4.4 Transportation/Traffic

This section addresses traffic impacts of the proposed project. Traffic impacts from construction of the proposed project are addressed in Section 4.4.1, *Construction Transportation/Traffic*. Traffic impacts from operation of the proposed project are addressed in Section 4.4.2, *Operational Transportation/Traffic*.

Prior to the preparation of this EIR, an Initial Study (included as Appendix A of this EIR) was prepared using the CEQA Environmental Checklist Form to assess potential environmental impacts on transportation/traffic. Based on the analysis in the Initial Study, the potential for the project to result in a change in air traffic patterns, substantially increase hazards due to a design feature or incompatible uses, result in inadequate emergency access, or conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities, was determined to be less than significant and these topics do not require any additional analysis in this EIR.

4.4.1 Construction Transportation/Traffic

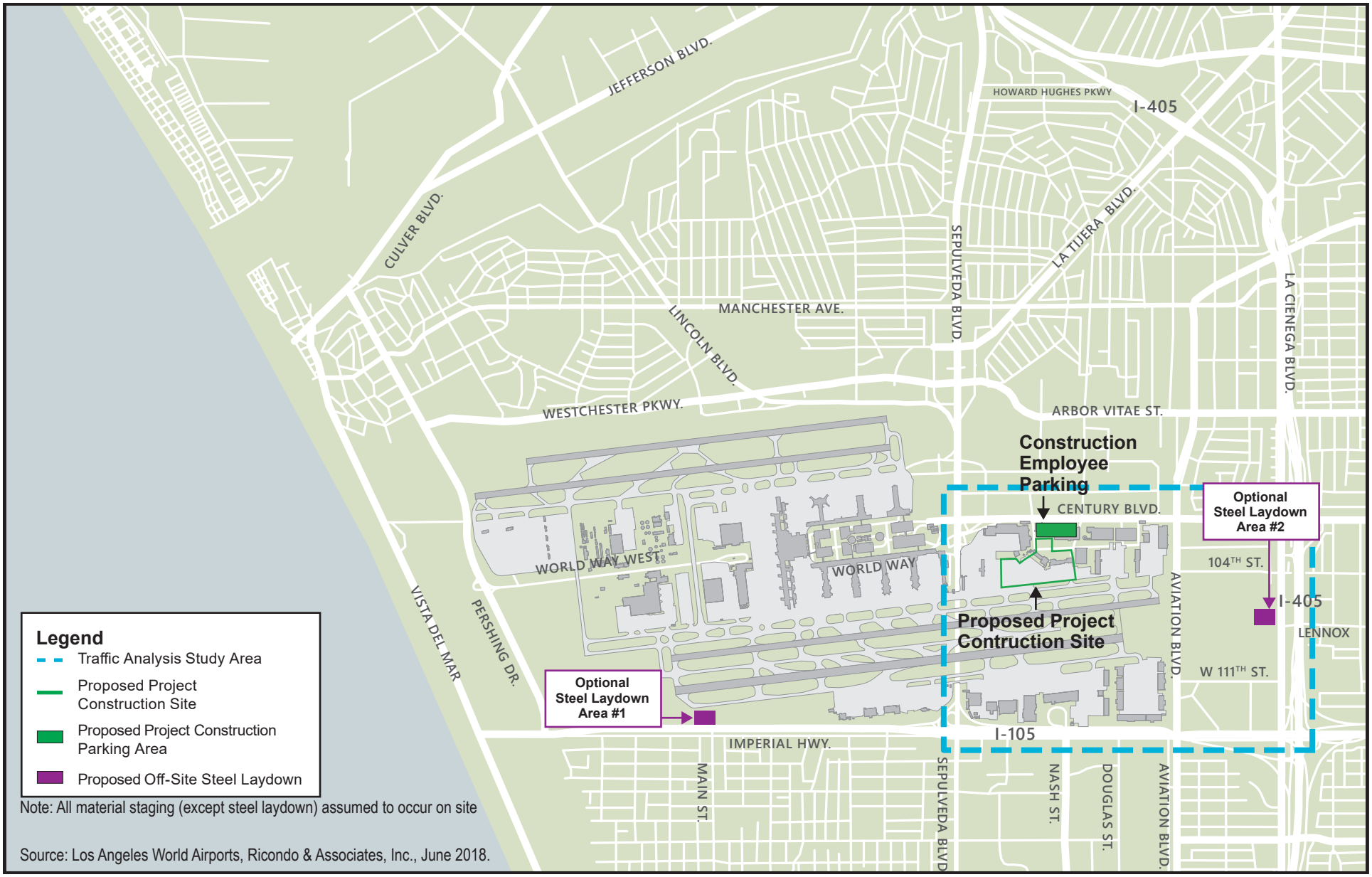
4.4.1.1 Introduction

The traffic analysis presented in this section addresses the proposed project's construction traffic impacts. The construction traffic impacts were determined for both the peak construction period for the proposed project (August 2019) and the peak cumulative condition (October 2019) (refer to Section 4.4.1.5 for details). The peak construction month for the proposed project does not correspond to the peak cumulative condition, which includes traffic from the construction of other projects anticipated to be under construction during the construction schedule (November 2018 through late 2020).

This proposed project construction traffic analysis builds upon relevant analysis and assumptions, including those for the cumulative impacts analysis (i.e., past, present, and reasonably foreseeable probable future projects). Analysis procedures and data from previous LAX EIRs were applied and updated as appropriate for the proposed project's cumulative impact analysis.

The construction traffic analysis study area is depicted in **Figure 4.4.1-1**. It is assumed that construction contractor parking would occur at Parking Garage F, which is located north of the current East Maintenance Facility on the south side of Century Boulevard. During construction, some of the existing activities that currently occur at the East Maintenance Facility, including administration and GSE maintenance, would be conducted at the West Maintenance Facility. This would require the relocation of up to 70 employees from the East Maintenance Facility to the West Maintenance Facility during construction. Aircraft maintenance would continue to be conducted at both the West Maintenance Facility and on the ramp area at the East Maintenance Facility during construction. Employees who would continue to work on the east side of the airport during construction and who currently park in Parking Lot H, a surface parking lot located south of Avion Drive, would instead park in Parking Garage F during construction. Employees whose work location would shift to the West Maintenance Facility during construction would park in existing UAL parking lots at the West Maintenance Facility.

The majority of construction staging would occur onsite. Steel laydown would occur offsite; UAL has identified two potential steel laydown areas, identified on Figure 4.4.1-1. While two steel laydown areas have been identified, only one of them would be utilized depending on availability of the sites for this use at the time the project is started. Deliveries to the steel laydown area, and between the laydown area and the project site, would occur outside of the morning (7:00 a.m. to 9:00 a.m.) and evening (4:30 p.m. to 6:30 p.m.) commuter peak hours.



Note: All material staging (except steel laydown) assumed to occur on site

Source: Los Angeles World Airports, Ricondo & Associates, Inc., June 2018.

UAL East Aircraft Maintanance and GSE Project	Construction Traffic Analysis Study Area	Figure 4.4.1-1

This analysis assesses construction-related traffic impacts at off-airport intersections associated with the construction of the proposed project, including the traffic impacts of construction equipment, material delivery trucks, and truck trips associated with the proposed project. As stated in Chapter 2, *Project Description*, construction shifts would be scheduled to avoid the morning commuter peak period (7:00 a.m. to 9:00 a.m.) and evening commuter peak period (4:30 p.m. to 6:30 p.m.) and, as noted above, steel deliveries would occur outside of the commuter peak hours; thus, the only project-related construction traffic impacts would be from construction truck deliveries of materials other than steel. Construction activities and staging for the proposed project would be coordinated with LAWA's CALM Team.

This direct impact analysis addresses, in particular, the impacts from construction-related traffic that would occur during the peak construction period for the proposed project. The construction traffic analysis combines peak project-related construction traffic volumes with roadway traffic volumes occurring in the a.m. and p.m. commuter peak hours. The analysis identifies the construction-related traffic impacts generated by the proposed project on the off-airport public roadway system.

4.4.1.2 Methodology

4.4.1.2.1 Overview

As noted above, this analysis focuses on construction traffic impacts of the proposed project. The analysis methodology for this EIR is based largely on the approach used for the Bradley West Project EIR,[250] West Aircraft Maintenance Area (WAMA) Project EIR,[251] Midfield Satellite Concourse (MSC) EIR,[252] the Landside Access Modernization Program EIR,[253] and the LAX Terminals 2 and 3 (T2/3) Modernization Project EIR.[254] The analyses, procedures, and relevant data from these previous projects are applicable to the proposed project because these projects share many of the same characteristics related to construction truck peaking patterns and travel paths.

The construction traffic study area includes intersections and roadways that would be directly or indirectly affected by the construction of the proposed project. Construction material staging for the proposed project is assumed to occur onsite, with the exception of steel laydown, which would occur offsite. The construction traffic study area for this analysis includes those roads and intersections that would most likely be used by truck traffic associated with construction of the proposed project. The procedures are also consistent with the information and requirements defined in City of Los Angeles Department of Transportation (LADOT)Transportation Impact Study Guidelines.[255]

The following steps and assumptions were used to develop the analysis methodology:

- The construction traffic study area depicted in Figure 4.4.1-1 was defined to incorporate the local area roadways that serve as the primary travel paths that would be used by construction truck traffic to access the proposed project site, equipment and materials staging areas.

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

251 City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) West Aircraft Maintenance Area Project,* (SCH 2012091037), February 2014.

252 City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Midfield Satellite Concourse*, (SCH 2013021020), June 2014.

253 City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Landside Access Modernization Program*, (SCH 2015021014), Section 4.12.3, Construction Surface Transportation, and Appendix P, Construction Traffic, February 2017.

254 City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Terminals 2 and 3 Modernization Project*, (SCH 2016081034), June 2017.

255 City of Los Angeles Department of Transportation, *Transportation Impact Study Guidelines*, December 2016. Available: http://ladot.lacity.org/sites/g/files/wph266/f/COLA-TISGuidelines-010517.pdf.

- Intersection turning movement traffic volume data were collected at key traffic study area intersections over a two-year period (2014 to 2015). Traffic counts at intersections within the City of Los Angeles were generally obtained from 7:00 a.m. to 10:00 a.m., and from 3:00 p.m. to 6:00 p.m., consistent with the City of Los Angeles Transportation Impact Study Guidelines. The counts at the remaining intersections under other jurisdictions were obtained from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. Due to ongoing construction of the Metro Crenshaw/LAX Transit Corridor project along Aviation Boulevard, traffic counts in the area were not updated as they are not considered representative of typical baseline conditions; the most recent traffic counts available were used instead. The traffic count periods were established to obtain traffic count data during the a.m. and p.m. peak commuter periods and represent the most recent counts at the construction traffic study area intersections. Additional traffic counts were conducted in February 2018 at the intersections of Airport Boulevard/Century Boulevard, Avion Drive/Century Boulevard, Avion East/Avion South, and the driveways of Parking Garage F and Parking Lot H, which are all located in close proximity to the project site. These additional counts were completed because no recent traffic counts exist at these intersections and were needed to establish baseline activity near the future East Maintenance Facility, as well as estimate traffic activity and demand from Parking Garage F and Parking Lot H. These counts were used as a basis for preparing the construction traffic analysis and assessing project-related traffic impacts. For purposes of the construction truck traffic analysis, the a.m. peak hour corresponding to the commuter peak periods was determined to be 7:00 a.m. to 8:00 a.m., while the p.m. peak hour was determined to be 4:00 p.m. to 5:00 p.m.

The following describes the methodology and assumptions underlying the various traffic conditions considered in this traffic analysis, and how the proposed project's direct and cumulative impacts were identified relative to those conditions. Data in support of the analysis are provided in Appendix D.

4.4.1.2.2 Determination of Baseline Traffic Conditions

Baseline conditions used in the analysis of project-related construction traffic impacts are defined as the existing conditions within the construction traffic study area at the time the NOP was published (December 2017). LAWA conducts annual driveway volume counts at various locations throughout the airport (including those adjacent to public parking lots, employee parking lots, cargo facilities, rental car facilities, and off-airport parking facilities). LAWA also collects annual traffic volume counts each August along the Central Terminal Area (CTA) roadways to estimate annual airport traffic volumes. Considering the location of the study area intersections, it was determined that each intersection contains a mix of both airport-related traffic and non-airport-related traffic. Consequently, both the driveway count data and CTA data were used to establish a growth rate to adjust the 2015 traffic volumes to 2017 levels. These data are reasonably representative of existing traffic conditions at the time the EIR Notice of Preparation was published (December 2017). The a.m. traffic volumes were increased by 15.7 percent, while the p.m. traffic volumes were increased by 15.5 percent.[256] These volumes were used to determine the 2017 baseline volumes for use in the construction traffic analysis and to assess project-related construction traffic impacts. Given temporary effects of street closures caused by construction of the nearby Metro Crenshaw/LAX Transit Corridor project, the use of these data (i.e., the driveway count and CTA roadway data) provides the most accurate assessment of baseline traffic patterns within the study area. The following steps were taken to develop baseline traffic conditions information.

Prepare Model of Study Area Roadways and Intersections

A model of construction traffic study area roadways and intersections was developed to assist with intersection capacity analysis (i.e., geometric configuration, quantitative delineation of capacity, and

[256] Ricondo and Associates, LAX UAL Traffic Volume Adjustment, December 2017.

operational characteristics of intersections likely to be affected by the proposed project's construction traffic). The model was developed using TRAFFIX,[257] a commercially available traffic analysis software program designed for developing traffic forecasts and analyzing intersection and roadway capacities. The model uses widely accepted traffic engineering methodologies and procedures, including the Transportation Research Board Critical Movement Analysis (CMA) Circular 212 Planning Method,[258] which is the required intersection analysis methodology for traffic impact studies conducted within the City of Los Angeles.

Calculate Baseline (2017) Levels of Service

Intersection levels of service were calculated using the most recent intersection traffic volumes coinciding with the a.m. peak hour (7:00 a.m. to 8:00 a.m.) and the p.m. peak hour (4:00 p.m. to 5:00 p.m.). These levels of service defined existing baseline conditions, which served as a basis of comparison for assessing traffic impacts generated by construction of the proposed project.

4.4.1.2.3 Determination of Baseline Plus Peak Proposed Project Traffic Conditions

This construction traffic analysis was designed to assess the direct impacts associated with the construction of the proposed project, as well as the effects of future cumulative conditions. For purposes of determining direct project-related impacts, two traffic scenarios were developed consisting of baseline traffic described above plus the additional traffic that would be generated by the proposed project construction activity (i.e., truck trips) during the peak construction period. The following steps were conducted to determine the Baseline Plus Peak proposed project traffic volumes. Detailed traffic volumes of Baseline Plus Peak are presented in Appendix D.1-2.

Analyze Peak Proposed Project Construction Activity

Truck trips associated with construction of the proposed project during the peak month of construction activity were estimated and distributed throughout the construction traffic study area network. The trips were estimated based on a review of the proposed project construction schedule. Project-related construction trips were summarized to delineate peak month inbound and outbound construction truck trips by hour of the day. The construction truck trip distribution patterns were based on regional patterns developed for the proposed project and specific haul route information. Detailed information regarding traffic distribution patterns is presented in Appendix D.1-4.

Estimate Baseline (2017) Plus Peak Proposed Project Traffic Volumes

The estimated Baseline Plus Peak proposed project (referred to hereinafter as Baseline Plus Project) traffic volumes were estimated by adding the proposed project volumes during the peak proposed project activity period (August 2019) to the baseline (2017) volumes.

4.4.1.2.4 Determination of Future Cumulative Traffic Conditions

In addition to the Baseline Plus Project condition described above, future cumulative traffic conditions were analyzed. For this traffic analysis, cumulative traffic conditions were assessed for the period during the overall proposed project construction program when the cumulative construction traffic associated with other LAX development programs would be greatest. This peak cumulative period was estimated to occur during October 2019.

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257 Dowling Associates, TRAFFIX Version 7.7.

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

In accordance with State CEQA Guidelines Section 15130(b), there are essentially two options for determining cumulative development for evaluating cumulative impacts:

c. List past, present, and reasonably foreseeable probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

d. Summarize projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program.

For purposes of analyzing the proposed project's cumulative construction traffic impacts, a hybrid of the two approaches was used. Section 4.4.1.5 provides descriptions of cumulative projects and how the construction traffic generation related to those projects would overlap with that of the proposed project (cumulative projects are described in Chapter 3, *Overview of Project Setting*, and listed in Table 3-1). Also, using the "projection" approach, background traffic was increased to reflect additional growth from non-specific projects, which may include both airport- and/or non-airport related projects. The construction traffic analysis assumed (1) airport-related traffic was grown proportionally in accordance with projected passenger levels, as described in greater detail below, and (2) a 2 percent annual growth in background traffic, which produces a conservative traffic volume scenario that would account for additional construction-related traffic in the event that additional construction projects are initiated during the timeframe evaluated for this study. This annual growth rate assumption is consistent with previous direction first provided by LADOT for use in the LAX South Airfield Improvement Project (SAIP) EIR construction traffic analysis[259] and subsequently used for construction traffic studies prepared for other LAX EIRs.

Cumulative conditions were determined based on two sets of future cumulative traffic volume conditions, as described below. Detailed traffic volumes related to the cumulative conditions are presented in Appendix D.1-2.

4.4.1.2.5 Cumulative Traffic (October 2019) Without Project

This scenario combines baseline traffic volumes with growth from all sources other than the proposed project to determine the overall peak cumulative traffic conditions during the construction period for the proposed project. The following steps were taken to develop the traffic volumes for this scenario.

Develop October 2019 Focused Traffic Study Area Roadway Network

Though it is possible additional improvements would be in place prior to the peak cumulative traffic period (October 2019), for purposes of this analysis, it has been conservatively assumed that no additional roadway improvements would be in place. Therefore, the baseline 2017 traffic study area roadway network was held constant to 2019.[260]

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259 City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) South Airfield Improvement Project,* (SCH 2004081039), October 2005.

260 While additional cumulative projects, such as the Landside Access Modernization Program, are scheduled to occur during the cumulative peak month (October 2019), the timing of potential temporary roadway closures, if any, is unknown at the time of the analysis. Any roadway network modifications would be included in the construction traffic management plan (CTMP) for that project that would be developed in accordance with the CALM Review Procedures outlined in LAWA's Design & Construction Handbook (referred to as a Site Logistics Plan) and would be reviewed by LAWA prior to implementation. Due to the unknown timing of potential closures or improvements, it is reasonable to assume the roadway network would remain constant from 2017 to 2019.

