Los Angeles County
Metropolitan Transportation Authority

West Santa Ana Branch Transit Corridor

Final EIS/EIR Chapter 3: Transportation

WEST SANTA ANA BRANCH TRANSIT CORRIDOR PROJECT

Final EIS/EIR Chapter 3: Transportation

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Final Environmental Impact Statement/ Environmental Impact Report

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ACRONYMS AND ABBREVIATIONS

Acronyms	Definitions
ADA	Americans with Disabilities Act
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
DASH	Downtown Area Short Hop
EIR	environmental impact report
EIS	environmental impact statement
FTA	Federal Transit Administration
HRT	heavy rail transit
I-	Interstate
LA	Los Angeles
LADOT	Los Angeles Department of Transportation
LOS	level-of-service
LPA	Locally Preferred Alternative
LRT	light rail transit
LRTP	Long Range Transportation Plan
Metro	Los Angeles County Metropolitan Transportation Authority
MSF	maintenance and storage facility
NEPA	National Environmental Policy Act
NTS	Norwalk Transit System
OPR	California Office of Planning and Research
PEROW	Pacific Electric Right-of-Way
ROW	right-of-way
RTIP	Regional Transportation Improvement Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAG	Southern California Association of Governments
SR-	State Route
TMP	Transportation Management Plan
TPSS	traction power substation
UPRR	Union Pacific Railroad
US-	U.S. Highway

Acronyms	Definitions
USACE	United States Army Corps of Engineers
USDOT	U.S. Department of Transportation
VMT	vehicle miles traveled
WSAB	West Santa Ana Branch

3 TRANSPORTATION

This chapter presents the existing transportation conditions in the Study Area and potential impacts of the Locally Preferred Alternative (LPA) on the multimodal transportation system. Specifically, the following components of the transportation system are included: traffic on the freeway system, local roads, and intersections; transit; pedestrian and bicycle facilities (referred to as active transportation); freight (vehicular [truck] and rail), and parking. The Study Area for this analysis includes the transportation facilities near the light rail transit (LRT) tracks and stations.

Information in this chapter is based on the *West Santa Ana Branch Transit Corridor Project Final Transportation Impact Analysis Report* (Los Angeles Metropolitan Transportation Authority [Metro] 2024s), which provides detailed information regarding the technical analyses. The analysis of all the Build Alternatives in the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) is incorporated here by reference. The No Build Alternative is included in this chapter for comparative purposes and ease of reference.

Based on the current impacts of the recent social response to the COVID-19 pandemic and the resulting decline in travel demand, it is not possible at this time to predict future changes to the Project's Purpose and Need, schedule, and traffic operation impacts that may result from a COVID-19 response of an unpredictable nature and length. Should significant changes in the planning assumptions, project schedule, project scope, or surrounding project environment result because of a prolonged COVID-19 response, the Federal Transit Administration (FTA) and Metro will consider additional environmental evaluation and public input consistent with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

This chapter has been revised since the Draft EIS/EIR to reflect identification of the LPA, inclusive of refinements, and comments received on the Draft EIS/EIR. Refinements to the LPA are summarized in Section 2.4.3.2 in Chapter 2, Project Description/Alternatives Considered, and in Appendix E, Project Refinements since Circulation of the Draft EIS/EIR, of this Final EIS/EIR. Specifically, updates were made to the traffic, parking, and freight analyses. Topic-specific updates are described below. Updates related to the analysis methodology are summarized below and described in Section 3.2 where applicable. A summary of changes made to the construction analysis is provided in Section 3.7.

Traffic

Updates to the traffic operations analysis (i.e., level-of-service [LOS] and delay) for the LPA reflect refinements made in response to comments and in coordination with the applicable jurisdiction, including opening at-grade crossings that were proposed for closure in the Draft EIS/EIR, closing at-grade crossings that were proposed to remain open in the Draft EIS/EIR, implementing left-turn restrictions, and realigning and signalizing intersections. For these refinements, the traffic study was also updated at adjacent intersections that could be affected by the change (for instance, closing an at-grade crossing could increase traffic volumes at the adjacent intersection(s) where at-grade crossings remain open). Compared to the results in the Draft EIS/EIR, the number of intersections with LOS-based impacts decreased from 20 to 19, although the locations of the impacts differ.

Specifically, the analysis was updated at the following locations:

- Study intersections on or adjacent to Randolph Street due to the opening or closing of at-grade crossings and implementation of left-turn restrictions; the changes in traffic circulation were determined in coordination with the City of Huntington Park
- Study intersections at and near the design option that will close 186th Street but keep 187th Street open to traffic in the City of Artesia (compared to the LPA without the design option that closes 187th Street but keeps 186th Street open to traffic)

A total of 72 intersections were analyzed for Alternative 3 in the Draft EIS/EIR. The analysis for the Final EIS/EIR was updated to include 9 additional intersections, bringing the total number of intersections analyzed for the LPA to 81. The new intersections are listed below. One intersection (Industrial Avenue/Lincoln Avenue) was added as a result of refinements to the LPA, which resulted in a new driveway at the I-105/C Line park-and-ride facility. The remaining intersections were not previously analyzed in the Draft EIS/EIR because the results from the screening process determined that they did not warrant inclusion in the Affected Area for traffic. The following intersections were added in the Final EIS/EIR in response to comments received on the Draft EIS/EIR:

- Industrial Avenue/Lincoln Avenue (City of South Gate)
- South Street/Norwalk Boulevard (City of Artesia)
- South Street/Bloomfield Avenue (City of Cerritos)
- South Street/Alburtis Avenue (City of Artesia)
- 195th Street/Pioneer Boulevard (City of Cerritos)
- Los Coyotes Boulevard/Pioneer Boulevard (City of Cerritos)
- Del Amo Boulevard/Pioneer Boulevard (City of Cerritos)
- 183rd Street/Pioneer Boulevard (City of Artesia)
- Parking Structure/Solana Place/Pioneer Boulevard (Cities of Artesia/Cerritos)

As described in Section 3.2.1, new traffic counts were collected in 2022 to support the analysis of these intersections. Project measures were either updated to reflect refinements to the LPA (i.e., Project Measures TR PM-3, TR PM-4, TR PM-8, and TR PM-11) or new project measures were identified (i.e., Project Measures TR PM-5 and TR PM-7).

Similar to the analysis for the Draft EIS/EIR, traffic impacts are generally due to lane reductions along Randolph Street, the addition of at-grade crossings and associated gate down time, and additional traffic generated by the LPA. Consistent with the analysis results in the Draft EIS/EIR, adverse impacts will occur in the Cities of Huntington Park, Bell, South Gate, Bellflower, and Cerritos prior to mitigation. Some intersections previously shown with adverse traffic impacts in the Draft EIS/EIR will not experience an adverse impact and, conversely, some intersections previously shown without adverse traffic impacts in the Draft EIS/EIR will experience adverse impacts. This is because of the refinements to the LPA in response to comments received on the Draft EIS/EIR and coordination with the applicable jurisdiction where the intersection is located, specifically in regard to at-grade crossing closures and openings, as well as turn restrictions at certain intersections. Mitigation measures were adjusted as applicable to reflect the updated analysis. After mitigation, impacts will remain at 12 intersections during 1 or both peak periods, which is the same number of impacts after mitigation identified for Alternative 3 in the Draft EIS/EIR, although the locations vary.

Transit and Active Transportation

The impact conclusions for transit and active transportation presented in the Draft EIS/EIR remain unchanged in this Final EIS/EIR, including with respect to Alternative 3.

On-Street Parking

The on-street parking analysis has been updated to reflect new observations of existing on-street parking and changes to the number of on-street parking spaces removed with implementation of the LPA. Updated surveys were conducted in response to comments received on the Draft EIS/EIR regarding parking restriction and peak parking time periods, and in consideration of refinements to the LPA. The updated surveys were conducted during non-holiday weekdays in January, March, and May 2023 on Tuesdays, Wednesdays, and Thursdays between 6:30 AM and 8:30 AM, 10:00 AM and 12:00 PM, and 11:00 AM and 2:00 PM. In the Draft EIS/EIR, the existing parking conditions were summarized by location of the stations and the individual street segments between stations. The same information is presented in this Final EIS/EIR; however, it is reorganized geographically, by community, from north to south for ease of following the results of the evaluation.

Updates to the on-street parking analysis reflect an increase in the loss of parking identified in the Draft EIS/EIR. However, the change in parking loss will not result in new or substantially more severe impacts than what was identified in the Draft EIS/EIR.

The following are reasons why the loss of on-street parking changed between the Draft EIS/EIR and the Final EIS/EIR:

- Additional on-street parking was implemented along portions of the LPA alignment after the Draft EIS/EIR was released. These new on-street parking spaces will be affected (removed) with implementation of the LPA.
- Refinements to project measures included in the Draft EIS/EIR in response to comments received on the Draft EIS/EIR and stakeholder coordination resulted in modifications to roadways that required the removal of parking to accommodate the measure. These changes to project measures also reflect the refinements made to the LPA.
- In the Draft EIS/EIR, the evaluation of parking impacts along the alignment analyzed on-street parking locations that were immediately adjacent (parallel) to the project alignment. The updated analysis for the Final EIS/EIR accounts for on-street parking that will be removed to accommodate all project components (e.g., modifications for at-grade crossing equipment, station footprints, and traffic mitigation measures) identified at this time based on the current level of design completed and presented in Appendix B, Final Advanced Conceptual Alignment Design, of this Final EIS/EIR.

Consistent with the Draft EIS/EIR, at locations where the loss of on-street parking results in the supply of parking to fall below observed demand, parking is available on adjacent streets to accommodate demand with minimal circulation. The on-street parking impact conclusions and mitigation presented in the Draft EIS/EIR remain unchanged in this Final EIS/EIR, including with respect to Alternative 3. Impacts of the LPA to on-street parking will not be adverse.

Off-Street Parking

The LPA will result in fewer off-street parking spaces lost than identified for Alternative 3 in the Draft EIR/EIR. The change to the number of off-street parking spaces lost between the Draft EIS/EIR and Final EIS/EIR is due to refinements to the LPA in response to comments received on the Draft EIS/EIR and stakeholder coordination. As a result of the refinements, new locations requiring removal of off-street parking were identified; however, parking loss was avoided at previously identified locations, resulting in an overall decrease from the Draft EIS/EIR. The following are reasons why the loss of off-street parking changed between the Draft EIS/EIR and the Final EIS/EIR:

- Grade crossing design was updated at multiple locations along the alignment in coordination with local jurisdictions, which either increased or decreased the loss of off-street parking, depending on the location.
- In coordination with local jurisdictions, some optional traction power substation (TPSS) sites were removed from consideration, which reduced off-street parking impacts.
- Track geometry was modified to reduce private right-of-way (ROW) impacts in some locations, which reduced off-street parking impacts.
- The updated analysis for the Final EIS/EIR accounts for off-street parking that will be removed to accommodate all project components identified at this time based on the current level of design completed and presented in Appendix B, Final Advanced Conceptual Alignment Design, of this Final EIS/EIR, which increased the loss of off-street parking at certain locations.

The off-street parking impact conclusions presented in the Draft EIS/EIR remain unchanged in this Final EIS/EIR, including with respect to Alternative 3. The LPA will not result in adverse impacts to off-street parking.

Spillover Parking

In the Draft EIS/EIR, parking demand was forecasted at the five stations where dedicated transit parking facilities would be provided (i.e., Firestone Station, I-105/C Line Station, Paramount/Rosecrans Station, Bellflower Station, and Pioneer Station). The spillover parking analysis considered whether operation of the LPA could result in the demand for transit parking to exceed the dedicated transit parking supply at those five stations. If parking demand exceeded the dedicated transit parking supply, the analysis considered the availability of on-street parking and whether that would accommodate the demand. For the stations that would not have dedicated transit parking, the analysis assumed it was unlikely that transit passengers would attempt to park at those stations.

In response to comments received on the Draft EIS/EIR, the spillover parking analysis was refined to forecast corridor-wide transit parking demand for all nine stations along the LPA, including those without dedicated transit parking. The spillover parking analysis considered whether the corridor-wide demand for transit parking would exceed the total dedicated transit parking supply. Similar to the Draft EIS/EIR, the Metro Travel Demand Model was used to forecast parking demand. The corridor-wide transit parking demand is forecasted to exceed the total parking supply, resulting in a deficit of 10 parking spaces throughout the corridor. However, when transit parking is restricted to the five stations with transit parking, consistent with the Draft EIS/EIR, a surplus of 50 parking spaces is projected. Additionally, in response to comments on the Draft EIS/EIR, the evaluation of spillover parking no longer

relies on the availability of on-street parking to meet unmet (spillover) station parking demand. Removing availability of on-street parking as a consideration for transit parking provides a more conservative approach to the analysis of potential impacts related to spillover parking at the stations because it does not assume that demand could be met by using on-street parking, if available. Updates to the spillover parking methodology are described further in Section 3.2.4.2. The spillover parking impact conclusions and mitigation presented in the Draft EIS/EIR remain unchanged in this Final EIS/EIR, including with respect to Alternative 3. The LPA will not result in an adverse impact with respect to spillover parking.

Freight

In response to comments received on the Draft EIS/EIR, the methodology for the freight analysis was expanded to include vehicular freight (e.g., freight trucks, such as semi-trailers) in addition to rail freight. As discussed in Section 3.3.8.1, the LPA will not result in an adverse impact to freight vehicles. The rail freight impact conclusions presented in the Draft EIS/EIR remain unchanged in this Final EIS/EIR, including with respect to Alternative 3.

3.1 Regulatory Setting

This section summarizes federal, state, and regional/local regulations applicable to the transportation system assessment for the West Santa Ana Branch (WSAB) Transit Corridor Project.

3.1.1 Federal

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 Code of Federal Regulations Part 27) implementing Section 504 of the Rehabilitation Act (29 United States Code 794). The Federal Highway Administration has enacted regulations for the implementation of the Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including transportation enhancement activities.

NEPA does not include specific guidance or direction with respect to the evaluation of alternatives and their relative effects on traffic and the transportation system. Guidance information was reviewed from FTA publications on transportation impact assessments on transit operation, traffic circulation, and parking. In addition, the Federal Highway Administration guidance regarding safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 Code of Federal Regulations 652) was considered. This guidance further directs that the special needs of the elderly and persons with disabilities must be considered in all federal-aid projects that include pedestrian facilities.

3.1.2 State

The CEQA of 1969, as amended, established environmental guidelines for the analysis and the threshold-based determinations regarding potentially significant impacts. CEQA provides general guidance regarding transportation impacts, including assessing vehicle miles traveled (VMT). The applicable significance criteria are developed using guidance provided in

Appendix G of the CEQA Guidelines (California Code of Regulations Title 14 Section 15000 et seq.), and relevant local policies are discussed in Section 3.1.3 of this chapter.

Assembly Bill 1358, the Complete Streets Act, requires cities and counties to include Complete Streets policies as part of their general plans so that roadways are designed to safely accommodate all users, including bicyclists, pedestrians, transit riders, children, older people, and people with disabilities, as well as motorists. Any substantive revision of the circulation element in the general plan of a California local government will include Complete Streets provisions.

Senate Bill 743, which was codified in Public Resources Code Section 21099, required the California Office of Planning and Research (OPR) to establish new CEQA Guidelines "for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." The new criteria were required to move away from vehicle delay and LOS and move toward more multimodal concepts "that may include, but are not limited to, vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated."

In 2018, Section 15064.3 was added to the CEQA Guidelines to reflect the provisions of Senate Bill 743. The section addresses both land use and transportation projects, and broadly describes the methodology, including the potential for qualitative analysis, used to assess VMT. The overall guidance for transportation projects is that they are presumed to have a less than significant project impact if they reduce VMT (CEQA Guidelines, Section 15064.3(b)(2)). Agencies are given "broad discretion" to select the methodology for analysis, or even apply a qualitative approach. As described in Section 1.6.6 of the Transportation Impact Analysis Report, the analysis and impact determinations have used a VMT-based approach.

The OPR prepared a 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA*. The guidance addresses a variety of projects, with the recognition that the approach for evaluating impacts is necessarily project-specific. For transit projects, the guidance document notes that "transit and active transportation projects generally reduce VMT and therefore are presumed to cause a less-than-significant impact on transportation" (OPR 2018). However, it also notes Code Section 21099, which dictates that the implementation of VMT analysis "does not relieve a public agency of the requirement to analyze… any other [potentially significant] impact associated with transportation impacts." OPR's guidance has been implemented in this Draft EIS/EIR by conducting CEQA analysis consistent with the December 2018 revisions to the CEQA Guidelines and focusing on a VMT-based assessment of potential impacts.

The California Department of Transportation (Caltrans) has jurisdiction over the construction and maintenance of state highways and freeways in the Study Area. These state highways and freeways include Interstate (I-) 5, I-10, I-105, I-605, I-710, State Route (SR)-91, and U.S. (US-) Highway 101. Caltrans also coordinates several statewide transportation programs that directly impact the circulation system in the region. These include the State Transportation Improvement Program, the Congestion and Mitigation and Air Quality Program, and the Traffic Congestion Relief Program.

3.1.3 Regional/Local

Relevant planning documents include regional transportation plans prepared by the Southern California Association of Governments (SCAG) and Metro, as well as general plans and specific plans for each affected jurisdiction in the Study Area. The general plans, circulation elements, and corresponding specific plans for Los Angeles (LA) County and the cities in the Study Area provide the local regulatory framework and policies related to transportation and traffic issues.

The *Regional Transportation Improvement Plan* (RTIP) is a capital listing of all transportation projects proposed over a six-year period for the SCAG region. The SCAG region encompasses six counties (i.e., Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities. The projects include highway improvements; transit, rail, and bus facilities; high-occupancy vehicle lanes; signal synchronization; intersection improvements; and freeway ramps. In the SCAG region, an RTIP update is produced every other year on an even-year cycle. The RTIP is prepared to implement projects and programs listed in the *Regional Transportation Plan* (RTP) and developed to comply with state and federal requirements. Projects that are anticipated to receive federal funding or are subject to a federally required action are added to the Federal Transportation Improvement Program. This includes regionally significant transportation projects where approvals from federal funding agencies are required, regardless of funding sources. County transportation commissions propose county projects from city and local submittals using the current RTP policies, programs, and projects as a guide. Locally prioritized project lists are forwarded to SCAG for review. From this list, SCAG develops the RTIP based on consistency with the current RTP, intercounty connectivity, financial constraints, and air quality conformity satisfaction. Identified RTIP/SCAG roadway improvements were assumed in the analysis and modeling of future scenarios.

Each jurisdiction has different approaches for identifying transportation (circulation) deficiencies. Discussion of the coordinated and consistent approach for analysis across these jurisdictions is included in Section 3.2.

3.2 Methodology

This section provides the methodology, impact criteria, and thresholds used to determine impacts on the transportation system resulting from the LPA, including the design option and maintenance and storage facility (MSF). The methodology was established to provide for a comprehensive assessment of potential traffic, transportation, and mobility effects, and impacts under NEPA and CEQA. Section 3.2.7 describes the focused analysis that was applied to the CEQA evaluation. A more detailed discussion on the methodology is provided in Section 1.6 of the Transportation Impact Analysis Report.

Table 3-1 describes the types of potential impacts and the proposed approach for assessing these impacts. More details on the approach for assessing impacts for each element are provided in Sections 3.2.1 through 3.2.8.

