 8900 S. Emerson Avenue, Los Angeles, CA 90045

The meeting will provide an opportunity for public comment concerning the Proposed Action, purpose and need for the Proposed Action, alternatives to the Proposed Action, and potential environmental effects of the LAX Landside Access Modernization Program to be analyzed in the Draft EA. The scoping meeting will be held in an informal open house format. Representatives from LAWA and study team will be available to talk with citizens about the environmental review. Graphics will be on display so citizens can review project details and attendees will have an opportunity to provide written comments on the scope and content of the Draft EA.

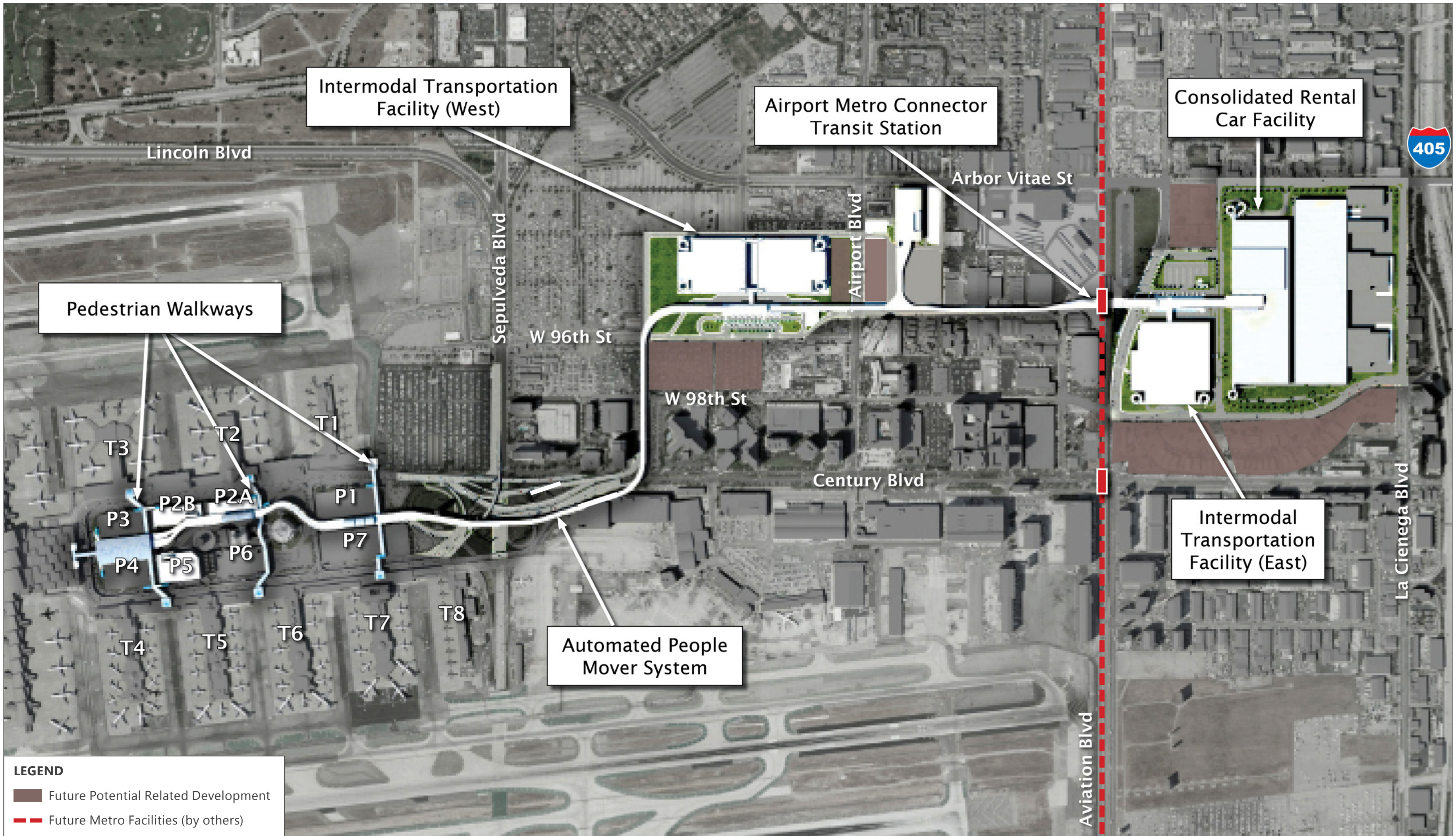
Sincerely,

Evelyn Quintanilla
Chief of Airport Planning

Attachments (1): Exhibit 1: LAX Landside Access Modernization Program Overview

EQ:bms

**[Preliminary Draft for Discussion Purposes Only]**




SOURCE: MapLAX, October 2015.
PREPARED BY: Ricondo & Associates, Inc., March 2016.

**Exhibit 1**

## LAX Landside Access Modernization Program Overview

# Contact List

Advantage Rent A Car

Tim Pohle
Assistant General Counsel
Airlines for America (A4A)

Alamo Rent-A-Car

Denny Schneider
President
Alliance for A Regional Solution to Airport Congestion (ARSAC)

Lori Peters
AvAirPros

Avis RentA-Car

Sandy Miller
EXECUTIVE ASSISTANT II
BOAC OFFICE

Barbara Lichman, Ph.D.
Representing the Cities of Inglewood and Culver City
Buchalter Nemer

Budget Rent A Car

Dan Feger
Executive Director
Burbank-Glendale-Pasadena Airport Authority

Dianna Watson
Cal Trans - District 7

Sandy Hesnard
Cal Trans - Div. of Aeronautics

Shirley Kelly
Office of Special Projects
California Highway Patrol

Noel Takahara
Senior Utilities Engineer
California Public Utilities Commission, Safety and Enforcement Division

Doug Carstens
Chatten-Brown & Carstens

Chatten-Brown & Carstens

Ph.D.
Chevalier, Allen & Lichman, LLP

Carol Schwab
City Attorney
City of Culver City

John Nachbar
City Manager
City of Culver City

Heather Baker
Assistant City Attorney
City of Culver City

Suzanne Fuentes
Mayor
City of El Segundo

Greg Carpenter
City Manager
City of El Segundo

Dave Atkinson
Councilman
City of El Segundo

Carl Jacobsen
Mayor Pro Tem
City of El Segundo

Kimberly Christenson
Planning Manager
City of El Segundo - Department of Planning and Building Safety

James T. Butts, Jr.
Mayor's Office
City of Inglewood

Kenneth Campos
City Attorney
City of Inglewood

Michael Calzada
Director
City of Inglewood - Residential Sound Insulation Department

HERB WESSON
COUNCIL MEMBER, 10TH DISTRICT
City of Los Angeles

MITCHELL ENGLANDER
COUNCIL MEMBER, 12TH DISTRICT
City of Los Angeles

Mitch O'Farrell
COUNCIL MEMBER, 13TH DISTRICT
City of Los Angeles

JOSE HUIZAR
COUNCIL MEMBER, 14TH DISTRICT
City of Los Angeles

JOE BUSCAINO
COUNCIL MEMBER, 15TH DISTRICT
City of Los Angeles

Gil Cedillo
COUNCIL MEMBER, 1ST DISTRICT
City of Los Angeles

PAUL KREKORIAN
COUNCIL MEMBER, 2ND DISTRICT
City of Los Angeles

Bob Blumenfeld
COUNCIL MEMBER, 3RD DISTRICT
City of Los Angeles

David Ryu
COUNCIL MEMBER, 4TH DISTRICT
City of Los Angeles

PAUL KORETZ
COUNCIL MEMBER, 5TH DISTRICT
City of Los Angeles

Nury Martinez
COUNCIL MEMBER, 6TH DISTRICT
City of Los Angeles

Felipe Fuentes
COUNCIL MEMBER, 7TH DISTRICT
City of Los Angeles

Marqueece Harris-Dawson
COUNCIL MEMBER, 8TH DISTRICT
City of Los Angeles

Curren Price
COUNCIL MEMBER, 9TH DISTRICT
City of Los Angeles

Mike Bonin
COUNCIL MEMBER, 11TH DISTRICT
City of Los Angeles

Borja Leon
Mayor's Office
City of Los Angeles

Gary Moore
City Engineer
City of Los Angeles - Bureau of Engineering

Michael Patonai
City of Los Angeles - Bureau of Engineering

Ali Poosti
Division Manager
City of Los Angeles - Bureau of Sanitation

City of Los Angeles - Bureau of Sanitation

Suzanne Tracy
City of Los Angeles - City Attorney's Office

General Manager
City of Los Angeles - Department of Building & Safety

Vincent Bertoni
Planning Director
City of Los Angeles - Department of City Planning

Sean Haeri
City of Los Angeles - Department of Transportation

Jay Kim
City of Los Angeles - Department of Transportation

Eddie Guerrero
Senior Transportation Engineer
City of Los Angeles - Department of Transportation

Charles Holloway
City of Los Angeles - Department of Water and Power

Ron Nichols
General Manager
City of Los Angeles - Department of Water and Power

James Featherstone
Interim Chief
City of Los Angeles Fire Department

CHARLIE BECK
Chief of Police
City of Los Angeles Police Department

Chris Hughes
City Manager
City of Ontario

Elaine Lemke
Principal Deputy County Counsel
County of Los Angeles

John F. Kraptli
County Counsel
County of Los Angeles

Lawrence Hefetz
Assistant County Counsel
County of Los Angeles

William Fujioka
Chief Executive Officer
County of Los Angeles

Richard J. Bruckner
Director of Regional Planning
County of Los Angeles

Omar Pulido
County of Los Angeles - Council District 11 Field Office

Hilda Solis
County of Los Angeles - County Supervisor 1st District

Mark Ridley-Thomas
County of Los Angeles - County Supervisor 2nd District

Sheila Kuehl
County of Los Angeles - County Supervisor 3rd District

Don Knabe
County of Los Angeles - County Supervisor 4thDistrict

Mike Antonovich
County of Los Angeles - County Supervisor 5th District

Barry Kurtz
P.E.
County of Los Angeles - Department of Beaches and Harbors

Charlotte Miyamoto
Chief, Planning Division
County of Los Angeles - Department of Beaches and Harbors

Planning Division
County of Los Angeles - Department of Public Works

Land Development Division
County of Los Angeles - Department of Public Works

Impact Analysis Section
County of Los Angeles - Department of Regional Planning

Giancola Michael
County Executive Officer
County of Orange

Carolyn Syms Luna
Planning Director
County of Riverside

Christine Kelly
Director of Land Use Services Department
County of San Bernardino

Michael Powers
County Executive Officer
County of Ventura

Courtyard by Marriott (LAX)

Crowne Plaza LAX

Culver City Bus Line

Days Inn - Airport Center

BONGHWAN KIM
GENERAL MANAGER
DEPARMENT OF NEIGHBORHOOD EMPOWERMENT (DONE)

Dollar Rent-A-Car

Doubletree Club Hotel - LAX

Victor Globa
FAA

Kurt Haukohl
Runway Safety
FAA

Dave Cushing
FAA

Four Points Hotel Sheraton

Fox Rent-A-Car

Andrew Salas
Gabrieleno Band of Mission Indians

Robert Dorame
Tribal Chair/Cultural Resources
Gabrielino Tongva Indians of California Tribal Council

Sam Dunlap
Gabrielino Tongva Nation

Linda Candelaria
Gabrielino Tongva Tribe

Anthony Morales
Chairperson
Gabrielino/Tongva San Gabriel Band of Mission Indians

Laurie Hughes
Gateway to LA Business Improvement District

Hertz Rent-A-Car

Holiday Inn - Los Angeles Int'l Airport

Howard Johnsons' International

Steve Martin
Chief Operating Officer
Los Angeles World Airports

Evelyn Quintanilla
Chief Airport Planner
Los Angeles World Airports

Deborah Ale Flint
Chief Executive Officer
Los Angeles World Airports

Pat Tomcheck
Sr. Transportation Engineer
Los Angeles World Airports

Cynthia Guidry
Deputy Executive Director
LAWA - Capital Programming and Planning

Diego Alvarez
Regional Transportation Coordinator
LAWA - Capital Programming and Planning

Lisa Trifiletti
Deputy Executive Director
LAWA - Capital Programming and Planning

Roger Johnson
Deputy Executive Director
LAWA - Facilities Planning Division

Mark Adams
Senior Management Analyst
LAWA - Governmental Affairs

Shabaka Heru
DIRECTOR OF LAX CBA & CONSTRUCTION PROGRAM
LAWA - LAX Coalition

Mary Grady
Director of Media & P.R.
LAWA - Public Relations Division

Arif Alikhan
LAWA Police Bureau

Patrick Gannon
LAWA Police Department

Harold Johnson
LAX Area Advisory Committee

Christina Davis
LAX Coastal Area Chamber of Commerce

Omar Pulido
LAX LIAISON
LAX Community Liason - Council District 11

Thomas Hall
Director of Planning and Development
Los Angeles Community College District

Martha Welborne
Chief Planning Officer
Metropolitan Transportation Authority

Renee Berlin
Managing Executive Officer - Countywide Planning and Development
Metropolitan Transportation Authority

Motel 6

National Car Rental

Scott Singleton
Native American Heritage Comm.