Estimate October 2019 Cumulative (Without Project) Traffic Volumes

Cumulative (October 2019) traffic volumes were estimated using the following process:

- Baseline traffic volumes were grown to 2019 based on the assumption that passenger activity levels at LAX were approaching 85 million annual passengers (MAP) in 2017, and will continue to increase until they reach 96.6 MAP. This passenger level represents the upper limit of the Southern California Association of Governments (SCAG) aviation forecast for LAX[261] and was conservatively assumed to occur by 2025. Assuming passenger activity increases at a steady rate between the baseline year of 2017 and 2019, it was estimated for purposes of this analysis that MAP levels at LAX would reach approximately 88 MAP by 2019. Airport-related traffic was grown proportionally in accordance with MAP levels while background traffic was grown at 2 percent per year to account for local background traffic growth through 2019. This annual growth rate is more conservative than what is projected for the South Bay/LAX area in the 2010 Congestion Management Program,[262] which estimates an annual growth of approximately 0.3 percent.

Construction trips associated with the peak period of cumulative construction (October 2019) were estimated based on the estimated labor component of total construction cost and the timeline for each concurrent project (with the exception of the LAX Northside Development project, for which construction trip information was obtained from the traffic consultants involved in preparation of the traffic study for the LAX Northside Development EIR;[263] and the Landside Access Modernization Program and the Terminals 2 and 3 Modernization Project, for which information was obtained from the respective EIRs).[264,265] Some of these projects have similar restrictions on construction work periods as the proposed project, but some do not; thus, the cumulative analysis takes into account construction truck trips and construction employee trips during the peak hour, if no construction work period restrictions were stipulated. The cumulative development projects that were considered as part of this analysis and the estimated trips associated with these cumulative development projects are described in more detail below.

4.4.1.2.6 Cumulative Traffic (October 2019) With Project

The project-related construction traffic volumes occurring during the peak cumulative period were added to the Cumulative Traffic (October 2019) "Without Project" traffic volumes described in the previous section. This is a traffic scenario that represents the estimated total peak hour traffic volumes (consisting of background traffic, traffic related to ambient growth, traffic related to other projects, and proposed project construction traffic) that would use the construction traffic study area intersections during the cumulative peak in October 2019.

4.4.1.2.7 Determination of Impacts and Mitigation Measures

The following steps were conducted to calculate intersection levels of service, identify impacts, and identify mitigation measures for significant impacts. Detailed intersection level of service (LOS) and volume-to-capacity ratio (v/c) outputs are presented in Appendix D.1-3.

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261 Southern California Association of Governments, *Final 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy: A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life*, Aviation & Airport Ground Access Appendix, adopted April 7, 2016. Available: http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx.

262 Los Angeles County Metropolitan Transportation Authority, *Congestion Management Program*, Appendix D, Exhibit D-1, South Bay/LAX Area, 2010.

263 City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Northside Plan Update*, Appendix E, Traffic Study, December 2014.

264 City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Landside Access Modernization Program*, (SCH 2015021014), Appendix O, Off-Airport Traffic Study, February 2017.

265 City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Terminals 2 and 3 Modernization Project*, (SCH 2016081034), June 2017.

Analyze Intersection and Roadway Levels of Service

The levels of service of the construction traffic study area intersections and roadways were analyzed using TRAFFIX. Intersection LOS (v/c) was estimated using the CMA planning level methodology, as defined in Transportation Research Board Circular 212,[266] in accordance with LADOT's Transportation Impact Study Guidelines,[267] and the L.A. CEQA Thresholds Guide.[268] Intersection LOS (v/c) was analyzed for the following conditions:

- Baseline
- Baseline Plus Peak Project Traffic
- Future Cumulative Traffic (October 2019) Without Project
- Future Cumulative Traffic (October 2019) With Project

Identify Project Impacts

Project-related impacts associated with construction of the proposed project were identified for intersections that would be significantly affected by project-related traffic, consistent with the approach established in the LADOT Transportation Impact Study Guidelines. The thresholds described in Section 4.4.1.4 were used to determine impact significance. Project-related impacts and cumulative impacts were determined by comparing the LOS (v/c) results for the following:

- **Baseline Plus Peak Proposed Project Compared with Baseline:** This comparison is utilized to isolate the impacts of the proposed project.
- **Cumulative Impacts:** Cumulative impacts were determined using a two-step process. Initially, the "Cumulative Traffic (October 2019) With Project" condition was compared to the baseline condition to determine if a significant cumulative impact would occur relative to baseline conditions. A cumulative impact was deemed significant if it would exceed the threshold of significance. If a cumulative impact was determined to be significant, then a second comparison of the "With Project" vs. the "Without Project" LOS (v/c) conditions was made to determine if the project's contribution to the significant cumulative impact would be "cumulatively considerable" in accordance with the impact thresholds defined in Section 4.4.1.4 below.

Mitigation measures were identified for intersections determined to be significantly affected by construction-related truck traffic.

4.4.1.3 Existing Conditions

4.4.1.3.1 Regulatory Setting

The LADOT Transportation Impact Study Guidelines require that a Traffic Study be prepared if the following operational criteria are met:

- A project is likely to add 43 or more a.m. or p.m. peak hour operational trips.

In addition, the Los Angeles County *2010 Congestion Management Program for Los Angeles County*[269] provides Congestion Management Program (CMP) Guidelines to assist local agencies in evaluating regional highway and freeway impacts of land use projects on the CMP system through the preparation of a regional

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

267 City of Los Angeles Department of Transportation, *Transportation Impact Study Guidelines*, December 2016. Available: http://ladot.lacity.org/sites/g/files/wph266/f/COLA-TISGuidelines-010517.pdf.

268 City of Los Angeles, *L.A. CEQA Thresholds Guide, Your Resource for Preparing CEQA Analyses in Los Angeles*, 2006.

269 Los Angeles County Metropolitan Transportation Authority, *2010 Congestion Management Program*, October 2010.

transportation impact analysis (TIA). A CMP TIA is necessary for all projects that include, at a minimum, the following operational trips:

- 50 or more trips added to a CMP arterial intersection during either the weekday a.m. or p.m. peak hours
- 150 or more trips added to the mainline freeway monitoring locations during either the weekday a.m. or p.m. peak hours

During the scoping of the SAIP EIR traffic study in 2004, LADOT indicated that no traffic study was required because there was "no requirement to assess the temporary traffic impacts of a project resulting from construction activities. So, the proposal to prepare a traffic study is voluntary."[270] Additionally, LADOT reiterated in January 2017 that it does not require traffic impact studies for traffic construction-related impacts.[271] LAWA determined at that time that the preparation of a traffic study is useful in order to provide a full assessment and documentation of the impacts generated by the construction of the proposed project.

The proposed project would be subject to LAWA's *Design and Construction Handbook*, which requires that Site Logistics Plans be prepared and submitted to LAWA for review and approval. The Site Logistics Plan is required to identify points of entrance locations and traffic routes for equipment, trucks, and worker vehicles; construction worker parking; staging/laydown areas; emergency vehicle access; and other information relating to project construction logistics. The *Design and Construction Handbook* also includes provisions relating to construction work hours and bulk material deliveries.[272] Specifically, the Handbook requires bulk material deliveries (e.g., aggregate, bulk cement, direct) to be scheduled during off-peak hours unless prior written approval is provided by the CALM Team. In addition, the Handbook specifies that work hours should avoid peak commuter traffic periods to the extent possible.

4.4.1.3.2 Baseline Conditions

As indicated above, baseline conditions relate to the facilities and general conditions that existed during a typical weekday for the hours of 7:00 a.m. to 8:00 a.m. and 4:00 p.m. to 5:00 p.m., which was determined to be the relevant peak hours for this construction analysis, as stated in Section 4.4.1.2.1.

Construction Traffic Study Area

The construction traffic study area is depicted in Figure 4.4.1-1. The geographic scope of the construction traffic study area was determined by identifying the intersections most likely to be used by construction-related trucks accessing (1) the proposed project construction site and (2) the construction employee parking and staging areas for other concurrent construction projects in the vicinity of LAX. The construction traffic study area is generally bounded by I-405 to the east, I-105 and Imperial Highway to the south, Pershing Drive to the west, and Century Boulevard to the north. Figure 4.4.1-1 depicts the proposed project construction site, which is located in the eastern portion of LAX, parallel to and south of Century Boulevard.

The primary material staging area is planned to be located on the proposed project's construction site. Steel laydown would occur off-site. Deliveries to the laydown area, and between the laydown area and the proposed project site, would occur outside of the a.m. and p.m. peak hours.

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270 Carranza, Tomas, City of Los Angeles Department of Transportation, Electronic Mail Message to Pat Tomcheck, Los Angeles World Airports, *Subject: Re: FW: LAX Traffic Methodology Memo*, July 29, 2004.

271 Ayala, Pedro, City of Los Angeles Department of Transportation, Electronic Mail Message to Pat Tomcheck, Los Angeles World Airports, *Subject: Re: Traffic Impact Studies for Construction-Related Impacts*, January 19, 2017.

272 City of Los Angeles, Los Angeles World Airports, *Los Angeles World Airports Design and Construction Handbook: Design Standards and Guide Specifications, Division I – General Requirements*, July 2017. Available: https://www.lawa.org/en/lawa-businesses/lawa-documents-and-guidelines/lawa-design-and-construction-handbook/design-standards-and-guide-specifications.

Traffic Study Area Roadways

The principal freeways and roadways serving as access routes for truck trips within the construction traffic study area include the following:

- I-405 (San Diego Freeway) - This north-south freeway generally forms the eastern boundary of the construction traffic analysis traffic study area and provides regional access to the airport and the surrounding area. Access to the traffic study area is provided via ramps at Century Boulevard, I-105, Imperial Highway, and three locations along La Cienega Boulevard.
- I-105 (Glenn M. Anderson or Century Freeway) - Along with Imperial Highway (described below), this east-west freeway forms the southern boundary of the construction traffic study area, and extends from the San Gabriel Freeway (I-605) on the east to Sepulveda Boulevard on the west. Access to the traffic study area is provided via ramps at Sepulveda Boulevard and along Imperial Highway. The westbound off-ramp from the I-105 Freeway to northbound Sepulveda Boulevard was widened to three lanes in March 2010.
- Aviation Boulevard - This north-south four-lane roadway bisects the traffic study area.
- Century Boulevard - This eight-lane divided roadway serves as the primary entry to the LAX CTA. This roadway also provides access to off-airport businesses and hotels and on-airport aviation-related facilities (e.g., maintenance and air cargo facilities) located between the CTA and I-405.
- Imperial Highway - This east-west roadway is located at-grade and beneath much of the elevated I-105 freeway. The number of lanes on this roadway varies from six-lanes east of the merge with I-105 to four-lanes west of the merge with I-105.
- La Cienega Boulevard - This north-south roadway parallels I-405 at the eastern boundary of the traffic study area. The roadway varies from four to six lanes.

4.4.1.3.3 Existing Traffic Conditions

Traffic conditions at the construction traffic study area intersections and existing traffic activity (peak month, hourly, and annual) are discussed below.

Traffic Study Area Intersections

The routes likely to be utilized by construction-related vehicles were reviewed to identify the intersections likely to be used by vehicles accessing the construction staging sites associated with the proposed project or the other concurrent construction project sites in the vicinity of LAX. Volume/capacity ratios at 31 area intersections were calculated for both the baseline plus peak proposed project and for the future cumulative traffic conditions. The results were then analyzed to identify those intersections that were projected to have a 0.004 (0.4 percent) or greater increase in traffic volume/capacity with the project for detailed analysis. Those intersections with a 0.003 (0.3 percent) or less increase in traffic volume/capacity from construction traffic associated with the proposed project were determined to not have any potential for significant effect and were eliminated from further analysis. Based on this review, the key intersections to be analyzed are listed below in **Table 4.4.1-1** and depicted on **Figure 4.4.1-2**. As stated in Chapter 2, *Project Description*, construction shifts would be scheduled to avoid the morning commuter peak period (7:00 a.m. to 9:00 a.m.) and evening commuter peak period (4:30 p.m. to 6:30 p.m.) and, as noted above, steel deliveries would occur outside of the commuter peak hours; thus, the only project-related construction traffic would be from construction truck deliveries (other than steel), which must use designated haul routes, which are depicted on **Figure 4.4.1.3**. Because the screening analysis determined that construction truck deliveries would not significantly utilize La Tijera and Aviation Boulevards from the north, this construction traffic analysis focuses on the Imperial Highway, Aviation Boulevard, and Century Boulevard haul routes to the construction site.

Table 4.4.1-1
Study Area Intersections

Intersection Number	Intersection Location
1.	Aviation Boulevard and Century Boulevard
2.	Imperial Highway and Aviation Boulevard
3.	Aviation Boulevard and 111th Street
4.	Imperial Highway and I-105 Ramp
5.	Imperial Highway and I-405 Northbound Ramp
6.	Avion Drive and Century Boulevard
7.	Aviation Boulevard and 104th Street

Source: Ricondo & Associates, Inc, June 2018.

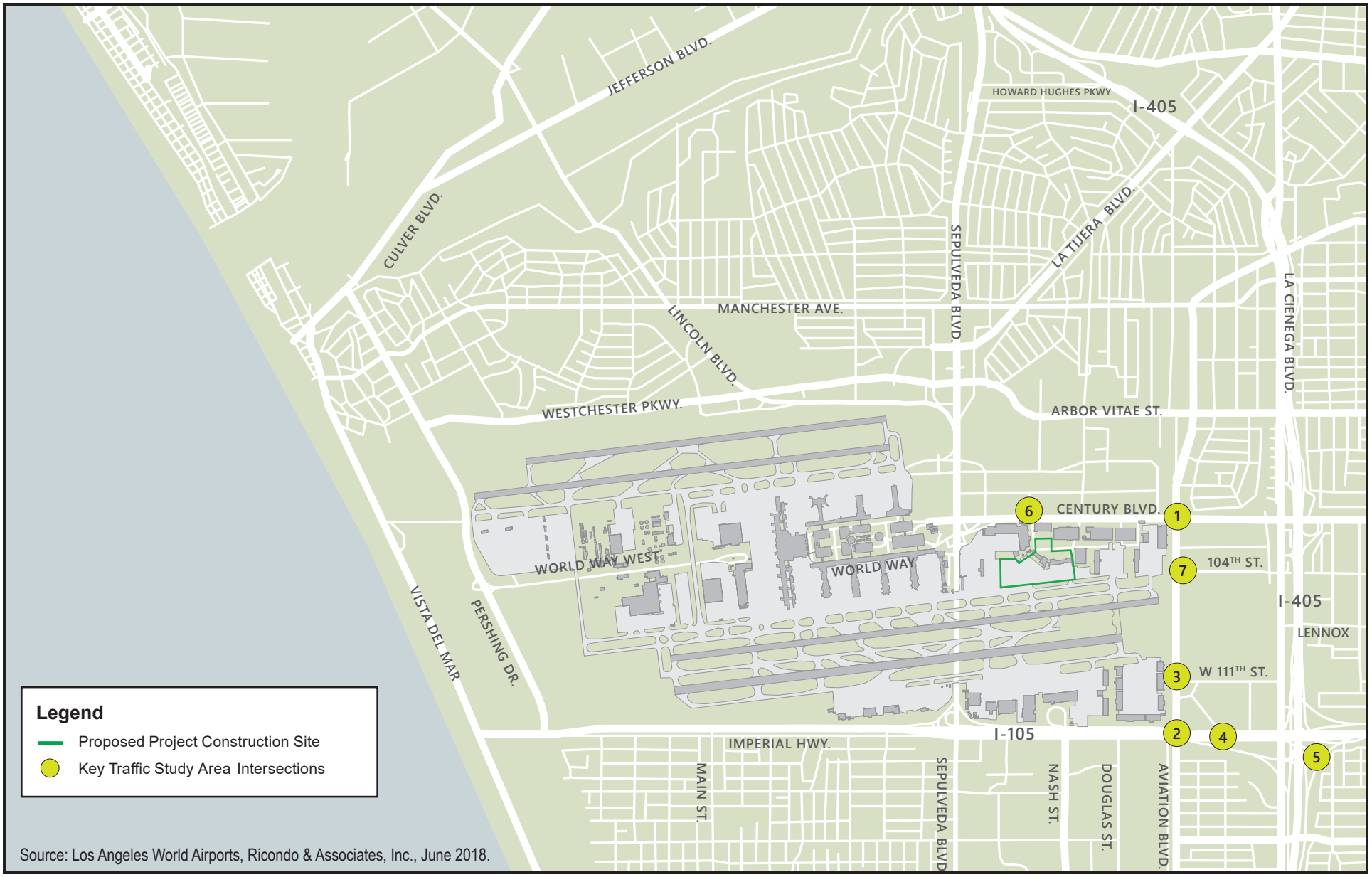
Intersection Control and Geometry

All of the construction traffic study area intersections listed in Table 4.4.1-1 and depicted in Figure 4.4.1-2 are signalized. In addition, all of the intersections are included in LADOT's Automated Traffic Surveillance and Control (ATSAC) system. The ATSAC system provides for monitoring of intersection traffic conditions and the flexibility to adjust traffic signal timing in response to current conditions. Study area intersection geometries are provided in Appendix D.1-1.