Table 3-1. Transportation Analysis Approach

Transportation Element	Potential Impact	Analysis Approach	Affected Area Geographic Extent
At-grade crossings (see Section 3.2.1 for more details)	Operational impacts due to new at-grade crossings: affects intersection operations where tracks are through/adjacent to existing intersections and where queues from mid-block rail crossings build when gates are down.	Assess intersection operations with gate down time, new signal timing, and changes in geometry. Estimate queues from mid-block crossings and their effect on nearby intersections.	Key intersections identified
Road network changes (see Section 3.2.1 for more details)	Street/lane closures or roadway realignments to accommodate the LPA, including new at-grade crossings.	Assess intersection operations due to potentially rerouted traffic.	Key intersections identified
Regional travel (see Section 3.2.6 for more details)	Changes to VMT.	Evaluate VMT changes at the regional, county, and Study Area levels using the Metro Travel Demand Model.	SCAG region, LA County, and the Study Area (2 miles from all alternatives evaluated in the Draft EIS/EIR)
Transit station and MSF travel demand (see Section 3.2.2 for more details)	Additional traffic demand and congestion on local roads near new stations and MSF.	Assess intersection operations using projected future traffic volumes for the No Build Alternative and LPA. MSF volumes based on a similar sized facility in the Metro system.	Key intersections identified
Bus-rail interface (see Section 3.2.2 for more details)	Changes to bus access at rail stations, including impacts on existing routes.	Assess changes to local service and utilization.	2-mile buffer from the LPA alignment
Bike and pedestrian (see Section 3.2.3 for more details)	Access and operations for bike/pedestrian facilities.	Qualitative with discussion of removal of bike/pedestrian facilities.	Within 100 feet of the LPA

Transportation Element	Potential Impact	Analysis Approach	Affected Area Geographic Extent
Parking (see Section 3.2.4 for more details)	Physical changes to existing on- and off-street parking to accommodate the LRT alignment, stations, and other project elements (e.g., TPSSs), which could result in increased traffic circulation/delay, and vehicle emissions. Spillover parking resulting from unmet transit parking demand at new stations, which could result in increased traffic circulation/delay and vehicle emissions.	Comparison of remaining on-street parking supply against surveyed parking utilization or parking demand. Assess supply of remaining off-street parking using requirements as per the applicable city parking code. Comparison of corridor-wide transit parking supply and demand.	0.25 mile around each station and along streets immediately adjacent to the alignment and other project features, and off-street parking lots where permanent easements or acquisitions are required for the LPA
Freight (see Section 3.2.5 for more details)	Access and operational impacts to vehicular and rail freight at at-grade crossing locations due to intersection operations, changes in roadway geometry, and the LPA alignment.	Assess intersection operations at vehicular freight routes and assess changes to operation, maintenance, and access of rail freight.	Within 100 feet of the LPA
Construction effects on traffic, transit, active transportation, parking, and freight (see Section 3.2.8 for more details)	Workers and equipment accessing the construction site will increase traffic and require parking. Transportation system effects associated with aerial (columns) at-grade construction of the LPA alignment could result in lane or roadway closures, which could affect vehicular traffic, and transit services. Construction could also result in closure and detours of bicycle and pedestrian facilities. Realignment of freight tracks will be required to accommodate the LPA.	Qualitative, with high-level descriptions of number of workers relative to total traffic volume. Discuss temporary changes to traffic circulation, haul truck routes, parking, active transportation, and transit detours during construction. Discuss effects on freight from changes to traffic circulation and for realignment of freight tracks.	Construction footprint, including staging areas, haul routes, and work sites

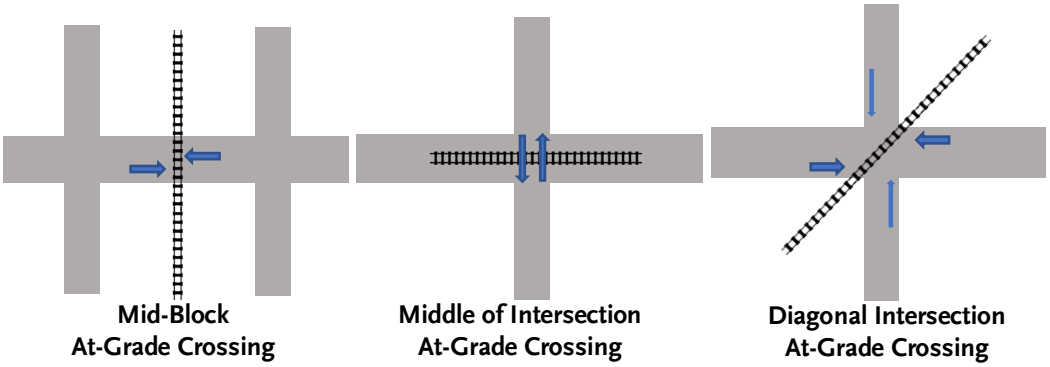
Source: Metro 2024s
Notes: LA = Los Angeles; EIS/EIR = environmental impact statement/environmental impact report; LPA = Locally Preferred Alternative; LRT = light rail transit; MSF = maintenance and storage facility; SCAG = Southern California Association of Governments; TPSS = traction power substation; VMT = vehicle miles traveled

The following subsections provide details on the methodology for each element of the transportation system.

3.2.1 Analysis Approach: Traffic Operations

At-grade rail crossings (where a street crosses railroad tracks at the same level) have the potential to affect traffic operations on arterials and local streets. New at-grade crossings will be located near or at existing intersections. When the train crossing gates are down, vehicles wanting to cross the tracks will be forced to stop, increasing delay for vehicles and the potential for queues to form, affecting adjacent and nearby intersections. Freight trains currently operate through some existing at-grade crossings; however, these trains were not incorporated into the traffic analysis due to their infrequent occurrence. Figure 3-1 illustrates three common configurations of at-grade crossings and the effects on intersections.

Figure 3-1. At-Grade Crossing Configurations at or near Intersections



Source: Metro 2024s

The proposed horizon year (2042)[1] operating plans for the LPA assume 12 train crossings per direction in the peak hour, equating to 24 total train crossings per hour for both directions. With this schedule, a train from each direction will cross at each at-grade crossing every five minutes, so there will be a train crossing from either direction every two and a half minutes. Per Metro's grade crossing safety policy, gate down times are determined based on the train crossing configuration. Specifically, for mid-block train crossings, gates will be down 45 seconds. For middle or diagonal intersection train crossings, gates will be down 30 seconds.

The focus of this impact analysis is on those intersections that could be affected by the LPA, referred to as the Affected Area for traffic operations. A preliminary screening was conducted to determine the key intersections where impacts could occur.

The screening process assessed the intersections in the Study Area in terms of potential effects based on location (proximity to a rail crossing and/or station) and traffic volume to identify intersections within the Affected Area for traffic operations. Assessments were based on field reviews, preliminary engineering plans, and professional judgment. The assessments included:

- The potential effects at each rail crossing, which was used to determine potential impacts on the surrounding intersections. The trains will result in vehicle queues and the potential to disrupt traffic operations at nearby intersections.
- The potential effects from stations, where vehicles accessing the station will increase traffic volumes.
- Proximity to a rail crossing and/or station.

[1] 2042 is the horizon year based on FTA standard practice for a 25-year planning horizon.

- Overall traffic volumes (intersections with higher volumes are more likely to have an impact).

As noted in the introduction to Section 3, in response to comments received on the Draft EIS/EIR and refinements to the LPA, the analysis was revised to include nine additional intersections. Additionally, the traffic analysis was updated at previously analyzed intersections where project refinements had the potential to affect traffic operations.

The specific steps for the traffic analysis of at-grade crossings are described below; these steps also apply to the traffic analysis conducted for intersections that were in proximity to roadway changes and transit stations (described later in this section and in Section 3.2.2, respectively):

- **Assess existing operations:** The evaluation of existing operations starts by considering geometry, traffic volumes, and signal timing. Traffic counts were collected in late 2016 and throughout 2017. Because new intersections were added to the analysis in response to comments received during public review of the Draft EIS/EIR and refinements to the LPA, additional traffic counts were collected in 2022. Typically, the date of the Notice of Preparation (2017) establishes the year that corresponds with existing conditions. To account for the potential effects of the pandemic on traffic, additional steps were taken to ensure traffic volumes collected for the new intersections did not represent lower traffic volumes than what may have existed if the counts were conducted in 2017. Specifically, to validate traffic conditions at the new intersections, new counts were also conducted at adjacent intersections that were previously analyzed in the Draft EIS/EIR. The purpose was to assess whether traffic volumes changed within the localized area between 2016/2017 and 2022 as a result of the pandemic. The differences in volumes between 2016/2017 and 2022 at the previously analyzed intersections were calculated. Where traffic volumes decreased between 2016/2017 to 2022, a growth rate was added to the 2022 counts for the new intersections, and the traffic analysis was conducted using the adjusted counts. Where 2022 counts were higher, those volumes were used for the new intersections. This approach assumes the most conservative condition at the intersections for purposes of a LOS analysis. For example, if the pandemic did have an effect on travel, causing traffic volumes to decrease during this period, applying the growth rate to the volumes would better reflect pre-pandemic conditions, consistent with the other intersections evaluated. If the 2022 counts were higher, those counts were used to provide a more conservative assessment in the absence of data from 2017. This approach was not applied to intersections that were previously analyzed as part of the Draft EIS/EIR because actual data was collected during 2016/2017 which best reflect the conditions at the time of the Notice of Preparation. Synchro software's traffic simulation function (SimTraffic) was used to evaluate traffic operations using two performance measures (Synchro is a macroscopic traffic operations analysis and optimization software application used to measure intersection performance):

  – LOS based on average delay per vehicle in the peak hours (further information on LOS is provided later in this section).
  – Vehicle queue lengths vary with each signal cycle. 95th percentile queues are among the longest—the queues that are expected in only 1 out of 20 cycles. Evaluations were conducted for the AM and PM peak hour on typical weekdays, consistent with the traffic volumes collected in the field.

- **Develop Future No Build traffic volumes:** Future year 2042 traffic volumes were derived by applying growth rates obtained from the Metro Travel Demand Model (adapted from SCAG 2016a) to traffic volumes collected in late 2016, throughout 2017, and 2022 for the Project. Traffic signal timing from existing conditions were retained, with updated times for the green signal for each intersection turning movement. The times were developed using the traffic signal timing optimization function from Synchro, which is consistent with how traffic signals operate in the field.
- **Evaluate No Build traffic operations at each intersection:** Performance measures include LOS and 95th percentile queues.
- **Future traffic volumes with the LPA:** The new LRT could increase or decrease traffic volumes for the following reasons:
  - Traffic volumes could decrease because of a shift from automobile to transit. However, to be conservative, the traffic analysis does not assume a shift from automobile to transit.
  - Traffic volumes could increase or decrease because of changes to the local road network to accommodate new train service (e.g., where tracks will conflict with existing streets, converting a two-way street to a one-way street). More details on the types of road network changes are provided later in this section.
  - Traffic volumes could increase because of new park-and-ride or kiss-and-ride (i.e., passenger drop-off) facilities at the LPA stations. See Section 3.2.2 for more details.
- **Evaluate at-grade crossing traffic operations:** SimTraffic was used to evaluate the traffic operations for all scenarios at the at-grade crossing locations. Specifically, train schedules were coded at the approach to allow for a reasonable and accurate representation of train crossing events for train operations. A gate down event was coded at each train crossing location every 2.5 minutes. This represents a 5-minute headway for trains in both directions, consistent with the operating plan described in Chapter 2 of this Final EIS/EIR.
- **Evaluate future traffic operations with the LPA at each intersection:** The evaluation considers changes to traffic volumes (as described in the bullet above), roadway geometry, and performance measures, which include LOS and 95th percentile queues.
- **Assess impacts:** Impact criteria for when a degradation in LOS associated with operation of the LPA is deemed an impact is shown below along with a discussion of both LOS/delay and queue impacts.

Roadway network changes will be needed to accommodate the LPA. These changes include closures of entire street segments, reductions in the number of lanes, closures of unsignalized railroad crossings, and/or prohibition of left turns for trucks at select intersections where such movements are currently permitted. Closures or reconfigurations may be due to new at-grade crossings or columns that support the aerial alignment and stations. These are described in Table 3-32. Increases in local traffic are expected to be associated with new transit stations. The Metro Travel Demand Model provided projections of the number of new vehicle trips at these stations. Travel patterns associated with these increased trips were determined based on land use, roadway network, and traffic conditions

of the local area. A quantitative impact assessment was conducted using LOS analysis, as described in the next paragraph and Table 3-2.

Table 3-2. Intersection Level-of-Service Criteria for Signalized, All-Way Stop, and Two-Way Stop Intersections

Level-of-Service	Description of Operation	Signalized Intersection Delay (seconds/vehicle)	All-Way Stop or Two-Way Stop Intersection Delay (seconds/vehicle)
A	Describes primarily free-flow conditions at average travel speeds. Vehicles are seldom impeded in their ability to maneuver in the traffic stream. Delays at intersections are minimal.	≤ 10	0-10
B	Represents reasonably unimpeded operations at average travel speeds. The ability to maneuver in the traffic stream is slightly restricted and delays are not bothersome.	> 10-20	> 10-15
C	Represents stable operations; however, ability to change lanes and maneuver may be more restricted than LOS B and longer queues are experienced at intersections.	> 20-35	> 15-25
D	Congestion occurs and a small change in volumes increases delays substantially.	> 35-55	> 25-35
E	Severe congestion occurs with extensive delays and low travel speeds.	> 55-80	> 35-50
F	Characterizes arterial flow at extremely low speeds and severe intersection congestion, with long delays and extensive queuing.	> 80	> 50

Source: Transportation Research Board 2010
Notes: > = greater than; ≤ = less than or equal to; LOS = level-of-service

In addition, qualitative assessments of impacts associated with changes in access are also provided (e.g., assessment of the effects on traffic circulation and lane configuration changes). LOS is the most common measure used to evaluate roadway performance, but other measures can be used to assess the wide range of roadway types, time periods, and modes that use each facility. The Transportation Impact Analysis Report includes a detailed assessment of the potential ways to evaluate performance on the roadway network. Intersection LOS was determined to be the most appropriate methodology.

LOS is a standard means of evaluating operations at intersections and other roadway elements. LOS analysis is based on delay at intersections and requires evaluation of traffic volumes, geometry, and traffic control (e.g., stop signs or traffic signals). Intersection LOS is determined using the analysis methodologies described in the *Highway Capacity Manual* (Transportation Research Board 2010). It is based on six defined levels (A through F), which describe conditions ranging from "ideal" to "worst." Table 3-2 summarizes the *Highway Capacity Manual* intersection LOS criteria.

The Study Area is comprised of multiple jurisdictions. Therefore, methodologies were obtained from cities' general plans or transportation/traffic study guidelines in an effort to

determine a threshold for adverse effects. The results of this review, including the evaluation measures and impact criteria, are included in Table 1.3 in the Transportation Impact Analysis Report. A review of traffic studies was completed for jurisdictions within the Study Area to determine what LOS thresholds have been used for multimodal projects. In general, the specific thresholds and criteria used varied. The review determined that there is not one consistent methodology, impact determination, and LOS threshold in all the jurisdictions. Therefore, to provide a consistent approach in determining impacts throughout the Affected Area for traffic operations, the Los Angeles Department of Transportation's (LADOT) 2016 *Transportation Impact Study Guidelines* (LADOT 2016) were used for the traffic analyses for the LPA and the MSF. An adverse impact was identified at an intersection if the following occurred with implementation of the LPA:

- The intersection has a LOS of C and the LPA will increase average delay by 6.0 or more seconds over the No Build Alternative.
- The intersection has a LOS of D and the LPA will increase average delay by 4.0 or more seconds over the No Build Alternative.
- The intersection has a LOS of E or F and the LPA will increase average delay by 2.5 or more seconds over the No Build Alternative.

Potential impacts may also relate to queuing, particularly at intersections near new at-grade crossings. No formal criteria exist for evaluating queuing, especially because queues will be highly variable depending on how frequently trains cross an at-grade crossing. Therefore, the assessment of queuing impacts identified locations where the projected 95th percentile queue will affect intersection operations, typically resulting when a queue at a crossing extends back to an adjacent intersection.

The evaluation for the MSF focused on the number of vehicle trips the facility generated. Due to the uniqueness of these facilities, the trip rate from an existing Metro LRT maintenance facility was used to determine the trips the MSF will generate. The number of trips was used to determine whether an intersection performance analysis (with and without the MSF) needed to be conducted. The LADOT 2016 *Transportation Impact Study Guidelines* (LADOT 2016), which are the guidelines referenced for the purposes of NEPA traffic analysis as further discussed in the Transportation Impact Analysis Report, set the threshold for new developments at 43 vehicle trips during the AM/PM peak hours. The LPA crosses multiple jurisdictions, and even though each has its own guidelines, not all guidelines cite specific impact thresholds for assessment of impacts at intersections. Therefore, the methodology was applied to maintain a consistent approach for the Affected Area for traffic operations. The qualitative assessment of the surrounding area was conducted to consider the nearby local street network, vehicle traffic activity, and truck routes to the facility.

3.2.2 Analysis Approach: Transit

The analysis of the bus-rail interface focused on the interaction between Metro/other bus services and the new LRT stations. As described in Section 3.3.5, the Study Area currently includes a wide range of transit services. Ridership would likely change on Study Area bus routes, particularly those reconfigured to provide feeder services to the proposed stations.

The evaluation included quantitative information regarding transit service, as available from the Metro Travel Demand Model (adapted from SCAG 2016a):

- **Daily linked fixed-guideway trips:** A trip from origin to destination on the Metro Rail or bus rapid transit system, or the Metrolink commuter rail system. Even if a person must make several transfers during a journey, the trip is counted as one linked trip.
- **Daily linked bus trips:** A trip from origin to destination on the countywide bus system. Even if a person must make several transfers during a journey, the trip is counted as one linked trip on the countywide bus system.
- **Daily linked transit trips:** A trip from origin to destination on the countywide transit system (includes bus and rail modes). Even if a person must make several transfers during a journey, the trip is counted as one linked trip on the countywide transit system.
- **Daily linked trips:** A trip from origin to destination using any travel mode. Even if a person uses multiple modes or transfers within (bus-to-bus) or between modes (car-to-rail), the trip is counted as one linked trip on the system.
- **Total transit mode share:** The percentage share that transit has in relation to all modes of travel.
- **New transit trips:** The number of daily trips shifted from another mode (e.g., automobile) to transit with implementation of the Project compared to the No Build Alternative.

Other potential impacts were determined qualitatively.

3.2.3 Analysis Approach: Active Transportation

The evaluation for active transportation focused on physical impacts to bicycle and pedestrian facilities. The Affected Area for active transportation is defined as the area within approximately 100 feet of the LPA, as this has been identified as the area that could be affected to accommodate the LPA. The Affected Area for active transportation was analyzed to determine how the LPA will affect the existing and planned active transportation facility networks. Additionally, the analysis identifies modifications to existing active transportation facilities required to accommodate the LPA. Most of these modifications will be beneficial for bicyclists and pedestrians. Potential adverse impacts could occur if implementation of the LPA results in removal or degradation of a bike facility or sidewalk.

3.2.4 Analysis Approach: Parking

Potential parking impacts include consequences of, or impacts from, changes in the supply of on- and off- street parking, and parking demand from transit users, which could result in increased traffic circulation and delay, and air quality impacts due to vehicles circling while looking for parking.

Effects to parking were assessed by considering how operation of the LPA will affect the on- and off-street parking supplies (including free and paid public and privately owned lots). For example, on-street parking spaces may be permanently removed to accommodate the LRT tracks, and off-street parking spaces may be permanently removed to accommodate other project features, such as TPSSs. The parking analysis also considered whether the demand from transit parking will exceed the available parking supply, leading drivers to consider parking on nearby streets or in other public parking spaces (spillover parking).

3.2.4.1 On- and Off-Street Parking Analysis

As noted in Section 3, the on- and off-street parking analysis was updated since the Draft EIS/EIR. This section has been revised since the Draft EIS/EIR to incorporate updates to the methodology. The loss of on-street parking itself is not an adverse effect under NEPA, but it can be a local concern. Visual surveys were conducted for the Affected Area for parking (approximately 0.25 mile around each station, along streets immediately adjacent to the LPA and other project features, and off-street parking lots where permanent easements or acquisitions are required for the LPA) to determine the existing supply of on-street parking and the number of spaces utilized. On-street parking surveys were conducted in September 2017 on weekdays between 7:00 AM and 5:30 PM. Updated surveys were conducted in response to comments received on the Draft EIS/EIR regarding parking restrictions and peak parking time periods, and in consideration of refinements to the LPA. The updated surveys were conducted during non-holiday weekdays in January, March, and May 2023 on Tuesdays, Wednesdays, and Thursdays between 6:30 AM and 8:30 AM, 10:00 AM and 12:00 PM, and 11:00 AM and 2:00 PM. The survey time periods were determined based on the surrounding land uses and considered parking restrictions in each neighborhood. Existing supply was determined using a measurement of 25 feet where street parking was not striped, or for locations where parking will not otherwise be restricted, such as at fire hydrants or stop signs. On-street parking effects were assessed by comparing the observed parking demand with the number of parking spaces available after the removal of spaces resulting from implementation of the LPA. Adverse effects may occur if implementation of the LPA will reduce the parking supply below the observed parking demand, which could result in increased traffic circulation and delay, as well as a corresponding increase in emissions as drivers seek to find available on-street parking.

Effects to off-street parking on private properties were assessed to determine whether the loss of these parking spaces will result in the supply decreasing below the requirements as per the applicable city parking code. An adverse effect will occur if supply falls below code requirements, which could result in increases in traffic circulation, traffic delay, and a corresponding increase in emissions as drivers seek to find available on-street parking.

For effects to off-street parking on governmental institutions (e.g., city offices), Metro will enter into an agreement with the applicable jurisdiction for the loss of these off-street parking spaces. In these instances, it is assumed that an agreement will be reached and no adverse effects will occur.

3.2.4.2 Spillover Parking Analysis

The spillover parking analysis considered whether operation of the LPA could result in the demand for transit parking exceeding the parking supply being provided as part of the LPA.