Neighborhood Council of Westchester/Playa

Payless Rent A Car

Quality Hotel Los Angeles Airport

Radisson Hotel at LAX

Ramada Limited

Regency Plaza L.A. Airport Hotel

Teresa Rodgers
Los Angeles Region (4)
Regional Water Quality Control Board

Reliant Immediate Care Medical Center

Renaissance Hotel

Residence Inn by Marriott

Royal Century Hotel

Ryan Hall
SCAG

Jillian Baker
SCAQMD

Sheraton Gateway Hotel

E. Clement Shute
Counsel
Shute, Mihaly & Weinberger LLP

Osa Wolff
Counsel
Shute, Mihaly & Weinberger LLP

Gabriel Ross
Counsel
Shute, Mihaly & Weinberger LLP

Ian MacMillan
South Coast Air Quality Management District

Jonathan Nadler
Manager, Compliance and Performance Assessment
Southern California Area Governments

BRENDA MARTINEZ-SIDHOM
STAKEHOLDER LIAISON
STAKEHOLDER LIAISON OFFICE

Sharon Howell
State of California - Department of Conservation

Matthew Chirdon
Habitat Conservation Program
State of California - Department of Fish & Game Region 5

Environmental Stewardship Section
State of California - Department of Parks and Recreation

Guenther Moskat
CEQA Tracking Center
State of California - Department of Toxic Subst. Control

Nadell Gayou
Senior Engineer
State of California - Department of Water Resources

Super 8 Motel - LAX

Margaret Sohagi
The Sohagi Law Group

Thrifty Rent A Car

Transportation Security Administration

Travelodge - LAX Century Blvd.

U.S. Customs & Border Protection (USCBP)

Karen Goebel
MLCP SOUTH TEAM
U.S. Department of the Interior Fish and Wildlife Service

U.S. Immigration & Naturalization Service

CHARLES WALLIS
US COAST GUARD

Assistant Field Supervisor
US Department of Homeland Security

Blackburn Gregor
US Department of Homeland Security – TSA

USDA Plant Protection

Karen Dial
Westchester Town Center Business Improvement District

Senior Librarian
Westchester-Loyola Village Branch Library

Westin Los Angeles Airport

LAX Landside Access Modernization Program

# Sign In: Public/Registro de Público

Scoping Meeting: Wednesday, June 22, 2016

ADD TO Database

| Name/Nombre | Organization/Organización | Address/Domicillo | Phone/Telefono | Email/Correo Electronico |
|---|---|---|---|---|
| Carl Jacobson | El Segundo city of. | | | |
| Rae Lamothe | LAX Chamber | | | rae@ goldinglamotho.com |
| Jim Withrow | Aviation Inglewood | | | |
| Ron Sheahan | Leat Elliott | | | |
| Ray Davis | INGLEWOOD RES. | | | RAYEGYPT@AOL.COM/ |
| Rose Cote | LAWA | | | |
| Denny Schneider | | | | |
| [illegible] | LAWA | | | |
| Victor Globa | FAA | | | |
| [illegible] | PCSI | | | |

# Sign In: Public/Registro de Público

Scoping Meeting: Wednesday, June 22, 2016

| Name/Nombre | Organization/Organización | Address/Domicillo | Phone/Teléfono | Email/Correo Electrónico | ADD TO DATABASE |
|---|---|---|---|---|---|
| DARON TOLL | KIEWIT | 10704 SHOEMAKER AVE. SANTA FE SPRINGS, 90670 | (562)322-7260 | darontoll@kiewit.com | |
| D Sambrano | | 3640 W. 111th Place Ing | 310 431-5517 | | |
| Suzanne Tracy | ~~LAWA~~ City Atty | | | | |
| Don McLaurin | LAWA PR | Skyview 6th floor | 424 646-5337 | dmclaurin@lawa | |
| TAKIS SALPEAS | LAWA | | | | |
| Burton | | 807 N Bunker hill LA CA 90012 | 323-501-7550 | burtonbush@gmail.com | |
| C H Pei | Jetray | 8929 S Sepulveda Blvd #414 LA. Ca | 310 261 3024 | ChPei@aol.com | Yes |
| W Marshall | = | = | 310 261 6005 | WMarsh9298@aol.com | |
| ROBERT ACHERMAN | ARSAC | 1504 ENGRACIA AVE TORRANCE, CA 90501 | 310/927-2127 | ROBERTACHERMAN@AOL.COM | |
| CRAIG SCHNEIDER | PB | 14908 Rick Ln Eastvale, CA 92880 | 714 883-5898 | Schneiderc@PBworld.com | |

LAX Landside Access Modernization Program

# Sign In: Public/Registro de Público

Scoping Meeting: Wednesday, June 22, 2016

| Name/Nombre | Organization/Organizacion | Address/Domicillo | Phone/Telefono | Email/Correo Electronico | Send updates |
|---|---|---|---|---|---|
| Manuel Herrera | mapLAX | 6033 W Century Blvd Suite 808 | 323-717-7398 | manuel.herrera@jacobsendaniels.com | |
| Anne Nolan | Mott MacDonald | ~~5251~~ | | anne.nolan@mottmac.com | ✓ |
| Omar Pulido | CD 11 | ~~City H~~ | ~~LA~~ 323-740-0464 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

# LAX Landside Access Modernization Program

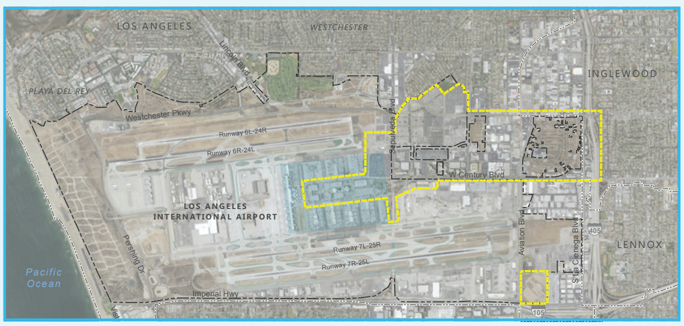
## FREQUENTLY ASKED QUESTIONS

### 1. What is the LAX Landside Access Modernization Program?

The Los Angeles International Airport (LAX) Landside Access Modernization Program ("Project") is a new ground transportation system consisting of an Automated People Mover (APM) system, passenger walkways, Intermodal Transportation Facilities (ITF) with additional public parking facilities, a Consolidated Rental Car Facility (CONRAC), and roadway improvements. This system will connect LAX with Metro's planned Airport Metro Connector (AMC) transit station at 96th Street/ Aviation Boulevard.

### 2. Where is the Project located?

Improvements would be constructed in an area bounded by the Tom Bradley International Terminal (TBIT) in the Central Terminal Area (CTA) of LAX on the west, Interstate 105 freeway on the south, Interstate 405 freeway on the east, and Westchester Parkway/West Arbor Vitae Street on the north.




### 3. What is the purpose of the Project and who will benefit?

The Project will improve the passenger experience and reduce traffic congestion in and around LAX. The Project is designed to provide the following benefits:

- Improve connectivity and mobility for passengers and employees
- Develop a flexible transportation system that provides time-certain options
- Improve access options by creating new, convenient locations for passenger pickup, drop-off, and parking outside of the CTA
- Provide a direct connection to public transit
- Provide easier and more efficient access to rental cars
- Relieve congestion in and out of the CTA and on the surrounding streets

### 4. How will the Project at LAX improve travel in and out of the airport?

In the future, the APM system will offer passengers a new way to bypass the existing roadway loop in the CTA and Sepulveda Boulevard, and access arrival/departure gates from convenient locations closer to the major freeways. Passengers will be transported to terminals more quickly and efficiently by boarding the APM system from the ITF, the CONRAC, or the Airport Metro Connector transit station.

The same process applies to passengers arriving at LAX. These passengers will be able to pick up their baggage, board the APM system and be transported directly to the ITFs, CONRAC, or Airport Metro Connector transit station to quickly reach transit options, rental cars, parked vehicles, or be picked up by private vehicles.

### 5. What is the anticipated schedule for delivery of these projects?

Los Angeles World Airports (LAWA) is committed to implementing the LAX Landside Access Modernization Program; however several important steps are required before construction can begin. This work includes environmental reviews, procurement, funding approvals, right-of-way acquisitions, final design, and engineering. Once these steps are completed, Phase 1 of the Project will take approximately 5-7 years to construct before the APM and CONRAC are fully operational. The Project construction plan is currently being developed.

### 6. Will the Project increase the number of flights or passengers at LAX?

No. The Project will not affect the total number of passengers at LAX, or the number or frequency of aircraft flights. It will provide state-of-the-art ground transportation facilities for existing passengers at LAX. Modifications to airfield facilities, including runways and aircraft gates, are not a part of the Project.

### 7. How will the CTA be used after the APM system is constructed?

The APM system will improve how the CTA functions today by giving passengers another option to access the airport while eliminating a substantial number of commercial shuttles that contribute to the existing congestion in the CTA. Passengers, employees, and other users of LAX will be able to utilize the APM for access to and from the CONRAC, ITF's, and Metro's transit station to the CTA.

### 8. Can we still park at the CTA or will we have to park at the ITF?

Parking will still be available within the CTA, but it is anticipated that parking at the ITFs will provide an economical alternative to parking within the CTA, and provide an easy, convenient, and time-efficient option for passengers, employees, and others using LAX.

### 9. What alignments are being considered for the Automated People Mover system?

LAWA has reviewed over 70 different configurations for the APM system, which include various alignments and station locations inside and outside of the CTA. A majority of the configurations considered for the APM alignment within the CTA were deemed infeasible due to existing constraints and unacceptable disruptions from construction associated with building an APM system while the airport is in operation.

A summary of this screening process, and a recommendation on a preferred alignment east of the CTA, was provided to the Board of Airport Commissioners and public on May 5, 2014; refinements to the APM alignments were presented on September 18, 2014. On December 18, 2014, LAWA staff recommended a preferred alignment (that included 3 stations within the CTA) to the Board of Airport Commissioners. These documents are available at http://www.connectinglax.com/informed.html.

### 10. Where will security screening, airline check-in and baggage check be located for those using the Automated People Mover system?