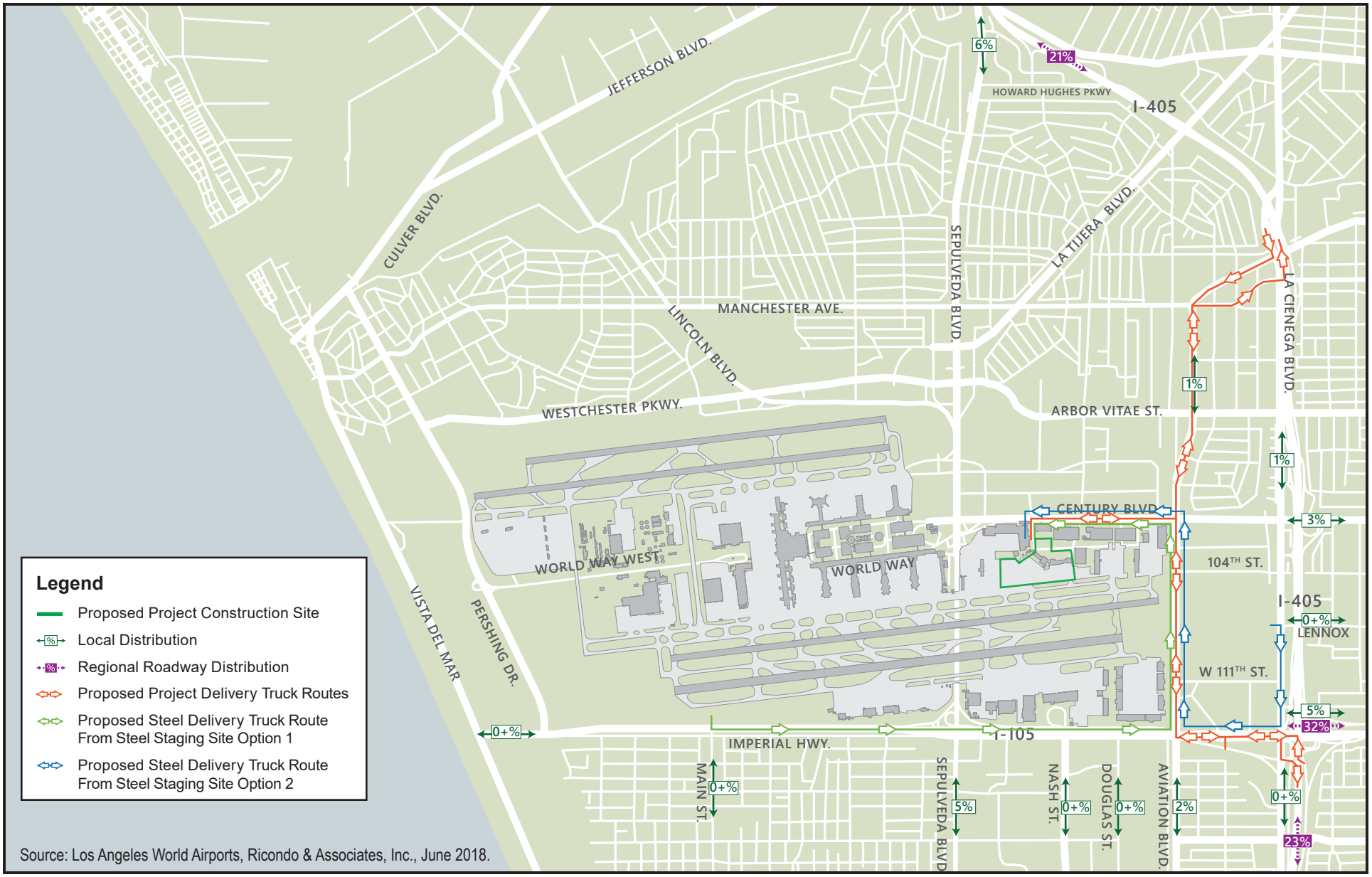
Peak Hours

The hours of analysis were chosen based on those which have available baseline traffic volumes for all intersections in the construction traffic study area, and for those hours at the start of the commuter peak periods. Using this criterion, the hours analyzed for the proposed project were:

- **AM Peak Hour (7:00 a.m. to 8:00 a.m.)** – As stated in Chapter 2, *Project Description*, construction shifts would be scheduled to avoid the morning commuter peak period (7:00 a.m. to 9:00 a.m.) The proposed project a.m. peak hour represents a period for material delivery trucks accessing/egressing the staging area (as previously stated, deliveries to the steel laydown area, and between the laydown area and the project site, would occur outside of the a.m. peak hour). The construction traffic analysis assumed that no employee trips would be on the roadways at this time, as employees would have arrived at the staging lot prior to 6:00 a.m. (i.e., the timing of the morning shift [6:00 a.m. to 2:30 p.m.] requires all employees to be on-site prior to the 7:00 a.m. to 8:00 a.m. peak hour).
- **PM Peak Hour (4:00 p.m. to 5:00 p.m.)** – As stated in Chapter 2, *Project Description*, construction shifts would be scheduled to avoid the afternoon commuter peak period (4:30 p.m. to 6:30 p.m.). The proposed project p.m. peak hour represents a period for material delivery trucks accessing/egressing the staging area (as previously stated, deliveries to the steel laydown area, and between the laydown area and the project site, would occur outside of the p.m. peak hour). The construction traffic analysis assumed that no employee trips would be on the roadways at this time, as employees would have either arrived or departed the staging lot prior to 4:00 p.m. (i.e., the timing of the morning shift [6:00 a.m. to 2:30 p.m.] assumes all employees would have departed the staging area prior to the 4:00 p.m. to 5:00 p.m. hour. Additionally, the timing of the afternoon shift [3:00 p.m. to 11:30 p.m.] would require all employees to be on-site prior to the 4:00 p.m. to 5:00 p.m. hour).



UAL East Aircraft Maintanance and GSE Project	Construction Traffic Study Area Intersections	Figure 4.4.1-2



Source: Los Angeles World Airports, Ricondo & Associates, Inc., June 2018.

UAL East Aircraft Maintanance and GSE Project

Proposed Project Construction Vehicle Routes & Trip Distribution

Figure
4.4.1-3

The a.m. peak hour analyzed falls entirely within the morning commuter peak period of 7:00 a.m. to 9:00 a.m., and the p.m. peak hour analyzed falls partially within the afternoon commuter peak period of 4:30 p.m. to 6:30 p.m., when background traffic is anticipated to be higher than adjacent hours. As noted above, the majority of project-related construction traffic is expected to occur during off-peak hours.

4.4.1.3.4 Baseline Intersection Analyses

Intersection LOS (v/c) was analyzed using the CMA methodology to assess the estimated operating conditions during baseline conditions for the a.m. and p.m. peak hours. This method, also known as the Circular 212 Planning Method, calculates the sum of the per-lane volumes for the critical movements and divides by an overall intersection capacity (volume-to-capacity ratio). LOS is a qualitative measure that describes traffic operating conditions (e.g., delay, queue lengths, congestion). Intersection LOS ranges from A (i.e., excellent conditions with little or no vehicle delay) to F (i.e., excessive vehicle delays and queue lengths). LOS definitions for the CMA methodology are presented in **Table 4.4.1-2**.

Table 4.4.1-2
Level of Service Definitions for Signalized Intersections

Level of Service (LOS)	Volume/Capacity Ratio Threshold	Definition
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 - 0.700	VERY GOOD. An occasional approach phase is fully used; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 - 0.800	GOOD. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 - 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 - 1.000	POOR. Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	Greater than - 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.

In accordance with LADOT analysis procedures, the volume/capacity (v/c) ratio was calculated using the CMA methodology is further reduced by 0.07 for those intersections included within the ATSAC system to account for the improved operation and increased efficiency from the ATSAC system that is not captured as part of the CMA methodology. Application of the ATSAC reduction is described in Attachment D of the LADOT Transportation Impact Study Guidelines.[273]

The estimated intersection LOS (v/c) for baseline conditions is provided in **Table 4.4.1-3**. As shown in Table 4.4.1-3, 4 of the 7 intersections operated at LOS C or better during the baseline a.m. and p.m. peak periods analyzed for the proposed project. The following intersections were estimated to be operating at LOS D or worse during the baseline a.m. or p.m. peak periods:

- Aviation Boulevard and Century Boulevard (Intersection #1) – LOS D p.m. peak hour

[273] City of Los Angeles Department of Transportation, *Transportation Impact Study Guidelines*, December 2016. Available: http://ladot.lacity.org/sites/g/files/wph266/f/COLA-TISGuidelines-010517.pdf.

- Imperial Highway and I-105 Ramp (Intersection #4) – LOS D a.m. peak hour
- Imperial Highway and I-405 Northbound Ramp (Intersection #5) – LOS D p.m. peak hour

The LOS (v/c) results from the TRAFFIX program, including the volume, geometry and other inputs used to produce these results are provided in Appendix D.1-3.

Table 4.4.1-3
Baseline Intersection Analysis Results

Intersection		Peak Hour [1]	V/C [2]	LOS [3]
1.	Aviation Blvd. & Century Blvd.	AM Peak Hour	0.619	B
		PM Peak Hour	0.860	D
2.	Imperial Hwy. & Aviation Blvd.	AM Peak Hour	0.738	C
		PM Peak Hour	0.677	B
3.	Aviation Blvd. & 111th St.	AM Peak Hour	0.560	A
		PM Peak Hour	0.499	A
4.	Imperial Hwy. & I-105 Ramp	AM Peak Hour	0.839	D
		PM Peak Hour	0.580	A
5.	Imperial Hwy. & I-405 NB Ramp	AM Peak Hour	0.616	B
		PM Peak Hour	0.865	D
6.	Avion Drive & Century Blvd.	AM Peak Hour	0.418	A
		PM Peak Hour	0.410	A
7.	Aviation Blvd. & 104th St.	AM Peak Hour	0.635	B
		PM Peak Hour	0.569	A

Source: Appendix D.1-3 of this EIR

Notes:

1. The hours of analysis include the a.m. peak (7:00 a.m. - 8:00 a.m.) and the p.m. peak (4:00 p.m. - 5:00 p.m.).
2. Volume to capacity ratio.
3. LOS range: A (excellent) to F (failure).

4.4.1.3.5 LAWA's Coordination and Logistics Management Team

Subsequent to the approval of the LAX Master Plan, LAWA established the CALM Team. Working in cooperation with other LAWA divisions, including Terminal Operations, Airport Police, Environmental Programs Group, and Commercial Development Group, the CALM Team monitors construction traffic on the airport and oversees on-airport traffic-related logistics, including coordinating lane and roadway closures, and analyzing traffic conditions to determine the need for additional traffic controls, lane restriping, and traffic signal modifications. An approval process for proposed construction work has been established in which contractors submit request forms describing the work, when the work is proposed to take place, duration, coordination efforts with other projects, etc. If pedestrian or vehicular traffic will be impacted, the submittal form will include proposed traffic control plans. These requests are reviewed by staff from the CALM Team and various LAWA divisions, and any concerns are addressed prior to approval. The CALM Team also develops an informational campaign for construction activities, when warranted, including wayfinding signage for pedestrians to locate ground transportation facilities and parking during construction, information for commercial shuttle drivers regarding lane closures and detours, and traffic alerts on LAWA's website for the public and airport employees. A color-coded, real-time traffic conditions map for the LAX CTA is available on the LAWA website. Weekly meetings occur to discuss minimizing the construction impacts of current and future projects. Coordination with outside agencies is conducted as the individual projects necessitate.

4.4.1.4 Project-Generated Traffic

Traffic that would be generated by the proposed project is defined below for peak period of traffic generation.

4.4.1.4.1 Project Construction Traffic During Project Peak (August 2019)

The peak construction period for the proposed project is anticipated to occur during August 2019. Construction truck trips were estimated on an hourly basis over the typical busy day, which coincides with the peak period of construction, and therefore, construction employment. It is likely that this would occur over several days, or weeks, as construction of the proposed project is at its peak. As stated previously, construction employee trips would occur outside of the commuter peak hours.

For purposes of the intersection analyses, all vehicle trips were converted to "passenger car equivalents" (PCEs) to account for the additional impact that large vehicles, such as trucks, would have on roadway traffic operations. As such, the number of construction-related delivery truck trips was multiplied by a PCE factor of 2.5 consistent with the assumptions in previous LAX construction projects.

The construction schedule was reviewed to determine the specific construction elements occurring during the project peak month of August 2019. Delivery trucks carrying construction equipment and material would enter and exit the project site via Century Boulevard and Avion Drive. On the peak day of construction, a total of 333 daily haul truck trips were estimated with a maximum of 24 haul truck trips per hour, over the likely delivery schedule of 18 hours, during the project peak (August 2019). During the a.m. peak hour, it was estimated that 20 trucks would enter and exit the study area, while 18 trucks were estimated to enter and exit the study area during the p.m. peak hour. Using an assumed PCE factor of 2.5 per vehicle, it was estimated that a total of 50 PCEs (20 multiplied by 2.5) would enter and exit the study area during the a.m. peak period, while 40 PCEs (18 multiplied by 2.5) would enter and exit the study area during the p.m. peak period. As previously stated, deliveries to the steel laydown area, and between the laydown area and the project site, would occur outside of the a.m. and p.m. peak hours. Note that this volume of construction traffic would only occur during the project peak of August 2019. During July 2019, truck activity would be 10 percent lower than during August 2019. For the remainder of the construction period, the level of truck activity would be at least 25 to 50 percent lower than the peak month.

The estimated project-related construction trips (in PCEs) during the proposed project construction peak in August 2019 are summarized by hour in **Table 4.4.1-4**. The table identifies construction delivery truck trips used to transfer goods to and from the construction project site.

4.4.1.4.2 Proposed Project Construction Trip Distribution

The locations of the proposed project construction site, construction employee parking area, steel laydown area(s), and other relevant features are depicted in Figure 4.4.1-1. Figure 4.4.1-3 depicts the proposed project construction truck routes and trip distribution. As shown in Figure 4.4.1-3, trucks would use the regional freeway system (I-405 and I-105), Imperial Highway, Aviation Boulevard, Century Boulevard, and La Cienega Boulevard to access the proposed project site and the steel laydown area. The regional and local traffic flow distributions are also provided in Figure 4.4.1-3.

Truck traffic would be limited to accessing the project site and steel laydown area during construction via the regional freeway system (I-405 and I-105), Imperial Highway, Aviation Boulevard, Century Boulevard, and La Cienega Boulevard. The freeway ramps, roadways, and intersections representing the travel paths for construction-related vehicles within the construction traffic study area were determined by reviewing the designated haul routes and likely paths that would be used by vehicles traveling to the construction staging areas, and assigning those trips to the most logical routes. The traffic study area circulation routes for construction employees and trucks are described in Appendix D.1-4.

Table 4.4.1-4
Project Peak (August 2019) - Proposed Project-Related Construction Traffic PCEs

Hour		Truck[1]		Passenger Car Equivalents (PCE)[2]		Total Construction PCEs
		Trips In	Trips Out	Trips In	Trips Out	
0:00	1:00	-	-	-	-	-
1:00	2:00	-	-	-	-	-
2:00	3:00	-	-	-	-	-
3:00	4:00	-	-	-	-	-
4:00	5:00	-	-	-	-	-
5:00	6:00	23	15	58	38	96
6:00	7:00	23	26	58	65	123
7:00	**8:00**	**20**	**20**	**50**	**50**	**100**
8:00	9:00	20	20	50	50	100
9:00	10:00	24	25	60	63	123
10:00	11:00	24	25	60	63	123
11:00	12:00	19	22	48	55	103
12:00	13:00	18	18	45	45	90
13:00	14:00	18	18	45	45	90
14:00	15:00	16	16	40	40	80
15:00	16:00	16	16	40	40	80
16:00	**17:00**	**18**	**18**	**45**	**45**	**90**
17:00	18:00	18	18	45	45	90
18:00	19:00	18	18	45	45	90
19:00	20:00	20	20	50	50	100
20:00	21:00	20	20	50	50	100
21:00	22:00	10	10	25	25	50
22:00	23:00	8	8	20	20	40
23:00	0:00	-	-	-	-	-
Total		**333**	**333**	**834**	**834**	**1,668**
Summary of Modeled Traffic PCEs						
Construction AM (7:00 AM– 8:00 AM)		20	20	50	50	100
Construction PM (4:00 PM – 5:00 PM)		18	18	45	45	90

Source: CDM Smith (truck trips), April 2018; AECOM Hunt (truck schedule times), June 2018.

Notes:

1. Estimate of truck trips based on typical construction deliveries in the area.
2. Truck trips (i.e., haul trucks) were converted at a rate of 2.5 PCEs per vehicle. Delivery trucks are planned to be located on the project site. Steel laydown would occur offsite.

4.4.1.5 Future Cumulative Traffic

The components of traffic for the future cumulative traffic condition are described in this section. The future cumulative traffic condition takes into consideration past, present, and reasonably foreseeable probable future projects, as identified in Table 3-1 and shown on Figure 3-1 in Chapter 3, *Overview of Project Setting*. In addition, baseline traffic volumes were grown in accordance with the methodology described in Section 4.4.1.2.5. Given that approval, construction, and operation of local area development projects is a continuous process, the traffic associated with the construction and operation of many past and current

local area developments were likely present during the latest intersection counts, and therefore were likely represented in the traffic volume data used as a basis for the traffic study.

Development projects considered in the cumulative impact analysis include LAX Master Plan projects as well as other capital improvement projects undertaken by LAWA and other local agencies. Based on information available at the time the construction traffic analysis for the proposed project was prepared, the development projects forecasted to be under construction concurrent with the proposed project construction (November 2018 through August 2020) and of a nature that would contribute to cumulative traffic impacts were identified.

Table 4.4.1-5 summarizes the estimated construction costs, and the assumed start and end dates of construction for the proposed project and each of the cumulative projects that are forecasted to be under construction concurrent with the proposed project. The estimated labor component of the total construction cost is a key element associated with estimating construction employee hours and resulting employee vehicle trips.

Table 4.4.1-5
Construction Projects Concurrent with the Proposed Project Construction Period

Concurrent Construction Project	Estimated Total Construction Cost (Millions)	Start Date	End Date	Estimated Total Construction Employee Hours (Total)
UAL East Aircraft Maintenance and GSE Project (proposed project)	$300	Nov-18	Aug-20	603,000
LAX Bradley West Project	$525	Nov-13	Nov-19	1,177,000
West Aircraft Maintenance Area Project	$67.3	Aug-14	Mar-19	425,000
Metro Crenshaw/LAX Transit Corridor Project	$2,058	Jan-15	Dec-19	2,306,000
Quonset Hut Relocation	$0.5	Nov-18	Jul-19	560
LAX Fuel Tank Installation	$22	Jun-18	Mar-19	49,000
Runway 7R-25L Rehabilitation	$200	Sep-20	Dec-21	336,000
Secured Area Access Post (SAAP) Project	$4	Mar-18	Mar-20	9,000
Terminals 2 and 3 Modernization Project	$1,400	May-18	Jun-23	3,138,000
Midfield Satellite Concourse North	$1,160	Apr-15	Apr-20	5,732,000
Terminal 1.5	$750	Oct-17	Mar-20	1,681,000
Miscellaneous Projects/Improvements	$945.5	Jan-14	Jul-20	1,480,000
LAX Northside Development[1]	N/A[1/]	Apr-16	Jun-25	N/A[1]
Landside Access Modernization Program[2]	$5,500	Jan-18	Dec-35	13,100,000
MSC South Project	$1,000	Jul-20	Jul-25	2,242,000
Airport Metro Connector 96th Street Transit Station	$623	Jan-20	Jan-23	1,397,000

Sources: LAWA; CDM Smith; Connico Incorporated, March 2016; Ricondo & Associates, Inc., June 2018.

Notes:

1. Construction traffic estimates based on monthly construction activity estimates provided by Gibson Transportation Consulting, Inc. The components of this development whose construction would overlap that of the proposed project include construction of the Argo Drain Sub-Basin Stormwater Infiltration and Treatment Facility, Receiving Station X Project and the Airport Police Facility.
2. Construction traffic estimates provided by Connico Incorporated.