In the Draft EIS/EIR, parking demand was forecasted at the five stations where dedicated transit parking facilities will be provided (i.e., Firestone Station, I-105/C Line Station, Paramount/Rosecrans Station, Bellflower Station, and Pioneer Station). The spillover parking analysis considered whether operation of the LPA could result in the demand for transit parking to exceed the dedicated transit parking supply at those five stations. If parking demand exceeds the dedicated transit parking supply, the analysis considered the availability of on-street parking and whether that would accommodate the demand. For the stations that would not have dedicated transit parking, the analysis assumed it was unlikely that transit passengers would attempt to park at those stations. However, Draft EIS/EIR Mitigation

Measure TRA-21 (Parking Monitoring and Community Outreach) would be implemented at all stations to monitor parking demand before and after opening of the Project. This mitigation measure is referred to as TRA-19 (Parking Monitoring and Community Outreach) and described in Section 3.5.2.4.

In response to comments received on the Draft EIS/EIR, the spillover parking analysis was refined to forecast corridor-wide transit parking demand for all nine stations along the LPA, including those without dedicated transit parking. The spillover parking analysis considered whether the corridor-wide demand for transit parking will exceed the total dedicated transit parking supply. Similar to the Draft EIS/EIR, the Metro Travel Demand Model was used to forecast parking demand. Unconstrained demand was forecasted at the nine stations, providing estimates on transit parking demand for the entire LPA. The analysis also considered the forecasted demand when parking is limited to the five stations with dedicated parking, using the same results from the Draft EIS/EIR. This model run indicated how demand will shift when passengers know dedicated parking is only available at certain stations.

Additionally, in response to comments on the Draft EIS/EIR, the evaluation of spillover parking no longer relies on the availability of on-street parking to meet unmet station parking demand. Removing the availability of on-street parking as a consideration for transit parking provides a more conservative approach to the analysis of potential impacts related to spillover parking at stations. Adverse spillover parking impacts could occur if the corridor-wide demand is higher than the combined transit parking supply at each station where transit parking is provided, resulting in drivers circulating along roads adjacent to the station as they attempt to find available parking. In these instances, it is anticipated that over time some drivers would seek parking at other stations where there is still capacity within dedicated transit parking or find another way to complete their trip. Consistent with the Draft EIS/EIR, Mitigation Measure TRA-19 (Parking Monitoring and Community Outreach) will still apply to all stations along the LPA.

3.2.5 Analysis Approach: Freight

In response to comments received on the Draft EIS/EIR, the methodology for the freight analysis was expanded to include vehicular freight (e.g., freight trucks) in addition to rail freight. Impacts could occur to vehicular or rail freight in terms of mobility, accessibility, and overall operations as a result of implementation of the LPA. Vehicular freight movement occurs on arterial streets throughout the corridor. This analysis focused on freight routes located near the intersections included in the traffic analysis. To determine impacts to vehicular freight, design plans for the LPA were reviewed to determine whether truck movements would be restricted by implementation of the LPA. The LPA will operate on tracks separate from, but adjacent to, rail freight. Rail freight spurs and sidings in proximity to the LPA alignment were reviewed to determine impacts to existing operation or maintenance of freight service.

3.2.6 Analysis Approach: Vehicle Miles Traveled

As described in Section 3.1.2, California Senate Bill 743 guides the state to focus on VMT and related measures as an alternative to traditional LOS analysis. An analysis focused on VMT for this study was conducted for CEQA purposes, and specifically item (b) of the evaluation methodology described in Section 3.2.7.

By definition, VMT analysis is a regional assessment. However, for large regions like the greater Los Angeles region, the effects of individual projects may be relatively small. Therefore, three different geographic evaluations were used: SCAG region, LA County, and the Study Area, with VMT assessed for the Existing Condition, No Build Alternative, and LPA.

3.2.7 Analysis Approach: CEQA Evaluation

CEQA refers to significant impacts on the environment and requires the evaluation of potential effects of proposed government actions in order to disclose to decision makers and the public the significant environmental effects of the proposed activities. To satisfy CEQA requirements, potential transportation impacts were analyzed in accordance with Appendix G of the CEQA Guidelines identified in Section 3.6 of this chapter. The CEQA analysis was completed consistent with the December 2018 revisions to the CEQA Guidelines. Specifically, this analysis considers whether the LPA will:

(a) Conflict with program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities
(b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)
(c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
(d) Result in inadequate emergency access

3.2.8 Analysis Approach: Construction

Impacts to the transportation system (i.e., roadway, vehicular and rail freight, transit [rail and bus], bicycle, pedestrian, and parking) could result during construction of the LPA. Construction could require peak, off-peak, and/or night-time closures of lanes, roads, or intersections, either short-term (one or two days) or long-term (over the course of several days, weeks, or months). Additionally, realignment of freight tracks could require shoofly tracks while realignment of the C Line tracks could require shoofly tracks and/or bus bridges to maintain service. Closures could affect travel lanes for vehicles, bus routes or stops, bicycle facilities, sidewalks, schedules for transit and freight train movements, and on- or off-street parking. Detours for vehicular, transit, or nonmotorized traffic could be required. Additionally, construction workers will add traffic to local streets and will require parking for their personal vehicles.

The analysis of potential impacts focuses on the types of construction activities associated with elements of the LPA, including aerial and at-grade alignment construction, rail freight relocation, intersection and street modifications to accommodate the LPA, and for installation of grade crossing equipment. Potential impacts due to delays or detours to transit routes along those roadways were considered. The evaluation considered the locations, the number of lanes, and the duration of closures for traffic, sidewalks, and bicycle lanes. The evaluation also considered haul routes and construction worker parking.

3.3 Affected Environment/Existing Conditions

This section provides an assessment of existing conditions, including travel demand, the roadway network (freeway, arterials and local roads, and intersections), transit service (rail and bus), active transportation (bicycle and pedestrian travel), parking, and freight (vehicular and rail).

The Notice of Preparation for the Project was issued on May 25, 2017, as such, the year 2017 was selected to represent Existing Conditions. The Existing Conditions assessment was based on best available data available from either 2016 or 2017, depending on availability. Traffic data were collected in late 2016 and early 2017. Additional traffic counts were collected in 2022 for the new intersections added in response to comments on the Draft EIS/EIR and refinements to the LPA, as described in Section 3.2.1. Transit data were gathered in 2017; however, the Metro Travel Demand Model (described in Section 3.3.1) uses a base year of 2016. Parking data were gathered in 2017, and additional data were gathered in 2023 in response to comments on the Draft EIS/EIR, as detailed in Section 3.2.4.

3.3.1 Travel Demand in the Corridor

To determine major travel patterns within the Study Area, data from Metro's Travel Demand Model: Corridors Base Model 2018 (CBM18a) were extracted. The model was calibrated to 2012 and validated to 2017 conditions using the substantial amount of available data and information on the current travel behavior and travel patterns of Southern California transit riders.

The model has been applied to provide forecast demands on other corridors in the region. Travel characteristics for this model were derived from Metro trip tables, which are based on the 2016 *Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) trip tables in the *2016-2040 RTP/SCS* (SCAG 2016a). The model coding is documented in the Travel Demand Methodology and Forecasting Results Report (Metro 2021bb).

According to these Existing Conditions trip tables, there were approximately 6.4 million daily person-trips in the Study Area. Of the 6.4 million daily trips:

- Approximately 2.1 million (33 percent) of the travel trips are round trips from origins inside the Study Area to destinations outside the area (i.e., the trip leaves the Study Area).
- Approximately 2.0 million (31 percent) of the travel trips are round trips from origins within the Study Area to destinations within the area (i.e., the trip is internal to the Study Area).
- Approximately 2.3 million (36 percent) of the travel trips are round trips from origins outside the Study Area to destinations inside the area (i.e., the trip enters the Study Area).

As shown, the percentage of trips entering the Study Area (36 percent) is slightly greater than the percentage of trips departing the Study Area (33 percent). This is because the employment density in the Study Area, which includes downtown Los Angeles, is approximately five times that of LA County.

The Study Area is an important transit corridor, accounting for nearly 28 percent (approximately 494,000 transit trips) of the SCAG region's forecasted transit trips in 2042. Of these transit trips:

- 148,000 (30 percent) trips originate in the Study Area and are destined for locations outside the Study Area (i.e., the transit trips leaving the Study Area).
- 138,000 (28 percent) trips stay within the Study Area (i.e., the transit trips internal to the Study Area).
- 208,000 (42 percent) trips are attracted to the Study Area from points outside the Study Area (i.e., the transit trips entering the Study Area).

These percentages illustrate the diverse needs for providing high-quality transit service throughout the Study Area and to/from regional connections and population/employment centers.

3.3.2 General Corridor-Wide Roadway Network Conditions

The roadway network includes a wide range of facilities: freeways, arterials, local roads, and intersections.

3.3.3 Freeways, Arterials, and Local Roads

The Study Area is served by an extensive freeway system that provides access to areas throughout LA County and the Southern California region. The following eight freeways are located within the Study Area; the freeways are shown on Figure 3-2:

- **I-5/Santa Ana Freeway:** This freeway runs through the Study Area at a northwest-southeast diagonal for approximately 6 miles. This freeway forms most of the eastern Study Area boundary. I-5 connects LA County internally, north to the Central Valley and Sacramento, and south to Orange County and San Diego.
- **I-710/Long Beach Freeway:** This north-south freeway runs through the middle of the Study Area for approximately 8.5 miles. It connects Long Beach and the Ports of Long Beach and Los Angeles north to its current terminus in the City of Alhambra in the San Gabriel Valley.
- **I-605/San Gabriel Freeway:** This north-south freeway passes through the southern end of the Study Area for approximately 4 miles. It connects to I-210 in the San Gabriel Valley to the north, and to I-405 at the boundary between Los Angeles and Orange Counties to the south.
- **I-110/Harbor Freeway:** This north-south freeway crosses the northwest portion of the Study Area for approximately 6 miles. It connects to I-10 in the north and I-105 and I-405 in the south.
- **I-105/Glenn Anderson or Century Freeway:** This east-west freeway crosses the central portion of the Study Area for approximately 8.5 miles. It connects to I-605 in the east and I-405 in the west, ending west of I-405 in the Los Angeles International Airport area. The Metro C (Green) Line operates through the length of I-105 in the freeway median.
- **SR-91/Artesia Freeway:** This east-west freeway operates through the southern end of the Study Area for approximately 8.5 miles. It connects Los Angeles, Orange, Riverside, and San Bernardino Counties from the I-110/Harbor Freeway in the South Bay east to downtown San Bernardino.
- **I-10/San Bernardino Freeway:** This east-west freeway crosses the northern end of the Study Area for approximately 8 miles. It provides access to I-710, near City Terrace, and I-110 in the northwest portion of the Study Area.
- **US-101/Hollywood Freeway:** This freeway runs through the northern part of the Study Area at a northwest-southeast diagonal for approximately 4 miles. It continues from central LA County, near Downtown LA (East LA interchange area) north to the Central Coast and San Francisco.

Existing traffic volumes (vehicles per day) and truck percentages for each freeway are listed in Table 3-3 and displayed on Figure 3-2. Figure 3-2 also displays the major arterial traffic volumes. As reflected in Table 3-3, freeway segments in the Study Area carry approximately 130,000 to 300,000 vehicles per day (both directions). These volumes were compiled using Caltrans traffic census data (Caltrans 2016a, 2016b). As a reference, the highest-volume freeway in the State of California is I-405 (at Seal Beach Boulevard in Orange County) with a volume of 377,600 vehicles per day in 2016 (Caltrans 2016a, 2016b).

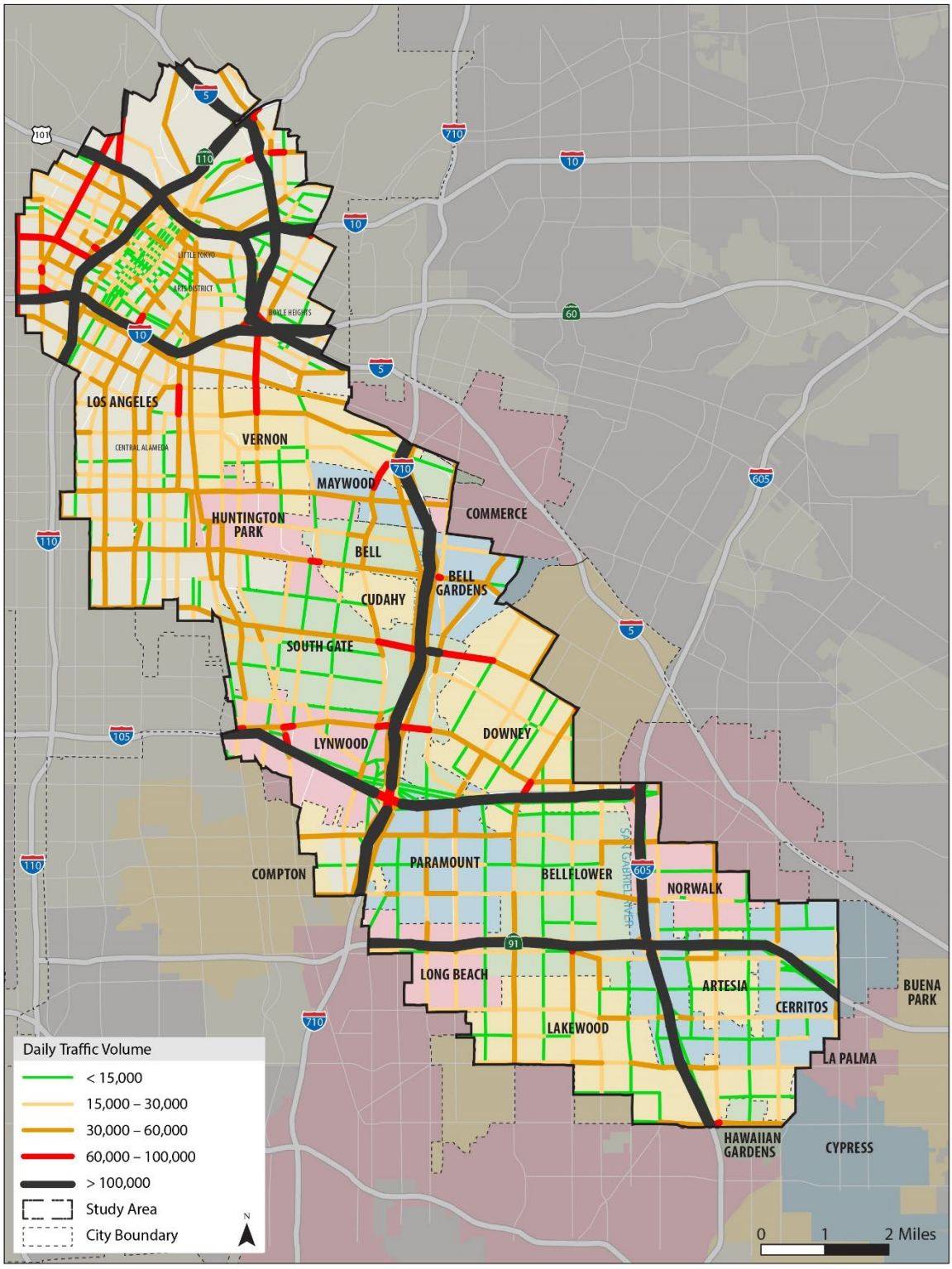
Table 3-3. Existing Average Annual Daily Traffic Volumes and Average Truck Percentages on Freeways

Freeway	From	To	AADT Volumes (minimum – maximum)*	Average Truck Percent (minimum – maximum)
I-5	I-710	SR-2	221,000 – 287,000	5 – 8
I-710	SR-91	I-5	204,000 – 241,000	8 – 9
I-605	Carson Road	I-105	186,000 – 298,000	5 – 6
I-110	I-10	I-5	160,000 – 291,000	1 – 3
I-105	I-110	I-605	195,000 – 240,000	5 – 9
SR-91	I-710	I-605	259,000 – 277,000	8
I-10	I-110	I-710	255,000 – 307,000	3 – 6
US-101	I-5	SR-2	136,000 – 266,000	3 – 4

Source: Adapted from Caltrans 2016a and 2016b
Notes: * AADT is the total volume for the year divided by 365 days.
AADT = annual average daily traffic; I = Interstate; SR = State Route

Among these freeways, I-710 (between SR-91 and I-5), I-105 (between I-110 and I-605), and SR-91 (between I-710 and I-605) carry the largest percentage of truck traffic, with percentages ranging from 5 to 9 percent. These freeways provide trucks access to the Ports of Long Beach and Los Angeles south of the Study Area and to warehouses associated with the movement of goods. Truck percentages vary widely and are usually highest on rural freeways, but truck concentrations approaching 10 percent of overall traffic are considered high for urban areas.

Figure 3-2. Existing Daily Traffic Volumes on Freeways and Major Arterials in the Study Area (2017)



Source: Metro Travel Demand Model 2017-2042 (adapted from SCAG 2016a)

Table 3-4 summarizes the major roadway facilities (both freeways and arterials) directly and indirectly serving the cities and local communities within the Study Area.

Table 3-4. Major Roadway Facilities Serving the Study Area

City/Community	Major Roadway Facilities
Downtown Los Angeles	I-10, I-110, US-101
Boyle Heights	US-101, I-10, I-5, SR-60, Olympic Boulevard
Central Alameda*	Alameda Street
South Park	E. Martin Luther King Jr. Boulevard
Florence-Graham (Florence-Firestone)	Firestone Boulevard, Florence Avenue, Central Avenue, Long Beach Avenue
Vernon*	I-710, S. Soto Street, S. Downey Road
Maywood*	S. Atlantic Boulevard, I-710
Huntington Park*	Alameda Street, Pacific Boulevard
Bell*	Atlantic Boulevard, I-710
Bell Gardens*	I-710, Florence Avenue
Cudahy*	Atlantic Boulevard, I-710
South Gate*	I-710, Long Beach Boulevard, Firestone Boulevard
Downey*	I-605, I-105, I-710, I-5
Lynwood*	I-710, I-105, Long Beach Boulevard, Alameda Street, Imperial Highway
Paramount*	I-105, I-710, Rosecrans Avenue, Paramount Boulevard
Bellflower*	SR-91, I-105, I-605, Rosecrans Avenue
Norwalk*	SR-91, I-5, I-105, I-605, Rosecrans Avenue
Cerritos*	I-605, SR-91, Artesia Boulevard
Lakewood*	I-605, Del Amo Boulevard
Artesia*	SR-91, I-605, Pioneer Boulevard

Source: Arellano Associates 2016, updated by Jacobs in 2023
* Major roadways in this city/community cross the LPA alignment.
Notes: I = Interstate; SR = State Route; US = United States

3.3.4 Intersections

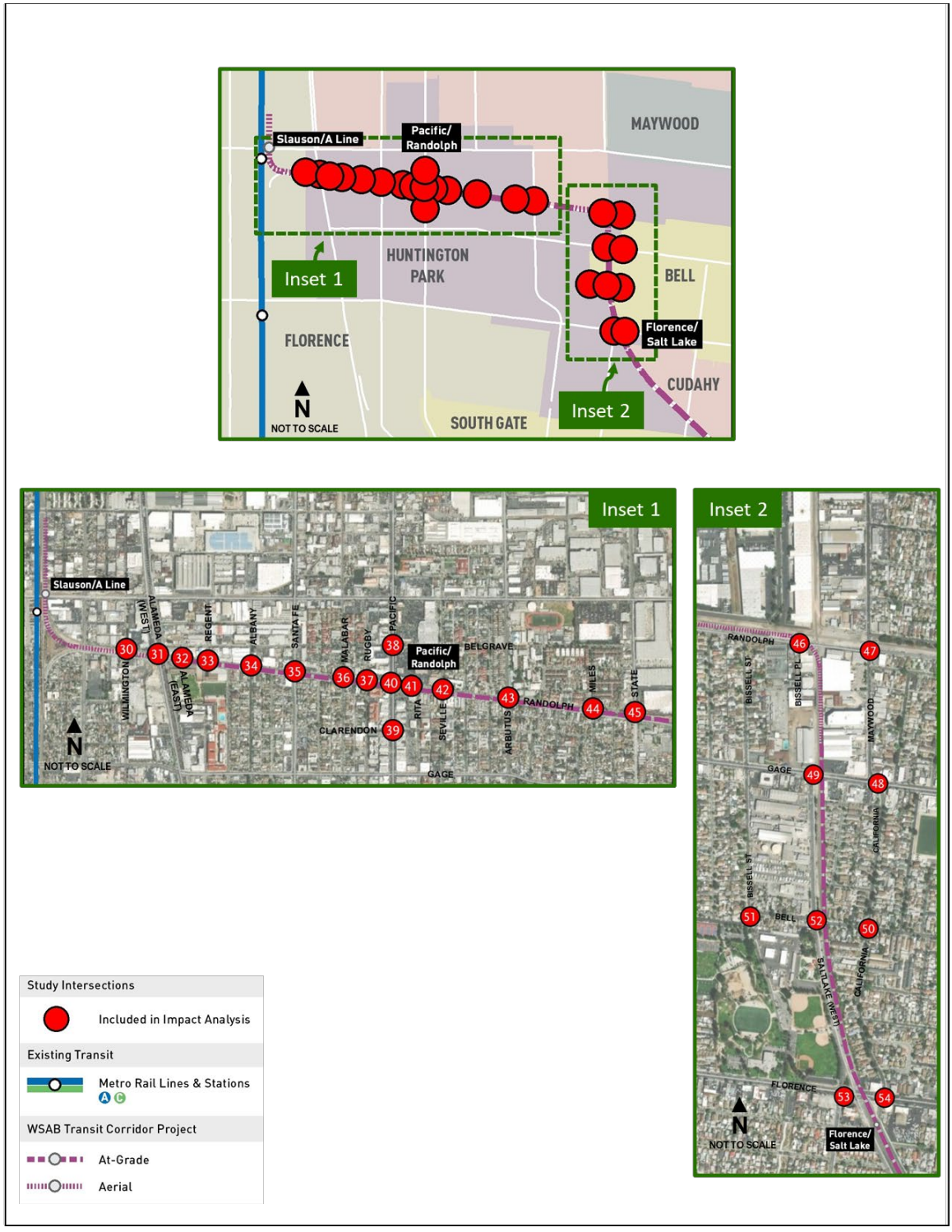
Most intersections within the Affected Area for traffic operations are controlled by a traffic signal or stop sign, with a few intersections being uncontrolled. Many intersections near rail crossings are controlled with crossing gate arms (typically found on arterials) or warning signs (typically found on lower-volume local roads). The signalized intersections near controlled rail crossings with gate arms are connected to the crossing, allowing for adjustments to the traffic signal timing (changing based on traffic conditions) on an as-needed basis, which helps to discourage vehicles from queuing on the tracks when there are oncoming trains. The intersections included in the traffic analysis are described below by location.