Security screening and baggage check will continue to be provided in the terminals, in the same way it operates today. LAWA anticipates providing self-service airline check-in, boarding passes, and flight information services at the ITFs and CONRAC, and is coordinating with Metro to evaluate possible services at the Airport Metro Connector transit station. LAWA is also studying the feasibility of baggage check-in at the APM stations.

## 11. What kind of impacts can be expected from construction of these projects?

The Draft Environmental Impact Report (EIR) and Draft EA will analyze and disclose potential effects from the Project, such as, among others, construction, traffic, air quality impacts, and noise level impacts. The report will also identify appropriate mitigation measures. It is anticipated that the Draft EIR will be released in the first or second quarter of 2016, and the Draft EA in the third quarter of 2017.

## 12. How will the Project provide quicker or better services than what currently exist at LAX?

The proposed Project will be designed to offer passengers, employees, and visitors new and convenient ways to access/depart the airport quickly. The use of a grade-separated APM system to transport passengers in and out of the CTA will be more reliable than the current system, since it won't be impacted by local traffic congestion, vehicular accidents, or other roadway obstacles. The new system will ensure a world-class traveling experience since the ITFs and CONRAC will provide modern and convenient access options for LAX passengers. In addition, the APM system will provide a direct connection to the proposed Airport Metro Connector transit station at 96th Street/Aviation Boulevard, to provide passengers, employees, and visitors with direct access to the regional public transportation system.

## 13. What are the environmental impacts of the Project and will LAWA prepare an Environmental Impact Report (EIR)?

LAWA released an Initial Study and Notice of Preparation (NOP) for the environmental review of the LAX Landside Access Modernization Program on February 5, 2015 and is in the process of preparing an EIR. LAWA will fully comply with the California Environmental Quality Act (CEQA), and identify all potential significant impacts along with appropriate mitigation measures. In early 2016, LAWA initiated a separate federal environmental process to assess the potential environmental effects of the LAX Landside Access Modernization Program in compliance with the National Environmental Policy Act (NEPA).

## 14. Will the facilities being built be designed for sustainability?

LAWA is committed to reducing its environmental footprint and promoting energy efficient design requirements, water conservation and water quality improvement projects, natural resource protection efforts, waste reduction and recycling, and numerous air quality emissions reduction policies and programs. LAWA will incorporate sustainability standards into the Project to increase energy efficiency, water efficiency and conservation, renewable energy opportunities, and construction waste reduction and recycling. The sustainability standards will focus on construction, operation, and maintenance of the facilities with the goal of reducing energy and natural resource impacts, as well as reducing emissions and impacts to surrounding communities. LAWA will also comply with the Los Angeles Green Building Code, which requires incorporation of many sustainable features into all City of Los Angeles buildings.

## 15. How can the public get involved?

The public has the opportunity to get involved at the beginning of, and throughout, the environmental review process.

In February 2015, LAWA held 2 public scoping meetings during the Notice of Preparation (NOP) comment period, to gather comments on the areas of environmental review that the Draft EIR will analyze as part of the California Environmental Quality Act (CEQA) process. During the environmental review process, there will be multiple opportunities to attend meetings and provide public comment on the Project; LAWA will continue to attend community meetings to provide Project updates and to solicit community input.

To be notified of public meetings and to get the latest Project information, subscribe to our email distribution list by visiting www.connectinglax.com.

## 16. Why is this project necessary for airport operations?

Modernization efforts at LAX are necessary as the needs of travelers and technology change, and also as improved airport safety measures are implemented. The Project is designed to make getting to your gate faster and more reliable. The Project will continue to make LAX a premier destination for visitors and residents alike by improving access, and reducing traffic and congestion at the airport and on surrounding roadways.

## 17. Who makes the final decision on the Project?

The Los Angeles City Council will make the final decision on the Project and EIR. The City Council will be taking actions to certify the EIR and to approve the Project. The Federal Aviation Administration (FAA) must also assess the potential environmental effects of the Project in compliance with the NEPA and approve the Project for the purposes of safety and operational efficiency.

## 18. Will there be local jobs created by the Project?

Projects at LAX generate jobs throughout the region, for planning and construction, and for ongoing operations. As part of the Community Benefits Agreement, LAWA has established a First Source Hiring Program to facilitate the employment of targeted individuals in the local community by airport employers.

## 19. Who will do the work and how will they be selected?

Contractors are selected by the Board of Airport Commissioners through a public bidding process which examines capabilities, experience and cost effectiveness.

## 20. Who can I contact for more information?

For more information, please visit the project website at www.connectinglax.com or email us at lax-lamp@lawa.org.

*As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities. Alternative formats in large print, braille, audio, and other formats (if possible), will be provided upon request.*

## PROGRAM BENEFITS

Give passengers a fast and reliable way to get to their flights

Reduce vehicle emissions and improve air quality

**Los Angeles World Airports, 1 World Way, Los Angeles, CA 90045**

**Phone:** 800.919.3766

**Project Website:** www.connectinglax.com

Los Angeles World Airports

CONNECTING**LAX**

## ANTICIPATED PROCESS AND SCHEDULE

The LAX Landside Access Modernization Program requires federal and local approval, and environmental clearance as dictated by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

### CEQA

| | |
|---|---|
| February 5, 2015 | **Notice of Preparation (NOP) and Initial Study (IS)** |
| Third Quarter 2016 | **Draft Environmental Impact Report (EIR) Released** |
| First Quarter 2016 | **Final EIR Released** |
| First Quarter 2016 | **Certification of EIR** |

### NEPA

| | |
|---|---|
| First Quarter 2016 | **Initiation of NEPA process** |
| First Quarter 2017 | **Draft Environmental Assessment (EA) Released** |
| Third Quarter 2017 | **Final EA Released** |

### Construction

| | |
|---|---|
| Third Quarter 2017 | **Estimated Construction Start** |
| 2023 | **Estimated Completion of Phase 1 (including APM & CONRAC)** |

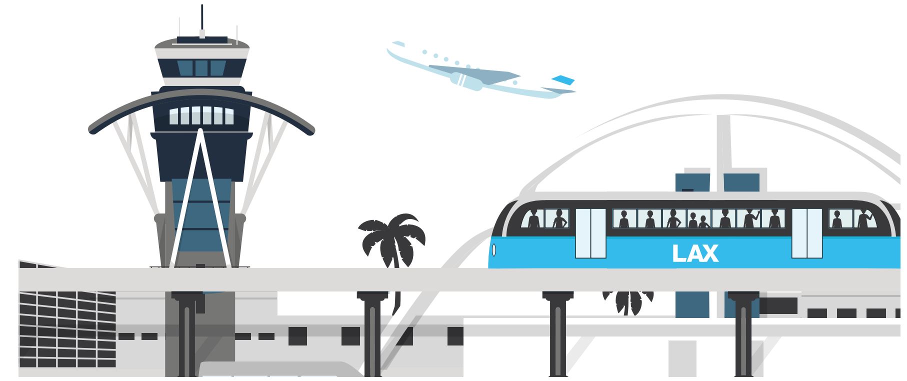
## GET INVOLVED

LAWA has initiated a comprehensive public involvement effort aimed to communicate information about the Project and provide opportunities for community input during the environmental review process. To get involved:

- **Participate in public meetings.** Notices of upcoming meetings will be posted at www.connectinglax.com.
- **Provide written comments.** You are encouraged to provide public comments on environmental documents when they become available for public review. Project documents will be posted on the Project website at www.connectinglax.com, with instructions on how to submit comments.
- **Request a presentation.** LAWA is available to present at your neighborhood association or civic group. To schedule a presentation, contact (800) 919-3766 or lax-lamp@lawa.org.
- **Stay informed.** Get the latest updates by subscribing to the Project mailing list at www.connectinglax.com.

*As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities. Alternative formats in large print, braille, audio, and other formats (if possible), will be provided upon request.*

# LAX Landside Access Modernization Program
# FACT SHEET




## BRIEF DESCRIPTION OF LAX

The Los Angeles International Airport (LAX) is the 3rd busiest airport in the United States and is the largest airport in California. In 2014, 70.7 million passengers passed through LAX, with an estimated 50% of existing passengers traveling to and from LAX by car. Congestion in the Central Terminal Area (CTA) is especially heavy during peak periods.

Los Angeles World Airports (LAWA) is in the midst of a multi-billion dollar modernization program at LAX. As part of this effort, LAWA is proposing to implement the LAX Landside Access Modernization Program (the "Project") to improve the LAX passenger experience, relieve congestion, and enhance LAX's status as a world-class airport.

## THE LAX LANDSIDE ACCESS MODERNIZATION PROGRAM

LAX will provide an array of new and convenient transportation options outside of the CTA, including dedicated areas for passenger pick-up/drop-off and parking facilities with direct access to the CTA, car rental opportunities located in one centralized location near the 405 freeway, and a convenient connection to the regional Metro rail and bus transit system.

The Project consists of 4 primary components:

- **Automated People Mover (APM) System**
- **Consolidated Rental Car Facility (CONRAC)**
- **Intermodal Transportation Facilities (ITF)**
- **Roadway Improvements**

At the centerpiece of the Project is the Automated People Mover (APM) system, which would connect passengers to the airline terminals, a state-of-the-art Consolidated Rent-A-Car Facility (CONRAC), new passenger pick-up and drop-off locations (Intermodal Transportation Facilities) with airport parking facilities, Metro's regional transit system and roadway improvements.

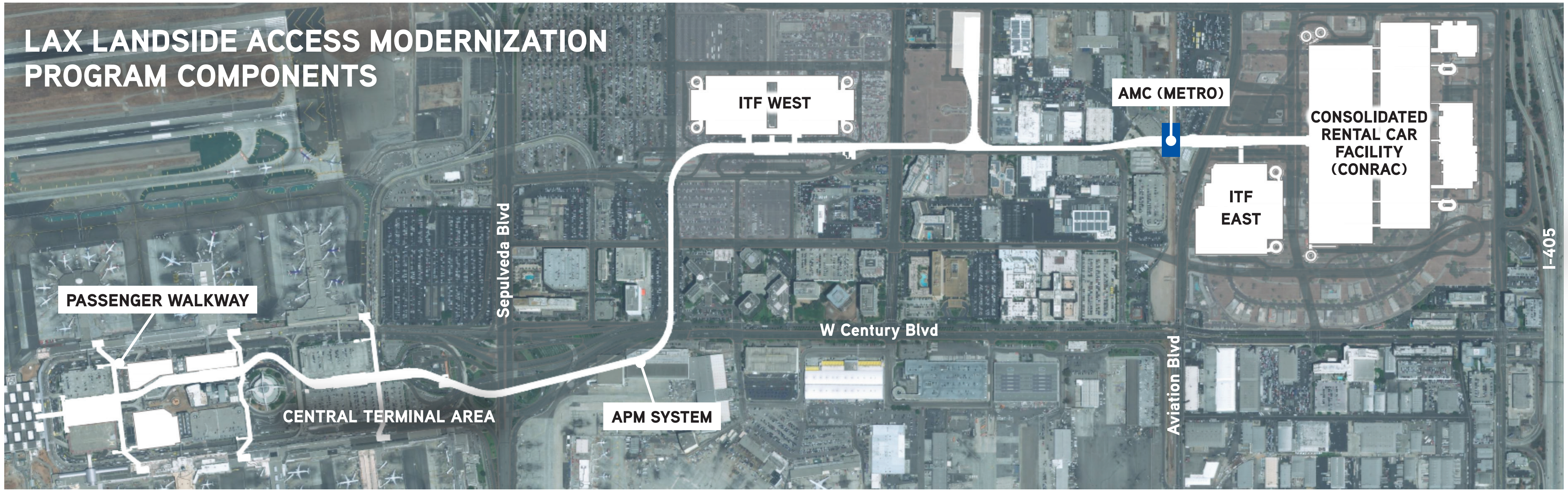
## PROGRAM BENEFITS

Relieve traffic congestion within the Central Terminal Area and the surrounding street network