The activity characteristics of the resource loaded schedule (monthly employee hours, shift times, etc.) and associated construction-related vehicle trip activity developed for other LAWA construction projects were used to estimate the construction activity associated with the other concurrent projects for which detailed construction-related trip data were not available. Specifically, the ratio of total construction employee hours to total labor cost was calculated for the Bradley West Project, WAMA, and MSC. A weighted average of this ratio was applied to the estimated labor costs associated with the other cumulative projects to provide an estimate of total employee hours required over the course of each of these other projects.[274]

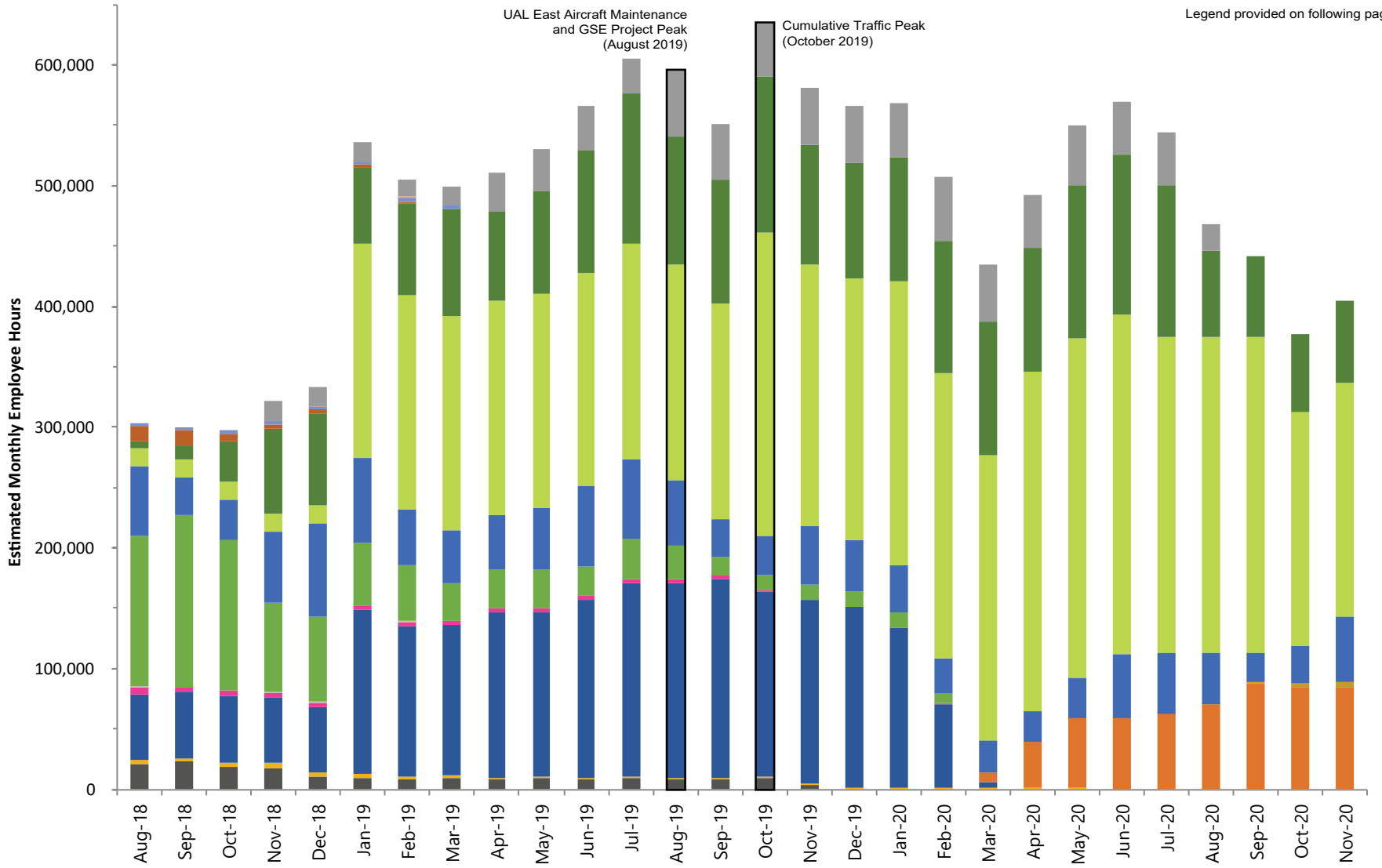
This approach was used to estimate construction employee hours and vehicle trips associated with all concurrent projects with the exception of the LAX Northside Development project, for which construction trip information and monthly construction employee hour data were obtained from the traffic consultants involved in preparation of the traffic study for the LAX Northside Development EIR. Additionally, construction employee hours and vehicle trips associated with the MSC North, Landside Access Modernization Program, Terminal 1.5 Project, and T2/3 Modernization Project were obtained based on detailed construction-related trip projections from the technical analyses prepared as part of their respective EIRs/Initial Studies.

Based on the information in Table 4.4.1-5, **Figures 4.4.1-4** provides estimated employee hours by month for the proposed project and the cumulative construction projects that are forecasted to be under construction concurrent with the proposed project construction period. The figure includes all construction projects that are forecasted to occur over the course of the construction period for the proposed project. As shown in the figure, the peak period for proposed project construction is estimated to occur in August 2019, while the overall cumulative peak during construction of the proposed project is estimated to occur in October 2019.

Using the information in Table 4.4.1-5 and the identification of the overall cumulative peak construction period illustrated in Figure 4.4.1-4, it was determined that nine cumulative projects would be undergoing construction during the cumulative peak construction period (i.e., October 2019). Estimated a.m. and p.m. peak hour vehicle trips associated with the proposed project and these nine concurrent construction projects during the cumulative peak period are provided in **Table 4.4.1-6**. Traffic volumes associated with the proposed project during the peak period for cumulative traffic were estimated based on a review of the proposed project construction schedule. As a result, project construction traffic during the peak cumulative period (October 2019) would be about 82 percent of the construction traffic activity that would occur during the peak month for the project (August 2019).

For each of the cumulative projects, with exception of the MSC North Project, Landside Access Modernization Program, and T2/3 Modernization Project, it was assumed that construction employees would access the traffic study area in the a.m. peak hour, and depart the traffic study area in the p.m. peak hour. The trip characteristics for the MSC North, Landside Access Modernization Program Project, and T2/3 Modernization Program were based on the construction schedules developed for their respective EIRs. Furthermore, it was assumed that all construction projects would use a single work shift with the exception of the MSC North, which was assumed to utilize a double-shift work schedule with the same shift split characteristics as the Bradley West Project. The Landside Access Modernization Program and T2/3 Modernization Project, primarily also have double-shift schedules, although they have brief periods where a triple shift would occur to minimize disruption of the CTA roadways during construction of those projects.

[274] The profile of the monthly distribution of employee hours over the course of the Bradley West Project was used to develop a model profile based on a comprehensive resource loaded schedule, which provides a realistic surrogate for use in estimating activity from other cumulative projects for which detailed construction data are not available.



Source: CDM Smith, Gibson Transportation Consulting, Inc. (LAX Northside Area Development), Connico Incorporated (LAX Landside Access Modernization Program), Ricondo & Associates, Inc., (estimated employee hours for all other projects) June 2018.

UAL East Aircraft Maintanance and GSE Project	**Estimated Employee Hours for Proposed Project and Other Concurrent Construction Projects**	Figure **4.4.1-4**

Legend for Figure 4.4.1-4

- UAL East Aircraft Maintenance and GSE Project (Nov '18 - Aug '20)
- West Aircraft Maintenance Area Project (Aug '14 - Mar '19)
- LAX Terminals 2 and 3 Modernization Project (May '18 - Jun '23)
- LAX Northside Development (Apr '16 - Jun '25)
- Terminal 1.5 (Oct '17 - Mar '20)
- Runway 7R-25L Rehabilitation (Sep '20 - Dec '21)
- LAX Bradley West Project (Nov '13 - Nov '19)
- Miscellaneous Projects/Improvements (Jan '14 - Jul '20)
- Quonset Hut Relocation (Nov '18 - Jul '19)
- LAX Fuel Tank Installation (Jun '18 - Mar '19)
- Landside Access Modernization Program (Jan '18 - Dec '35)
- MSC South Project (2020 - 2025)
- Secured Area Access Post (SAAP) Project (Mar '18 - Mar '20)
- Airport Metro Connector (AMC) 96th Street Transit Station (Jan '20 - Jan '23)
- Midfield Satellite Concourse North (Apr '15 - Apr '20)
- Metro Crenshaw / LAX Transit Corridor Project (Jan '15 - Dec '19)

Note: The order of projects presented in the legend correspond to the order of the stacked bar chart.

Source: CDM Smith, Gibson Transportation Consulting, Inc. (LAX Northside Area Development), Connico Incorporated (LAX Landside Access Modernization Program), Ricondo & Associates, Inc., (estimated employee hours for all other projects) June 2018.

UAL East Aircraft Maintanance and GSE Project	**Estimated Employee Hours for Proposed Project and Other Concurrent Construction Projects**	Figure **4.4.1-4**

Table 4.4.1-6
Construction Project Trips during the Cumulative Peak Construction Period (October 2019)

Project	Construction Trips in Passenger Car Equivalents (PCEs)											
	AM Peak Hour (7:00 AM - 8:00 AM)						PM Peak Hour (4:00 PM - 5:00 PM)					
	Employees[1]		Trucks[2]		Shuttles[3]		Employees[1]		Trucks[2]		Shuttles	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Proposed Project (October 2019)[6]	-	--	43	43	--	--	--	-	38	38	--	--
Other Concurrent Projects in October 2019[4]												
LAX Bradley West Project	3	--	3	3	--[7]	--[7]	--	3	3	3	--[7]	--[7]
Metro Crenshaw/LAX Transit Corridor Project	27	--	5	5	--[7]	--[7]	--	27	5	5	--[7]	--[7]
Secured Area Access Post (SAAP) Project	2	--	3	3	--[7]	--[7]	--	2	3	3	--[7]	--[7]
Terminals 2 and 3 Modernization Project[9]	--	280	28	28	20	20	--	--	28	28	--[7]	--[7]
Midfield Satellite Concourse North[5]	354	--	93	93	--[7]	--[7]	83	354	93	93	--[7]	--[7]
Terminal 1.5	40	--	8	8	--[7]	--[7]	--	40	8	8	--[7]	--[7]
Miscellaneous Projects/Improvements	5	--	3	3	--[7]	--[7]	--	5	3	3	--[7]	--[7]
LAX Northside Development[6]	209	--	--	--	--[7]	--[7]	--	209	--	--	--[7]	--[7]
Landside Access Modernization Program[8,9]	--	--	65	65	--[7]	--[7]	--	--	65	65	--[7]	--[7]
Total for Other Concurrent Projects in October 2019	**640**	**280**	**208**	**208**	**20**	**20**	**83**	**640**	**208**	**208**	**--[7]**	**--[7]**

Source: Gibson Transportation Consulting, Inc.; Connico Incorporated, June 2016; CDM Smith, Ricondo & Associates, Inc., June2018.

Notes:

1. An occupancy factor of 1.15 employees per vehicle is included in the employee trip calculations.
2. Truck trips (i.e., haul trucks, concrete trucks) were converted at a rate of 2.5 PCEs per vehicle.
3. Employee shuttles were converted at a rate of 2.0 PCEs per vehicle. Shuttle occupancy was assumed to be 30 passengers per vehicle.
4. The ratio of peak hour trips over total monthly employee construction hours for other concurrent projects was assumed to be equal to that calculated for the proposed Bradley West Project, West Aircraft Maintenance Area, and MSC (weighted average), unless other project-specific data were available.
5. Assumed to operate with a double-shift work schedule.
6. Peak hour trips provided by Gibson Transportation Consulting. The components of this development whose construction would overlap that of the proposed project include the Argo Drain Sub-Basin Stormwater Infiltration and Treatment Facility, Receiving Station X Project and the Airport Police Facility.
7. Employee shuttles would not affect public roadways or intersections due to the location of the project construction site and the employee parking areas. In some cases, employee parking would occur in close proximity to the construction site; in other cases, employee shuttles would travel largely or exclusively on on-airport roadways.
8. Construction estimates provided by Connico Incorporated.
9. Assumed to operate with a triple-shift work schedule.

For purposes of distributing traffic within the construction traffic study area, employee parking and staging locations for the concurrent projects were identified. The assumed location of the construction employee parking and material staging area, as well as general access and circulation patterns of construction-related vehicle activity for the proposed project, are depicted in **Figure 4.4.1-5**. The contractor employee parking and staging areas for the nine concurrent construction projects during the cumulative peak period are also depicted in Figure 4.4.1-5, as well as other available staging locations in the area. The figure depicts parking and staging areas associated with the projects forecasted to be under construction concurrent with the peak cumulative period (October 2019) analyzed for this study. The regional and local area distribution patterns are generally the same as for the proposed project, with adjustments as necessary for access to the individual sites.

Activity Name[1/]	Construction Employee Parking[2/]	Primary Delivery Staging[2/3/]
UAL East Aircraft Maintanance and GSE Project (PROJECT)	P1	Construction Site, S1 or S2
Bradley West Project	A, B, N	A, B
Metro Crenshaw/LAX Transit Corridor Project	J	J
Secured Area Access Point (SAAP)	T	T
Terminals 2 and 3 Modernization Project	P1[4/]	L, L1
Midfield Satellite Concourse North	A, B, N	A, N
Terminal 1.5	L1	L1
Miscellaneous Projects/Improvements	A	C
LAX Northside Development	A, C, M	A, C, M
LAX Landside Access Modernization Program	A, D, P, R, Q, K, J, E, P1a, P1c	A, D, P, R, Q, K, J, E, P1a, P1c

1/ Represents all construction projects anticipated to be underway concurrent with the cumulative peak month of construction during the project construction period as depicted in Figure 4.4.1-4.

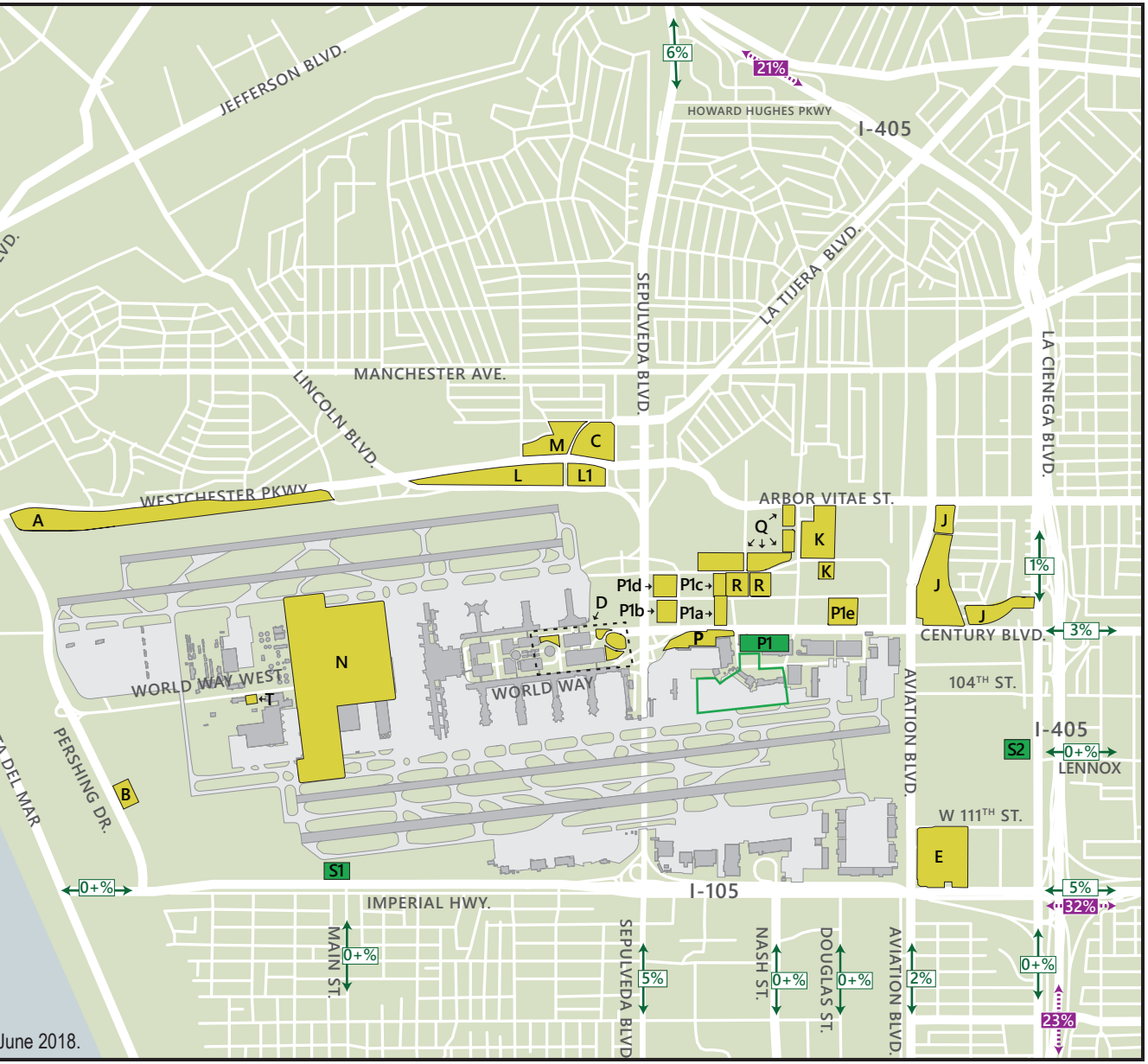
2/ Locations provided by CDM Smith and LAWA.

3/ Staging would also occur on project sites.

4/ Understanding that the availability of Lot P1 for construction employee parking for this project may change, it is recognized that there are additional parking lots in the immediate vicinity of Lot P1 that offer project site access characteristics generally similar to Lot P1. It is anticipated that impacts to the local roadway network and intersections would be similar should employee parking occur at Lot P1a, P1b, P1c, P1d and/or P1e.

Legend

- Proposed Project Construction Site
- Local Distribution
- Regional Roadway Distribution
- Proposed Project Construction Parking and/or Laydown Area
- Cumulative Projects Construction Parking and/or Staging Area



Source: Los Angeles World Airports, Ricondo & Associates, Inc., June 2018.

UAL East Aircraft Maintanance and GSE Project

Employee Parking and Staging Locations for Proposed Project and Other Projects at Construction Peak

Figure **4.4.1-5**

4.4.1.6 Thresholds of Significance

The construction traffic study area intersections either fall entirely within the City of Los Angeles or share a boundary with the City of El Segundo or the City of Inglewood. The intersections which fall entirely within the City of Los Angeles were evaluated for traffic impacts using the LADOT traffic impact significance criteria. Intersections lying on the boundary of multiple jurisdictions were evaluated using the more conservative threshold of significance criteria; in all of these cases the LADOT criteria were shown to have the most conservative thresholds, as the allowable project-related increase in v/c by LADOT is smaller than that of other jurisdictions.