The alignment between the Slauson/A Line Station and the I-105/C Line Station is mainly in an industrial and business center area, except for the residential area near the areas of Florence-Firestone, City of Huntington Park, and between Gardendale Street and I-105. Because this area of the alignment includes industrial areas, trucks account for a significant portion of its traffic. The alignment between the I-105/C Line Station and the Pioneer Station is mainly residential. Some major retail areas are located near the Pioneer Station. Because this area of the alignment is mainly residential, truck traffic volumes are relatively low, except at the north end.

Figure 3-3 through Figure 3-5 provide an overview of the 81 key intersections along the alignment that were included in the traffic analysis. Table 3-5 lists the key intersections, with details on jurisdiction, control type, reason for inclusion in the analysis, and intersection delay/LOS for each. Intersection 110 (Parking Structure/Solana Pl/Pioneer Blvd) will be established as part of the LPA and therefore does not exist under Existing Conditions. The majority of the intersections (59 percent; 47 intersections) operate at LOS C or worse, and 16 percent (13 intersections) operate at LOS E or worse. Operations are similar in the AM and PM peak periods.

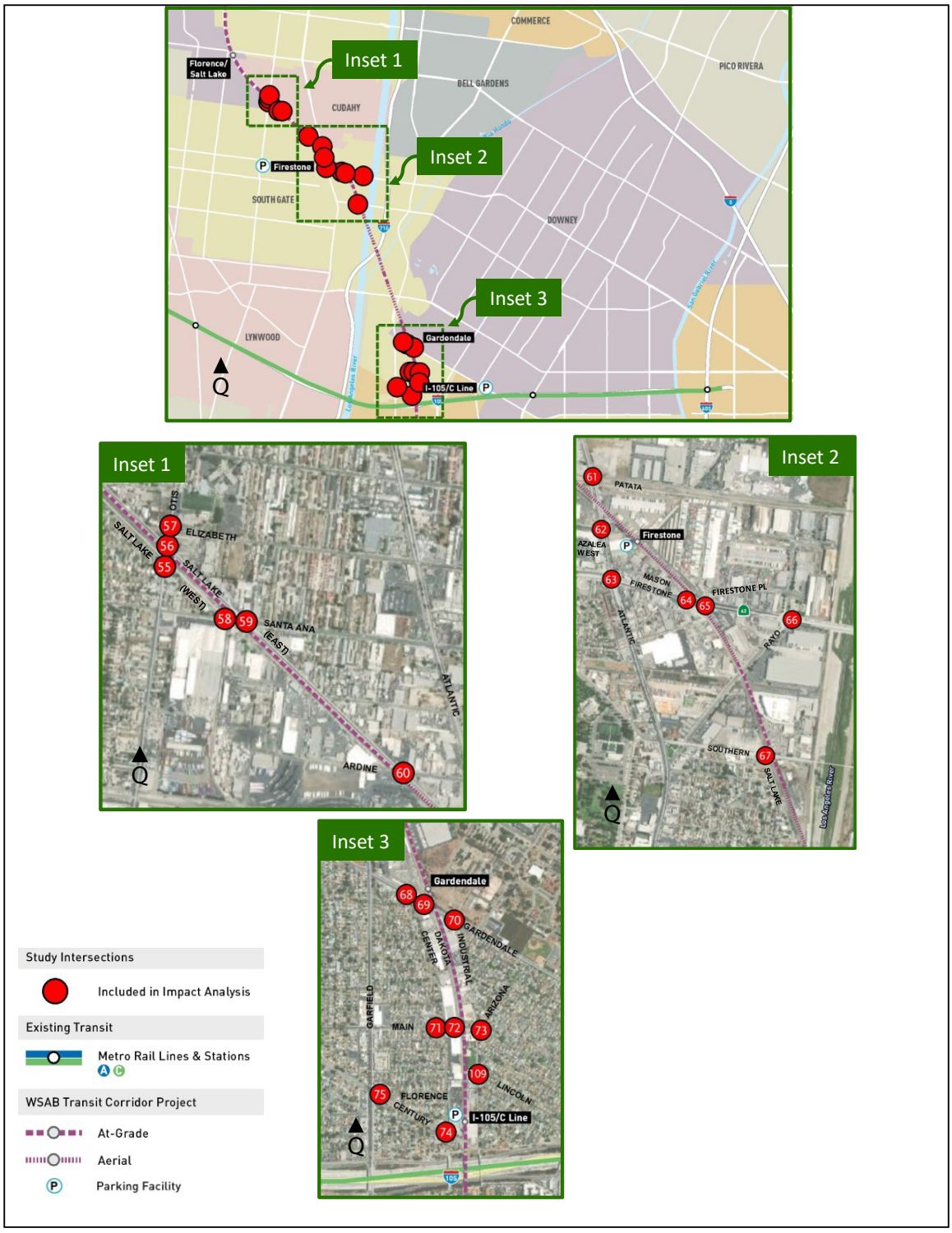
Appendix A to the Transportation Impact Analysis Report contains detailed turning movement traffic volumes for the AM and PM peak for each intersection.

Figure 3-3. Key Intersections (1 of 3)



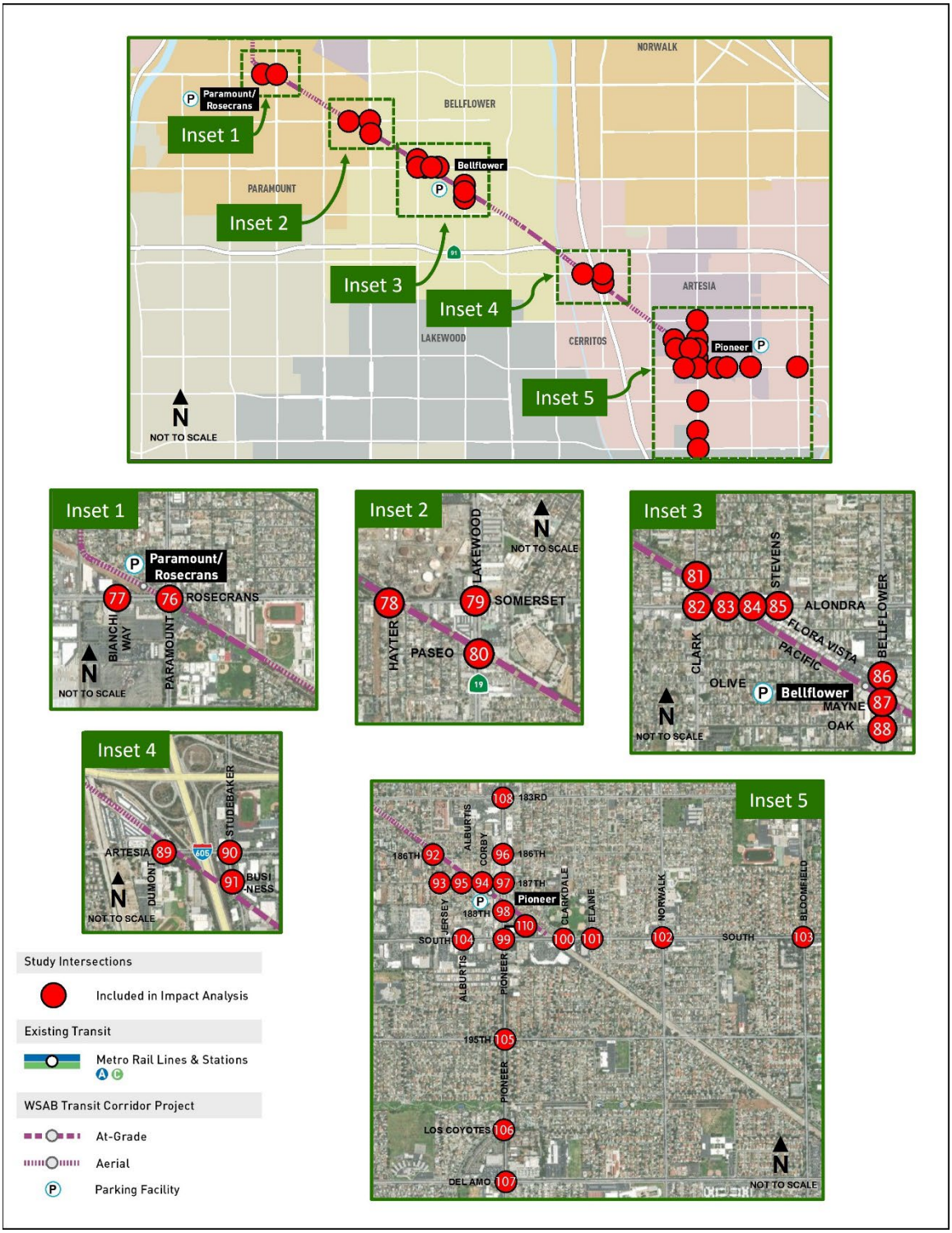
Source: Metro 2024s
Note: Intersection numbers 1 to 29 were along Alternatives 1 and 2, which are not evaluated in this chapter.

Figure 3-4. Key Intersections (2 of 3)



Source: Metro 2024s

Figure 3-5. Key Intersections (3 of 3)



Source: Metro 2024s
Note: Intersections 1-29 are along Alternatives 1 and 2, which are not evaluated in this chapter. Intersection numbers 102 through 110 were not analyzed as part of the Draft EIS/EIR. These intersections were added in response to comments received on the Draft EIS/EIR or due to refinements to the LPA.

Table 3-5. Key Intersections—Existing Operations

No	Intersection Name	Jurisdiction	Control Type	Selection Reason	Delay/LOS/Period*
30	Randolph St/Wilmington Ave	Huntington Park	All-Way Stop	Rail in Intersection	20.5/C-AM 11.5/B-PM
31	Randolph St/Alameda St (West)	Huntington Park	Traffic Signal	Rail in Intersection	48.3/D-AM 24.2/C-PM
32	Randolph St/Alameda St (East)	Huntington Park	Two-Way Stop	Rail in Intersection	8.8/A-AM 9.6/A-PM
33	Randolph St/Regent St	Huntington Park	Two-Way Stop	Rail in Intersection	15.0/C-AM 12.7/B-PM
34	Randolph St/Albany St	Huntington Park	Two-Way Stop	Rail in Intersection	29.1/D-AM 23.7/C-PM
35	Randolph St/Santa Fe Ave	Huntington Park	Traffic Signal	Rail in Intersection	22.5/C-AM 19.1/B-PM
36	Randolph St/Malabar St	Huntington Park	Traffic Signal	Rail in Intersection	21.4/C-AM 20.0/C-PM
37	Randolph St/Rugby Ave	Huntington Park	Two-Way Stop	Rail in Intersection	62.0/F-AM 14.2/B-PM
38	Pacific Blvd/Belgrave Ave	Huntington Park	Traffic Signal	Crossing Proximity	6.6/A-AM 8.2/A-PM
39	Pacific Blvd/Clarendon Ave	Huntington Park	Traffic Signal	Crossing Proximity	9.1/A-AM 7.4/A-PM
40	Pacific Blvd/Randolph St	Huntington Park	Traffic Signal	Rail in Intersection	29.8/C-AM 37.1/D-PM
41	Randolph St/Rita Ave	Huntington Park	Two-Way Stop	Rail in Intersection	24.9/C-AM 47.7/E-PM
42	Randolph St/Seville Ave	Huntington Park	Traffic Signal	Rail in Intersection	34.7/C-AM 29.7/C-PM
43	Randolph St/Miles Ave	Huntington Park	Traffic Signal	Rail in Intersection	34.0/C-AM 28.1/C-PM

No	Intersection Name	Jurisdiction	Control Type	Selection Reason	Delay/LOS/Period*
44	Randolph St/Arbutus Ave	Huntington Park	All-Way Stop	Rail in Intersection	17.6/C-AM 10.3/B-PM
45	Randolph St/State St	Huntington Park	Traffic Signal	Rail in Intersection	21.0/C-AM 13.1/B-PM
46	Randolph St/Bissell Pl	Huntington Park	Two-Way Stop	Crossing Proximity	13.5/B-AM 13.0/B-PM
47	Randolph St/Maywood Ave	Huntington Park	Traffic Signal	Crossing Proximity	13.0/B-AM 13.1/B-PM
48	Gage Ave/California Ave	Bell	Traffic Signal	Crossing Proximity	15.6/B-AM 18.9/B-PM
49	Gage Ave/Salt Lake Ave (West)	Bell	Traffic Signal	Crossing Proximity	16.2/B-AM 27.5/C-PM
50	Bell Ave/California Ave	Bell	All-Way Stop	Crossing Proximity	18.1/C-AM 14.2/B-PM
51	Bell Ave/Bissell St	Bell	Traffic Signal	Crossing Proximity	8.7/A-AM 9.0/A-PM
52	Bell Ave/Salt Lake Ave	Bell	All-Way Stop	Crossing Proximity	62.5/F-AM 47.4/E-PM
53	Florence Ave/California Ave (West)	Huntington Park	Traffic Signal	Near Florence/Salt Lake Station	33.9/C-AM 38.0/D-PM
54	Florence Ave/California Ave (East)	Huntington Park	Traffic Signal	Near Florence/Salt Lake Station	52.9/D-AM 28.9/C-PM
55	Otis Ave/Salt Lake Ave (West)	Huntington Park	All-Way Stop	Crossing Proximity	36.9/E-AM 44.7/E-PM
56	Otis Ave/Salt Lake Ave (East)	Cudahy	All-Way Stop	Crossing Proximity	74.5/E-AM 63.7/F-PM
57	Otis Ave/Elizabeth St	Cudahy	Two-Way Stop	Crossing Proximity	34.9/D-AM 46.5/E-PM
58	Santa Ana St/Salt Lake Ave (West)	Huntington Park	Two-Way Stop	Crossing Proximity	41.4/E-AM 35.9/E-PM

No	Intersection Name	Jurisdiction	Control Type	Selection Reason	Delay/LOS/Period*
59	Santa Ana St/Salt Lake Ave (East)	Cudahy	All-Way Stop	Crossing Proximity	43.2/E-AM 48.2/E-PM
60	Ardine St/Salt Lake Ave	Cudahy	All-Way Stop	Crossing Proximity	29.5/D-AM 23.7/C-PM
61	Atlantic Ave/Salt Lake Ave	Cudahy	Traffic Signal	Crossing Proximity	52.7/D-AM 65.0/E-PM
62	Atlantic Ave/Azalea West	South Gate	Traffic Signal	Near Firestone Station that includes a park-and-ride facility	3.7/A-AM 8.3/A-PM
63	Firestone Blvd/Atlantic Ave	South Gate	Traffic Signal	Near Firestone Station that includes a park-and-ride facility	53.0/D-AM 45.9/D-PM
64	Firestone Blvd/Mason St	South Gate	Traffic Signal	Near Firestone Station that includes a park-and-ride facility	7.3/A-AM 7.5/A-PM
65	Firestone Blvd/Firestone Pl	South Gate	Traffic Signal	Near Firestone Station that includes a park-and-ride facility	7.5/A-AM 7.6/A-PM
66	Firestone Blvd/Rayo Ave	South Gate	Traffic Signal	Near Firestone Station that includes a park-and-ride facility	116.1/F-AM 95.2/F-PM
67	Southern Ave/Salt Lake Ave	South Gate	Two-Way Stop	Crossing Proximity	8.9/A-AM 8.8/A-PM
68	Gardendale St/Center St	South Gate	Two-Way Stop	Near Gardendale Station	18.5/C-AM 17.2/C-PM
69	Gardendale St/Dakota Ave	South Gate	All-Way Stop	Near Gardendale Station	28.4/D-AM 12.8/B-PM
70	Gardendale St/Industrial Ave	South Gate	Two-Way Stop	Near Gardendale Station	34.8/D-AM 21.5/C-PM
71	Main St/Center St	South Gate	Two-Way Stop	Crossing Proximity	14.6/B-AM 12.7/B-PM
72	Main St/Dakota Ave	South Gate	Two-Way Stop	Crossing Proximity	10.2/B-AM 10.2/B-PM
73	Main St/Arizona Ave/ Industrial Ave	South Gate	Two-Way Stop	Crossing Proximity	17.5/C-AM 19.4/C-PM

No	Intersection Name	Jurisdiction	Control Type	Selection Reason	Delay/LOS/Period*
74	Century Blvd/Center St	South Gate	Two-Way Stop	Near I-105/C Line Station that includes a park-and-ride facility	9.8/A-AM 9.4/A-PM
75	Century Blvd/Florence Ave	South Gate	Two-Way Stop	Near I-105/C Line Station that includes a park-and-ride facility	9.0/A-AM 8.6/A-PM
76	Rosecrans Ave/Paramount Blvd	Paramount	Traffic Signal	Near Paramount/Rosecrans Station that includes a park-and-ride facility	54.6/D-AM 47.7/D-PM
77	Rosecrans Ave/Bianchi Way	Paramount	Traffic Signal	Near Paramount/Rosecrans Station that includes a park-and-ride facility	2.4/A-AM 12.9/B-PM
78	Somerset Blvd/Hayter Ave	Paramount	Two-Way Stop	Crossing Proximity	29.0/D-AM 32.2/D-PM
79	Somerset Blvd/Lakewood Blvd	Bellflower	Traffic Signal	Crossing Proximity	32.4/C-AM 30.1/C-PM
80	Paseo St/Lakewood Blvd	Bellflower	Traffic Signal	Crossing Proximity	4.0/A-AM 2.6/A-PM
81	Flora Vista St/Clark Ave	Bellflower	Two-Way Stop	Crossing Proximity	14.1/B-AM 18.0/C-PM
82	Alondra Blvd/Clark Ave	Bellflower	Traffic Signal	Crossing Proximity	47.1/D-AM 48.2/D-PM
83	Alondra Blvd/Pacific Ave	Bellflower	Traffic Signal	Crossing Proximity	4.5/A-AM 12.1/B-PM
84	Alondra Blvd/Flora Vista St	Bellflower	Two-Way Stop	Crossing Proximity	37.2/E-AM 32.1/D-PM
85	Alondra Blvd/Stevens Ave	Bellflower	Two-Way Stop	Crossing Proximity	50.9/F-AM 30.3/D-PM
86	Bellflower Blvd/Flora Vista St	Bellflower	Traffic Signal	Near Bellflower Station that includes a park-and-ride facility	7.1/A-AM 14.2/B-PM
87	Bellflower Blvd/Mayne St	Bellflower	Traffic Signal	Near Bellflower Station that includes a park-and-ride facility	11.0/B-AM 10.1/B-PM
88	Bellflower Blvd/Oak St	Bellflower	Traffic Signal	Crossing Proximity	21.7/C-AM 25/C-PM