Create new convenient locations for passenger pick-up, drop-off, and parking outside of the Central Terminal Area

Los Angeles World Airports

CONNECTING**LAX**




CTA Passenger Walkway Interior Concept

West ITF Curbside Concept

## Automated People Mover System

The Automated People Mover (APM) would be an above ground airport transport system connecting LAX passengers with the airline terminals, a new centralized rental car facility, new pick-up and drop-off locations with airport parking facilities, and Metro's regional transit system. The primary APM features include:

- Above ground system, 2-1/4 miles in length
- 6 APM stations connecting passengers to key LAX locations
- Free, convenient, & reliable 24-hour access to the CTA
- 2-3 minute wait times at each APM station
- Ability to transport up to 6,000 passengers per hour

## Consolidated Rental Car Facility

Currently, the rental car agencies are located in approximately 23 different properties in the LAX vicinity within two different jurisdictions. The Consolidated Rental Car Facility (CONRAC) would be designed to accommodate rental car agencies serving LAX at one conveniently centralized location. Primary CONRAC features include:

- Access to a variety of centrally located rental car options
- Direct access to airline terminals & regional freeway system
- Reduced congestion by eliminating rental car shuttles currently operating in the CTA & on local roadways

## Intermodal Transportation Facilities

The Intermodal Transportation Facilities (ITF) would offer facilities close to the 405 freeway and Sepulveda Boulevard to allow for pick-up and drop-off of passengers, check-in kiosks, parking, connections to shuttles and transit, and direct access to the Central Terminal Area via the APM system. ITF features include:

- Direct access to the airline terminals
- Flight check-in, boarding passes, information kiosks, & other amenities
- Access to shuttles & other transit services
- Convenient pick-up and drop-off, & public parking

## Roadway Improvements

Proposed roadway improvements are designed to reduce congestion and vehicle emissions, and enable passengers to access LAX more efficiently and directly without the need to enter the Central Terminal Area.

Roadway improvement features include:

- Improved access in/out of the CONRAC, ITFs, CTA & to the regional freeway system
- Bicycle & pedestrian improvements
- Additional street lanes & new freeway ramps

## Metro Transit Connection

The APM would allow for a direct connection to Metro's regional rail and bus system, including the Airport Metro Connector transit station located at 96th Street/Aviation Boulevard.

The Airport Metro Connector transit station project is being planned by Metro as an independent project, separate from the LAX Landside Access Modernization Program.

## SUSTAINABLE CONSTRUCTION AND OPERATIONS

LAWA is committed to reducing its environmental footprint and promoting energy efficient design requirements, water conservation and water quality improvement projects, natural resource protection efforts, waste reduction and recycling, and numerous air quality emissions reduction policies and programs. LAWA is developing design guidelines for the LAX Landside Access Modernization Program that will unify the various elements of the Project while integrating key architectural elements of the airport's iconic 1960s Theme Building, the 2000 LAX Gateway light pylons, and the nine airline terminals. LAWA will transform the Century corridor area by creating new airport facilities outside of the LAX Central Terminal and extending the airport campus vision to revitalize the area and offer a world-class welcome to travelers and visitors alike. As part of these guidelines, LAWA will also incorporate sustainability standards into the Project to increase energy efficiency, water efficiency and conservation, renewable energy opportunities, and construction waste reduction and recycling. The sustainability standards will focus on construction, operation, and maintenance of the facilities with the goal of reducing energy and natural resource impacts, as well as reducing emissions and impacts to surrounding communities.

## GOALS OF THE LAX LANDSIDE ACCESS MODERNIZATION PROGRAM

- Improve connectivity and mobility for passengers and employees
- Develop a flexible transportation system that provides time-certain options
- Improve access options by creating new, convenient locations for passenger pickup, drop-off, and parking outside of the CTA
- Provide a direct connection to public transit
- Provide easier and more efficient access to rental cars
- Relieve congestion in and out of the CTA and on the surrounding streets

## Welcome

# SCOPING MEETING

LAX Landside Access Modernization Program

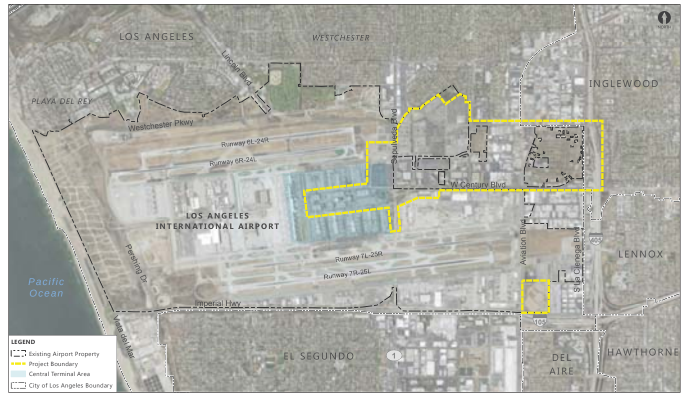
**Wednesday, June 22, 2016**
5:00 p.m. to 8:00 p.m.

Los Angeles Fire Station #5
8900 S. Emerson Avenue
Los Angeles, CA 90045



LAX Landside Access Modernization Program

## Project Location




CONNECTINGLAX
Los Angeles World Airports

LAX Landside Access Modernization Program

## What is a Scoping Meeting?

- A scoping meeting provides an opportunity for public and agency comment concerning the scope of issues to be addressed in the proposed LAX Landside Access Modernization Program Environmental Assessment (EA), including:
  - purpose and need for the proposed project
  - range of alternatives to be considered
  - significant environmental issues to be addressed

CONNECTINGLAX
Los Angeles World Airports

LAX Landside Access Modernization Program

## National Environmental Policy Act (NEPA)

- Requires federal agencies to disclose a clear description of potential environmental effects resulting from proposed federal actions and reasonable alternatives to those actions
- Provides information to decision makers to determine whether a proposed project would cause significant adverse environmental impacts
- For the proposed Landside Access Modernization Program EA, the Federal Aviation Administration (FAA) must review the potential environmental effects of the proposed project before it can be approved

CONNECTINGLAX
Los Angeles World Airports

WE ARE HERE

1. Decision to Prepare an EA
2. Scoping Meetings/ Public Information Workshop
3. Refinement of Work Plan as Needed
4. Prepare Draft EA
5. Distribute Draft EA to Agencies and Public
6. Public Meeting/ Information Workshop
7. Review and Revise Document
8. Prepare and Publish Final EA
9. FAA Finding Issued





# Major Project Components

**Automated People Mover (APM) System**
- Six APM stations, 2.25 miles connecting CTA with new CONRAC, ITF, parking and Metro facilities
- Elevated dual-lane guideway
- Passenger walkways to terminals, parking garages, and ground transportation facilities
- Short wait times (2-3 minutes), 24 hours a day

**Consolidated Rental Car Facility (CONRAC)**
- Rental car options in centralized location
- Access to major freeways
- Customer service building, parking areas, fueling, and car wash areas

**Roadway Improvements**
- Access to major freeways and streets
- Enhance roadway network
- Minimize impacts to neighborhood streets

**Intermodal Transportation Facilities (ITF)**
- Convenient options to avoid traffic bottlenecks in CTA and on Sepulveda Boulevard
- Comfortable parking and waiting areas with concession opportunities

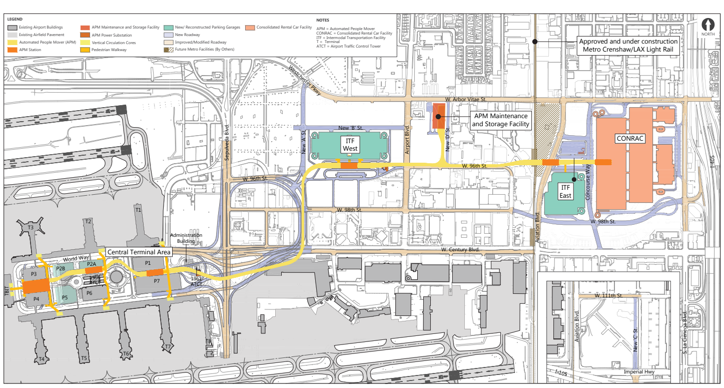
West ITF
- Direct connection to terminals via APM
- Drop off and pick up passengers
- Connections for airport shuttles
- Public and employee parking
- Concessions and flight check-in

East ITF
- Drop off and pick up passengers
- Connection with Metro 96th Street/ Aviation Boulevard transit station
- Connections to commercial transit
- Public parking
- Concessions and flight check-in





# Project Components








# Purpose and Need

**Purpose of the Project**
- To improve connectivity and mobility for passengers and employees by developing a transportation system that provides time-certain travel options
- To provide easier and more efficient access to rental cars
- To relieve congestion in the CTA and on the surrounding streets

**Need for the Project**
- Passengers and employees lack convenient access options including a direct connection to public transit
- Congestion in the CTA causes delays affecting local streets and arterials including I-105
- LAX does not have a consolidated rental car facility that provides a convenient and centralized location for airport passengers to rent and return cars

# Alternatives Considered

- No Action
- A range of alignments and configurations for:
  - Automated People Mover
  - Consolidated Rental Car Facility
  - Roadway Improvements
- Proposed LAX Landside Access Modernization Program





# Environmental Impact Categories

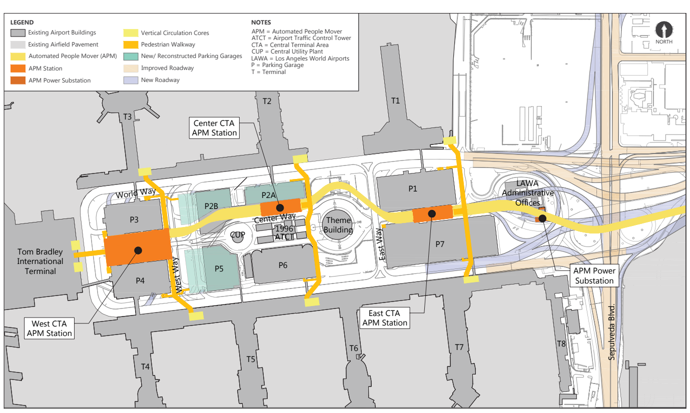
- **Air Quality**
- Biological Resources (fish, wildlife, & plants)
- **Climate**
- Coastal Resources
- Department of Transportation Act Section 4(f)
- Farmlands
- **Hazardous Materials, Solid Waste, and Pollution Prevention**
- **Historical, Architectural, Archaeological, and Cultural Resources**
- **Land Use**
- **Natural Resources and Energy Supply**
- **Noise and Compatible Land Use**
- **Socioeconomic Impacts, Environmental Justice, Children's Health and Safety Risks**
- **Visual Effects**
- **Water Resources**
- **Cumulative Impacts**

*Resource categories identified in bold text will be studied in detail in the Draft EA*





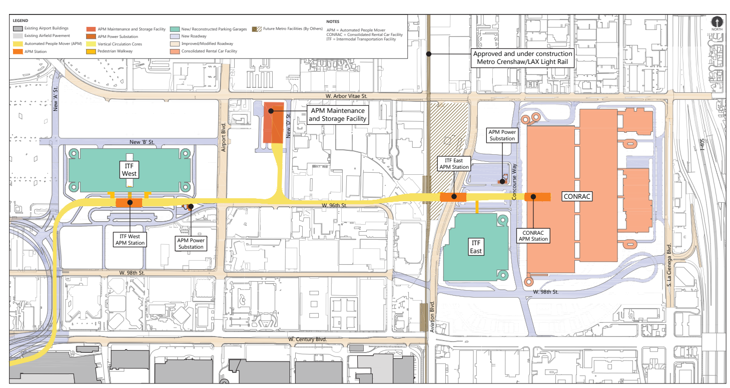
# Automated People Mover within the Central Terminal Area