4.4.1.6.1 City of El Segundo Impact Criteria

In the City of El Segundo, an impact is considered significant if the following threshold is exceeded:[275]

- The LOS is E or F, its final volume/capacity (v/c) ratio is 0.901 or greater, and the project-related increase in v/c is 0.020 or greater.

4.4.1.6.2 City of Inglewood Impact Criteria

In the City of Inglewood, an impact is considered significant if the following threshold is exceeded:[276]

- 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.

4.4.1.6.3 City of Los Angeles Impact Criteria

In accordance with LADOT criteria defined in its Transportation Impact Study Guidelines,[277] an impact is considered to be significant if one of the following thresholds is exceeded:

- The LOS is C, its final v/c ratio is 0.701 to 0.80, and the project-related increase in v/c is 0.040 or greater; or
- The LOS is D, its final v/c ratio is 0.801 to 0.90, and the project-related increase in v/c is 0.020 or greater; or
- The LOS is E or F, its final v/c ratio is 0.901 or greater, and the project-related increase in v/c is 0.010 or greater.

The "final v/c ratio" as defined by LADOT consists of the future v/c ratio at an intersection that includes volume from the project, baseline, ambient background growth, and other cumulative development projects, but without proposed intersection traffic mitigation.

The "project-related increase" is defined as the change in the unmitigated LOS (v/c) condition between the (a) future v/c "with" the project, baseline, ambient background growth (for the cumulative impact analysis), and other cumulative development project growth, and (b) the future v/c "without" the project, but with baseline, ambient background growth, and other cumulative development project growth. The existing conditions plus project-related traffic analysis was completed as part of Impact Comparison 1, described in Section 4.4.1.7.1.

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275 City of El Segundo, Planning and Building Safety Department, *City of El Segundo, Circulation Element of the General Plan*, Policy C3-1.2, September 2004.

276 Raju Associates, Inc., *Traffic Study Assumptions and Methodology Memorandum to City of Inglewood*, October 27, 2015.

277 City of Los Angeles Department of Transportation, *Transportation Impact Study Guidelines*, December 2016. Available: http://ladot.lacity.org/sites/g/files/wph266/f/COLA-TISGuidelines-010517.pdf.

4.4.1.7 Impacts Analysis

4.4.1.7.1 Impact Comparison 1: Peak Project Construction Traffic Plus Baseline Traffic Measured Against Baseline

This comparison provides the basis for determining project-related impacts. The comparison is based on project-specific traffic generation during the peak construction period (August 2019) added to baseline traffic volumes. The resulting levels of service were compared to the levels of service associated with the baseline condition. A significant impact would be realized if the thresholds of significance are met or exceeded. **Table 4.4.1-7** compares LOS under baseline and project-plus-baseline conditions. As shown, no intersections are estimated to be significantly impacted under the Baseline plus Project condition.

4.4.1.7.2 Impact Comparison 2: Cumulative Construction Traffic (October 2019) Measured Against Baseline

This comparison was conducted in two steps, which is consistent with State CEQA Guidelines Section 15130. An initial comparison was conducted by comparing the LOS (v/c) associated with peak cumulative traffic volumes with the baseline levels of service. This initial comparison was conducted to determine if there would be a significant cumulative impact. If a significant cumulative impact was determined, then an additional comparison was conducted to determine if the proposed project would make a cumulatively considerable contribution to the significant cumulative impact. This second comparison was conducted by comparing cumulative conditions with and without the proposed project. Cumulatively considerable contributions are realized when the thresholds of significance defined above are met or exceeded. If the project's contribution to a significant cumulative impact is not determined to be cumulatively considerable, then the project's impact under cumulative conditions is considered less than significant.

The impact comparisons are depicted in **Table 4.4.1-8**. As shown in the table, 5 intersections would be significantly impacted during the cumulative peak construction period (October 2019). Furthermore, the proposed project's contribution to such significant cumulative impacts would be cumulatively considerable at three of the significantly impacted intersections:

- Aviation Boulevard and Century Boulevard (Intersection #1) – p.m. peak hour
- Imperial Highway and Aviation Boulevard (Intersection #2) – a.m. peak hour
- Imperial Highway and I-105 Ramp (Intersection #4) – a.m. peak hour

The project's cumulatively considerable contribution to the significant impacts at each of these intersections would be generated by haul truck traffic transferring materials to/from the proposed project site.

Table 4.4.1-7
Proposed Project - Level of Service Analysis Results - Impact Comparison 1 Baseline Compared to Project Plus Baseline

Intersection		Peak Hour[1]	Baseline		Project Plus Baseline		Change in V/C	Significant Impact
			V/C[2]	LOS[3]	V/C[2]	LOS[3]		
1.	Aviation Boulevard and Century Boulevard	AM Peak Hour	0.619	B	0.654	B	0.035	No
		PM Peak Hour	0.860	D	0.879	D	0.019	No
2.	Imperial Highway and Aviation Boulevard	AM Peak Hour	0.738	C	0.764	C	0.026	No
		PM Peak Hour	0.677	B	0.690	B	0.013	No
3.	Aviation Boulevard and 111th Street	AM Peak Hour	0.560	A	0.573	A	0.013	No
		PM Peak Hour	0.499	A	0.511	A	0.012	No
4.	Imperial Highway and I-105 Ramp	AM Peak Hour	0.839	D	0.858	D	0.019	No
		PM Peak Hour	0.580	A	0.594	A	0.014	No
5.	Imperial Highway and I-405 Northbound Ramp	AM Peak Hour	0.616	B	0.621	B	0.005	No
		PM Peak Hour	0.865	D	0.865	D	0.000	No
6.	Avion Drive and Century Boulevard	AM Peak Hour	0.418	A	0.418	A	0.000	No
		PM Peak Hour	0.410	A	0.416	A	0.006	No
7.	Aviation Boulevard and 104th Street	AM Peak Hour	0.635	B	0.648	B	0.013	No
		PM Peak Hour	0.569	A	0.585	A	0.016	No

Source: Appendix D.1-3 of this EIR.

Notes:

1. The hours of analysis include the a.m. peak (7:00 a.m. - 8:00 a.m.), and the p.m. peak (4:00 p.m. - 5:00 p.m.).
2. Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection.
3. Level of Service range: A (excellent) to F (failure).

Table 4.4.1-8
Proposed Project - Level of Service Analysis Results - Impact Comparison 2 Cumulative Traffic (October 2019)

Intersection		Peak Hour[1]	Baseline [A] V/C[2]	Baseline [A] LOS[3]	Cumulative Peak (October 2019) Without Project [B] V/C[2]	Without Project [B] LOS[3]	With Project [C] V/C[2]	With Project [C] LOS[3]	Change in V/C	Cumulative Impact Determination [C]-[A] Significant Cumulative Impact?	Cumulative Impact Determination [C]-[A] Change in V/C	Cumulatively Considerable Determination [C]-[B] Cumulatively Considerable Contribution?
1.	Aviation Boulevard and Century Boulevard	AM Peak Hour	0.619	B	0.689	B	0.720	C	0.101	**Yes**	0.031	No
		PM Peak Hour	0.860	D	0.950	E	0.966	E	0.106	**Yes**	0.016	**Yes**
2.	Imperial Highway and Aviation Boulevard	AM Peak Hour	0.738	C	0.822	D	0.844	D	0.106	**Yes**	0.022	**Yes**
		PM Peak Hour	0.677	B	0.744	C	0.755	C	0.078	**Yes**	0.011	No
3.	Aviation Boulevard and 111th Street	AM Peak Hour	0.560	A	0.611	B	0.623	B	0.063	No	0.012	No
		PM Peak Hour	0.499	A	0.543	A	0.553	A	0.054	No	0.010	No
4.	Imperial Highway and I-105 Ramp	AM Peak Hour	0.839	D	0.930	E	0.945	E	0.106	**Yes**	0.015	**Yes**
		PM Peak Hour	0.580	A	0.635	B	0.647	B	0.067	No	0.012	No
5.	Imperial Highway and I-405 Northbound Ramp	AM Peak Hour	0.616	B	0.654	B	0.659	B	0.043	No	0.005	No
		PM Peak Hour	0.865	D	0.907	E	0.907	E	0.042	**Yes**	0.000	No
6.	Avion Drive and Century Boulevard	AM Peak Hour	0.418	A	0.533	A	0.565	A	0.147	No	0.032	No
		PM Peak Hour	0.410	A	0.452	A	0.477	A	0.067	No	0.025	No
7.	Aviation Boulevard and 104th Street	AM Peak Hour	0.635	B	0.690	B	0.701	C	0.066	**Yes**	0.011	No
		PM Peak Hour	0.569	A	0.623	B	0.633	B	0.064	No	0.010	No

Source: Appendix D.1-3 of this EIR.

Notes:

1. The hours of analysis include the a.m. peak (7:00 a.m. - 8:00 a.m.), and the p.m. peak (4:00 p.m. - 5:00 p.m.).
2. Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection.
3. Level of Service range: A (excellent) to F (failure).

4.4.1.8 Mitigation Measures

As described in Section 4.4.1.5, the proposed project would have no significant impacts under Baseline plus Project condition. The proposed project's contribution to cumulatively significant impacts would be cumulatively considerable at Aviation Boulevard and Century Boulevard (Intersection #1), Imperial Highway and Aviation Boulevard (Intersection #2), and Imperial Highway and I-105 Ramp (Intersection #4).

The proposed project's contribution to significant cumulative impacts generated at each of these intersections would be due to haul truck traffic transferring materials to and from the project site during the a.m. and p.m. peak hours. Restricting haul truck trips during the a.m. and p.m. peak hours would eliminate the project-related cumulatively considerable contribution to significant cumulative impacts at all of the significantly impacted intersections.

The following mitigation measure is proposed to reduce the proposed project's contribution to cumulatively significant construction traffic impacts.

- **MM-ST (UAL)-1. Designated Truck Delivery Hours.** Truck deliveries of bulk materials (such as aggregate, bulk cement, dirt, etc.) to the project site, and hauling of material from the project site, shall be scheduled during off-peak hours to avoid the peak commuter traffic periods on designated haul routes. Peak commuter traffic periods are between 7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m. Monday through Friday. Any deviations to these requirements shall be approved in writing by the CALM Team prior to actual site deliveries.

4.4.1.9 Level of Significance After Mitigation

As indicated above, restricting haul truck traffic during the a.m. and p.m. peak hours would mitigate the project's contribution to significant cumulative impacts at each of the significantly impacted intersections. **Table 4.4.1-9** presents the resulting v/c and LOS under the Cumulative plus Project condition with implementation of the mitigation measure. As shown in Table 4.4.1-9, with implementation of Mitigation Measure MM-ST (UAL)-1, the proposed project's contribution to impacts at each intersection (Intersections #1, #2 and #4) would be reduced to a level that is less than cumulatively considerable.

Table 4.4.1-9
Proposed Project - Level of Service Analysis Results - Mitigation Results Cumulative Plus Project Condition

Intersection		Peak Hour[1]	Baseline		Without Project		With Project Pre Mitigation		With Project With Mitigation		Cumulative Impact Determination		Cumulatively Considerable Determination	
			[A]		[B]		[C]		[D]		[D] – [A]		[D] – [B]	
			V/C[2]	LOS[3]	V/C[2]	LOS[3]	V/C[2]	LOS[3]	V/C[2]	LOS[3]	Change in V/C	Significant Cumulative Impact?	Change in V/C	Cumulatively Considerable Contribution?
1.	Aviation Boulevard and Century Boulevard	PM Peak Hour	0.860	D	0.950	E	0.966	E	0.950	E	0.090	**Yes**	0.000	No
2.	Imperial Highway and Aviation Boulevard	AM Peak Hour	0.738	C	0.822	D	0.844	D	0.822	D	0.084	**Yes**	0.000	No
4.	Imperial Highway and I-105 Ramp	AM Peak Hour	0.839	D	0.930	E	0.945	E	0.930	E	0.091	**Yes**	0.000	No

Source: Appendix D.1-3 of this EIR.

Notes:

1. The hours of analysis include the a.m. peak (7:00 a.m. - 8:00 a.m.), and the p.m. peak (4:00 p.m. - 5:00 p.m.).
2. Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection.
3. Level of Service range: A (excellent) to F (failure).

4.4.2 Operational Transportation/Traffic

4.4.2.1 Introduction

The proposed project would relocate and consolidate functions from the existing West Maintenance Facility to a new East Maintenance Facility, thereby shifting UAL employee traffic and delivery truck operations. Implementation of the proposed project would not result in additional traffic, but instead a reassignment of existing trips would occur. Furthermore, the site layout of the new East Maintenance Facility would result in a closure of the eastbound portion of Avion East, resulting in an operational change of vehicles and delivery trucks currently egressing Parking Garage F and the Mercury Air Group cargo facility. The primary focus of the operational traffic analysis presented in this section is the change in traffic conditions that would result from implementation of the proposed project. The operational traffic analysis completed for the proposed project accounts for increases in both background and airport-related traffic that would occur when the proposed project opens (Opening Day December 2020) and five years after opening (Plus Five Years 2025). Each of the future year conditions (2020 and 2025) includes the projected growth in both non-airport and airport-related vehicle trips. Such future growth in both background and passenger activity levels at LAX is independent of the proposed project and would occur whether the proposed project is implemented or not. The analysis also accounts for increases in traffic that would result from the construction of foreseeable projects. Additionally, the Plus Five Years 2025 scenario includes Phase 1 roadway improvements identified in the Landside Access Modernization Program EIR.[278] The following scenarios were analyzed in the proposed project operational traffic impact analysis:

- Baseline (2017) (i.e., existing traffic conditions without the proposed project);
- Baseline 2017 Plus Project 2020 (i.e., existing traffic conditions as affected by the proposed project under Opening Day conditions);
- Baseline 2017 Plus Project 2025 (i.e., existing traffic conditions as affected by the proposed project under Plus Five Years conditions);
- Future 2020 Without Project (i.e., future conditions with projected growth in background vehicle trips in the area surrounding LAX and airport-related vehicle trips projected to occur by 2020, but without the proposed project; this represents Opening Day conditions for the proposed project);
- Future 2020 With Project (i.e., the future conditions described above for the Future 2020 Without Project scenario plus the change in operational characteristics associated with the proposed project);
- Future 2025 Without Project (i.e., future conditions with projected growth in background vehicle trips in the area surrounding LAX, Landside Access Modernization Program Phase 1 roadway improvements [discussed in Section 4.4.2.5 below] and growth in airport-related vehicle trips projected to occur by 2025, but without the proposed project; this represents Plus Five Years after the opening of the proposed project); and
- Future 2025 With Project (i.e., the future conditions described above for the Future 2025 Without Project scenario plus the change in operational characteristics associated with the proposed project).

[278] City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Landside Access Modernization Program*, (SCH 2015021014), Chapter 2, Description of the Proposed Project, and Section 4.12.2, Off-Airport Transportation, as revised in the Final EIR, and Appendix O, Off-Airport Traffic Study, February 2017.

4.4.2.2 Methodology

4.4.2.2.1 Overview

As noted above, this analysis focuses on traffic impacts due to operational changes caused by implementation of the proposed project.

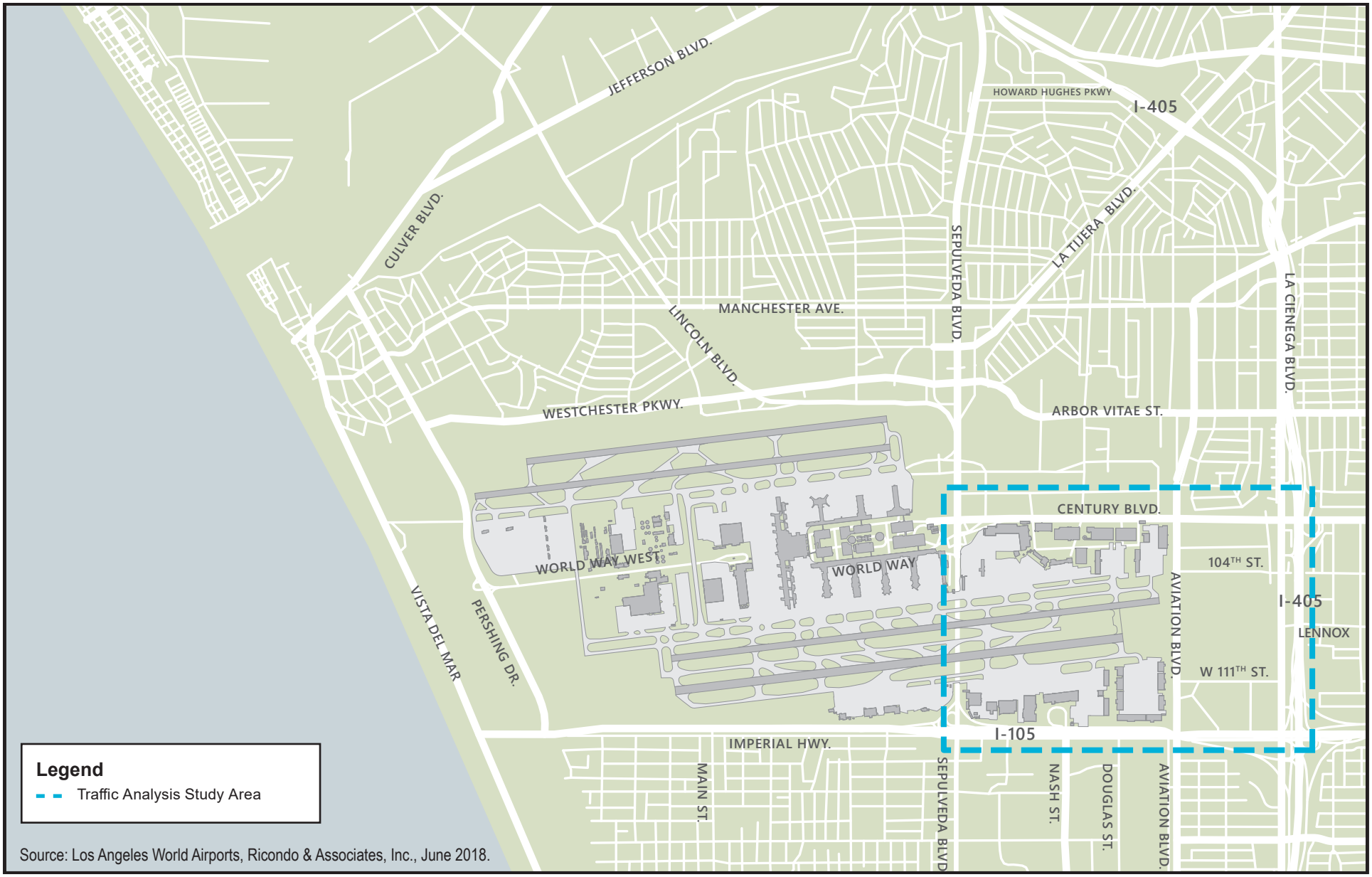
The operational traffic study area includes intersections and roadways that would be directly or indirectly affected by the likely reassignment of existing trips upon the opening of the proposed project. The traffic analysis is also consistent with the information and requirements defined in City of Los Angeles Department of Transportation (LADOT) Transportation Impact Study Guidelines.[279]

The following steps and assumptions were used to develop the analysis methodology:

- The operational traffic study area was assumed to be consistent with that analyzed as part of the construction traffic analysis and is depicted in **Figure 4.4.2-1**. This area was defined to incorporate the local area roadways that serve as the primary travel paths used by LAX passenger and employee traffic.
- Intersection turning movement traffic volume data were collected at key traffic study area intersections over a two-year period (2014 to 2015). Traffic counts at intersections within the City of Los Angeles were generally obtained from 7:00 a.m. to 10:00 a.m., and from 3:00 p.m. to 6:00 p.m., consistent with the City of Los Angeles Transportation Impact Study Guidelines. The counts at the remaining intersections under other jurisdictions were obtained from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. Due to ongoing construction of the Metro Crenshaw/LAX Transit Corridor project along Aviation Boulevard, traffic counts in the area were not updated as they are not considered representative of typical baseline conditions; the most recent traffic counts available were used instead. The traffic count periods were established to obtain traffic count data during the a.m. and p.m. peak commuter periods and represent the most recent counts at the operational traffic study area intersections. As described in Section 4.4.2.2.2, these traffic counts have been increased by 12.5 percent (a.m. peak) and 16.8 percent (p.m. peak) to account for interim growth to the baseline year (2017). Additional traffic counts were also conducted in February 2018 at the intersections of Airport Boulevard/Century Boulevard, Avion Drive/Century Boulevard, Avion East/Avion South, and the driveways of Parking Garage F and surface Parking Lot H. These additional counts were completed because no recent traffic counts exist at these intersections and were needed to establish baseline activity near the future East Maintenance Facility, as well as estimate traffic activity and demand from Parking Garage F and Parking Lot H. These counts were used as a basis for preparing the operational traffic analysis and assessing project-related traffic impacts. To provide a conservative analysis, the peak commuter peak hours were used in the operational traffic analysis, specifically 8:00 a.m. to 9:00 a.m. (a.m. peak hour) and 5:00 p.m. to 6:00 p.m. (p.m. peak hour).