No	Intersection Name	Jurisdiction	Control Type	Selection Reason	Delay/LOS/Period*
89	Artesia Blvd/Dumont Ave	Cerritos	Traffic Signal	Crossing Proximity	17.7/B-AM 9.4/A-PM
90	Artesia Blvd/Studebaker Rd	Cerritos	Traffic Signal	Crossing Proximity	85.3/F-AM 60.8/E-PM
91	Business Cir/Studebaker Rd	Cerritos	Two-Way Stop	Crossing Proximity	14.6/B-AM 16.2/C-PM
92	186th St/Jersey Ave	Artesia	All-Way Stop	Crossing Proximity	9.1/A-AM 9.2/A-PM
93	187th St/Alburtis Ave	Artesia	Two-Way Stop	Crossing Proximity	9.7/A-AM 8.6/A-PM
94	187th St/Corby Ave (West)	Artesia	Two-Way Stop	Crossing Proximity	9.4/A-AM 9.5/A-PM
95	187th St/Corby Ave (East)	Artesia	Two-Way Stop	Crossing Proximity	9.3/A-AM 9.4/A-PM
96	186th St/Pioneer Blvd	Artesia	Traffic Signal	Crossing Proximity	7.1/A-AM 4.5/A-PM
97	187th St/Pioneer Blvd	Artesia	Traffic Signal	Near Pioneer Station that includes a park-and-ride facility	6.8/A-AM 5.1/A-PM
98	188th St/Pioneer Blvd	Artesia	Two-Way Stop	Near Pioneer Station that includes a park-and-ride facility	10.5/B-AM 12.6/B-PM
99	South St/Pioneer Blvd	Cerritos	Traffic Signal	Crossing Proximity	33.7/C-AM 40.7/D-PM
100	South St/Clarkdale Ave	Artesia	Traffic Signal	Crossing Proximity	18.1/B-AM 11.5/B-PM
101	South St/Elaine Ave	Artesia	Traffic Signal	Crossing Proximity	11.3/B-AM 11.5/B-PM
102	South St/Norwalk Blvd	Artesia	Traffic Signal	Near Pioneer Station that includes a park-and-ride facility	24.3/C-AM 30.8/C-PM
103	South St/Bloomfield Ave	Cerritos	Traffic Signal	Near Pioneer Station that includes a park-and-ride facility	27.6/C-AM 27.0/C-PM

No	Intersection Name	Jurisdiction	Control Type	Selection Reason	Delay/LOS/Period*
104	South St/Alburtis Ave	Artesia	Traffic Signal	Near Pioneer Station that includes a park-and-ride facility	12.0/B-AM 10.7/B-PM
105	195th St/Pioneer Blvd	Cerritos	Traffic Signal	Near Pioneer Station that includes a park-and-ride facility	15.4/B-AM 15.7/B-PM
106	Los Coyotes Blvd/Pioneer Blvd	Cerritos	Traffic Signal	Near Pioneer Station that includes a park-and-ride facility	8.8/A-AM 8.9/A-PM
107	Del Amo Blvd/Pioneer Blvd	Cerritos	Traffic Signal	Near Pioneer Station that includes a park-and-ride facility	35.2/D-AM 31.8/C-PM
108	183rd St/Pioneer Blvd	Artesia	Traffic Signal	Near Pioneer Station that includes a park-and-ride facility	17.6/B-AM 45.4/D-PM
109	Industrial Ave/Lincoln Ave	South Gate	Two-Way Stop	Near I 105/C Line Station that includes a park-and-ride facility	3.1/A-AM 2.2/A-PM

Source: Metro 2024s
Notes: Intersection numbers 1 through 29 are along Alternatives 1 and 2, which are not evaluated in this chapter.
Intersection numbers 102 through 109 were not analyzed as part of the Draft EIS/EIR. These intersections were added in response to comments received during the Draft EIS/EIR or due to refinements to the LPA. The traffic analysis for the LPA also includes Intersection 110 (Parking Structure/Solana Pl/Pioneer Blvd); however, that intersection will be implemented as part of the LPA and does not exist under Existing Conditions.
* This column shows the peak hour delay in seconds/vehicle followed by the LOS, first for the AM peak hour, then for the PM peak hour. For example, "21/C-AM 13/B-PM" means a 21-second/vehicle delay, which is LOS C, in the AM peak hour and a 13-second/vehicle delay, which is LOS B, in the PM peak hour under the existing conditions.
AM = morning; LOS = level-of-service; PM = afternoon

3.3.5 Transit

While auto travel is the primary mode of transportation throughout Southern California, transit trips account for approximately 4.5 percent of all trips made in LA County. Table 3-6 shows the percentage of trips by mode in LA County.

Table 3-6. Trips by Mode – LA County (2016)

County	Auto	Transit	Bicycle	Walk
Los Angeles	69.65%	4.47%	1.86%	23.28%

Source: SCAG 2012c

Rail and bus transit services in the Study Area are provided by Metro, Metrolink, LADOT, the Orange County Transportation Authority, and other local/municipal bus and shuttle providers. The service types include:

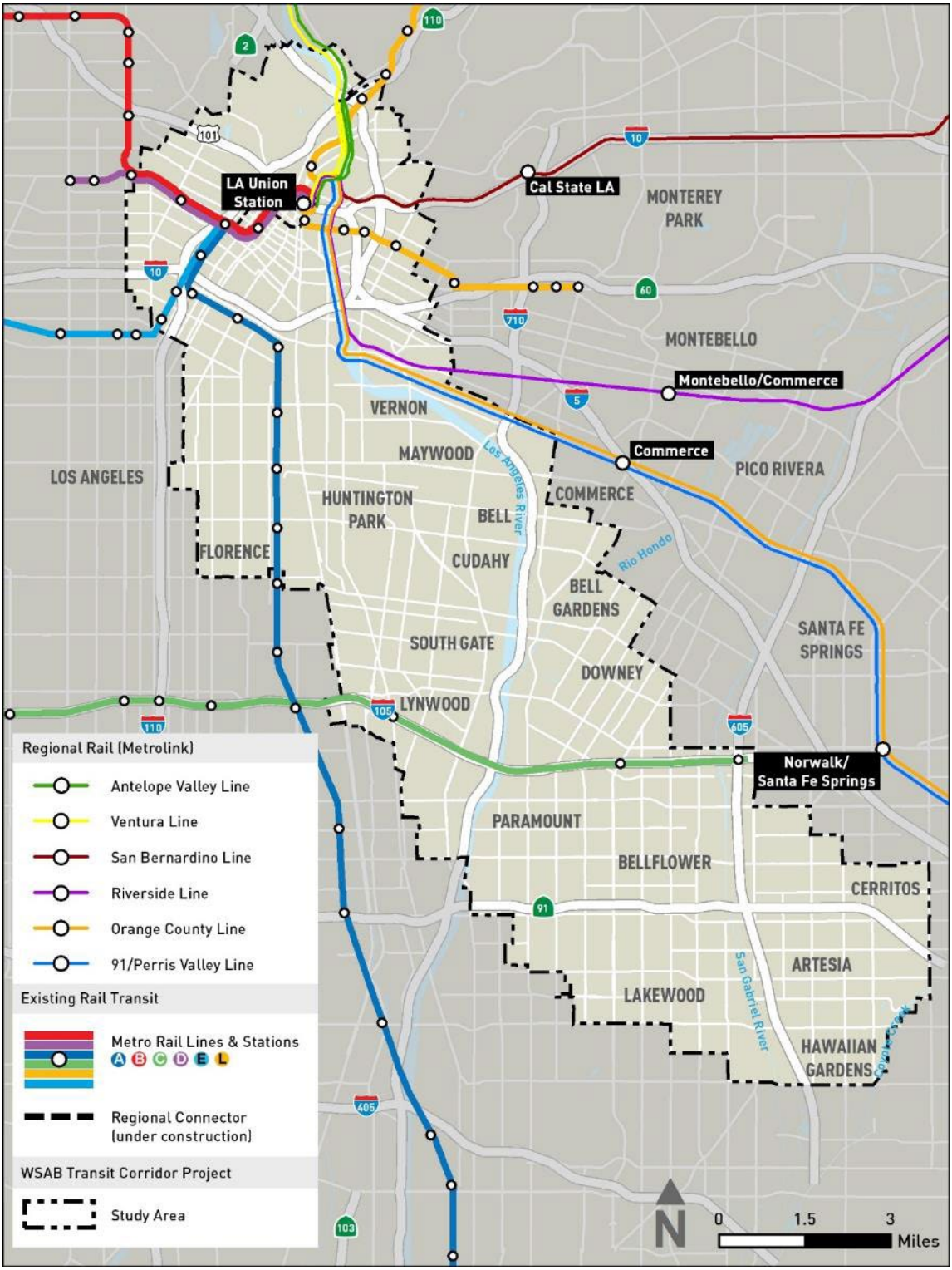
- **Heavy rail transit (HRT) and LRT:** Trains operating in dedicated ROW generally at-grade and adjacent to vehicular traffic
- **Local and limited bus:** Traditional bus service
- **Express bus:** Defined routes with limited stops that generally use freeways for a portion of their trips to reduce travel time
- **Shuttles and circulators:** Local service on defined routes with frequent stops to support short-distance trips
- **Metro Rapid:** A system of high-speed bus service on nearly 400 miles of routes, incorporating signal priority and fewer stops to reduce travel time
- **Metrolink commuter rail:** Longer distance train service on dedicated tracks, with limited stops and higher speeds
- **Downtown Area Short Hop (DASH):** Local routes in Los Angeles, with frequent stops

Within the Study Area in 2016, there were 10 Metro Rapid, 2 Metro HRT, 4 Metro LRT, and 6 Metrolink lines (major transit lines/routes). No existing transit lines/routes provide a continuous transit mode connecting the cities in the Study Area. Summaries of the transit service in the corridor are provided in the following subsections. The Transportation Impact Analysis Report provides more detail on these transit facilities and services.

3.3.5.1 Rail Lines

Metro's urban rapid transit system includes a combination of HRT, LRT, and bus rapid transit services. In 2016, six Metro HRT and LRT lines were in the Study Area, as shown on Figure 3-6. The LRT lines include the Metro C (Green) Line, the Metro A (Blue) Line, the Metro E (Expo) Line, and the Metro L (Gold Line). The HRT lines consist of the Metro B (Red) Line and the Metro D (Purple) Line.

Figure 3-6. Existing Study Area Rail Service (2017)



Source: Metro 2024s

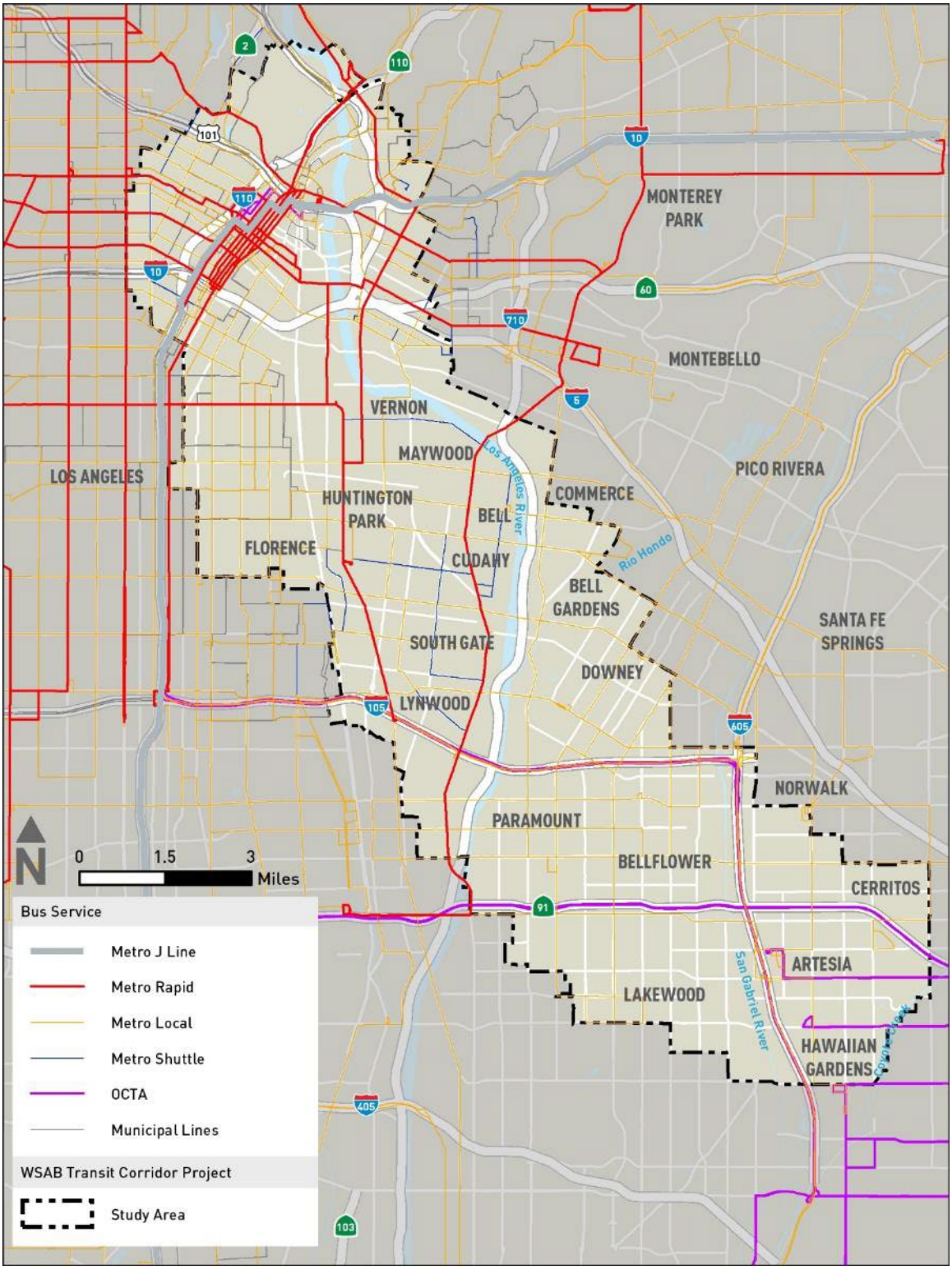
Metrolink is a regional commuter rail service that operates seven routes with a hub at Union Station, which is within the Study Area. Six routes operate within at least a portion of the Study Area primarily due to Union Station being within the Study Area: the Antelope Valley Line, the Ventura Line, the San Bernardino Line, the Riverside Line, the Orange County Line, and the 91/Perris Valley Line. The Cal State LA stop on the San Bernardino Line, the Montebello/Commerce stop on the Riverside Line, the Commerce stop on the Orange County Line, and the Norwalk stop on the Orange County and 91/Perris Valley Lines are close to the Study Area. Section 4.3, Transit Conditions, in the Transportation Impact Analysis Report provides more detailed information on these rail lines.

3.3.5.2 Bus Service

In 2017, Metro operated several types of bus services throughout its larger service area (refer to Figure 3-7). These services can be categorized into rapid, express, local, limited, and shuttle/circulator services based on trip distance, trip frequency, and travel times.

- Metro Rapid is a bus service that operates primarily in mixed-flow traffic on heavily traveled corridors with transit signal priority on signals along the route with limited stops and enhanced bus stations. Major routes in the Study Area include Routes 705, 720, 751, 760, and 762.
- Metro Express serves long-distance trips with fewer stops along the route and more stops at the beginning and end of the routes. The express routes usually operate from stations with park-and-ride lots with stops at major activity centers or transfer points. The routes use freeways, high-occupancy vehicle, high-occupancy toll, or bus lanes. Two express routes, Lines 460 and 577, pass through the Study Area.
- Shuttles and circulators serve short-distance trips and operate in mixed flow traffic on secondary streets. They connect local communities with high-capacity transit services such as Metro Rail. Two major shuttle bus routes are located in the vicinity of the LPA within the Study Area: Routes 611 and 612.
- Several Metro local bus routes operate on city streets with several stops along the route within the Study Area. Examples of local bus routes in the vicinity include Routes 2, 4, 14, 16, 18, 45, 51, 60, 81, 108, 110, 111, 115, 117, 120, 258, 265, and 266.
- Other major transit operators serving the area include the following:
  - **DASH** is operated by the City of Los Angeles. There are 32 lines in DASH, of which 9 are located within the Study Area: Downtown Lines (A, B, D, E, and F), Chesterfield Square, King East, Pueblo del Rio, and Southeast.
  - **Long Beach Transit** is a municipal transit operator of the City of Long Beach and operates fixed and flexible bus transit services in Long Beach and adjoining areas, including Cerritos, Lakewood, Signal Hill, and Belmont Shore. Long Beach Transit operates 35 routes, of which 13 are located within the Study Area: Routes 22, 91, 92, 93, 101, 102, 103, 111, 112, 172, 173, 191, and 192.
  - **Norwalk Transit System (NTS)** is a municipal transit operator of the City of Norwalk and operates fixed-route and paratransit bus transit services in Norwalk and adjoining areas of Artesia, Bellflower, Cerritos, Industry, La Mirada, and Whittier. NTS operates seven routes, three of which are within the Study Area: Routes 1, 2, and 5.

Figure 3-7. Existing Study Area Bus Service (2017)



Source: Metro 2024s

Local circulator services, demand response services, and paratransit services are also provided by a variety of operators in the area. Local circulator services are provided by many incorporated cities, including Huntington Park, Bell, Bell Gardens, Cudahy, Lynwood, Downey, Paramount, Bellflower, Cerritos, and Artesia. The Transportation Impact Analysis Report includes additional detail on the above-described suite of transit and other transportation service operators.

3.3.6 Active Transportation

The Study Area has an extensive bicycle and pedestrian system, and within that same area, Metro and SCAG have adopted plans, policies, and projects that support active transportation options as viable transportation modes. Regional, county, and local policy and planning documents seek to increase the number of bicyclists who ride for commuting and other daily purposes.

Figure 3-8 presents existing (represented by solid lines) and planned/proposed (represented by dashed lines) bicycle facilities. These facilities are classified using Caltrans' *Highway Design Manual* (2016c) as the following:

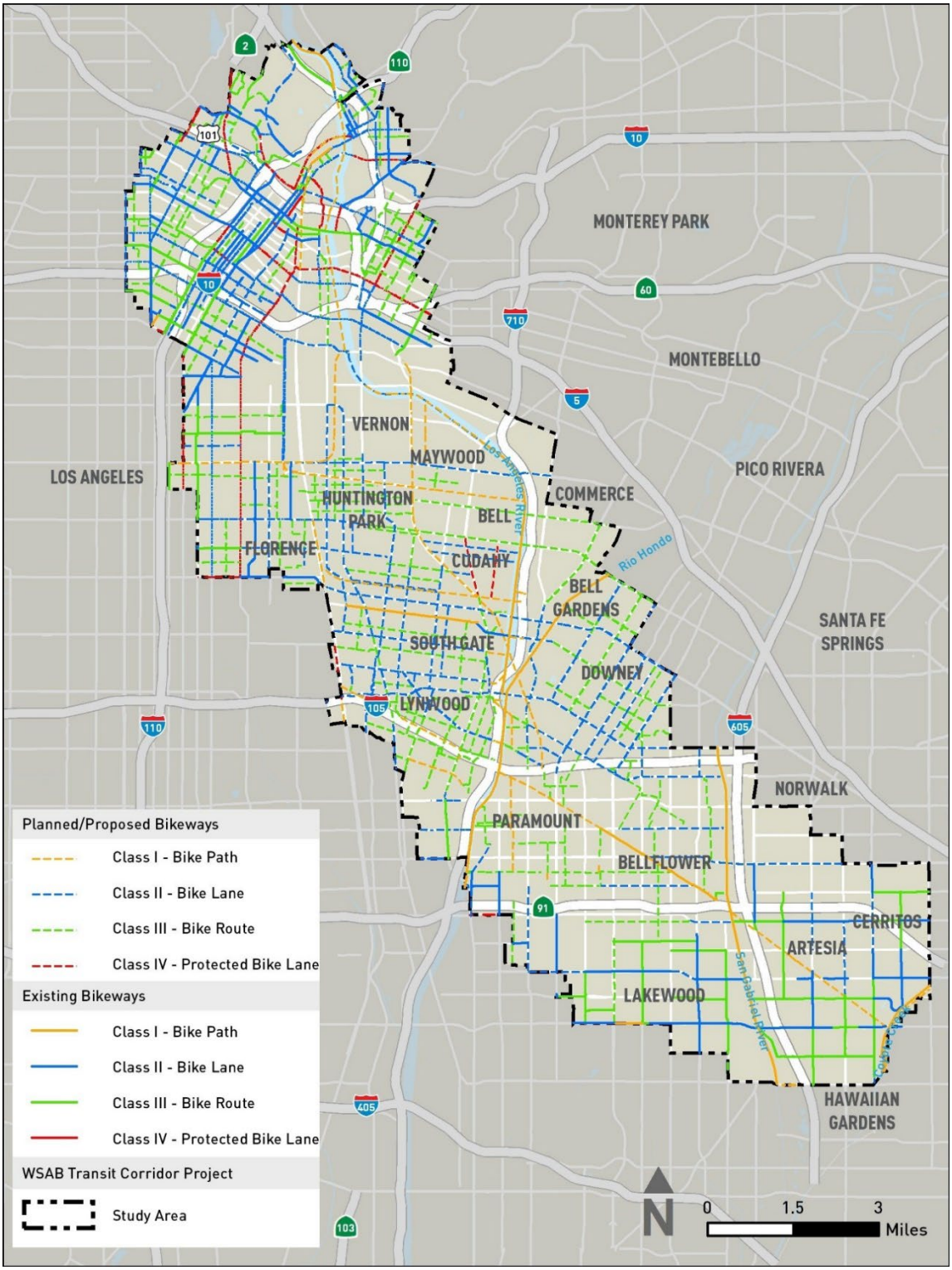
- Class I Bikeways are also known as bicycle paths, shared-use paths, or bicycle trails. These facilities are completely separated from motorized traffic.
- Class II Bikeways are also known as bicycle lanes. These facilities are marked along roadways with signs and striping or other pavement markings.
- Class III Bikeways are also known as bicycle routes. These facilities are suggested travel-ways marked by "bike route" signs but have no other signs, striping, or markings separating bicycle traffic from vehicular traffic.
- Class IV Bikeways are protected bike lanes that are physically separated from the vehicle travel lane by more than the white stripe. Separation may be accomplished with grade separation, flexible bollards, or permanent barriers.