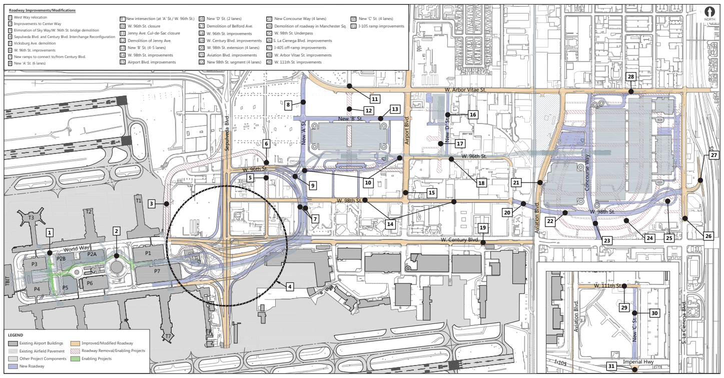





# Automated People Mover, Intermodal Transportation Facilities and Consolidated Rental Car Facility



# Roadway Improvements







# Airport Metro Connector


Metro





# Next Steps

**Obtain Public and Agency Scoping Comments**
Due July 11, 2016

**Prepare Draft EA**

**Anticipate Release of Draft EA**
1st Quarter 2017





# Public Comments

- Comments can be handwritten on comment forms and submitted at this Scoping Meeting
- Comments can be mailed to:

  Ms. Evelyn Quintanilla
  Chief of Airport Planning
  Los Angeles World Airports
  1 World Way, Room 218
  Los Angeles, CA 90045
  Phone: (800) 919-3766
- For additional information and/or to submit comments, visit www.connectinglax.com
- **Comments must be received by 5:00 pm Monday, July 11, 2016**

# Attachment 2

## Scoping Comments

From: Henry Wong [mailto:HWONG@dpw.lacounty.gov]
Sent: Thursday, June 30, 2016 1:40 PM
To: QUINTANILLA, EVELYN
Cc: Susana Graether; Anthony Nyivih; Art Vander Vis; Matthew Dubiel; Michele Chimienti; Sam Chinn; Jeff Pletyak; Andrew Ngumba; Terri Grant; Joshua Svensson; Armond Ghazarian
Subject: Correspondence Mail - Los Angeles World Airports - 06/15/16
Importance: High

Good afternoon Ms. Quintanilla,

The following is Public Works' response to the attachment document:

"The County of Los Angeles Department of Public Works does not have any comments on the attached document. However, we request that the Environmental Assessment be provided to us once released so that the project can be analyzed for potential impacts to Unincorporated County communities, infrastructures, and Los Angeles County Flood Control District facilities in the vicinity of the project.

If you have any questions please contact Mr. Matthew Dubiel of Public Works’ Land Development Division at (626) 458-4921."

Henry Wong, M.S., P.E., T.E.
Civil Engineer, Subdivision Review
Land Development Division
Department of Public Works
County of Los Angeles
hwong@dpw.lacounty.gov<mailto:hwong@dpw.lacounty.gov>
(626) 458-4961

HAMAI
JONES
HOWARD
BARON
PARK

Los Angeles World Airports

RECEIVED

2016 JUN 15 AM 10: 03

June 10, 2016

William Fujioka
County of Los Angeles
648 Kenneth Hahn Hall Of Administration
500 West Temple St.
Los Angeles, CA 90012-2713



**Subject:** Environmental Assessment for Los Angeles International Airport (LAX), Landside Access Modernization Program

Dear Mr. Fujioka:

LAWA proposes to implement the LAX Landside Access Modernization Program to continue to transform LAX into a world-class airport by improving connectivity and mobility for passengers and employees, relieving traffic congestion within the Central Terminal Area (CTA) and on the surrounding street network, improving the travel experience for passengers, and providing connection to the regional Los Angeles County Metropolitan Transportation Agency (MTA or Metro) rail system. The EA is being prepared to comply with Federal Aviation Administration (FAA) requirements under the National Environmental Policy Act (NEPA).

The Proposed Action includes the following components as shown on **Exhibit 1**:

**Table 1: LAX Landside Access Modernization Program Project Elements**

| PROJECT ELEMENT | GENERAL DESCRIPTION |
|---|---|
| APM System | A 2.25-mile Automated People Mover (APM) system with six APM stations connecting the CTA to new proposed ground transportation facilities; passenger walkway systems connecting the APM stations to passenger terminals, parking garages, and ground transportation facilities; modifications to existing passenger terminals and parking garages to support the APM walkway system connections, including vertical circulation cores to the arrival, departure, and concourse levels; |
| APM Maintenance and Storage Facility | The APM Maintenance and Storage Facility where the APM train cars would be cleaned, repaired, and washed; it would also be the operating center of the APM system. |
| APM Power Substations | Three traction power substations (TPSS) would provide power to the APM guideway. |
| ITF West | The ITF West facility would include an APM station, two new adjacent and interconnected public parking structures (one with four elevated parking decks and one with five elevated parking decks), a commercial vehicle curb, and internal circulation roads. |
| ITF East | The ITF East facility would include an APM station, an adjacent and interconnected public parking structure, a commercial vehicle curb, and internal circulation roads |
| CONRAC Facility | The CONRAC would provide a centralized location for car rental agencies serving LAX passengers. It would include a customer service building, APM station, ready/return garage, idle storage garage, |

| PROJECT ELEMENT | GENERAL DESCRIPTION |
|---|---|
| | and quick turnaround areas. |
| Roadway Improvements | |
| New 'A' St | New 2,400-foot roadway between Westchester Parkway and Century Blvd |
| New 'B' St | New 1,700-foot roadway between new 'A' St and Airport Blvd |
| New 'C' St | New 1,200-foot roadway between Imperial Hwy and W. 111th St (I-105 ramp improvements) |
| New 'D' St | New 1,100-foot roadway between W. 96th St and W. Arbor Vitae St |
| New 98th St | New 3,400-foot roadway between Bellanca Ave and La Cienega Blvd |
| New Concourse Way | New 500-foot roadway between Century Blvd and new 98th St |
| Sepulveda Blvd | Sepulveda Tunnel to W. 96th St – widen to up to 4 lanes in each direction. Improvements include new ramps to Sky Way to/from World Way, to/from Century Boulevard, to/from new "A" St. |
| Airport Blvd | W. 98th St to West Arbor Vitae St – widen to provide up to 3 lanes in each direction |
| West Arbor Vitae St | Airport Blvd to La Cienega Blvd – widen to provide up to 3 lanes in each direction |
| West Arbor Vitae St Overcrossing | La Cienega Blvd to City Limits – widen to provide up to 3 lanes in east direction and 2 lanes in west direction |
| West 96th St | Airport Blvd to Bellanca Ave – widen by 15 feet |
| West 98th St | New 'A' St to Bellanca Blvd – widen to provide up to 2 lanes in each direction |
| Century Blvd | New 'A' St. to Aviation Blvd – widen to provide up to additional lane in east direction |
| Aviation Blvd | Century Blvd to West Arbor Vitae St – widen to provide up to 3 lanes in each direction |
| La Cienega Blvd | Century Blvd to W. Arbor Vitae St – widen to provide up to 3 lanes in each direction |
| I-405 ramps at La Cienega Boulevard | Widen to provide 2 additional lanes at the La Cienega Blvd intersection |
| Parking Garage P2A | Existing parking garage would be demolished and a replacement garage would be constructed in the CTA. |
| Parking Garage P2B | Existing parking garage would be demolished and a replacement garage would be constructed in the CTA. |
| Parking Garage P5 | Existing parking garage would be demolished and a replacement garage would be constructed in the CTA. |
| Clifton Moore Administration Building (1 World Way) | Building would be demolished and LAWA administrative offices would be relocated to the existing LAWA-owned Skyview Center located at 6033 and 6053 W. Century Boulevard. |
| Bob Hope Hollywood USO | Building would be demolished. Existing uses would be accommodated elsewhere on-Airport property. |
| Restaurant Building | Building would be demolished. |
| Metro Bus Terminal | Transportation center would be demolished and relocated to the Metro Airport Metro Connector (AMC) station to be constructed adjacent to the ITF East. |
| Delta Hangar Complex | Buildings would be demolished. Replacement facilities would be constructed on-Airport property. |
| Reliant Medical Center | Building would be demolished. Existing uses would be accommodated elsewhere on-Airport property. |

**Purpose and Need for Project**
The purpose of the proposed project is to improve connectivity and mobility for passengers and employees by developing a flexible transportation system that provides time-certain travel options; improves access options by creating new convenient locations for passenger pick-up, drop-off, and parking outside of the Central Terminal Area, including a direct connection to public transit; provides easier and more efficient access to rental cars; and relieves congestion in the CTA and on the surrounding streets.

The need for the project is described in the following paragraphs. Access to the airport is restricted to a single entrance at the intersection of Sepulveda Boulevard and West Century Boulevard, which all passengers, employees, and commercial drivers transporting those passengers must utilize in order to access the passenger terminals. During peak travel periods, this causes traffic congestion within the Central Terminal Area that frequently spills out onto the surrounding street network, causing delays and gridlock affecting local arterials including Interstate 105.

Passengers lack convenient access options that provide a time-certain arrival or an efficient exit, which negatively affects the passenger experience and increases traffic congestion. Passengers who choose to park remotely or stay in local hotels, or take public transit to LAX, must take a bus, shuttle, taxi or similar service into or out of the CTA to the appropriate terminal. The hotel, off-airport parking, and rental car shuttles circle through the airport roadways in order to drop-off then pick-up passengers, adding to the congestion along World Way. LAX also lacks a direct connection to the Los Angeles County Metropolitan Transit Agency (Metro) commuter train system. Currently passengers and employees desiring to take public transportation to LAX must either take buses the entire way, or take a Metro commuter train line to Imperial and Aviation and then transfer to buses to get to the airport.

Unlike most major U.S. airports, LAX does not have a consolidated rental car facility that provides a convenient and centralized location for airport passengers to rent and return cars. Currently, there are over 20 properties located north and east of the airport that are used by the various rental car companies for their individual operational needs. As a result, there are over 50 directional signs scattered around the airport directing rental car customers to the various rental car lots, which leads to driver confusion and challenging wayfinding, causing traffic and congestion on the surrounding streets. Rental car shuttles add over 3,200 shuttle trips a day on airport and surrounding streets contributing to traffic congestion, vehicle miles travelled, and air emissions.

**Alternatives**
The alternatives which will be discussed in the EA include a range of alternative APM alignments, CONRAC configurations, and roadway improvements;, the Proposed Action; and the No Action Alternative. The EA will document the methodology used to determine the alternatives to be considered as well as the screening process used to conclude which alternatives would feasibly satisfy the purpose of and need for the proposed project.