The following describes the methodology and assumptions underlying the various traffic conditions considered in this traffic analysis, and how the proposed project's direct and cumulative impacts were identified relative to those conditions. Data in support of the analysis are provided in Appendix D.

[279] City of Los Angeles Department of Transportation, *Transportation Impact Study Guidelines*, December 2016. Available: http://ladot.lacity.org/sites/g/files/wph266/f/COLA-TISGuidelines-010517.pdf.



Source: Los Angeles World Airports, Ricondo & Associates, Inc., June 2018.

UAL East Aircraft Maintanance and GSE Project

Operational Traffic Analysis Study Area

Figure
4.4.2-1

4.4.2.2.2 Determination of Baseline Traffic Conditions

Baseline conditions used in the analysis of project-related operational traffic impacts are defined as the existing conditions within the operational traffic study area at the time the Notice of Preparation (NOP) was published (December 2017). LAWA conducts annual driveway volume counts at various locations throughout the airport (including those adjacent to public parking lots, employee parking lots, cargo facilities, rental car facilities, and off-airport parking facilities). LAWA also collects annual traffic volume counts each August along the Central Terminal Area (CTA) roadways to estimate annual growth in airport traffic. Considering the location of the study area intersections, it was determined that each intersection contains a mix of both airport-related traffic and non-airport-related traffic. Consequently, both the driveway count data and CTA data were used to establish a growth rate to adjust the 2015 traffic volumes to 2017 levels. Off-airport driveway volumes collected in 2015 were compared to those collected in 2017 to identify the percent change at these locations. Similarly, 2015 and 2017 CTA volumes along the upper and lower levels (inbound/outbound) were compared to identify the approximate growth in airport-related vehicles. It was assumed that these data are reasonably representative of existing traffic conditions at the time the EIR NOP was published (December 2017). Using the 2015 and 2017 driveway and CTA data described above, the a.m. peak hour traffic volumes (8:00 a.m. to 9:00 a.m.) were increased by 12.5 percent, while the p.m. peak hour traffic volumes (5:00 p.m. to 6:00 p.m.) were increased by 16.8 percent.[280] These volumes were used to determine the 2017 baseline volumes for use in the operational traffic analysis and to assess project-related traffic impacts. Given recent temporary effects of street closures caused by construction of the Metro Crenshaw/LAX Transit Corridor, traffic patterns are likely altered as vehicles are either detoured or restricted from using certain roadways. As a result, the use of 2014 to 2015 data (i.e., the driveway count and CTA roadway data) provides the most accurate assessment of baseline traffic patterns within the study area, when adjusted by the interim growth factors. The steps identified below were taken to develop baseline traffic conditions information.

Prepare Model of Study Area Roadways and Intersections

A model of operational traffic study area roadways and intersections was developed to assist with intersection capacity analysis (i.e., geometric configuration, quantitative delineation of capacity, and operational characteristics of intersections likely to be affected by the proposed project's traffic). The model was developed using TRAFFIX,[281] a commercially available traffic analysis software program designed for developing traffic forecasts and analyzing intersection and roadway capacities. The model uses widely accepted traffic engineering methodologies and procedures, including the Transportation Research Board Critical Movement Analysis (CMA) Circular 212 Planning Method,[282] which is the required intersection analysis methodology for traffic impact studies conducted within the City of Los Angeles.

Calculate Baseline (2017) Levels of Service

Intersection levels of service were calculated using the most recent intersection traffic volumes coinciding with the a.m. peak hour (8:00 a.m. to 9:00 a.m.) and the p.m. peak hour (5:00 p.m. to 6:00 p.m.). These levels of service defined existing baseline conditions which served as a basis of comparison for assessing impacts generated during operation of the proposed project.

4.4.2.2.3 Determination of Baseline Plus Project Traffic Conditions

This operational traffic analysis was designed to assess the direct impacts associated with the operations of the proposed project, as well as the effects of future cumulative conditions. For purposes of

280 Ricondo and Associates, LAX UAL Traffic Volume Adjustment, December 2017.

281 Dowling Associates, TRAFFIX Version 7.7.

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

determining direct project-related impacts, two traffic scenarios were developed consisting of baseline traffic described above plus the change in traffic patterns that would result upon opening of the proposed project. For purposes of this analysis, conditions representing Opening Day (December 2020) as well as Plus Five Years (2025) were analyzed. The steps identified below were conducted to determine the Baseline Plus Project traffic volumes. Detailed traffic volumes of Baseline Plus Project are presented in Appendix D.2-2.

Analyze Proposed Project Activity

Upon opening of the proposed project, it is anticipated that UAL employee and delivery truck trips currently occurring to and from the existing West Maintenance Facility would be relocated to the new East Maintenance Facility. As described in Chapter 3, *Overview of Project Setting*, the proposed project is one of many past and present changes to aircraft and GSE maintenance facilities at LAX that have occurred since initiation of the LAX modernization program, which have resulted in a net decrease in square footage of facilities dedicated to aircraft and GSE maintenance at the airport. Following project implementation, it is reasonably foreseeable that UAL's West Maintenance Facility would continue to be used for aircraft and/or GSE maintenance by another airline currently conducting such activities at LAX in constrained or reduced facilities, and would not represent a new use or an increase in such activity.[283] Additional details on trip generation are provided below in Section 4.4.2.4. The resulting changes in traffic patterns were estimated and distributed throughout the traffic study area. These changes include the shift in UAL employee and delivery truck trips from the west side of LAX to the east side of LAX, as well as a shift in truck activity due to the closure of eastbound Avion East near Parking Garage F. Additional details on trip distribution are provided below in Section 4.4.2.3.3. Future operating conditions were developed for Opening Day (December 2020) and Plus Five Years (2025). The employee trip distribution patterns were based on regional patterns developed for the proposed project and previous LAWA traffic studies, specific truck route information, airline passenger survey information, and regional population distributions. Detailed information regarding traffic distribution patterns is also presented in Appendix D.2-4.

Estimate Baseline (2017) Plus Project Traffic Volumes

The Baseline Plus Project traffic volumes were estimated by adding the altered traffic volumes due to implementation of the proposed project to the baseline (2017) volumes. These traffic volumes were developed for both the Opening Day (December 2020) and Plus Five Years (2025) scenarios.

4.4.2.2.4 Determination of Future Cumulative Traffic Conditions

In addition to the Baseline Plus Project condition described above, future cumulative traffic conditions were analyzed. For this traffic analysis, cumulative traffic conditions were assessed for the periods of Opening Day (December 2020) and Plus Five Years (2025).

In accordance with State CEQA Guidelines Section 15130(b), there are essentially two options for determining cumulative development for evaluating cumulative impacts:

a. List past, present, and reasonably foreseeable probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

b. Summarize projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or

[283] Any proposed reuse of the West Maintenance Facility may be subject to its own environmental review and documentation, as appropriate.

certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program.

For purposes of analyzing the proposed project's cumulative operational traffic impacts, a hybrid of the two approaches was used. Effects of cumulative projects, and how the traffic generation related to those projects would overlap with that of the proposed project under both Opening Day (December 2020) and Plus Five Years (2025) scenarios, were considered (cumulative projects are described in Chapter 3, *Overview of Project Setting*, and listed in Table 3-1). Also, using the "projection" approach, background traffic was increased to reflect additional growth from non-specific projects, which may include both airport- and/or non-airport related projects. To estimate future cumulative conditions, the operational traffic analysis assumed (1) airport-related traffic was grown proportionally in accordance with projected passenger levels, as described in greater detail below, and (2) a 2 percent annual growth in background traffic, which produces a conservative traffic volume scenario that accounts for growth in background traffic, as well as additional construction-related traffic in the event that additional construction projects are initiated during the timeframe evaluated for this study. This annual growth rate assumption is consistent with previous direction provided by LADOT for use in other LAX EIRs.

Cumulative conditions were determined based on two sets of future cumulative traffic volume conditions, as described below. Detailed traffic volumes related to the cumulative conditions are presented in Appendix D.2-2.

4.4.2.2.5 Cumulative Traffic (Opening Day – December 2020) Without Project

This scenario combines baseline traffic volumes with growth from all sources other than the proposed project to determine the anticipated traffic conditions upon opening of the proposed project (December 2020). The steps identified below were taken to develop the traffic volumes for this scenario.

Develop December 2020 Focused Traffic Study Area Roadway Network

Though it is possible additional improvements would be in place prior to the opening of the new East Maintenance Facility (December 2020), for purposes of this analysis, it has been conservatively assumed that no additional roadway improvements would be in place by Opening Day 2020. Therefore, the baseline 2017 traffic study area roadway network was held constant to 2020.[284]

Estimate Opening Day – December 2020 (Without Project) Traffic Volumes

Opening Day (December 2020) traffic volumes were estimated as follows. Baseline traffic volumes were grown to 2020 based on the assumption that passenger activity levels at LAX were approaching 85 million annual passengers (MAP) in 2017, and will continue to increase until they reach 96.6 MAP. This passenger level represents the upper limit of the Southern California Association of Governments (SCAG) aviation forecast for LAX[285] and was conservatively assumed to occur by 2025. Assuming passenger activity increases at a steady rate between the baseline year of 2017 and 2025, it was estimated for purposes of this analysis that MAP levels at LAX would reach approximately 89 MAP by 2020. Airport-related traffic

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284 While additional cumulative projects, such as the LAX Landside Access Modernization Program (LAMP), are scheduled to occur upon opening of the new East Maintenance Facility (December 2020), the timing of potential temporary roadway closures, if any, is unknown at the time of the analysis. Any roadway network modifications would be included in the construction traffic management plan (CTMP) that would be developed in accordance with the CALM Review Procedures outlined in LAWA's Design & Construction Handbook (referred to as a Site Logistics Plan) and would be reviewed by LAWA prior to implementation. Due to the unknown timing of potential closures or improvements, it is reasonable to assume the roadway network would remain constant from 2017 to 2020.

285 Southern California Association of Governments, *Final 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy: A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life*, Aviation & Airport Ground Access Appendix, adopted April 7, 2016. Available: http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx.

was grown proportionally in accordance with MAP levels while background traffic was grown at 2 percent per year to account for local background traffic growth through 2020. This annual growth rate is more conservative than what is projected for the South Bay/LAX area in the 2010 Congestion Management Program,[286] which estimates an annual growth of approximately 0.3 percent.

Employee and haul truck trips from other known LAX construction projects occurring during December 2020 were assumed to occur outside of the operational traffic analysis peak hours (8:00 a.m. to 9:00 a.m. and 5:00 p.m. to 6:00 p.m.) consistent with the environmental requirements outlined in LAWA's Design and Construction Handbook, which applies to all projects at LAX.[287]

4.4.2.2.6 Cumulative Traffic (Opening Day – December 2020) With Project

The project-related traffic volumes anticipated to occur as a result of the proposed project were added to the Cumulative Traffic (Opening Day – December 2020) "Without Project" traffic volumes described in the previous section. This is a traffic scenario that represents the estimated total peak hour traffic volumes (consisting of background traffic, traffic related to ambient growth, traffic related to other projects, and proposed project traffic) that would use the operational traffic study area intersections upon Opening day in December 2020.

4.4.2.2.7 Cumulative Traffic (Plus Five Years – 2025) Without Project

This scenario combines baseline traffic volumes with growth from all sources other than the proposed project to determine the anticipated traffic conditions five years after the opening of the proposed project (2025). The steps identified below were taken to develop the traffic volumes for this scenario.

Develop 2025 Focused Traffic Study Area Roadway Network

It was assumed that the Phase 1 roadway improvements identified in the LAX Landside Access Modernization Program EIR would be in place prior to 2024; therefore, these improvements were included in the 2025 traffic study area.[288] Please see Section 4.4.2.5 for additional details on these improvements.

Estimate 2025 (Without Project) Traffic Volumes

Future (2025) traffic volumes were estimated as follows. Traffic volumes developed as part of the LAX Landside Access Modernization Program EIR, specifically the 2024 traffic volumes, were used as a basis for estimating future traffic conditions in 2025. The volumes developed for the LAX Landside Access Modernization Program EIR were based on the assumption that passenger activity at LAX would reach 86 MAP in 2024. However, passenger activity has increased more rapidly than assumed in the LAX Landside Access Modernization Program EIR, and is nearing this level under the baseline conditions. Therefore, it was conservatively assumed for the operational traffic analysis that passenger activity would increase to 96.6 MAP by 2025. Airport-related traffic was grown proportionally in accordance with MAP levels while background traffic was grown at 2 percent per year. As stated above, the 2 percent per year

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286 Los Angeles County Metropolitan Transportation Authority, *2010 Congestion Management Program,* Appendix D – Guidelines for CMP Transportation Impact Analysis, Exhibit D-1, General Traffic Volume Growth Factors, adopted October 28, 2010. Available: http://media.metro.net/docs/cmp_final_2010.pdf.

287 City of Los Angeles, Los Angeles World Airports, *Los Angeles World Airports Design and Construction Handbook (January 2018),* Design Standards & Guide Specifications: Division 1 – General Requirements, July 2017. Available: https://www.lawa.org/-/media/lawa-web/tenants411/file/division-01-july-2017.ashx?la=en&hash=573DEC6E2A9501A7831B7D636A1BAB2F1D639AD3.

288 City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Landside Access Modernization Program*, (SCH 2015021014), Chapter 2, Description of the Proposed Project, and Section 4.12.2, Off-Airport Transportation, as revised in the Final EIR, and Appendix O, Off-Airport Traffic Study, February 2017.

accounts for growth in background traffic, as well as additional construction-related traffic in the event that additional construction projects are initiated during the timeframe evaluated for this study.

Similar to Opening Day (December 2020) Without Project conditions, employee and haul truck trips from other known LAX construction projects were assumed to occur outside of the operational traffic analysis peak hours.

4.4.2.2.8 Cumulative Traffic (Plus Five Years – 2025) With Project

The project-related traffic volumes anticipated to occur as a result of the proposed project were added to the Cumulative Traffic (Plus Five Years – 2025) "Without Project" traffic volumes described in the previous section. This is a traffic scenario that represents the estimated total peak hour traffic volumes (consisting of background traffic, traffic related to ambient growth, traffic related to other projects, and proposed project traffic) that would use the operational traffic study area intersections in 2025.

4.4.2.2.9 Determination of Impacts and Mitigation Measures

The steps identified below were conducted to calculate intersection levels of service, identify impacts, and identify mitigation measures for significant impacts. Detailed intersection level of service (LOS) and volume-to-capacity ratio (v/c) outputs are presented in Appendix D.2-3.

Analyze Intersection Levels of Service

The levels of service of the operational traffic study area intersections were analyzed using TRAFFIX. Intersection LOS (v/c) was estimated using the CMA planning level methodology, as defined in Transportation Research Board Circular 212,[289] in accordance with LADOT's Transportation Impact Study Guidelines,[290] and the L.A. CEQA Thresholds Guide.[291] Intersection LOS (v/c) was analyzed for the following conditions:

- Baseline 2017;
- Baseline 2017 Plus Project Traffic (Opening Day 2020 and Plus Five Years 2025);
- Future Cumulative Traffic (Opening Day 2020 and Plus Five Years 2025) Without Project; and
- Future Cumulative Traffic (Opening Day 2020 and Plus Five Years 2025) With Project.

Identify Project Impacts

Project-related impacts associated with implementation of the proposed project were identified for intersections that would be significantly affected by project-related traffic, consistent with the approach established in the LADOT Transportation Impact Study Guidelines. The thresholds described in Section 4.4.2.6 were used to determine impact significance. Project-related impacts and cumulative impacts were determined by comparing the LOS (v/c) results for the following:

- **Baseline Plus Project Compared with Baseline:** This comparison is utilized to isolate the impacts of the proposed project.
- **Cumulative Impacts:** Cumulative impacts were determined using a two-step process. Initially, the "Cumulative Traffic (Opening Day 2020 and Plus Five Years 2025) With Project" conditions were compared to the baseline condition to determine if a significant cumulative impact would occur relative to baseline conditions. A cumulative impact was deemed significant if it would exceed the

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

290 City of Los Angeles Department of Transportation, *Transportation Impact Study Guidelines*, December 2016. Available: http://ladot.lacity.org/sites/g/files/wph266/f/COLA-TISGuidelines-010517.pdf.

291 City of Los Angeles, *L.A. CEQA Thresholds Guide, Your Resource for Preparing CEQA Analyses in Los Angeles*, 2006.

threshold of significance. If a cumulative impact was determined to be significant, then a second comparison of the "With Project" vs. the "Without Project" LOS (v/c) conditions was made to determine if the project's contribution to the significant cumulative impact would be "cumulatively considerable" in accordance with the impact thresholds defined in Section 4.4.2.6 below.