Class I Bikeways within the Study Area that are in the vicinity of the LPA are as follows:

- The Los Angeles River Bicycle Path runs north-south along the Los Angeles River from Vernon to Long Beach. Within the Study Area, the bike path is parallel to I-710.
- The Rio Hondo Bike Path runs parallel to Rio Hondo channel and joins the Los Angeles River bikeway at the confluence of the Rio Hondo channel and the Los Angeles River in South Gate.
- The San Gabriel River Trail runs north-south along the San Gabriel River. The trail runs from Seal Beach to Azusa. Within the Study Area, the bikeway is parallel to I-605.
- The Southern Avenue Greenway is located in South Gate. This trail runs along Southern Avenue under the overhead power lines. This trail connects with the Los Angeles River bikeway near South Gate via a small Class II segment.
- The Paramount Bike Trail is located in the ROW of the Pacific Electric transit system in the City of Paramount between Somerset Boulevard and Lakewood Boulevard. The trail connects to the Bellflower Bike Trail at Lakewood Boulevard.
- The Bellflower Bike Trail runs for more than 2 miles on the ROW of the Pacific Electric transit system across the City of Bellflower. The trail connects to the San Gabriel River Trail at the Ruth R. Caruthers Park.
- The Coyote Creek Trail runs adjacent to the Coyote Creek flood control channel. The path begins in Santa Fe Springs on the north fork of Coyote Creek and extends south into Long Beach, where it joins the San Gabriel River bicycle path.

- The Artesia Historic District Recreation Trails run parallel to the LPA for 0.5 mile between 183rd Street/Gridley Road and 187th Street/Corby Avenue.

Figure 3-8. Existing and Planned/Proposed Study Area Bikeways (2023)



Source: Metro 2024s

Major Class II Bikeways within the Study Area that are in the vicinity of the LPA are as follows:

- Del Amo Boulevard between Pioneer Boulevard and Paramount Boulevard
- Woodruff Avenue between Ashworth Street and Willow Street
- Pioneer Boulevard from Artesia Boulevard to Cover Street
- Gardendale Avenue from Garfield Avenue to Lakewood Boulevard

3.3.7 Parking

A wide range of parking types and regulations occurs within the Affected Area for parking, including on-street and off-street parking, both free and paid, and public and private. This section summarizes the existing on-street parking supply and demand, and the existing off-street parking supply by city along the LPA. Since circulation of the Draft EIS/EIR, the presentation of existing conditions data was reorganized to more clearly summarize parking conditions along the LPA. Instead of presenting on-street parking conditions separately for station area and between the stations, the observed results are shown geographically by jurisdiction. Table 3-7 provides a summary of on-street parking supply and utilization within the Affected Area for parking. A detailed assessment of existing parking supply and utilization is provided in the Transportation Impact Analysis Report. Table 3-8 summarizes off-street parking conditions by station.

Table 3-7. On-Street Parking Conditions by City

City	Nearby Station(s)	Existing On-Street Parking Spaces Within the Parking Survey Area[1]	Observed Number of Occupied Spaces
City of Los Angeles and Unincorporated Los Angeles County	Slauson/A Line	730	570
Huntington Park	Pacific/Randolph Florence/Salt Lake	3,410	1,930
Bell	Florence/Salt Lake	600	210
Cudahy	Florence/Salt Lake	250	110
South Gate	Firestone, Gardendale, I-105/C Line	1,540	680
Downey	Gardendale	100	10
Paramount	I-105/C Line, Paramount/Rosecrans	620	340
Bellflower	Bellflower	1,320	650
Artesia and Cerritos	Pioneer	920	270

Source: Metro 2024s
Notes: Existing and observed parking are rounded to the nearest tenth.
[1] Observations made during peak parking periods based on land use. For purposes of the parking impact analysis, parking surveys were conducted within the Affected Area for parking, but in some cases, a smaller or larger area was surveyed to determine parking supply and utilization based on existing characteristics and constraints that could influence the distance an individual may walk from a parking space. Where street parking was not striped, existing supply was determined using a measurement of 25 feet.

Table 3-8. Off-Street Parking Conditions: Station Locations

Station	Jurisdiction	Surrounding Off-Street Parking
Slauson/A Line	Los Angeles	There is off-street public parking (2 acres) at the Augustus F. Hawkins Nature Park, which is located near the northeast corner of the Slauson Avenue and Compton Avenue Intersection.
Pacific/Randolph	Huntington Park	There are no public off-street parking lots observed near the station. There is a large shopping center to the northeast of Randolph Street and Pacific Boulevard of off-street parking (7.81 acres). There are smaller shopping centers northwest of Randolph Street and Pacific Boulevard of off-street parking (1.00 acres). There is a smaller shopping center southeast of Randolph Street and Pacific Boulevard of off-street parking (0.50 acre).
Florence/Salt Lake	Huntington Park	Salt Lake Park near the intersection of Florence Avenue and Salt Lake Avenue has several off-street parking lots that are time unlimited. There are also several private off-street parking lots along Florence Avenue that are time unlimited.
Firestone	South Gate	There were no public off-street parking lots observed near the station. There is a large shopping center to the northwest of Atlantic Avenue and Firestone Boulevard of off-street parking (14.5 acres).
Gardendale	Downey	There were no public off-street parking lots observed near the station. The County of Los Angeles Department of Public Works operates the Hollydale Yard of off-street parking (6.5 acres) between the proposed corridor and Garfield Avenue. There is also private off-street parking (2.5 acres) adjacent to the east side of the proposed corridor.
I-105/C Line	South Gate/ Paramount	There were no public off-street parking lots observed near the station.
Paramount/ Rosecrans	Paramount	There were no public off-street parking lots observed near the station. There are approximately 10 acres of private off-street parking west of Paramount Boulevard between All America City Way and Rosecrans Avenue. There is additional private off-street parking at the schools located to the southeast of Paramount Boulevard and the proposed corridor.
Bellflower	Bellflower	One public four-level parking structure is located at the northwest corner of Bellflower Boulevard and Mayne Street that provides free parking. There are four public off-street parking lots just east and west of Bellflower Boulevard, off Mayne Street, Oak Street, Belmont Street and Laurel Street, adjacent to Pirate Park. The lots provide free parking for between 2 and 72 hours. Two additional public off-street parking lots, with 2-hour parking limits, are located to the east of Bellflower Boulevard, along Oak Street and Belmont Street.

Station	Jurisdiction	Surrounding Off-Street Parking
Pioneer	Artesia	One block north of the station, along 186th Street between Corby Avenue and Pioneer Boulevard, the City of Artesia operates an off-street public parking lot (0.6 acre). Located directly east of the station, at the Little India Village Food Court, there is a private parking lot with customer only parking. There is private off-street parking along both sides of South Street at various businesses and restaurants.

Source: Metro 2024s

3.3.8 Freight

3.3.8.1 Vehicular Freight

The LPA alignment will cross major arterials and freeways that accommodate vehicular freight. Section 3.3.3 identifies many of these arterials and freeways that provide vehicular freight access. Many of these roadways provide access to the Ports of Long Beach and Los Angeles and to industrial areas.

The alignment between the Slauson/A Line Station and I-105/C Line Station has a higher concentration of industrial land uses that experience higher vehicular freight activity compared to residential land uses. Some vehicular freight uses routes bisecting at-grade train crossings to get to and from their destinations.

Along the alignment between the I-105/C Line Station and Pioneer Station, land uses are mainly residential with relatively lower vehicular freight activity. Much of the vehicular freight activity in this area is primarily for commercial/retail corridors.

3.3.8.2 Rail Freight

The LPA will be located parallel to active freight track(s) in portions of the Union Pacific Railroad (UPRR)-owned Wilmington Branch ROW, UPRR-owned La Habra Branch ROW, the Ports of Los Angeles and Long Beach-owned San Pedro Subdivision ROW, and the Metro-owned Pacific Electric Right-of-Way (PEROW) (Figure 3-9).

The Wilmington Branch ROW is located between Alameda Street in the north to SR-91 in the south. The LPA will be parallel to freight tracks along Long Beach Avenue between approximately 55th Street to Slauson Avenue. The La Habra Branch ROW is located between Slauson Avenue in the west and I-605 in the east. The LPA will be parallel to freight tracks along Randolph Street between Slauson Avenue and approximately Bissell Place. The observed train activity along the Wilmington Branch ROW and La Habra Branch ROW varies between two and five trains per day.

The San Pedro Subdivision ROW is located between Washington Boulevard in the north and the Port of Los Angeles in the south. The LPA will be parallel to freight tracks between Randolph Street to approximately Paramount Boulevard. Observed train activity along the San Pedro ROW varies between zero and four trains per day.

The PEROW is located between its intersection with the San Pedro Subdivision ROW from approximately Paramount Boulevard to Del Amo Boulevard. Freight activity operates between Paramount Boulevard and just north of Somerset Boulevard with observed train activity varying between zero and 3 trains per day.

Figure 3-9. Existing Rail Right-of-Way Ownership

Source: Metro 2024s

3.4 Environmental Consequences/Environmental Impacts

This section examines the potential adverse effects and impacts of the No Build Alternative and the LPA as they relate to the transportation system.

3.4.1 Traffic Operations

Traffic operations are evaluated to assess how vehicular circulation will be affected by the LPA. The assessment focuses on operations at intersections that will be affected by at-grade crossings, increased vehicular demand associated with stations, and changes in the roadway network. Analysis of the traffic operations impacts for the LPA is provided in Section 3.4.1.2 and is based on the information from the Transportation Impact Analysis Report. The detailed AM and PM peak hour intersection turning movement traffic volumes for the LPA are provided in Appendix A of the Transportation Impact Analysis Report.

3.4.1.1 No Build Alternative

The No Build Alternative includes existing transportation facilities along with transportation improvements that have been committed to and identified in constrained plans of the Metro 2009 *Long Range Transportation Plan* (LRTP) (Metro 2009a) and the SCAG 2016 RTP/SCS (SCAG 2016a). The service features include transit, freeway, and arterial operations within and around the Affected Area for traffic operations. These projects are described in Section 2.5.1 and Table 2.4 in Chapter 2, Project Description/Alternatives Considered of this Final EIS/EIR. Planned projects will be subject to separate environmental analysis to evaluate transportation impacts. Project Measures TR PM-1 (Pre-signals and Queue-cutter Signals) through TR PM-11 (Pioneer Station Parking Access), described in Section 3.5.1, were considered not to be in place as these are required in support of the WSAB Project.

Table 3-9 provides a summary of the future (2042) No Build Alternative traffic operations in the Affected Area for traffic operations intersections. The LOS assessment is compared to existing conditions. In general, operations will be worse in 2042, consistent with traffic growth in a congested corridor.

Table 3-9. Comparison of Existing (2017) and Future (2042) No Build Intersection Operations

Scenario	Intersections[1]	LOS C or Worse	LOS E or Worse
Existing (2017)	80	59%	16%
Future No Build (2042)		58%	23%

Source: Metro 2024s
Notes: LOS = level-of-service
[1] Intersection 110 (Parking Structure/Solana Pl/Pioneer Blvd) will be established as part of the LPA and therefore does not exist under the No Build Alternative.

Table 3-10 provides more detailed information on key intersections, including jurisdiction, control type, and intersection delay/LOS for the No Build Alternative in 2042. LOS is based on operation of the overall intersection, which considers delay for all movements at that intersection.

Table 3-10. Existing Conditions (2017) and No Build Alternative Operations (2042)

No.	Intersection Name	Jurisdiction	Control Type	Existing (2017) Delay/LOS/Period*	No Build (2042) Delay/LOS/Period*
30	Randolph St/Wilmington Ave	Huntington Park	All-Way Stop	20.5/C-AM 11.5/B-PM	32.5/D-AM 12.1/B-PM
31	Randolph St/Alameda St (West)	Huntington Park	Traffic Signal	48.3/D-AM 24.2/C-PM	49.9/D-AM 60.8/E-PM
32	Randolph St/Alameda St (East)	Huntington Park	Two-Way Stop	8.8/A-AM 9.6/A-PM	13.0/B-AM 14.2/B-PM
33	Randolph St/Regent St	Huntington Park	Two-Way Stop	15.0/C-AM 12.7/B-PM	10.3/B-AM 11.5/B-PM
34	Randolph St/Albany St	Huntington Park	Two-Way Stop	29.1/D-AM 23.7/C-PM	18.2/C-AM 17.0/C-PM
35	Randolph St/Santa Fe Ave	Huntington Park	Traffic Signal	22.5/C-AM 19.1/B-PM	30.3/C-AM 30.1/C-PM
36	Randolph St/Malabar St	Huntington Park	Traffic Signal	21.4/C-AM 20.0/C-PM	22.5/C-AM 22.1/C-PM
37	Randolph St/Rugby Ave	Huntington Park	Two-Way Stop	62.0/F-AM 14.2/B-PM	6.7/A-AM 3.9/A-PM
38	Pacific Blvd/Belgrave Ave	Huntington Park	Traffic Signal	6.6/A-AM 8.2/A-PM	13.4/B-AM 12.0/B-PM
39	Pacific Blvd/Clarendon Ave	Huntington Park	Traffic Signal	9.1/A-AM 7.4/A-PM	10.8/B-AM 9.1/A-PM
40	Pacific Blvd/Randolph St	Huntington Park	Traffic Signal	29.8/C-AM 37.1/D-PM	26.0/C-AM 32.5/C-PM
41	Randolph St/Rita Ave	Huntington Park	Two-Way Stop	24.9/C-AM 47.7/E-PM	19.5/C-AM 48.4/E-PM
42	Randolph St/Seville Ave	Huntington Park	Traffic Signal	34.7/C-AM 29.7/C-PM	37.5/D-AM 34.9/C-PM
43	Randolph St/Miles Ave	Huntington Park	Traffic Signal	34.0/C-AM 28.1/C-PM	36.7/D-AM 36.2/D-PM
44	Randolph St/Arbutus Ave	Huntington Park	All-Way Stop	17.6/C-AM 10.3/B-PM	32.7/D-AM 6.4/A-PM
45	Randolph St/State St	Huntington Park	Traffic Signal	21.0/C-AM 13.1/B-PM	43.6/D-AM 19.4/B-PM
46	Randolph St/Bissell Pl	Huntington Park	Two-Way Stop	13.5/B-AM 13.0/B-PM	6.7/A-AM 5.1/A-PM
47	Randolph St/ Maywood Ave	Huntington Park	Traffic Signal	13.0/B-AM 13.1/B-PM	14.0/B-AM 12.7/B-PM
48	Gage Ave/California Ave	Bell	Traffic Signal	15.6/B-AM 18.9/B-PM	19.6/B-AM 97.5/F-PM
49	Gage Ave/Salt Lake Ave (West)	Bell	Traffic Signal	16.2/B-AM 27.5/C-PM	16.3/B-AM 34.2/C-PM
50	Bell Ave/California Ave	Bell	All-Way Stop	18.1/C-AM 14.2/B-PM	12.3/B-AM 9.3/A-PM

No.	Intersection Name	Jurisdiction	Control Type	Existing (2017) Delay/LOS/Period*	No Build (2042) Delay/LOS/Period*
51	Bell Ave/Bissell St	Bell	Traffic Signal	8.7/A-AM 9.0/A-PM	5.3/A-AM 5.7/A-PM
52	Bell Ave/Salt Lake Ave	Bell	All-Way Stop	62.5/F-AM 47.4/E-PM	89.4/F-AM 88.0/F-PM
53	Florence Ave/California Ave (West)	Huntington Park	Traffic Signal	33.9/C-AM 38.0/D-PM	37.1/D-AM 42.3/D-PM
54	Florence Ave/California Ave (East)	Huntington Park	Traffic Signal	52.9/D-AM 28.9/C-PM	65.2/E-AM 44.3/D-PM
55	Otis Ave/Salt Lake Ave (West)	Huntington Park	All-Way Stop	36.9/E-AM 44.7/E-PM	188.8/F-AM 164.6/F-PM
56	Otis Ave/Salt Lake Ave (East)	Cudahy	All-Way Stop	74.5/E-AM 63.7/F-PM	83.4/F-AM 104.2/F-PM
57	Otis Ave/Elizabeth St	Cudahy	Two-Way Stop	34.9/D-AM 46.5/E-PM	1452.0/F-AM 1473.1/F-PM
58	Santa Ana St/Salt Lake Ave (West)	Huntington Park	Two-Way Stop	41.4/E-AM 35.9/E-PM	1478.0/F-AM 1574.1/F-PM
59	Santa Ana St/Salt Lake Ave (East)	Cudahy	All-Way Stop	43.2/E-AM 48.2/E-PM	218.6/F-AM 264.9/F-PM
60	Ardine St/Salt Lake Ave	Cudahy	All-Way Stop	29.5/D-AM 23.7/C-PM	24.2/C-AM 19.6/C-PM
61	Atlantic Ave/Salt Lake Ave	Cudahy	Traffic Signal	52.7/D-AM 65.0/E-PM	51.4/D-AM 81.2/F-PM
62	Atlantic Ave/Azalea West	South Gate	Traffic Signal	3.7/A-AM 8.3/A-PM	4.8/A-AM 9.4/A-PM
63	Firestone Blvd/Atlantic Ave	South Gate	Traffic Signal	53.0/D-AM 45.9/D-PM	139.0/F-AM 89.6/F-PM
64	Firestone Blvd/Mason St	South Gate	Traffic Signal	7.3/A-AM 7.5/A-PM	19.4/B-AM 12.4/B-PM
65	Firestone Blvd/Firestone Pl	South Gate	Traffic Signal	7.5/A-AM 7.6/A-PM	58.9/E-AM 24.1/C-PM
66	Firestone Blvd/Rayo Ave	South Gate	Traffic Signal	116.1/F-AM 95.2/F-PM	49.0/D-AM 40.2/D-PM
67	Southern Ave/Salt Lake Ave	South Gate	Two-Way Stop	8.9/A-AM 8.8/A-PM	4.2/A-AM 4.0/A-PM
68	Gardendale St/Center St	South Gate	Two-Way Stop	18.5/C-AM 17.2/C-PM	23.5/C-AM 17.2/C-PM
69	Gardendale St/Dakota Ave	South Gate	All-Way Stop	28.4/D-AM 12.8/B-PM	28.7/D-AM 11.1/B-PM
70	Gardendale St/Industrial Ave	South Gate	Two-Way Stop	34.8/D-AM 21.5/C-PM	75.5/F-AM 28.9/D-PM
71	Main St/Center St	South Gate	Two-Way Stop	14.6/B-AM 12.7/B-PM	7.6/A-AM 6.5/A-PM
72	Main St/Dakota Ave	South Gate	Two-Way Stop	10.2/B-AM 10.2/B-PM	2.7/A-AM 5.4/A-PM