**Environmental Consequences**
The potential environmental impacts of the proposed project will be analyzed and documented in the EA. Federal guidance for the environmental process encourages public involvement to assist the lead agency in identifying potential issues to be analyzed in the EA. Known potential environmental issues that will be assessed include:

- Air Quality and Climate
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archaeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks including traffic
- Visual Effects
- Water Resources
- Cumulative Impacts

<u>EA Process and Schedule</u>

LAWA is in the process of developing the EA, and plans to release the draft EA for public and agency review in the first quarter of 2017. The EA will document the project's purpose and need, the Proposed Action and alternatives to the Proposed Action, the affected environment, and environmental consequences. If you or someone in your organization has any specific concerns with the project, or recommend that particular environmental impacts, alternatives, purpose and need considerations or other issue(s) should be addressed in the EA, we would appreciate written correspondence by July 11, 2016 to discuss your concerns. Please address all comments to:

Ms. Evelyn Quintanilla
Chief of Airport Planning
Los Angeles World Airports
1 World Way, Room 218
Los Angeles, CA 90045
Phone: (800) 919-3766

A public information workshop/scoping meeting on the initiation of the EA will be held on Wednesday, June 22, 2016 from 5:00 PM to 8:00 PM at the Los Angeles Fire Station #5, 8900 S. Emerson Avenue, Los Angeles, CA 90045

The meeting will provide an opportunity for public comment concerning the Proposed Action, purpose and need for the Proposed Action, alternatives to the Proposed Action, and potential environmental effects of the LAX Landside Access Modernization Program to be analyzed in the Draft EA. The scoping meeting will be held in an informal open house format. Representatives from LAWA and study team will be available to talk with citizens about the environmental review. Graphics will be on display so citizens can review project details and attendees will have an opportunity to provide written comments on the scope and content of the Draft EA.

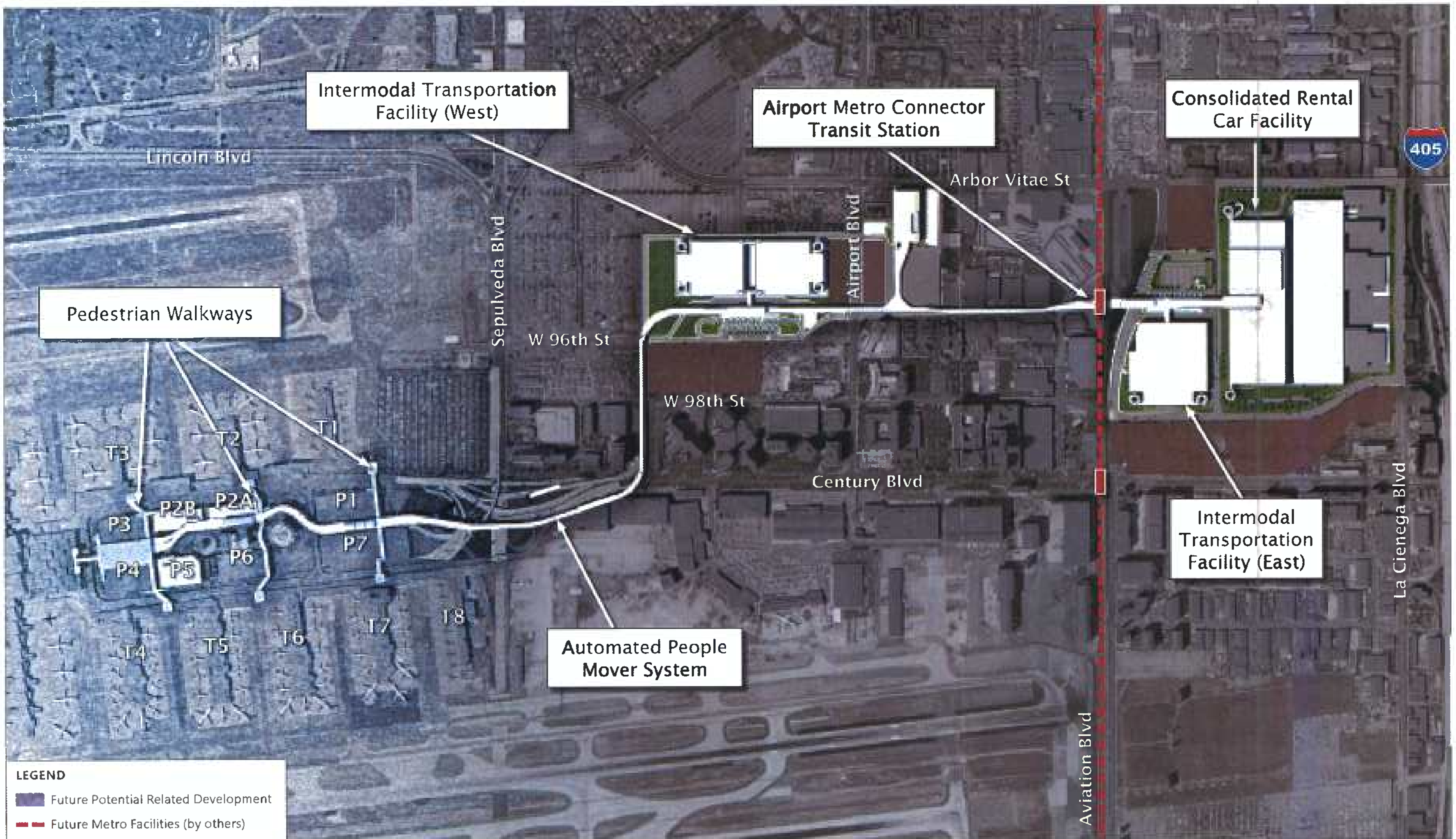
Sincerely,

Evelyn Quintanilla
Chief of Airport Planning

Attachments (1): Exhibit 1: LAX Landside Access Modernization Program Overview

EQ:bms

[Preliminary Draft for Discussion Purposes Only]




SOURCE: MapLAX, October 2015.
PREPARED BY: Ricondo & Associates, Inc., March 2016.

Exhibit 1

LAX Landside Access Modernization Program Overview

LAX

*Los Angeles World Airports*


EPG, Admin. East
One World Way, Suite 218
Los Angeles, CA 90045


Hall
Room 713

LOS ANGELES
CA 900
10 JUN '16
PM 8 L

Hasler
06/10/2016
US POSTAGE
$000.67⁵
FIRST-CLASS MAIL
ZIP 90045
011E12650095

1 World Way P.O. Box 92214
Los Angeles California 90009-2214

90012319573

# Los Angeles International Airport Area Advisory Committee

Committee Members: Residents of El Segundo, Inglewood, Lennox, Hawthorne, Culver City, Marina del Rey and Westchester/Playa del Rey

July 10, 2016

RECEIVED JUL 07 2016

Ms. Evelyn Quintanilla, Chief of Airport Planning
Los Angeles World Airports
1 World Way, Room 218
Los Angeles, CA 90045

Dear Ms. Quintanilla:

Re: Environmental Assessment for the Landside Access Modernization Program (LAMP)

We, the Los Angeles International Airport Area Advisory Committee (LAXAAC), a committee of residents of the communities surrounding Los Angeles International Airport (LAX), are herein providing comments in connection with the LAMP Environmental Assessment.

Our Committee applauds LAWA for this effort, as we are generally very pleased about the plans for the LAMP. We expect it will reduce and improve traffic flow and wait times in and out of the Central Terminal horseshoe. Our Committee is concerned, however, with the longer term effects of this project on local neighborhoods, especially with respect to traffic and parking considerations. Our comments are based on a review of the LAMP Environmental Assessment Public Scoping document as well as observations at the Public Scoping Meeting and earlier presentations on the subject.

**Traffic**

The latest LAWA planning document includes annual passenger (MAP) numbers above the 78.9 MAP evaluated as part of the LAX Master Plan. The LAMP plan also incorporates higher MAP numbers yet it appears the EIR will not evaluate the environmental impacts of or mitigation for this significant increase in aviation activity, even though the growth would be facilitated by LAMP. We would hope the EIR will not simply assume numbers in excess of 78.9 MAP, as such would be in violation of prior LAWA commitments for the airport, but to the extent LAMP will facilitate additional growth, there must be a discussion of how the impacts of that growth will be mitigated.

We are concerned that traffic from the north and south, *i.e.*, on Lincoln Blvd., Sepulveda Blvd., Aviation and the 405 Freeway, to the LAMP will create traffic jams for southbound traffic on Lincoln Blvd., northbound traffic on Aviation Blvd. and westbound traffic on Century Blvd.. Therefore, the EIR should discuss the routing of traffic headed for the LAMP onto dedicated side streets which feed directly into the LAMP. Even with such mitigation, Lincoln, Aviation, Sepulveda, and Century Boulevards, as well as 80th and 83rd Streets are likely to see greatly increased congestion, so we recommend that the EIR discuss the need for staggered lighting and other mitigation measures on those thoroughfares. We also suggest that the EIR discuss mitigation measures for the already busy intersections of Sepulveda with 89th Street and S. La Tijera Blvd.

While LAMP includes significant improvements for traffic coming from north and east of the airport, it will do virtually nothing for traffic coming from south of the airport. In particular, the connection to the new facilities from northbound I-405 is essentially nonexistent. Thus, many northbound travelers to LAX will divert to the streets of El Segundo.

The improvements that LAX is proposing for northbound traffic are modest, at best. Our Committee recommends that LAWA substantially improve the connections between the NB-405 and the Consolidated Rental Car facility (CONRAC) and the two Intermodal Transportation Facilities (ITFs).

In addition, the project will likely add traffic to South Bay and Westchester city streets, especially on Sepulveda and Aviation Boulevards. Our Committee recommends that more South Bay intersections be studied and potentially improved as part of the project. In Westchester, 80th and 83rd Streets should be studied, as they already are used as alternates for Manchester Avenue. In El Segundo, we recommend that all northbound Sepulveda and Aviation Blvd. intersections north of Rosecrans Blvd. be studied as well as the West 105 merge with northbound Sepulveda Blvd..

**Parking**

Parking in and around the airport is expensive and has led to a situation where LAX travelers are parking on surrounding city streets and then using Uber and similar services to travel to the Central Terminal Area. LAMP not only does nothing about this situation, it could exacerbate it. Our Committee recommends that the EIR address this issue and make parking a major consideration. As it is a primary goal to steer more passengers away from the Central Terminal horseshoe, thereby reducing the volume of traffic at the terminals, ample and convenient parking for those who need it should be a primary consideration. The EIR should discuss designing the LAMP to accommodate the traffic flow and short-term parking for those who wish to drive in and walk with their relatives or friends who will be taking the APM.

Very truly yours,

William Cummings

William Cumming, LAXAAC Chair
Los Angeles International Airport Area Advisory Committee (LAXAAC)
1 World Way, P.O. Box 92216
Los Angeles, CA 90009-2216

cc:
Board of Airport Commissioners
Los Angeles Mayor Eric Garcetti
Culver City Mayor Meghan Sahli-Wells
Inglewood Mayor James T. Butts, Jr.
El Segundo Mayor Suzanne Fuentes
Hawthorne Mayor Alex Vargas
Los Angeles City Councilman Mike Bonin
Supervisor Don Knabe
Supervisor Mark Ridley-Thomas
Executive Director Deborah Flint

COUNTY OF LOS ANGELES
**Public Health**

**CYNTHIA A. HARDING, M.P.H.**
Interim Director

**JEFFREY D. GUNZENHAUSER, M.D., M.P.H.**
Interim Health Officer

**Policies for Livable, Active Communities and Environments**
Jean Armbruster, M.A.
Director

695 South Vermont Avenue, South Tower, Suite 1400
Los Angeles, California 90005
TEL (213) 351-1907 • FAX (213) 637-4879

**www.publichealth.lacounty.gov**



July 11, 2016

Ms. Evelyn Quintanilla
Chief of Airport Planning
Los Angeles World Airports
1 World Way, Room 218
Los Angeles, CA 90045
Phone: (800) 919-3766

RE: **Environmental Assessment for Los Angeles International World Airport Landside Access Modernization Program**

Dear Ms. Quintana,

Thank you for this opportunity to comment on the Environmental Assessment for Los Angeles International World Airport Landside Access Modernization Program. The Los Angeles County Department of Public Health would like to provide the following comments.

Airport modernization efforts should ensure that people arriving at the airport on foot, by bicycle, or via transit can access the airport safely and comfortably. High quality bikeways and sidewalks should be provided, along with intersection improvements that will reduce the potential for traffic injury and death. LAWA should work with Metro to ensure high quality first and last mile connectivity from the new Crenshaw station and existing bus stops to the airport and the proposed facilities. In addition, bicycle parking at the airport should be increased and modernized and secure bicycle parking should be provided for employees and visitors at convenient locations throughout the airport.