Mitigation measures are identified, if feasible, for any intersections that are determined to be significantly affected by the opening of the proposed project under the existing conditions analysis, or "cumulatively considerable" under the cumulative analysis.

4.4.2.3 Existing Conditions

4.4.2.3.1 Regulatory Setting

The LADOT Transportation Impact Study Guidelines requires that a Traffic Study be prepared if the following operational criteria are met:

- A project is likely to add 500 or more daily operational trips; and
- A project is likely to add 43 or more a.m. or p.m. peak hour operational trips.

Based on LADOT criteria, the proposed project would not require a Traffic Study as neither condition mentioned above would be met. Implementation of the proposed project would only result in an alteration of existing traffic conditions and not generate any new traffic in the study area. However, LAWA has determined that the preparation of a traffic study is useful in order to provide a full assessment and documentation of the impacts generated by implementation of the proposed project.

In addition to the criteria listed above, the Los Angeles County *2010 Congestion Management Program for Los Angeles County*[292] provides Congestion Management Program (CMP) Guidelines to assist local agencies in evaluating regional highway and freeway impacts of land use projects on the CMP system through the preparation of a regional transportation impact analysis (TIA). A CMP TIA is necessary for all projects that include, at a minimum, the following operational trips:

- 50 or more trips added to a CMP arterial intersection during either the weekday a.m. or p.m. peak hours
- 150 or more trips added to the mainline freeway monitoring locations during either the weekday a.m. or p.m. peak hours

As stated above, the proposed project would not generate additional traffic during the a.m. or p.m. peak commute periods, and would only result in an alteration of existing traffic conditions. Therefore, the proposed project would not meet or exceed the criteria set forth by LADOT or Los Angeles County. However, as noted above, LAWA has determined that the preparation of a traffic study is useful in order to provide a full assessment and documentation of the impacts generated by implementation of the proposed project.

4.4.2.3.2 Baseline Conditions

As indicated above, baseline conditions relate to the facilities and general conditions that existed during a typical weekday for the hours of 8:00 a.m. to 9:00 a.m. and 5:00 p.m. to 6:00 p.m.

Operational Traffic Study Area

Traffic associated with implementation of the proposed project was identified for intersections that would be affected by project-related traffic, consistent with the approach established in the LADOT Transportation Impact Study Guidelines. Volume/capacity ratios at 31 area intersections were calculated

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

for both the baseline plus peak proposed project and for the future cumulative traffic conditions. The results were then analyzed to identify those intersections that were projected to have a 0.004 (0.4 percent) or greater increase in traffic volume/capacity with the project for detailed analysis. Those intersections with a 0.003 (0.3 percent) or less increase in traffic volume/capacity from operational traffic associated with the proposed project were determined to not have any potential for significant effect and were eliminated from further analysis. The operational traffic study area, and corresponding intersections, are depicted on Figure 4.4.2-1 and **Figure 4.4.2-2**, respectively.

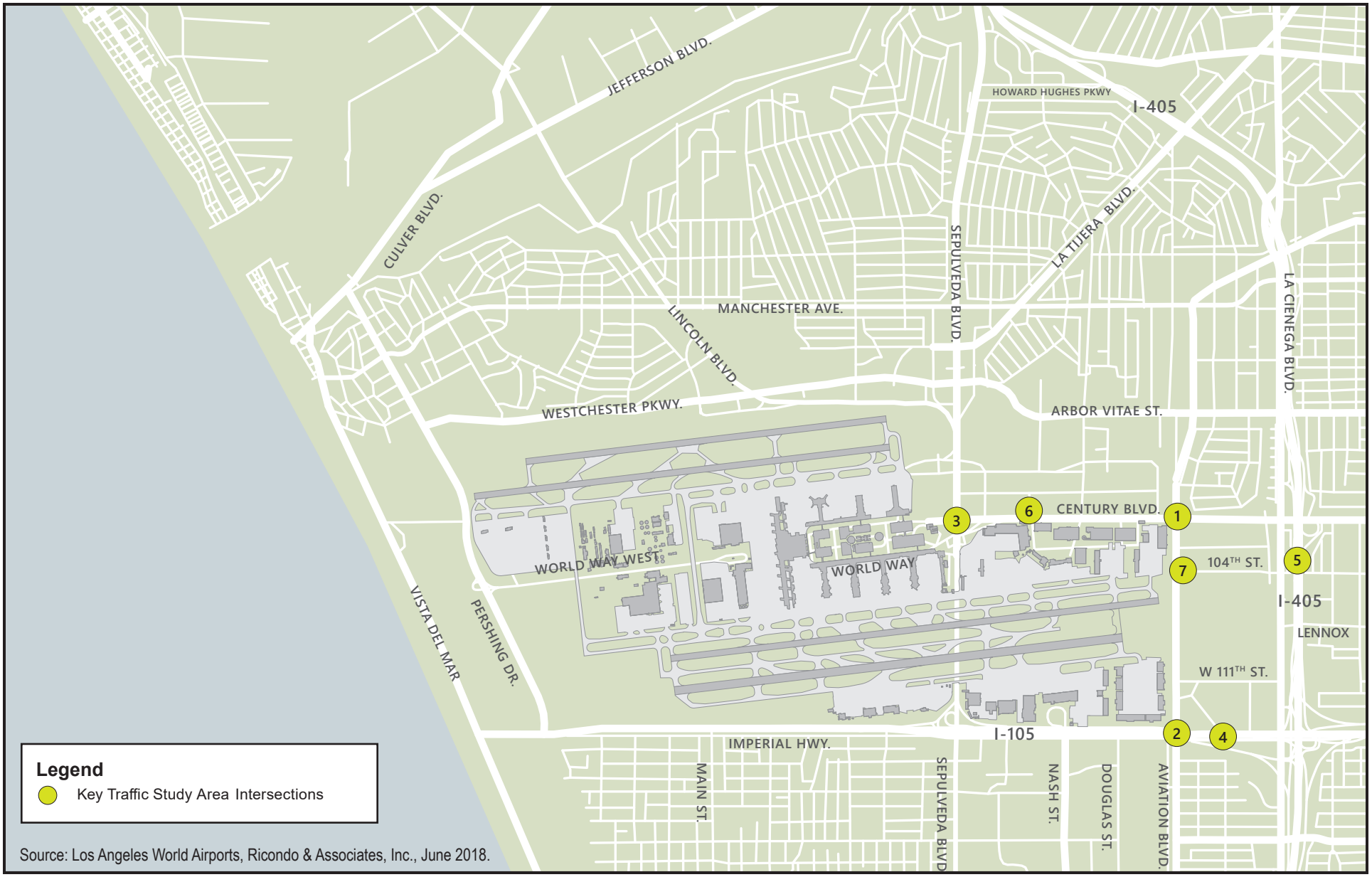
Traffic Study Area Roadways

The principal freeways and roadways serving as access routes within the operational traffic study area include the following:

- I-405 (San Diego Freeway) - This north-south freeway generally forms the eastern boundary of the construction traffic analysis traffic study area and provides regional access to the Airport and the surrounding area. Access to the traffic study area is provided via ramps at Century Boulevard, I-105, Imperial Highway, and three locations along La Cienega Boulevard.
- I-105 (Glenn M. Anderson or Century Freeway) - Along with Imperial Highway (described below), this east-west freeway forms the southern boundary of the construction traffic study area, and extends from the San Gabriel Freeway (I-605) on the east to Sepulveda Boulevard on the west. Access to the traffic study area is provided via ramps at Sepulveda Boulevard and along Imperial Highway. The westbound off-ramp from the I-105 Freeway to northbound Sepulveda Boulevard was widened to three lanes in March 2010.
- Aviation Boulevard - This north-south four-lane roadway bisects the traffic study area.
- Century Boulevard - This eight-lane divided roadway serves as the primary entry to the LAX CTA. This roadway also provides access to off-airport businesses and hotels and on-airport aviation-related facilities (e.g., maintenance and air cargo facilities) located between the CTA and I-405.
- Imperial Highway - This east-west roadway is located at-grade and beneath much of the elevated I-105 freeway. The number of lanes on this roadway varies from six-lanes east of the merge with I-105 to four-lanes west of the merge with I-105.
- La Cienega Boulevard - This north-south roadway parallels I-405 at the eastern boundary of the traffic study area. The roadway varies from four to six lanes.
- Sepulveda Boulevard (State Route 1 south of Lincoln Boulevard) - This major north-south six-lane arterial roadway provides direct access to the Airport via I-405 and Westchester Parkway on the north and via I-105 on the south. Sepulveda Boulevard between I-105 and Century Boulevard is located in a tunnel section beneath the south airfield runways.
- 104th Street - This east-west roadway has one lane in each direction separated by a continuous two-way left turn lane.

4.4.2.3.3 Existing Traffic Conditions

Traffic conditions at the operational traffic study area intersections and existing traffic activity (peak month, hourly, and annual) are discussed below.



Source: Los Angeles World Airports, Ricondo & Associates, Inc., June 2018.

UAL East Aircraft Maintanance and GSE Project

Operational Traffic Study Area Intersections

Figure
4.4.2-2

Traffic Study Area Intersections

As stated above, a total of 31 intersections were screened to identify those intersections that were projected to have a 0.004 (0.4 percent) or greater increase in traffic volume/capacity with the project for detailed analysis. The key intersections carried forward in the operational traffic analysis are listed below in **Table 4.4.2-1** and are depicted on Figure 4.4.2-2.

Table 4.4.2-1
Study Area Intersections

Intersection Number	Intersection Location
1.	Aviation Boulevard and Century Boulevard
2.	Imperial Highway and Aviation Boulevard
3.	Sepulveda Boulevard and Century Boulevard
4.	Imperial Highway and I-105 Ramp
5.	La Cienega Boulevard and I-405 Southbound Ramps South of Century Boulevard
6.	Avion Drive and Century Boulevard
7.	Aviation Boulevard and 104th Street

Source: Ricondo & Associates, Inc., June 2018.

Intersection Control and Geometry

All of the operational traffic study area intersections listed in Table 4.4.2-1 are signalized. In addition, all of the intersections are included in LADOT's Automated Traffic Surveillance and Control (ATSAC) system. The ATSAC system provides for monitoring of intersection traffic conditions and the flexibility to adjust traffic signal timing in response to current conditions. Study area intersection geometries are provided in Appendix D.2-1.

Peak Hours

The hours of analysis were chosen based on review of the intersection traffic counts during the commuter peak periods. Using this criterion, the hours analyzed for the proposed project were:

- **AM Peak Hour (8:00 a.m. to 9:00 a.m.)** - The operational traffic analysis a.m. peak hour represents a period for employees exiting the new East Maintenance Facility following the midnight shift (which has a scheduled end time of 7:30 a.m.). Additionally, relocated (from west to east) delivery truck trips were assumed to occur in the a.m. peak hour. Furthermore, as a result of implementation of the proposed project, the closure of the eastbound leg of Avion East would cause some vehicles that currently egress Parking Garage F and use the series of generally parallel roads south of Century Boulevard (i.e., Avion Drive, Airport Boulevard, Postal Road, International Road, and Century Boulevard Service Road) to be rerouted on to Century Boulevard.
- **PM Peak Hour (5:00 p.m. to 6:00 p.m.)** - The operational traffic analysis p.m. peak hour represents a period for employees exiting the new East Maintenance Facility following the day shift. Additionally, relocated (from west to east) delivery truck trips were assumed to occur in the p.m. peak hour. Furthermore, as a result of implementation of the proposed project, the closure of the eastbound leg of Avion East would cause some vehicles that currently egress Parking Garage F and use the series of parallel roads south of Century Boulevard to be rerouted on to Century Boulevard.

4.4.2.3.4 Baseline Intersection Analyses

Intersection LOS (v/c) was analyzed using the CMA methodology to assess the estimated operating conditions during baseline conditions for the a.m. and p.m. peak hours. This method, also known as the Circular 212 Planning Method, calculates the sum of the per-lane volumes for the critical movements and divides by an overall intersection capacity (volume-to-capacity ratio). LOS is a qualitative measure that describes traffic operating conditions (e.g., delay, queue lengths, congestion). Intersection LOS ranges from A (i.e., excellent conditions with little or no vehicle delay) to F (i.e., excessive vehicle delays and queue lengths). LOS definitions for the CMA methodology are presented in **Table 4.4.2-2**.

In accordance with LADOT analysis procedures, the volume/capacity (v/c) ratio was calculated using the CMA methodology is further reduced by 0.07 for those intersections included within the ATSAC system to account for the improved operation and increased efficiency from the ATSAC system that is not captured as part of the CMA methodology. Application of the ATSAC reduction is described in Attachment D of the LADOT Transportation Impact Study Guidelines.[293]

Table 4.4.2-2
Level of Service Definitions for Signalized Intersections

Level of Service (LOS)	Volume/Capacity Ratio Threshold	Definition
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 - 0.700	VERY GOOD. An occasional approach phase is fully used; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 - 0.800	GOOD. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 - 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 - 1.000	POOR. Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	Greater than - 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.

The estimated intersection LOS (v/c) for baseline conditions is provided in **Table 4.4.2-3**. As shown in Table 4.4.2-3, 3 of the 7 intersections operated at LOS C or better during the baseline a.m. and p.m. peak periods analyzed for the proposed project. The following intersections were estimated to be operating at LOS D or worse during the baseline a.m. or p.m. peak periods:

- Aviation Boulevard and Century Boulevard (Intersection #1) – LOS D a.m. peak hour and LOS E p.m. peak hour
- Imperial Highway and Aviation Boulevard (Intersection #2) – LOS D p.m. peak hour
- Sepulveda Boulevard and Century Boulevard (Intersection #3) – LOS D a.m. peak hour and LOS D p.m. peak hour
- Imperial Highway and I-105 Ramp (Intersection #4) – LOS D a.m. peak hour

[293] City of Los Angeles Department of Transportation, *Transportation Impact Study Guidelines*, December 2016. Available: http://ladot.lacity.org/sites/g/files/wph266/f/COLA-TISGuidelines-010517.pdf.

The LOS (v/c) results from the TRAFFIX program, including the volume, geometry and other inputs used to produce these results are provided in Appendix D.2-3.

Table 4.4.2-3
Baseline Intersection Analysis Results

Intersection		Peak Hour[1]	V/C[2]	LOS[3]
1.	Aviation Blvd. & Century Blvd.	AM Peak Hour	0.850	D
		PM Peak Hour	0.918	E
2.	Imperial Hwy. & Aviation Blvd.	AM Peak Hour	0.662	B
		PM Peak Hour	0.891	D
3.	Sepulveda Blvd. and Century Blvd.	AM Peak Hour	0.875	D
		PM Peak Hour	0.855	D
4.	Imperial Hwy. & I-105 Ramp	AM Peak Hour	0.844	D
		PM Peak Hour	0.657	B
5.	La Cienega Blvd. & I-405 Southbound Ramps South of Century	AM Peak Hour	0.414	A
		PM Peak Hour	0.401	A
6.	Avion Dr. & Century Blvd.	AM Peak Hour	0.435	A
		PM Peak Hour	0.402	A
7.	Aviation Blvd. & 104th St.	AM Peak Hour	0.629	B
		PM Peak Hour	0.638	B

Source: Appendix D.2-3 of this EIR

Notes:

1. The hours of analysis include the a.m. peak (8:00 a.m. - 9:00 a.m.) and the p.m. peak (5:00 p.m. - 6:00 p.m.).
2. Volume to capacity ratio.
3. LOS range: A (excellent) to F (failure).

4.4.2.4 Project-Generated Traffic

Traffic conditions as a result of the opening of the proposed project are defined below for peak period traffic generation.

- Upon the opening of the proposed project, UAL employee and delivery truck traffic would be consolidated and relocated to the east. As described in Chapter 3, *Overview of Project Setting*, the proposed project is one of many past and present changes to aircraft and GSE maintenance facilities at LAX that have occurred since initiation of the LAX modernization program, which have resulted in a net decrease in square footage of facilities dedicated to aircraft and GSE maintenance at the airport. Following project implementation, it is reasonably foreseeable that UAL's West Maintenance Facility would continue to be used for aircraft and/or GSE maintenance by another airline currently conducting such activities at LAX in constrained or reduced facilities, and would not represent a new use or an increase in such activity.[294] Based upon existing UAL employee numbers and shift times, it was conservatively assumed that a total of 105 employees that would be relocated from the West Maintenance Facility to the new East Maintenance Facility would egress the new East Maintenance Facility during the a.m. peak hour (8:00 a.m. to 9:00 a.m.) following their midnight shift. Furthermore, it was assumed that a total of 11 employees would egress the new East Maintenance Facility during the p.m. peak hour (5:00 p.m. to 6:00 p.m.) following their day shift.[295] Additionally, based on information from UAL, it was estimated that a total of 5 delivery truck trips would be relocated from the West Maintenance Facility to the new

294 Any proposed reuse of the West Maintenance Facility may be subject to its own environmental review and documentation, as appropriate.

295 The majority of daytime employees work during off-peak hours (i.e., 5:00 a.m. to 3:30 p.m. or 6:00 a.m. to 2:30 p.m.). These employees would not be traveling to or from the East Maintenance Facility during peak hours.

East Maintenance Facility during the a.m. peak hour (8:00 a.m. to 9:00 a.m.), and a total of 3 truck trips would be relocated during the p.m. peak hour (5:00 p.m. to 6:00 p.m.). For purposes of the operational traffic analysis, all delivery truck trips were converted to "passenger car equivalents" (PCEs) to account for the additional impact that large vehicles, such as trucks, would have on roadway traffic operations. As such, all truck trips were converted at a rate of 2.5, consistent with the construction traffic analysis presented above in Section 4.4.1. UAL employment levels and peak hour delivery truck activity were assumed to remain constant through 2025; therefore, the number of project specific employee vehicle trips and delivery truck trips was held constant under both the Opening Day (December 2020) and Plus Five Years (2025) conditions.