No.	Intersection Name	Jurisdiction	Control Type	Existing (2017) Delay/LOS/Period*	No Build (2042) Delay/LOS/Period*
73	Main St/Arizona Ave/ Industrial Ave	South Gate	Two-Way Stop	17.5/C-AM 19.4/C-PM	12.0/B-AM 7.8/A-PM
74	Century Blvd/Center St	South Gate	Two-Way Stop	9.8/A-AM 9.4/A-PM	2.1/A-AM 1.2/A-PM
75	Century Blvd/Florence Ave	South Gate	Two-Way Stop	9.0/A-AM 8.6/A-PM	2.4/A-AM 1.6/A-PM
76	Rosecrans Ave/Paramount Blvd	Paramount	Traffic Signal	54.6/D-AM 47.7/D-PM	67.5/E-AM 22.7/C-PM
77	Rosecrans Ave/Bianchi Way	Paramount	Traffic Signal	2.4/A-AM 12.9/B-PM	5.8/A-AM 22.7/C-PM
78	Somerset Blvd/Hayter Ave	Paramount	Two-Way Stop	29.0/D-AM 32.2/D-PM	15.7/C-AM 18.1/C-PM
79	Somerset Blvd/Lakewood Blvd	Bellflower	Two-Way Stop	32.4/C-AM 30.1/C-PM	43.1/D-AM 46.5/D-PM
80	Paseo St/Lakewood Blvd	Bellflower	Traffic Signal	4.0/A-AM 2.6/A-PM	4.9/A-AM 4.5/A-PM
81	Flora Vista St/Clark Ave	Bellflower	Two-Way Stop	14.1/B-AM 18.0/C-PM	7.6/A-AM 22.4/C-PM
82	Alondra Blvd/Clark Ave	Bellflower	Traffic Signal	47.1/D-AM 48.2/D-PM	46.2/D-AM 69.3/E-PM
83	Alondra Blvd/Pacific Ave	Bellflower	Traffic Signal	4.5/A-AM 12.1/B-PM	6.1/A-AM 13.3/B-PM
84	Alondra Blvd/Flora Vista St	Bellflower	Two-Way Stop	37.2/E-AM 32.1/D-PM	52.6/F-AM 41.4/E-PM
85	Alondra Blvd/Stevens Ave	Bellflower	Two-Way Stop	50.9/F-AM 30.3/D-PM	34.5/D-AM 17.5/C-PM
86	Bellflower Blvd/Flora Vista St	Bellflower	Traffic Signal	7.1/A-AM 14.2/B-PM	6.9/A-AM 25.5/C-PM
87	Bellflower Blvd/Mayne St	Bellflower	Traffic Signal	11.0/B-AM 10.1/B-PM	6.2/A-AM 19.4/B-PM
88	Bellflower Blvd/Oak St	Bellflower	Traffic Signal	21.7/C-AM 25.0/C-PM	17.5/B-AM 28.3/C-PM
89	Artesia Blvd/Dumont Ave	Cerritos	Traffic Signal	17.7/B-AM 9.4/A-PM	14.7/B-AM 21.6/C-PM
90	Artesia Blvd/Studebaker Rd	Cerritos	Traffic Signal	85.3/F-AM 60.8/E-PM	48.1/D-AM 99.8/F-PM
91	Business Cir/Studebaker Rd	Cerritos	Two-Way Stop	14.6/B-AM 16.2/C-PM	8.4/A-AM 8.0/A-PM
92	186th St/Jersey Ave	Artesia	All-Way Stop	9.1/A-AM 9.2/A-PM	3.3/A-AM 2.4/A-PM
93	187th St/Alburtis Ave	Artesia	Two-Way Stop	9.7/A-AM 8.6/A-PM	4.1/A-AM 1.6/A-PM
94	187th St/Corby Ave (West)	Artesia	Two-Way Stop	9.4/A-AM 9.5/A-PM	4.2/A-AM 3.9/A-PM

No.	Intersection Name	Jurisdiction	Control Type	Existing (2017) Delay/LOS/Period*	No Build (2042) Delay/LOS/Period*
95	187th St/Corby Ave (East)	Artesia	Two-Way Stop	9.3/A-AM 9.4/A-PM	4.1/A-AM 3.8/A-PM
96	186th St/Pioneer Blvd	Artesia	Traffic Signal	7.1/A-AM 4.5/A-PM	6.6/A-AM 6.1/A-PM
97	187th St/Pioneer Blvd	Artesia	Traffic Signal	6.8/A-AM 5.1/A-PM	6.7/A-AM 8.1/A-PM
98	188th St/Pioneer Blvd	Artesia	Two-Way Stop	10.5/B-AM 12.6/B-PM	4.6/A-AM 6.4/A-PM
99	South St/Pioneer Blvd	Cerritos	Traffic Signal	33.7/C-AM 40.7/D-PM	24.9/C-AM 38.4/D-PM
100	South St/Clarkdale Ave	Artesia	Traffic Signal	18.1/B-AM 11.5/B-PM	15.8/B-AM 18.2/B-PM
101	South St/Elaine Ave	Artesia	Traffic Signal	11.3/B-AM 11.5/B-PM	15.8/B-AM 8.9/A-PM
102	South St/Norwalk Blvd	Artesia	Traffic Signal	24.3/C-AM 30.8/C-PM	26.3/C-AM 25.3/C-PM
103	South St/Bloomfield Ave	Cerritos	Traffic Signal	27.6/C-AM 27.0/C-PM	30.4/C-AM 29.7/C-PM
104	South St/Alburtis Ave	Artesia	Traffic Signal	12.0/B-AM 10.7/B-PM	13.7/B-AM 11.7/B-PM
105	195th St/Pioneer Blvd	Cerritos	Traffic Signal	15.4/B-AM 15.7/B-PM	16.2/B-AM 16.8/B-PM
106	Los Coyotes Blvd/Pioneer Blvd	Cerritos	Traffic Signal	8.8/A-AM 8.9/A-PM	8.8/A-AM 9.3/A-PM
107	Del Amo Blvd/Pioneer Blvd	Cerritos	Traffic Signal	35.2/D-AM 31.8/C-PM	41.2/D-AM 31.1/C-PM
108	183rd St/Pioneer Blvd	Artesia	Traffic Signal	17.6/B-AM 45.4/D-PM	17.2/B-AM 24.6/C-PM
109	Industrial Ave/Lincoln Ave	South Gate	Two-Way Stop	3.1/A-AM 2.2/A-PM	3.4/A-AM 2.4/A-PM

Source: Metro 2024s

Notes: Intersections 1-29 are along Alternatives 1 and 2, which are not evaluated this chapter. Intersection numbers 102 through 109 were not analyzed as part of the Draft EIS/EIR. These intersections were added in response to comments received on the Draft EIS/EIR or due to refinements to the LPA. Intersection 110 (Parking Structure/Solana Pl/Pioneer Blvd) will be established as part of the LPA and therefore does not exist under Existing Conditions or the No Build Alternative.

*These columns show the peak hour delay in seconds per vehicle, followed by the LOS for the AM peak hour, and then for the PM peak hour. For example, "21/C-AM 13/B-PM" means a 21-second/vehicle delay, which is LOS C, in the AM peak hour, and a 13-second/vehicle delay, which is LOS B, in the PM peak hour under the No Build condition.

AM = morning; LOS = level-of-service; PM = afternoon

Under the No Build Alternative (2042), 58 percent of intersections (46 intersections) operate at LOS C or worse, and 23 percent (18 intersections) are LOS E or worse. Operations are similar in the AM and PM peak periods. Under the No Build Alternative (2042), four intersections that operated at LOS A or B under existing (2017) conditions are projected to deteriorate to LOS C or worse. Additionally, seven intersections that operated at LOS C or D under existing (2017) conditions are projected to operate at LOS E or worse under the No Build Alternative (2042).

Some intersections are projected to experience improvements in overall intersection delay under the No Build Alternative (2042) compared to existing (2017) conditions, even though traffic volumes are forecasted to increase. It is assumed that traffic signal timing at signalized intersections will be optimized between 2017 and 2042, which could result in changes to traffic flow and overall improvements in delay at the intersection where the signal is optimized as well as to adjacent intersections. Based on this assumption, five intersections that operate at LOS C or worse under existing (2017) conditions are projected to operate at LOS A or B under the No Build Alternative (2042), and two intersections that operate at LOS E or worse under existing (2017) conditions will operate at LOS C or D under the No Build Alternative (2042).

Appendix A of the Transportation Impact Analysis Report contains detailed turning movement traffic volumes for the AM and PM peak hours for each intersection under the 2042 No Build Alternative.

3.4.1.2 Locally Preferred Alternative

Implementation of the LPA will require modifications to the roadway network, including reducing travel lanes, restricting turns, and/or closing at-grade crossings. The roadway modifications are described in Section 3.5. Table 3-11 identifies the locations of permanent closures and turning restrictions, and notes those locations that have changed since circulation of the Draft EIS/EIR as a result of refinements to the LPA, including comments on the Draft EIS/EIR.

Table 3-12 summarizes projected 2042 intersection operations for the LPA. The LPA will result in adverse impacts at 19 intersections during one or both peak periods based on increased delay compared to the No Build Alternative. Mitigation measures, described in Section 3.5.2.1, are proposed to address these impacts. The street modifications related to project measures are described in Section 3.5.1 and are captured in the analysis.

As shown in Table 3-12, intersection delay will be reduced at some intersections. The reduction in delay will occur for a variety of reasons, including optimized traffic signal timing, reconfiguration of roadway lanes, and/or changes in traffic flow at at-grade crossings.

Table 3-11. Permanent Closures/Restrictions by Jurisdiction

No.	Closure Element	LPA Element/Area	Street	Cross Street(s)	Closure Details
1	Road	Grade Crossing	Randolph St	Wilmington Ave, Regent St, Malabar St*, Rita Ave, Arbutus Ave*	Grade crossing will be permanently closed. Intersections will be modified to a right-in-right-out configuration.
2	Sidewalk	Grade Crossing	Randolph St	Wilmington Ave, Regent St, Malabar St*, Rita Ave, Arbutus Ave*	Grade crossing will be permanently closed. Sidewalks through grade crossing will be removed.
3	Turning Lane	Grade Crossing	Randolph St	Santa Fe Ave*	Southbound left-turn lane will be removed as a result of the Project.
4	Turning Lane	Grade Crossing	Randolph St	Pacific Blvd*	Northbound left-turn lane will be removed as a result of the Project.
5	Turning Lane	Grade Crossing	Randolph St	Miles Ave*	Southbound left-turn lane will be removed as a result of the Project.
6	Turning Lane	Grade Crossing	Randolph St	State St*	Northbound left-turn lane will be removed as a result of the Project.
7	Road	Grade Crossing	Miller Way*, Frontage Rd	-	Grade crossing will be permanently closed.
8	Turning Lane	Grade Crossing	Gardendale St	Dakota Ave	Westbound left-turn lane will be removed as a result of the Project.
9	Road	Grade Crossing	Dakota Ave	Gardendale St, Main St	Dakota Ave will be modified to a one-way southbound street as a result of grade crossing recommendations at Gardendale Ave and Main St.
10	Road	Grade Crossing	Flora Vista St/Rendalia St	Clark Ave	Through and left movements will be permanently closed. Intersection will be modified to a right-in-right-out configuration.
11	Road	Grade Crossing	Flora Vista St	Alondra Blvd	Intersection will be modified to a northbound only as a result of grade crossing improvements at Alondra Blvd.
12	Turning Lane	Grade Crossing	Alondra Blvd	Pacific Ave	Westbound and northbound left-turn lanes will be removed as a result of the Project. Intersection will be modified to a right-in-right-out configuration.
13	Road	Grade Crossing	187th St	Corby Ave	Grade crossing will be permanently closed. Intersections will be modified to a right-in-right-out configuration.

No.	Closure Element	LPA Element/Area	Street	Cross Street(s)	Closure Details
14	Road	Parking Structure	188th St	Corby Ave/Pioneer Blvd	Street will be permanently closed to allow for permanent parking structure.
15	Sidewalk	Parking Structure	188th St	Corby Ave/Pioneer Blvd	Sidewalk will be permanently closed to allow for permanent parking structure.

Source: WSP 2023
Note: See Section 3.5.1 for additional details regarding closures along the LPA alignment.
* = Permanent closure/restriction was identified after circulation of the Draft EIS/EIR. These closures/restrictions were the result of comments on the Draft EIS/EIR, coordination with local jurisdictions, and reflect refinements to the LPA.
LPA = Locally Preferred Alternative

Table 3-12. No Build Alternative and LPA Operations (2042)

No	Intersection Name	Jurisdiction	No Build Peak Hour Delay/LOS[a]	LPA Peak Hour Delay/LOS[b]
30	Randolph St/Wilmington Ave	Huntington Park	32.5/D-AM 12.1/B-PM	34.0/D-AM 12.9/B-PM
31	Randolph St/Alameda St (West)	Huntington Park	49.9/D-AM 60.8/E-PM	**129.1/F-AM[c, e]** **192.2/F-PM**
32	Randolph St/Alameda St (East)	Huntington Park	13.0/B-AM 14.2/B-PM	
33	Randolph St/Regent St	Huntington Park	10.3/B-AM 11.5/B-PM	7.1/A-AM 7.3/A-PM
34	Randolph St/Albany St	Huntington Park	18.2/C-AM 17.0/C-PM	**99.8/F-AM[e]** **68.7/E-PM[e]**
35	Randolph St/Santa Fe Ave	Huntington Park	30.3/C-AM 30.1/C-PM	**71.6/F-AM[e]** **89.8/F-PM[e]**
36	Randolph St/Malabar St	Huntington Park	22.5/C-AM 22.1/C-PM	7.4/A-AM 8.3/A-PM
37	Randolph St/Rugby Ave	Huntington Park	6.7/A-AM 3.9/A-PM	**59.7/E-AM[e]** **112.1/F-PM[e]**
38	Pacific Blvd/Belgrave Ave	Huntington Park	13.4/B-AM 12.0/B-PM	19.2/B-AM 15.4/B-PM
39	Pacific Blvd/Clarendon Ave	Huntington Park	10.8/B-AM 9.1/A-PM	18.5/B-AM 12.0/B-PM
40	Pacific Blvd/Randolph St	Huntington Park	26.0/C-AM 32.5/C-PM	**67.3/E-AM[e]** **57.6/E-PM[e]**
41	Randolph St/Rita Ave	Huntington Park	19.5/C-AM 48.4/E-PM	5.9/A-AM 4.5/A-PM
42	Randolph St/Seville Ave	Huntington Park	37.5/D-AM 34.9/C-PM	**135.8/F-AM[e]** **108.8/F-PM[e]**
43	Randolph St/Miles Ave	Huntington Park	36.7/D-AM 36.2/D-PM	**107.8/F-AM[e]** **119.8/F-PM[e]**
44	Randolph St/Arbutus Ave	Huntington Park	32.7/D-AM 6.4/A-PM	4.8/A-AM 4.5/A-PM
45	Randolph St/State St	Huntington Park	43.6/D-AM 19.4/B-PM	**212.2/F-AM[e]** **130.9/F-PM[e]**
46	Randolph St/Bissell Pl	Huntington Park	6.7/A-AM 5.1/A-PM	6.9/A-AM 5.5/A-PM
47	Randolph St/Maywood Ave	Huntington Park	14.0/B-AM 12.7/B-PM	17.0/B-AM 11.8/B-PM

No	Intersection Name	Jurisdiction	No Build Peak Hour Delay/LOS[a]	LPA Peak Hour Delay/LOS[b]
48	Gage Ave/California Ave	Bell	19.6/B-AM 97.5/F-PM	**69.4/E-AM[e]** **120.3/F-PM[e]**
49	Gage Ave/Salt Lake Ave (West)	Bell	16.3/B-AM 34.2/C-PM	**64.9/E-AM[e]** **114.4/F-PM[e]**
50	Bell Ave/California Ave	Bell	12.3/B-AM 9.3/A-PM	13.7/B-AM 8.2/A-PM
51	Bell Ave/Bissell St	Bell	5.3/A-AM 5.7/A-PM	13.9/B-AM **22.5/C-PM[e]**
52	Bell Ave/Salt Lake Ave	Bell	89.4/F-AM 88.0/F-PM	52.7/D-AM 19.3/B-PM
53	Florence Ave/California Ave (West)	Huntington Park	37.1/D-AM 42.3/D-PM	**103.2/F-AM[e]** **80.8/F-PM[e]**
54	Florence Ave/California Ave (East)	Huntington Park	65.2/E-AM 44.3/D-PM	**143.2/F-AM[e]** 31.4/C-PM
55	Otis Ave/Salt Lake Ave (West)	Huntington Park	188.8/F-AM 164.6/F-PM	122.8/F-AM 135.2/F-PM
56	Otis Ave/Salt Lake Ave (East)	Cudahy	83.4/F-AM 104.2/F-PM	36.4/E-AM 93.7/F-PM
57	Otis Ave/Elizabeth St	Cudahy	1452.0/F-AM 1473.1/F-PM	342.3/F-AM 366.5/F-PM
58	Santa Ana St/Salt Lake Ave (West)	Huntington Park	1478.0/F-AM 1574.1/F-PM	823.4/F-AM 747.1/F-PM
59	Santa Ana St/Salt Lake Ave (East)	Cudahy	218.6/F-AM 264.9/F-PM	146.8/F-AM 100.9/F-PM
60	Ardine St/Salt Lake Ave	Cudahy	24.2/C-AM 19.6/C-PM	25.2/D-AM 16.3/C-PM
61	Atlantic Ave/Salt Lake Ave	Cudahy	51.4/D-AM 81.2/F-PM	53.2/D-AM 81.7/F-PM
62	Atlantic Ave/Azalea West	South Gate	4.8/A-AM 9.4/A-PM	10.6/B-AM 18.5/B-PM
63	Firestone Blvd/Atlantic Ave	South Gate	139.0/F-AM 89.6/F-PM	140.2/F-AM 91.2/F-PM
64	Firestone Blvd/Mason St	South Gate	19.4/B-AM 12.4/B-PM	10.9/B-AM 14.8/B-PM
65	Firestone Blvd/Firestone Pl	South Gate	58.9/E-AM 24.1/C-PM	44.5/D-AM 27.5/C-PM
66	Firestone Blvd/Rayo Ave	South Gate	49.0/D-AM 40.2/D-PM	42.3/D-AM 43.4/D-PM
67	Southern Ave/Salt Lake Ave	South Gate	4.2/A-AM 4.0/A-PM	6.4/A-AM 4.5/A-PM

No	Intersection Name	Jurisdiction	No Build Peak Hour Delay/LOS[a]	LPA Peak Hour Delay/LOS[b]
68	Gardendale St/Center St	South Gate	23.5/C-AM 17.2/C-PM	**48.8/E-AM**[e] **41.0/E-PM**[e]
69	Gardendale St/Dakota Ave	South Gate	28.7/D-AM 11.1/B-PM	8.2/A-AM 9.2/A-PM
70	Gardendale St/Industrial Ave	South Gate	75.5/F-AM 28.9/D-PM	**594.2/F-AM**[e] **50.9/F-PM**[e]
71	Main St/Center St	South Gate	7.6/A-AM 6.5/A-PM	10.0/A-AM 7.7/A-PM
72	Main St/Dakota Ave	South Gate	2.7/A-AM 5.4/A-PM	4.1/A-AM 7.5/A-PM
73	Main St/Arizona Ave/Industrial Ave	South Gate	12.0/B-AM 7.8/A-PM	17.3/C-AM 11.6/B-PM
74	Century Blvd/Center St	South Gate	2.1/A-AM 1.2/A-PM	2.4/A-AM 1.6/A-PM
75	Century Blvd/Florence Ave	South Gate	2.4/A-AM 1.6/A-PM	2.5/A-AM 2.2/A-PM
76	Paramount Blvd/Rosecrans Ave	Paramount	67.5/E-AM 22.7/C-PM	69.7/E-AM 26.5/C-PM
77	Rosecrans Ave/Bianchi Way	Paramount	5.8/A-AM 22.7/C-PM	9.3/A-AM 8.6/A-PM
78	Somerset Blvd/Hayter Ave	Paramount	15.7/C-AM 18.1/C-PM	13.4/B-AM 17.0/C-PM
79	Somerset Blvd/Lakewood Blvd	Bellflower	43.1/D-AM 46.5/D-PM	44.8/D-AM 38.9/D-PM
80	Paseo St/Lakewood Blvd	Bellflower	4.9/A-AM 4.5/A-PM	12.8/B-AM 7.9/A-PM
81	Flora Vista St/Clark Ave	Bellflower	7.6/A-AM 22.4/C-PM	**172.1/F-AM**[e] **389.0/F-PM**[e]
82	Alondra Blvd/Clark Ave	Bellflower	46.2/D-AM 69.3/E-PM	**61.1/E-AM**[e] **83.3/F-PM**[e]
83	Alondra Blvd/Pacific Ave	Bellflower	6.1/A-AM 13.3/B-PM	9.2/A-AM 6.2/A-PM
84	Alondra Blvd/Flora Vista St	Bellflower	52.6/F-AM 41.4/E-PM	34.5/C-AM 3.7/A-PM
85	Alondra Blvd/Stevens Ave	Bellflower	34.5/D-AM 17.5/C-PM	36.2/E-AM 20.4/C-PM
86	Bellflower Blvd/Flora Vista St	Bellflower	6.9/A-AM 25.5/C-PM	18.1/B-AM 25.9/C-PM
87	Bellflower Blvd/Mayne St	Bellflower	6.2/A-AM 19.4/B-PM	18.2/B-AM 24.8/C-PM
88	Bellflower Blvd/Oak St	Bellflower	17.5/B-AM 28.3/C-PM	22.1/C-AM 32.2/C-PM