Additionally, efforts should be made to ensure that residents in the surrounding area will not be impacted by the construction debris, noise, and traffic congestion. Because local medical providers may be impacted during construction, efforts should be made to ensure that people have access to health care while the transition takes place.

Sincerely,

Jean Armbruster, M.A.
Director, PLACE Program

JA:al

c: Susana Villacres Graether

SHUTE, MIHALY & WEINBERGER LLP

396 HAYES STREET, SAN FRANCISCO, CA 94102
T: (415) 552-7272 F: (415) 552-5816
www.smwlaw.com

JOSEPH D. PETTA
Attorney
petta@smwlaw.com

July 11, 2016

***Via Email and FedEx***

Evelyn Quintanilla
Chief of Airport Planning
Los Angeles World Airports
1 World Way, Room 218
Los Angeles, California 90045

Re: Environmental Assessment Scoping Document for LAX Landside Access Modernization Program

Dear Ms. Quintanilla:

On behalf of the City of El Segundo ("City"), thank you for the opportunity to review the Environmental Assessment Scoping Document ("SD") released on June 10, 2016, for the Landside Access Modernization Program ("Project") and Potential Future Related Development ("Future Development"). The City expects to be actively involved in the planning process and looks forward to follow-up discussions and close coordination going forward.

As Los Angeles World Airports ("LAWA") is aware, the City has a number of longstanding concerns related to Los Angeles International Airport ("LAX"), particularly around noise and traffic impacts originating on the southern airfield and/or directed toward El Segundo. The City appreciates that LAWA has thus far been receptive to discussion regarding the environmental analysis of the Project and Future Development, and hopes that this openness will continue in the future. In order to fully address the City's concerns, however, the analysis prepared to comply with the National Environmental Policy Act ("NEPA") must provide a robust analysis of the complete scope of the Project's environmental effects, including the growth inducing effects of removing existing ground access constraints. *See Sierra Club v. Bosworth*, 510 F.3d 1016, 1026 (9th Cir. 2007) ("[T]he fundamental purpose of NEPA . . . is to ensure that federal agencies take a 'hard look' at the environmental consequences of their actions . . . ."). To that end, this letter explains the City's concerns about the Project and Future Development, and identifies specific effects that LAWA should carefully evaluate as part of an informative and comprehensive NEPA document, which we anticipate should be an Environmental Impact Statement ("EIS"). This letter incorporates by reference the City's comments on the Notice of Preparation ("NOP") prepared pursuant to the California Environmental Quality Act ("CEQA"), attached as Exhibit A, and all attachments thereto.

## I. The Project Will Induce Growth in Airport Passenger Volume, Resulting in Effects that the EA Must Analyze.

### A. The Project Would Remove Existing Ground Access Constraints and Allow LAX to Process a Higher Volume of Passengers Than Previous Planning Documents Considered.

On May 5, 2016, the City filed suit against the Southern California Association of Governments ("SCAG"), challenging the adequacy of its Programmatic Environmental Impact Report ("PEIR") for the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy ("RTP/SCS"). One of the critical defects in the PEIR is its unsupported assumption that, although SCAG will provide billions of dollars in funding to remove existing traffic impediments to accessing LAX, this easier access will not facilitate greater operational capacity. Due to that flawed reasoning, the PEIR failed to analyze the impacts of this enhanced capacity, even as it projected a dramatic rise in the number of passengers traveling through LAX. The need for this analysis is particularly acute because none of the previous planning documents for LAX has analyzed, or developed mitigation for, operations scenarios with a capacity above 78.9 million annual passengers ("MAP"). *See* Specific Plan Amendment Study ("SPAS") Draft EIR at 2-4 (stating that LAWA will maintain consistency with the Master Plan's cap of 153 gates and projected 78.9 MAP).

The Project is a major component of the LAX transportation improvements included in the RTP/SCS and would enable increased levels of airport operations by removing existing ground access constraints. Both the Initial Study ("IS") that LAWA prepared pursuant to CEQA, and the SD, depict these existing constraints as significant. SD at 3; IS at 13–14. The City encourages LAWA not to ignore the impacts of the increased activity that the Project will facilitate, and its potential to further concentrate adverse impacts on nearby residents, by adopting SCAG's misguided reasoning. As the City has repeatedly emphasized to SCAG, the environmental analysis required by CEQA (or in this case, NEPA) may not simply assert that alleviating these significant constraints will have no effect on airport operations; here, LAWA must provide evidence that it has taken a "hard look" to determine the effects of increased ground access.

**B. Because the Project Would Update the 2004 LAX Master Plan's Growth Forecast, the NEPA Document Must Fully Analyze the Effects of Updating the Master Plan.**

The 2004 LAX Master Plan, under which LAWA operates today despite the general recommendation that airport master plans be updated every 5 to 10 years, forecast LAX's passenger and aircraft capacity for the horizon year of 2015. *See* 2004 LAX Master Plan Final EIS at A.1-6 *et seq.* Under Alternative D, the approved Master Plan alternative, LAX's constrained capacity in 2015 is 78.9 MAP. *Id.* As noted above, none of the existing planning documents for LAX, including the Master Plan EIS, has analyzed, or developed mitigation for, operations scenarios with a capacity above 78.9 MAP.

In its comments on the NOP, the City requested that LAWA discuss the Project's and Future Development's consistency with the Master Plan, and provide details about what process LAWA would go through to amend the Master Plan to make it consistent with the Project. The City reiterates that request here in light of NEPA's requirement to evaluate project consistency with applicable land use plans. *See* 40 C.F.R. § 1502.16(c).

The NEPA document may not assume that the Project merely implements a component of the existing Master Plan. Rather, the NEPA document must analyze the Project's growth-inducing effect for what it is: an *update* to the growth forecast in the 2004 LAX Master Plan. Accordingly, the analysis must take a "hard look" at the direct and secondary effects of updating the 2004 Master Plan's growth forecast, including the entrance of new aircraft operators. LAWA may not improperly "segment" a full analysis of updating the Master Plan from its evaluation of discrete, physical ground access components.

**C. Growth Induced by the Project Will Result in Traffic, Noise, Air Quality, Climate Change, and Other Effects Which Must Be Adequately Analyzed.**

The EA must include an analysis of the Project's "growth inducing effects." 40 Code of Fed. Regs. ("C.F.R.") § 1508.8(b). To ensure an accurate analysis of these impacts, the EA should identify the potential growth in MAP numbers and flights that the Project would facilitate and analyze the impacts of those increased operations scenarios. In particular, the EA should address the following impacts of induced growth at LAX.

*Traffic.* The SD states that the Project will "relieve[] congestion in the CTA and on the surrounding streets." SD at 3. Yet the IS acknowledges that the Project's modification to off-airport transportation components, including arterial roads and highway segments, could "result in traffic pattern changes and increased volumes on surrounding roadways." IS at 114. Because the Project and Future Development could alter current traffic conditions in El Segundo, LAWA must fully analyze the Project's and Future Development's traffic impacts.

Additionally, while the Project may include improvements for traffic coming from north and east of the airport, it does virtually nothing for traffic coming from south of the airport. In particular, the connection to the new facilities, including the CONRAC and two ITFs, from northbound I-405 is essentially nonexistent. The NEPA document must therefore analyze the effect of diverting northbound travelers to LAX onto the streets of El Segundo. The City furthermore requests that the EA identify any outstanding, previously adopted transportation mitigation measures and indicate whether these measures will be implemented as part of the Project or, if not, when they will be implemented.

LAWA must also fully analyze the potential for any construction vehicle traffic to use the City's designated truck routes or major arterial corridors such as Imperial Highway or Pershing Drive. As always, the City asks that truck trips for the Project avoid El Segundo when possible.

*Aviation Noise.* The SD identifies Noise and Noise-Compatible Land Use as known potential environmental issues (SD at 4), and the IS acknowledges the need to evaluate the Project's increases to "road traffic noise, construction traffic and equipment noise, and transit noise and vibration" (IS at 108). The noise analysis must also address aviation noise effects caused by ongoing and increased operations at LAX, and the individual and cumulative impacts on people working or residing within LAX and adjoining neighborhoods. Because all previous planning documents for LAX contemplated a maximum operational capacity of 78.9 MAP, the analysis should evaluate any effects on El Segundo residents that will not be adequately mitigated by existing mitigation measures approved in those documents.

*Air Quality*. LAWA's proposed air quality analysis (*see* SD at 3) will be incomplete without accounting for emissions under an increased MAP scenario. El Segundo also reminds LAWA that an accurate cumulative effects air quality analysis must evaluate the Project's emissions in the context of emissions reductions that are unrelated to the Project. The EA must assess to what extent the Project will undermine air quality improvements that will occur due to technological advances and federal and state regulations. An accurate analysis of the Project's effects on criteria and toxic pollutant levels is especially important, as LAX area residents already suffer from some of the worst air quality in the nation. *See* LAX Air Quality & Source Apportionment Study (2013) at 6-52 (summarizing airport's air quality impacts on City of El Segundo), available at [http://www.lawa.org/uploadedFiles/OurLAX/pdf/Vol%202%20-%20LAX%20AQSAS%202014%2003%2011s.pdf](http://www.lawa.org/uploadedFiles/OurLAX/pdf/Vol%202%20-%20LAX%20AQSAS%202014%2003%2011s.pdf); *id.* at 7-18 (identifying South Airfield, adjacent to El Segundo, as a "main source area[] for SO2").

*Climate Change.* The EA's climate change analysis must include greenhouse gas ("GHG") emissions attributable to a higher MAP scenario. Although the EA is being prepared pursuant to federal law, it nonetheless must consider whether the Project's emissions would hinder achievement of California's ambitious climate goals. *See* 40 C.F.R. § 1502.16(c) (requiring a discussion of "[p]ossible conflicts between the proposed action and the objectives of . . . State, and local . . . land use plans, policies, and controls"). Indeed, the most recent guidance for NEPA review of GHG emissions specifically suggests examining "how the agency action will help or hurt California in reaching its emission reduction goals under [AB 32]." COUNCIL ON ENVTL. QUALITY, REVISED DRAFT GUIDANCE FOR GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE IMPACTS 14 (2014).

### D. LAWA Should Include Analysis of a "Constrained Growth" Alternative.

Because a legally adequate analysis of the effects of induced growth caused by the Project could show noise, air quality and climate change impacts far above levels considered acceptable, LAWA should evaluate a constrained growth alternative whereby the proposed Project would accommodate passenger levels up to some number at or below 82.9 MAP, the low end of the range forecast for LAX in the 2040 RTP/SCS.

## II. The EA Must Fully Describe and Analyze Other Project Impacts.

### A. Scope of Analysis

To provide a complete analysis of the Project's effects, the EA must fully describe and evaluate all components of the Project. The SD lists a series of buildings that will be demolished as part of the Project, and designates whether a replacement building will be constructed or the existing uses accommodated elsewhere on the property. SD at 2. In order to adequately evaluate the effects of these essential "enabling" components of the

Project (*see* IS at 55), LAWA must provide details of the current uses of each of these buildings, specify exactly when and where those uses will be relocated, and analyze any effects of shifting these uses to new locations.

Although not mentioned in the SD, the IS also identifies potential development projects under Future Development that "will be examined at a programmatic level in the EIR." IS at 55. The EA must describe and analyze these development projects in full detail. This analysis must include an explanation of the proposed temporary and/or long-term use of the Continental City site under the preferred alternative, as well as under the "no project" alternative. Because these future projects cannot proceed without the zoning changes associated with the Project, they are connected actions. *See* 40 C.F.R. § 1508.25(a)(ii) (agencies must analyze connected actions, which include actions that "cannot or will not proceed unless other actions are taken previously or simultaneously"). Consequently, LAWA cannot segment this future development from the Project's near-term components without providing an adequate description of that development or analysis of its impacts at the earliest opportunity.