- Based on the site layout of the new East Maintenance Facility, the eastbound leg of Avion Drive South would be eliminated with implementation of the proposed project, causing a rerouting of vehicles that currently use the side roads that are generally parallel to and south of Century Boulevard as a cut-through. (These vehicles are background vehicles, not project-related vehicles; however, the re-routing of these vehicles would be a direct consequence of the proposed project.) Vehicles leaving Parking Garage F to go eastbound would be forced to go on Century Boulevard at the intersection of Avion Drive and Century Boulevard. However, it was assumed that these vehicles would return to the parallel roadway system as soon as possible to avoid congested traffic activity along eastbound Century Boulevard. Specifically, the operational analysis assumes these vehicles would turn eastbound onto Century Boulevard at Avion Drive after existing Parking Garage F and would travel along Century Boulevard to International Boulevard, where they would turn southbound to return to the parallel roadways. These vehicle were assumed to continue on the parallel roadway system to the intersection of Aviation Boulevard and 104th Street. The total number of vehicles using these parallel roadways was based on a review of traffic counts collected in 2018 as a supplement to the comprehensive traffic counts. It was determined that a total of 15 vehicles were completing this movement during the a.m. peak hour (8:00 a.m. to 9:00 a.m.), while 46 vehicles were doing so in the p.m. peak hour (5:00 p.m. to 6:00 p.m.). Applying an annual growth factor of 2 percent per year results in a total of 16 a.m. trips and 48 p.m. trips during the Opening Day (December 2020) scenario and 17 a.m. trips and 53 p.m. trips during the Plus Five Years (2025) scenario.

4.4.2.5 Planned Transportation Network Improvements

As stated previously, though it is possible additional improvements would be in place prior to the opening of the new East Maintenance Facility (December 2020), for purposes of this analysis, it has been conservatively assumed that no additional roadway improvements would be in place by Opening Day (December 2020). However, the approved LAX Landside Access Modernization Program EIR identifies a number of intersection improvements (Phase 1 roadways) throughout the traffic study area that are planned to be in place by 2024 and have been analyzed in the 2025 cumulative scenario.[296] These intersections include:

- Aviation Boulevard and Century Boulevard (Intersection #1)
  - Eastbound leg
    - Existing: 1 Left Turn Lane, 3 Through Lanes, 1 Through/Right Turn Lane
    - Improved: 1 Left Turn Lane, 4 Through Lanes, 1 Right Turn Lane

[296] City of Los Angeles, Los Angeles World Airports, *Final Environmental Impact Report for Los Angeles International Airport (LAX) Landside Access Modernization Program, (SCH 2015021014),* Chapter 2, Description of the Proposed Project, and Section 4.12.2, Off-Airport Transportation, as revised in the Final EIR, and Appendix O, Off-Airport Traffic Study, February 2017.

- Sepulveda Boulevard and Century Boulevard (Intersection #3)
  - Westbound leg
    - Existing: 1 Left Turn Lane, 1 Through/Left Turn Lane, 2 Right Turn Lanes
    - Improved: 2 Left Turn Lanes, 2 Right Turn Lanes
- Imperial Highway and I-105 Ramp (Intersection #4)
  - Northbound leg
    - Existing: 2 Left Turn Lanes, 2 Right Turn Lanes
    - Improved: 2 Left Turn Lanes, 1 Through Lane, 1 Right Turn Lane
  - Southbound leg
    - Existing: N/A
    - Improved: 2 Left Turn Lanes, 1 Through Lane, 1 Through/Right Turn Lane
  - Eastbound leg
    - Existing: 3 Through Lanes, 1 Right Turn Lane
    - Improved: 2 Left Turn Lanes, 3 Through Lanes, 1 Right Turn Lane
  - Westbound leg
    - Existing: 2 Left Turn Lanes, 2 Through Lanes
    - Improved: 2 Left Turn Lanes, 2 Through Lanes, 1 Right Turn Lane
- La Cienega Boulevard and I-405 Southbound Ramps South of Century Boulevard (Intersection #5)
  - Northbound leg
    - Existing: 1 Through Lane, 1 Through/Right Turn Lane
    - Improved: 2 Through Lanes, 1 Through/Right Turn Lane
- Avion Drive and Century Boulevard (Intersection #6)
  - Eastbound leg
    - Existing: 2 Left Turn Lanes, 4 Through Lanes, 1 Right Turn Lane
    - Improved: 2 Left Turn Lanes, 4 Through Lanes, 2 Through/Right Turn Lane

4.4.2.6 Thresholds of Significance

The operational traffic study area intersections either fall entirely within the City of Los Angeles or share a boundary with the City of El Segundo or the City of Inglewood. The intersections which fall entirely within the City of Los Angeles were evaluated for traffic impacts using the LADOT traffic impact significance criteria. Intersections lying on the boundary of multiple jurisdictions were evaluated using the more conservative threshold of significance criteria; in all of these cases the LADOT criteria were shown to have the most conservative thresholds, as the allowable project-related increase in v/c by LADOT is smaller than that of other jurisdictions.

4.4.2.6.1 City of El Segundo Impact Criteria

In the City of El Segundo, an impact is considered significant if the following threshold is exceeded:[297]

- The LOS is E or F, its final volume/capacity (v/c) ratio is 0.901 or greater, and the project-related increase in v/c is 0.020 or greater.

[297] City of El Segundo, Planning and Building Safety Department, *City of El Segundo, Circulation Element of the General Plan*, Policy C3-1.2, September 2004.

4.4.2.6.2 City of Inglewood Impact Criteria

In the City of Inglewood, an impact is considered significant if the following threshold is exceeded:[298]

- 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.

4.4.2.6.3 City of Los Angeles Impact Criteria

In accordance with LADOT criteria defined in its Transportation Impact Study Guidelines,[299] an impact is considered to be significant if one of the following thresholds is exceeded:

- The LOS is C, its final v/c ratio is 0.701 to 0.80, and the project-related increase in v/c is 0.040 or greater; or
- The LOS is D, its final v/c ratio is 0.801 to 0.90, and the project-related increase in v/c is 0.020 or greater; or
- The LOS is E or F, its final v/c ratio is 0.901 or greater, and the project-related increase in v/c is 0.010 or greater.

The "final v/c ratio" as defined by LADOT consists of the future v/c ratio at an intersection that includes volume from the project, baseline, ambient background growth, and other cumulative development projects, but without proposed intersection traffic mitigation.

The "project-related increase" is defined as the change in the unmitigated LOS (v/c) condition between the (a) future v/c "with" the project, baseline, ambient background growth (for the cumulative impact analysis), and other cumulative development project growth, and (b) the future v/c "without" the project, but with baseline, ambient background growth, and other cumulative development project growth.

4.4.2.7 Impacts Analysis

4.4.2.7.1 Impact Comparison 1: Baseline plus Project Measured Against Baseline

This comparison provides the basis for determining project-related impacts. The comparison is based on project-specific traffic generation for Opening Day (December 2020) and Plus Five Years (2025) added to baseline traffic volumes. The resulting levels of service were compared to the levels of service associated with the baseline condition. A significant impact would be realized if the thresholds of significance are met or exceeded. **Table 4.4.2-4** and **Table 4.4.2-5** compare LOS under baseline and baseline plus project conditions for Opening Day (December 2020) and Plus Five Years (2025), respectively. As shown, no intersections are estimated to be significantly impacted under the Baseline plus Project condition.

4.4.2.7.2 Impact Comparison 2: Future Cumulative With Project Measured Against Baseline

This comparison was conducted in two steps, which is consistent with State CEQA Guidelines Section 15130. An initial comparison was conducted by comparing the LOS (v/c) associated with future cumulative traffic volumes with the baseline levels of service. This initial comparison was conducted to determine if there would be a significant cumulative impact. If a significant cumulative impact was determined, then an additional comparison was conducted to determine if operation of the proposed project would make a cumulatively considerable contribution to the significant cumulative impact. This second comparison was conducted by comparing cumulative conditions with and without the proposed project. Cumulatively considerable contributions are realized when the thresholds of significance defined

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298 Raju Associates, Inc., *Traffic Study Assumptions and Methodology Memorandum to City of Inglewood*, October 27, 2015.

299 City of Los Angeles Department of Transportation, *Transportation Impact Study Guidelines*, December 2016. Available: http://ladot.lacity.org/sites/g/files/wph266/f/COLA-TISGuidelines-010517.pdf.

above are met or exceeded. If the project's contribution to a significant cumulative impact is not determined to be cumulatively considerable, then the project's impact under cumulative conditions is considered less than significant.

The impact comparisons for the Opening Day (December 2020) cumulative condition are depicted in **Table 4.4.2-6**. As shown in the table, significant cumulative impacts would occur at 5 intersections upon implementation of the proposed project (December 2020). However, it was determined that the proposed project's contribution to such significant cumulative impacts would not be cumulatively considerable at any of the significantly cumulatively impacted intersections.

Of the significantly cumulatively impacted intersections under the Opening Day (December 2020) condition, the proposed project would only minimally contribute (change in v/c between 0.001 and 0.038) to the significantly impacted intersections during Opening Day conditions (December 2020).

The impact comparisons for the Plus Five Years (2025) cumulative condition are depicted in **Table 4.4.2-7**. As shown in the table, significant cumulative impacts would occur at 5 intersections under the Plus Five Year scenario (2025). Similar to the Opening Day scenario, it was determined that the proposed project's contribution to such significant cumulative impacts would not be cumulatively considerable at any of the significantly cumulatively impacted intersections.

Of the significantly cumulatively impacted intersections under the Plus Five Year (2025) condition, the proposed project would only minimally contribute (change in v/c between 0.001 and 0.048) to the significantly impacted intersection during Plus Five Year conditions (2025).

4.4.2.8 Mitigation Measures

As indicated in Section 4.4.2.7, operational traffic impacts associated with the proposed project would be less than significant and would not be cumulatively considerable; therefore, no mitigation measures are required.

4.4.2.9 Level of Significance After Mitigation

Operational traffic impacts associated with the proposed project would be less than significant.

Table 4.4.2-4
Proposed Project - Level of Service Analysis Results - Impact Comparison 1 Baseline Compared to Baseline Plus Project 2020

Intersection		Peak Hour[1]	Baseline		Project Plus Baseline		Change in V/C	Significant Impact
			V/C[2]	LOS[3]	V/C[2]	LOS[3]		
1.	Aviation Boulevard and Century Boulevard	AM Peak Hour	0.850	D	0.854	D	0.004	No
		PM Peak Hour	0.918	E	0.923	E	0.005	No
2.	Imperial Highway and Aviation Boulevard	AM Peak Hour	0.662	B	0.667	B	0.005	No
		PM Peak Hour	0.891	D	0.891	D	0.000	No
3.	Sepulveda Blvd. and Century Blvd.	AM Peak Hour	0.875	D	0.883	D	0.008	No
		PM Peak Hour	0.855	D	0.856	D	0.001	No
4.	Imperial Highway and I-105 Ramp	AM Peak Hour	0.844	D	0.848	D	0.004	No
		PM Peak Hour	0.657	B	0.659	B	0.002	No
5.	La Cienega Blvd. & I-405 Southbound Ramps South of Century	AM Peak Hour	0.414	A	0.424	A	0.010	No
		PM Peak Hour	0.401	A	0.402	A	0.001	No
6.	Avion Drive and Century Boulevard	AM Peak Hour	0.435	A	0.465	A	0.030	No
		PM Peak Hour	0.402	A	0.404	A	0.002	No
7.	Aviation Boulevard and 104th Street	AM Peak Hour	0.629	B	0.631	B	0.002	No
		PM Peak Hour	0.638	B	0.642	B	0.004	No

Source: Appendix D.2-3 of this EIR.

Notes:

1. The hours of analysis include the a.m. peak (8:00 a.m. - 9:00 a.m.), and the p.m. peak (5:00 p.m. - 6:00 p.m.).
2. Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection.
3. Level of Service range: A (excellent) to F (failure).

Table 4.4.2-5
Proposed Project - Level of Service Analysis Results - Impact Comparison 1 Baseline Compared to Baseline Plus Project 2025

Intersection		Peak Hour[1]	Baseline		Project Plus Baseline		Change in V/C	Significant Impact
			V/C[2]	LOS[3]	V/C[2]	LOS[3]		
1.	Aviation Boulevard and Century Boulevard	AM Peak Hour	0.850	D	0.854	D	0.004	No
		PM Peak Hour	0.918	E	0.923	E	0.005	No
2.	Imperial Highway and Aviation Boulevard	AM Peak Hour	0.662	B	0.667	B	0.005	No
		PM Peak Hour	0.891	D	0.891	D	0.000	No
3.	Sepulveda Blvd. and Century Blvd.	AM Peak Hour	0.875	D	0.883	D	0.008	No
		PM Peak Hour	0.855	D	0.856	D	0.001	No
4.	Imperial Highway and I-105 Ramp	AM Peak Hour	0.844	D	0.848	D	0.004	No
		PM Peak Hour	0.657	B	0.659	B	0.002	No
5.	La Cienega Blvd. & I-405 Southbound Ramps South of Century	AM Peak Hour	0.414	A	0.424	A	0.010	No
		PM Peak Hour	0.401	A	0.402	A	0.001	No
6.	Avion Drive and Century Boulevard	AM Peak Hour	0.435	A	0.466	A	0.031	No
		PM Peak Hour	0.402	A	0.404	A	0.002	No
7.	Aviation Boulevard and 104th Street	AM Peak Hour	0.629	B	0.632	B	0.003	No
		PM Peak Hour	0.638	B	0.649	B	0.011	No

Source: Appendix D.2-3 of this EIR.

Notes:

1. The hours of analysis include the a.m. peak (8:00 a.m. - 9:00 a.m.), and the p.m. peak (5:00 p.m. - 6:00 p.m.).
2. Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection.
3. Level of Service range: A (excellent) to F (failure).

Table 4.4.2-6
Proposed Project - Level of Service Analysis Results - Impact Comparison 2 Cumulative Traffic Opening Day (December 2020)

Intersection		Peak Hour[1]	Baseline [A] V/C[2]	Baseline [A] LOS[3]	Opening Day (December 2020) Without Project [B] V/C[2]	Opening Day (December 2020) Without Project [B] LOS[3]	Opening Day (December 2020) With Project [C] V/C[2]	Opening Day (December 2020) With Project [C] LOS[3]	Change in V/C Compared to Baseline	Cumulative Impact Determination [C]-[A] Significant Cumulative Impact?	Cumulative Impact Determination [C]-[A] Change in V/C Compared to 2020 Without Project	Cumulatively Considerable Determination [C]-[B] Cumulatively Considerable Contribution?
1.	Aviation Boulevard and Century Boulevard	AM Peak Hour	0.850	D	0.902	E	0.907	E	0.057	**Yes**	0.005	No
		PM Peak Hour	0.918	E	0.973	E	0.978	E	0.060	**Yes**	0.005	No
2.	Imperial Highway and Aviation Boulevard	AM Peak Hour	0.662	B	0.703	C	0.707	C	0.045	**Yes**	0.004	No
		PM Peak Hour	0.891	D	0.945	E	0.945	E	0.054	**Yes**	0.000	No
3.	Sepulveda Blvd. and Century Blvd.	AM Peak Hour	0.875	D	0.927	E	0.936	E	0.061	**Yes**	0.009	No
		PM Peak Hour	0.855	D	0.907	E	0.908	E	0.053	**Yes**	0.001	No
4.	Imperial Highway and I-105 Ramp	AM Peak Hour	0.844	D	0.895	D	0.900	D	0.056	**Yes**	0.005	No
		PM Peak Hour	0.657	B	0.698	B	0.700	B	0.043	No	0.002	No
5.	La Cienega Blvd. & I-405 Southbound Ramps South of Century	AM Peak Hour	0.414	A	0.442	A	0.451	A	0.037	No	0.009	No
		PM Peak Hour	0.401	A	0.427	A	0.428	A	0.027	No	0.001	No
6.	Avion Drive and Century Boulevard	AM Peak Hour	0.435	A	0.463	A	0.491	A	0.056	No	0.028	No
		PM Peak Hour	0.402	A	0.428	A	0.431	A	0.029	No	0.003	No
7.	Aviation Boulevard and 104th Street	AM Peak Hour	0.629	B	0.669	B	0.671	B	0.042	No	0.002	No
		PM Peak Hour	0.638	B	0.677	B	0.715	C	0.077	**Yes**	0.038	No

Source: Appendix D.2-3 of this EIR.

Notes:

1. The hours of analysis include the a.m. peak (8:00 a.m. - 9:00 a.m.), and the p.m. peak (5:00 p.m. - 6:00 p.m.).
2. Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection.
3. Level of Service range: A (excellent) to F (failure).

Table 4.4.2-7
Proposed Project - Level of Service Analysis Results - Impact Comparison 2 Cumulative Traffic Plus Five Years (2025)

Intersection		Peak Hour[1]	Baseline [A] V/C[2]	Baseline [A] LOS[3]	Cumulative Peak (2025) Without Project [B] V/C[2]	Cumulative Peak (2025) Without Project [B] LOS[3]	Cumulative Peak (2025) With Project [C] V/C[2]	Cumulative Peak (2025) With Project [C] LOS[3]	Change in V/C Compared to Baseline	Cumulative Impact Determination [C]-[A] Significant Cumulative Impact?	Cumulative Impact Determination [C]-[A] Change in V/C Compared to 2025 Without Project	Cumulatively Considerable Determination [C]-[B] Cumulatively Considerable Contribution?
1.	Aviation Boulevard and Century Boulevard	AM Peak Hour	0.850	D	0.837	D	0.842	D	-0.008	No	0.005	No
		PM Peak Hour	0.918	E	0.991	E	0.996	E	0.078	**Yes**	0.005	No
2.	Imperial Highway and Aviation Boulevard	AM Peak Hour	0.662	B	0.676	B	0.676	B	0.014	No	0.000	No
		PM Peak Hour	0.891	D	0.969	E	0.969	E	0.078	**Yes**	0.000	No
3.	Sepulveda Blvd. and Century Blvd.	AM Peak Hour	0.875	D	0.822	D	0.824	D	-0.051	No	0.002	No
		PM Peak Hour	0.855	D	0.883	D	0.884	D	0.029	**Yes**	0.001	No
4.	Imperial Highway and I-105 Ramp	AM Peak Hour	0.844	D	0.929	E	0.932	E	0.088	**Yes**	0.003	No
		PM Peak Hour	0.657	B	0.885	D	0.886	D	0.229	**Yes**	0.001	No
5.	La Cienega Blvd. & I-405 Southbound Ramps South of Century	AM Peak Hour	0.414	A	0.372	A	0.381	A	-0.033	No	0.009	No
		PM Peak Hour	0.401	A	0.652	B	0.652	B	0.251	No	0.000	No
6.	Avion Drive and Century Boulevard	AM Peak Hour	0.435	A	0.537	A	0.558	A	0.123	No	0.021	No
		PM Peak Hour	0.402	A	0.585	A	0.633	B	0.231	No	0.048	No
7.	Aviation Boulevard and 104th Street	AM Peak Hour	0.629	B	0.622	B	0.626	B	-0.003	No	0.004	No
		PM Peak Hour	0.638	B	0.742	C	0.750	C	0.112	**Yes**	0.008	No

Source: Appendix D.2-3 of this EIR.

Notes:

1. The hours of analysis include the a.m. peak (8:00 a.m. - 9:00 a.m.), and the p.m. peak (5:00 p.m. - 6:00 p.m.).
2. Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection.
3. Level of Service range: A (excellent) to F (failure).

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