**B. Construction Staging**

The SD does not provide any details about where construction staging for the Project will occur. The City is concerned that certain staging or laydown areas could be located adjacent to its border. Considering the City's longstanding concerns related to noise and traffic impacts generated by uses at the airport's southern edge, the City urges that any proposed construction staging be located away from El Segundo. At the very least, the City expects all potential effects from construction staging to be thoroughly analyzed in the EA, and all possible mitigation considered. The project description should state the duration of any construction activities located near El Segundo, as well as the potential for any construction vehicle traffic to use the City's designated truck routes or major arterial corridors.

**C. Cumulative Impacts**

The Project is being proposed while other airport projects are still in varying stages of development, in particular, various terminal upgrades, location of a ground run-up enclosure ("GRE"), rehabilitation of runways, and the Airport Metro Connector. The EA must identify and analyze the Project's effects when considered with these and other past, present, and reasonably foreseeable development at the airport and in the surrounding area. 40 C.F.R. § 1508.7. This requires consideration of the effects of the Future Development projected in the IS (IS at 55), but not discussed in the SD. The City urges a thorough analysis of potential cumulative impacts and inclusion of meaningful alternatives and mitigation measures in the EA.

## III. LAWA Should Conduct a Joint NEPA/CEQA Analysis.

Finally, the City strongly encourages LAWA to coordinate its responsibilities under NEPA and CEQA by combining its analysis into a joint NEPA/CEQA document. Federal regulations require agencies to cooperate "to reduce duplication between NEPA and State and local requirements," and further provide that "such cooperation shall to the fullest extent possible include . . . joint environmental assessments." 40 C.F.R. § 1506.2. "A joint [NEPA and CEQA] review process can avoid redundancy, improve efficiency and interagency cooperation, and be easier for applicants and citizens to navigate." COUNCIL ON ENVTL. QUALITY & CAL. OFF. OF PLANNING & RESEARCH, NEPA AND CEQA: INTEGRATING FEDERAL AND STATE ENVIRONMENTAL REVIEWS 1 (2014). By combining the analysis of the Project into a single document, LAWA will demonstrate its commitment to an open and cooperative public process, as well as reduce the demands of these environmental review processes on LAWA's own resources.

Thank you for the opportunity to comment on the Project. We request that this firm and the City of El Segundo Planning and Building Safety Department receive of a copy of the Draft EA.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Joseph "Seph" Petta

795537.5

# ATTACHMENT

SHUTE, MIHALY
& WEINBERGER LLP

396 HAYES STREET, SAN FRANCISCO, CA 94102
T: (415) 552-7272 F: (415) 552-5816
www.smwlaw.com

JOSEPH D. PETTA
Attorney
petta@smwlaw.com

March 9, 2015

***Via E-Mail and FedEx***

Christopher Koontz
Chief of Airport Planning
Los Angeles World Airports
1 World Way, Room 218
Los Angeles, California 90045

E-Mail: ckoontz@lawa.org

Re: Notice of Preparation for LAX Landside Access Modernization Program

Dear Mr. Koontz:

On behalf of the City of El Segundo, thank you for the opportunity to review the Notice of Preparation ("NOP") and Initial Study ("IS") for the Landside Access Modernization Program ("Project") and Potential Future Related Development ("Future Development"). The City expects to be actively involved in the planning process and looks forward to follow-up discussions and close coordination as the Project goes forward.

As LAWA is aware, El Segundo has a number of longstanding concerns related to LAX, particularly around noise and traffic impacts originating on the southern airfield and/or directed toward El Segundo. El Segundo appreciates that, for now, LAWA appears to have focused the Project and Future Development away from El Segundo. Nevertheless, the City believes that the remaining potential impacts could be further minimized or avoided if LAWA acts consistently with its prior development proposals and decisions, particularly those encompassed by the LAX Master Plan and Specific Plan Amendment Study ("SPAS"). This letter explains El Segundo's concerns about the Project and Future Development, and calls on LAWA to fully evaluate the potential significant impacts of the Project and Future Development on El Segundo's residents.

***Project Setting and Description.*** El Segundo urges LAWA to describe the Project and its setting completely and accurately in the EIR. "An accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR." *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 727.

El Segundo is concerned that the EIR could fail to sufficiently analyze the Project's potential impacts due to an incomplete project description. For instance, the Project's "enabling components" (NOP at 51) include demolition of several facilities, including a hangar complex to the east of the CTA which the NOP describes as "currently leased for storage." *Id.*; *see id.* at 27 (Fig. 4). However, Figure 2, depicting land uses approved under the LAX Master Plan, shows the hangar complex as an "existing maintenance facility" (*id.* at 19), and Delta's "Tech Ops" website (http://www.deltatechops.com) indicates that the hangar complex is currently used for aircraft maintenance. If aircraft maintenance or other non-storage activities indeed take place at this hangar complex, the EIR must fully describe them and where and when they will be relocated. El Segundo is particularly invested in the displacement and relocation of maintenance facilities in light of the pending ground run-up enclosure ("GRE") siting study and the West Aircraft Maintenance Area ("WAMA") proposal.

The EIR must also clearly state where and when all other facilities slated for demolition will be rebuilt or relocated. If any of these facilities will be permanently removed, then the EIR must state this and explain how remaining facilities will accommodate capacity from the facilities planned for removal. Failure to analyze the impacts of the removal and relocation of these facilities in the EIR could run afoul of CEQA's prohibition on project segmentation.

***LAX Master Plan/SPAS Consistency.*** While the NOP states that the LAX Plan and Specific Plan may need to be amended as part of the Project to allow for potential Future Development (*id.* at 105), the NOP does not discuss the Project's or Future Development's consistency with the LAX Master Plan. In particular, it is not clear how the Future Development locations shown in Figure 12 (*id.* at 57) correspond with the same locations in the Master Plan (*see id.* at 19 (Fig. 2)). Although "programmatic" in terms of its analysis of impacts from Future Development, the EIR should analyze the Future Development's consistency with the LAX Master Plan. El Segundo also urges LAWA to provide additional detail regarding the Project's consistency with the LAX Master Plan and what process LAWA would go through to amend the Master Plan to make it consistent with the Project.

In addition, El Segundo urges LAWA to analyze and ensure consistency between the Project and the plans and commitments reached through the SPAS process.

***Traffic.*** The Project will have several circulation-related components, including demolition of the ramps from northbound Sepulveda into the airport. (*See id.* at 19 (Fig. 2)). This and other changes to existing on-airport circulation patterns could have traffic impacts in neighboring communities, including in El Segundo. *See id.* at 114 (Project and Future Development "could result in increased traffic impacts on surrounding roadways"). For example, if the northbound Sepulveda ramp is removed, drivers entering LAX from the south may instead access West Century Boulevard via Aviation Boulevard. Because the Project could alter current traffic conditions in El Segundo, the City urges LAWA to fully analyze the Project's and Future Development's traffic impacts in the EIR, as well as the potential for any construction vehicle traffic to use the City's designated truck routes or major arterial corridors such as Imperial Highway or Pershing Drive. As always, the City asks that truck trips for the Project avoid El Segundo when possible.

El Segundo also requests that the EIR identify any outstanding, previously adopted transportation mitigation measures and indicate whether these measures will be implemented as part of the Project or, if not, when they will be implemented.

***Construction Staging.*** The NOP does not state where construction staging for the Project will occur, only that construction staging will be located near the Project "to the extent possible." *Id.* at 25. However, Figure 3 attached to Appendix A to the NOP suggests there may be two or more staging or laydown areas adjacent to El Segundo's border. Considering El Segundo's longstanding concerns related to noise and traffic impacts generated by uses at the airport's southern edge, the City urges that any proposed construction staging be located away from El Segundo. At the very least, the City expects all potential impacts from construction staging to be thoroughly analyzed and mitigated in the EIR. The project description should state the duration of any construction activities located near El Segundo, as well as the potential for any construction vehicle traffic to use the City's designated truck routes or major arterial corridors.

***Cumulative Impacts.*** The Project is being proposed while other airport projects are still in varying stages of development, in particular, various CTA terminal upgrades, location of a GRE, rehabilitation of all four runways, and the Airport Metro Connector. The EIR must identify and analyze the Project's impacts when considered with these and other past, present, and probable future development at the airport and in the surrounding area. El Segundo urges a thorough analysis of potential cumulative impacts and inclusion of meaningful alternatives and mitigation measures in the EIR.

Thank you for the opportunity to comment on the Project. We request that this firm and the City of El Segundo Planning and Building Safety Department receive a copy of the Draft EIR.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Joseph "Seph" Petta

662586.2

# Written Comment Form

## Scoping Meeting for the LAX Landside Access Modernization Program

The purpose of the scoping process and the meeting is to hear from the public and responsible agencies on what significant environmental issues and alternatives they think should be analyzed in the Draft EA for the LAX Landside Access Modernization Program. Written comments can be submitted at the Public Scoping meeting or mailed/emailed no later than 5:00pm on July 11, 2016. In the space below (and on additional pages if necessary), please provide any written comments you may have concerning the scope of the Draft EA for the proposed project. Your comments will then be considered during preparation of the Draft EA.

Name ROBERT ACHERMAN Organization ARSAC
Address 1504 ENGRACIA AVE City TORRANCE Zip 90501
Email ROBERTACHERMAN@AOL.COM Phone 312/927-2127

GOOD CHOICE IN COOKIES!

LOTS OF KNOWLEDGEABLE STAFF AVAILABLE TODAY.

HOW MUCH PUBLICITY WAS DONE? RESIDENT TURNOUT WAS LOW.

Please drop completed form into the box marked "COMMENTS" at the Public Scoping meeting, or mail/email written comments to:

Ms. Evelyn Quintanilla
Chief of Airport Planning
Los Angeles World Airports
1 World Way, Room 218
Los Angeles, CA 90045

**All comments must be received no later than 5:00pm, July 11, 2016.**
This form can simply be folded and placed in a mailbox (see reverse side). Please remember to add postage.

LAX Landside Access Modernization Program

# Written Comment Form

## Scoping Meeting for the LAX Landside Access Modernization Program

The purpose of the scoping process and the meeting is to hear from the public and responsible agencies on what significant environmental issues and alternatives they think should be analyzed in the Draft EA for the LAX Landside Access Modernization Program. Written comments can be submitted at the Public Scoping meeting or mailed/emailed no later than 5:00pm on July 11, 2016. In the space below (and on additional pages if necessary), please provide any written comments you may have concerning the scope of the Draft EA for the proposed project. Your comments will then be considered during preparation of the Draft EA.


Name RAYNALD C. DAVIS Organization RES.

Address 547 E. HAZEL ST. #14 City INGLEWOOD Zip 90302

Email RAYEGYPT@AOL.COM Phone 424-702-~~9703~~ 9703


REGARDING: PEOPLE MOVER - SAFETY MUST BE FIRST AND FORMOST REGARDING SECURITY. THERE MUST BE A REMOTE CHECK-IN / INSPECTION AT THE TRANSIT STATION. ONLY SMALL BAGAGE (LIMIT 2) ON THE TRAM.

Please drop completed form into the box marked "COMMENTS" at the Public Scoping meeting, or mail/email written comments to:

Ms. Evelyn Quintanilla
Chief of Airport Planning
Los Angeles World Airports
1 World Way, Room 218
Los Angeles, CA 90045

**All comments must be received no later than 5:00pm, July 11, 2016.**
This form can simply be folded and placed in a mailbox (see reverse side). Please remember to add postage.