No	Intersection Name	Jurisdiction	No Build Peak Hour Delay/LOS[a]	LPA Peak Hour Delay/LOS[b]
89	Artesia Blvd/Dumont Ave	Cerritos	14.7/B-AM 21.6/C-PM	**24.2/C-AM**[e] **58.2/E-PM**[e]
90	Artesia Blvd/Studebaker Rd	Cerritos	48.1/D-AM 99.8/F-PM	49.4/D-AM 82.9/F-PM
91	Business Cir/Studebaker Rd	Cerritos	8.4/A-AM 8.0/A-PM	3.3/A-AM **15.3/C-PM**[e]
92	186th St/Jersey Ave	Artesia	3.3/A-AM 2.4/A-PM	5.5/A-AM 8.1/A-PM
93	187th St/Alburtis Ave	Artesia	4.1/A-AM 1.6/A-PM	2.9/A-AM 4.4/A-PM
94	187th St/Corby Ave (West)	Artesia	4.2/A-AM 3.9/A-PM	1.5/A-AM 3.0/A-PM
95	187th St/Corby Ave (East)	Artesia	4.1/A-AM 3.8/A-PM	1.5/A-AM 1.1/A-PM
96	186th St/Pioneer Blvd	Artesia	6.6/A-AM 6.1/A-PM	11.0/B-AM 8.1/A-PM
97	187th St/Pioneer Blvd	Artesia	6.7/A-AM 8.1/A-PM	5.2/A-AM 4.1/A-PM
98	188th St/Pioneer Blvd	Artesia	4.6/A-AM 6.4/A-PM	-[d]-AM -[d]-PM
99	South St/Pioneer Blvd	Cerritos	24.9/C-AM 38.4/D-PM	27.6/C-AM 40.5/D-PM
100	South St/Clarkdale Ave	Artesia	15.8/B-AM 18.2/B-PM	9.9/A-AM 18.7/B-PM
101	South St/Elaine Ave	Artesia	15.8/B-AM 8.9/A-PM	11.2/B-AM 9.2/A-PM
102	South St/Norwalk Blvd	Artesia	26.3/C-AM 25.3/C-PM	30.8/C-AM 28.1/C-PM
103	South St/Bloomfield Ave	Cerritos	30.4/C-AM 29.7/C-PM	33.3/C-AM 33.3/C-PM
104	South St/Alburtis Ave	Artesia	13.7/B-AM 11.7/B-PM	15.7/B-AM 12.1/B-PM
105	195th St/Pioneer Blvd	Cerritos	16.2/B-AM 16.8/B-PM	18.7/B-AM 18.9/B-PM
106	Los Coyotes Blvd/Pioneer Blvd	Cerritos	8.8/A-AM 9.3/A-PM	15.3/B-AM 9.4/B-PM
107	Del Amo Blvd/Pioneer Blvd	Cerritos	41.2/D-AM 31.1/C-PM	44.1/D-AM 33.1/C-PM
108	183rd St/Pioneer Blvd	Artesia	17.2/B-AM 24.6/C-PM	18.8/B-AM 25.0/C-PM

No	Intersection Name	Jurisdiction	No Build Peak Hour Delay/LOS[a]	LPA Peak Hour Delay/LOS[b]
109	Industrial Ave/Lincoln Ave	South Gate	3.4/A-AM 2.4/A-PM	3.6/A-AM 3.5/A-PM
110[f]	Parking Structure/Solana Pl/Pioneer Blvd	Artesia	- -	7.4/A-AM 18.3/B-PM

Source: Metro 2024s
Notes: Intersection numbers 1 to 29 were along Alternatives 1 and 2, which are not evaluated in this chapter. Intersection numbers 102 through 110 were not analyzed as part of the Draft EIS/EIR. These intersections were added in response to comments received on the Draft EIS/EIR or due to refinements to the LPA.
The traffic analysis for the LPA includes Intersection 110 (Parking Structure/Solana Pl/Pioneer Blvd); however, that intersection will be implemented as part of the LPA and does not exist under the No Build Alternative.
[a] This column shows the peak hour delay in seconds per vehicle, followed by the LOS for the AM peak hour, and then for the PM peak hour. For example, "21/C-AM 13/B-PM" means a 21-second/vehicle delay, which is LOS C, in the AM peak hour, and a 13-second/vehicle delay, which is LOS B, in the PM peak hour under the No Build condition.
[b] This column shows the peak hour delay in seconds per vehicle, followed by the LOS.
[c] Under the LPA, the intersections of Randolph St/Alameda St (West) and Randolph St/Alameda St (East) will operate with one set of traffic signals. Analysis was conducted to reflect the operation as a single intersection, and one set of delay/LOS was reported.
[d] 188th Street will be closed between Corby Avenue and Pioneer Boulevard to accommodate the Pioneer Station parking structure. Therefore, the intersection is eliminated.
[e] Yellow-shaded and bolded cells are those intersections where adverse impacts are identified.
[f] The Pioneer Station access driveway on Pioneer Boulevard is analyzed for information purposes only.
AM = morning; LPA = Locally Preferred Alternative; LOS = level-of-service; PM = afternoon

The LPA could result in changes to the lengths of vehicle queues from nearby intersections back to train crossings. These queues arise when vehicles wait at a red traffic signal and the spacing from an intersection to an upstream train crossing is not sufficient to store all waiting vehicles. The result could be vehicles stopped on the tracks, unless other measures are taken, such as placing signs to indicate that stopping on the tracks is not permitted. The Transportation Impact Analysis Report contains detailed information on the queuing analysis conducted. Synchro worksheets analyzing vehicle queues are provided in Appendix A – Attachment 8 of the Transportation Impact Analysis Report. While these are not LOS intersection impacts, the effects from vehicle queues will exceed the available vehicle storage from nearby intersections at the following at-grade crossing locations:

- Florence Avenue: At California Avenue (East) and California Avenue (West)
- Gardendale Street: At Center Street
- Lakewood Boulevard: At Somerset Boulevard
- Clark Avenue: At Alondra Boulevard
- Alondra Boulevard: At Clark Avenue
- Bellflower Boulevard: At Flora Vista Street and Oak Street
- Artesia Boulevard: At Studebaker Road

Project Measure TR PM-1 (Pre-signals and Queue-cutter Signals) and TR PM-2 (Lane Configurations), described in Section 3.5.1, will be implemented as part of the LPA to minimize the potential for vehicles queuing into at-grade crossings; these measures were determined during advanced design and/or in consultation with the California Public Utilities Commission. For instance, TR PM-1 (Pre-signals and Queue-cutter Signals) will include installation of pre-signals and queue-cutter signals to discourage queuing across the tracks with a directional signal before the tracks. They are activated (turned red) when the system detects an approaching queue on the other side of the tracks, or in coordination with the downstream intersection signal.

When a train is approaching, the pre-signals will turn red to stop vehicles far enough back so that they do not stop on the tracks, thereby preventing vehicles from becoming struck on the tracks when there is a red light on the other side of the rail crossing. Queue-cutters are activated when a train is approaching. When a train is detected, the queue-cutters change the traffic lights at nearby intersections to clear any vehicles that may be queued near the tracks. This typically involves turning lights green in the direction that moves vehicles away from the tracks, so vehicles have enough time and space to clear the tracks before the train arrives. Pre-signals and queue-cutters will be designed to work in tandem with railroad crossing signals and gates to help manage traffic flow so as to prevent situations where vehicles might inadvertently stop on the tracks. With these project measures, the vehicles in the queue will be discouraged from stopping on the tracks, eliminating potential conflicts from queues under the LPA. Because these features will be required to obtain certification from the California Public Utilities Commission for operation of the LPA, these features are considered part of design and not as separate mitigation measures.

Under NEPA, the LPA will result in adverse effects related to traffic operations at 19 intersections prior to mitigation during one or both peak periods. After implementation of the mitigation measures described in Section 3.5.2, adverse impacts will remain at 12 intersections during one or both peak periods.

The LPA will cross freeways as an undercrossing (I-710, SR-91, I-605) and an overcrossing (I-105). The existing number of freeway lanes will not be modified to accommodate the LPA. Safety requirements to accommodate the freeway crossing will be established in accordance with Caltrans requirements.

3.4.1.3 Design Option: Close 186th Street

The LPA with the design option differs from the LPA without the design option in that the 187th Street at-grade crossing would be open and 186th Street at-grade train crossing would be closed. Only the adjacent study intersections to these crossings would have delay and LOS that differ from those of the LPA without the design option. Table 3-13 summarizes the projected 2042 operations for these adjacent study intersections. Service frequencies under the LPA with the design option would be the same as those for the LPA without the design option; therefore, the number of at-grade crossing events, associated effects, and effect determinations discussed in Section 3.4.1.2 would not change.

Table 3-13. No Build Alternative and LPA with Design Option Operations (Design Option Specific) (2042)

No	Intersection Name	Jurisdiction	No Build Peak Hour Delay/LOS[1]	LPA with Design Option Peak Hour Delay/LOS[2]
92	186th St/Jersey Ave	Artesia	3.3/A-AM 2.4/A-PM	3.2/A-AM 2.5/A-PM
93	187th St/Alburtis Ave	Artesia	4.1/A-AM 1.6/A-PM	6.4/A-AM 7.3/A-PM
94	187th St/Corby Ave (West)	Artesia	4.2/A-AM 3.9/A-PM	4.4/A-AM 4.1/A-PM
95	187th St/Corby Ave (East)	Artesia	4.1/A-AM 3.8/A-PM	5.1/A-AM 5.0/A-PM
96	186th St/Pioneer Blvd	Artesia	6.6/A-AM 6.1/A-PM	9.5/A-AM 4.1/A-PM
97	187th St/Pioneer Blvd	Artesia	6.7/A-AM 8.1/A-PM	12.5/B-AM 15.3/B-PM

Source: Metro 2024s
Notes: [1] This column shows the peak hour delay in seconds per vehicle, followed by the LOS for the AM peak hour, and then for the PM peak hour. For example, "21/C-AM 13/B-PM" means a 21-second/vehicle delay, which is LOS C, in the AM peak hour, and a 13-second/vehicle delay, which is LOS B, in the PM peak hour under the No Build condition.
[2] This column shows the peak hour delay in seconds per vehicle, followed by the LOS.
AM = morning; LPA = Locally Preferred Alternative; LOS = level-of-service; PM = afternoon

3.4.1.4 Maintenance and Storage Facility

The main street for access to the MSF is immediately north at Somerset Boulevard. The streets adjacent to the site mainly serve residential areas. The area is lightly traveled by commercial vehicles, and commercial vehicle traffic in the area is restricted to Somerset Boulevard. Somerset Boulevard and Clark Avenue are designated as truck routes near the MSF. Access to the nearby I-105 freeway is through Somerset Boulevard, Lakewood Boulevard, Downey Avenue, and Clark Avenue. Traffic density around this site and local roadway network is moderate with the peak periods heavily traveled.

The MSF will have similar operational function as the Metro Division 22 LRT maintenance facility. The projected traffic to and from the MSF is 23 vehicle trips in the AM peak hour and 26 vehicle trips in the PM peak hour. LADOT's 2016 *Transportation Impact Study Guidelines* provides a threshold for new developments at 43 vehicle trips during the AM/PM peak hours. Because the projected peak hour vehicular trips generated by the MSF are lower than LADOT's thresholds, the effect on traffic will not be adverse. There are no at-grade crossings between the MSF and the mainline rail. Therefore, no additional at-grade crossing impacts are anticipated.

3.4.1.5 U.S. Army Corps of Engineers Facilities

The LPA alignment will cross three U.S. Army Corp of Engineers (USACE) facilities: the Los Angeles River just east of I-710, Rio Hondo channel just east of I-710, and San Gabriel River channel just west of I-605. All three are concrete-lined. Traffic operations do not occur within the USACE channels. Therefore, the traffic analysis is not applicable to the USACE facilities.

3.4.2 Transit

This section describes the horizon year 2042 transit operating conditions for the No Build Alternative and the LPA to identify potential impacts of the LPA on transit service. Travel demand forecasts for the horizon year 2042 were developed using Metro's Corridors Base Model. Because transit services (e.g., bus routes and rail lines) are not confined to specific locations, the evaluation in this section is conducted for the Study Area as a whole. In addition to systemwide metrics, the transit analysis considered the change in boardings on each of the connecting rail and bus lines. The analysis also considered the change in transit travel times with and without the LPA.

In general, operation of the LPA will improve transit service and accessibility because a new transit line will be implemented.

3.4.2.1 No Build Alternative

The No Build Alternative represents transit service in the Study Area in the year 2042 if the LPA is not built. The No Build Alternative transit network includes the funded transportation improvements specified in the RTP/SCS (SCAG 2016) and the financially constrained element of the LRTP (Metro 2009) except for the LPA. The No Build Alternative includes the bus and rail system programmed in Measure M by 2042 without the Project. Transit improvements included in the No Build Alternative are the Metro Eastside Transit Corridor Phase 2, the Metro Regional Connector, the East San Fernando Valley Transit Corridor, and the Sepulveda Transit Corridor. Assumptions made may not reflect actual alignment and operating scenarios, as planning work advances on future projects. The opening of the Regional Connector will result in a change to Metro Rail operations with the creation of a North-South Line (Metro A (Blue) and L (Gold) Lines) and an East-West Line (Metro E (Expo) Line and L (Gold) Line Eastside Extension). Additional detail on the No Build Alternative is provided in Section 5.2.1 of the Transportation Impact Analysis Report.

3.4.2.2 Locally Preferred Alternative

The LPA largely assumes the same transit operating conditions as the No Build Alternative but also includes implementation of the LPA. As design progresses, it is anticipated that off-street bus bays would be provided at select stations in the event that local transit providers decide to serve these stations in the future. As bus service schedules are continually reviewed and adjusted by regional and local transit agencies in order to meet the needs of transit riders, future bus services, including the number of routes and headways, that may utilize the bus bays are unknown. Prior to opening a new rail transit line, Metro completes a bus-rail interface study. As part of this study, Metro coordinates with other jurisdictions and transit service providers to determine if adjustments are needed to existing or planned bus routes to align with the service provided by the new rail transit line. This study occurs closer to the start of revenue service in order to ensure that adjustments to bus services reflect the population, employment, and ridership demand in the service area. Preparing that study at this time would be speculative, particularly in light of the lingering effects of the COVID-19 pandemic. Future changes or additions to bus service would follow the requirements of the applicable agency prior to implementation. Therefore, due to the speculative nature of future bus operation needs, the specifications of the bus bays, including the precise location and number of bus bays, will need to be further determined and evaluated during future stages of the design, prior to revenue service. Every effort will be taken to place bus bays in locations that minimize effects to traffic and pedestrian circulation. If required,

supplemental environmental documentation will be completed once the location of bus bays and corresponding service is determined. Metro and/or the provider will conduct the necessary public outreach at the time route changes are made.

Headways for all rail and bus lines, with the exception of the LPA, will be the same under the No Build Alternative. The headways for the LPA are summarized in Table 2.8 in Chapter 2, Project Description/Alternatives Evaluated.

The transit analysis considers the metrics outlined in Section 3.2.2 to assess the impact of the LPA on the regional transit network.

Table 3-14 summarizes the projected number of countywide trips for the No Build Alternative and the LPA based on forecasts from Metro's Corridors Base Model for the year 2042. Because the data are presented for the whole of LA County, the opening of the LPA will have a relatively small impact on overall transit ridership because it only serves a portion of the county.

Table 3-14. 2042 No Build Alternative and LPA Regional Transit Performance Metrics – Los Angeles County

Transit Performance Metric	No Build Alternative	Locally Preferred Alternative
Daily linked fixed-guideway trips	781,687	793,125
Daily linked bus trips	965,231	962,999
Daily linked transit trips	1,746,918	1,756,124
Daily linked trips (total, all modes)	77,653,000	77,653,000
Total transit mode share	2.25%	2.26%
Daily new transit trips	N/A	9,206

Source: Metro Travel Demand Model: Corridors Base Model 2018
Note: LPA = Locally Preferred Alternative; N/A = not applicable

Conditions under the No Build Alternative provide a basis of comparison for transit usage for the LPA because the No Build Alternative includes all planned improvements for the year 2042 except for the LPA. Under the No Build Alternative, daily transit trips are projected to exceed 1.75 million in the year 2042, which accounts for approximately 2.25 percent of the 77.7 million daily trips in the region.

Under the LPA, the number of countywide transit trips will increase compared to the No Build Alternative. As shown in Table 3-14, approximately 1.76 million daily transit trips are projected under the LPA, 9,200 of which will be new transit trips compared to the No Build Alternative. The overall transit mode share will increase to 2.26 percent for the LPA. The LPA will have a beneficial impact on the transit system because it will increase transit's mode share.

Table 3-15 provides the number of daily boardings anticipated at each of the LPA stations. As shown, 31,000 total daily station boardings are forecasted for the LPA. The station with the highest number of boardings is the Slauson/A Line Station, where passengers will transfer to the north-south line.

Table 3-15. LPA Station Boardings

Station	Locally Preferred Alternative
Slauson/A Line	7,987
Pacific/Randolph	2,153
Florence/Salt Lake	3,132
Firestone	3,834
Gardendale	1,013
I-105/C Line	4,477
Paramount/Rosecrans	1,752
Bellflower	2,187
Pioneer	4,432
Total Daily Boardings	**30,964**

Source: Metro Travel Demand Model: Corridors Base Model 2018
Note: LPA = Locally Preferred Alternative

The projected number of daily boardings on each Metro Rail line that serves the Study Area is presented in Table 3-16. Daily boardings at each station location are presented in Table 3-15. Compared to the No Build Alternative, the LPA will result in a slight increase in boardings on the North-South and Metro D (Purple) and B (Red) Lines. The LPA will result in a decrease in boardings on both the East-West Line and the Metro C (Green) Line. Additionally, the number of bus trips made systemwide will decrease slightly under the LPA. Most bus lines that run parallel to the LPA will experience a slight decrease in boardings because the LPA will provide faster and more reliable service. However, many routes that cross the LPA may experience a slight increase in boardings as passengers use these routes to access stations along the LPA.

Table 3-16. Project Boardings and Metro Rail Daily Boardings by Line (within Study Area) (2042)

Line	No Build	Locally Preferred Alternative	
	Number of Daily Boardings	Number of Daily Boardings	% Change from No Build
WSAB LPA	N/A	30,964	N/A
North-South [1]	212,478	213,941	0.7%
East-West [1]	135,297	134,129	-0.9%
Metro D (Purple) Line	214,457	215,692	0.6%
Metro B (Red) Line	122,074	122,513	0.4%
Metro C (Green) Line	112,600	111,338	-1.1%

Source: Metro Travel Demand Model: Corridors Base Model 2018
Notes:
[1] With the opening of the Regional Connector in June 2023, the L (Gold) Line has been eliminated and service on the A Line and E Line extends through 7th Street/Metro Center to eastern and northern LA County.
LPA = Locally Preferred Alternative; N/A = not applicable; WSAB = West Santa Ana Branch

Overall, impacts from the LPA will be beneficial because a new LRT line will increase transit service in the Study Area. Under NEPA, the LPA will not result in adverse effects related to transit service, and mitigation is not required.

3.4.2.3 Design Option: Close 186th Street

The LPA with the design option would not alter transit performance compared to the LPA without the design option. Therefore, the transit operating conditions as well as the Metro rail and bus service performance described in Section 3.4.2.2 are also applicable to the LPA with the design option.

3.4.2.4 Maintenance and Storage Facility

The MSF is an integral part of the infrastructure for the LPA and will support the maintenance, operations, and storage activities for the LPA. The MSF will not affect regional transit performance. The MSF will not affect Metro rail and bus transit services because it will not relocate transit stops or routes. Therefore, no impacts related to transit services are anticipated, and no resulting adverse effects will occur.

3.4.2.5 U.S. Army Corps of Engineers Facilities

Transit does not operate in areas under USACE jurisdiction. Therefore, the transit analysis is not applicable to the USACE facilities.

3.4.3 Active Transportation

The active transportation evaluation considers potential impacts on existing and funded pedestrian and bicycle facilities as described in Section 3.2.3. Impacts will occur if the LPA will remove or degrade a bike facility or sidewalk. Beneficial impacts may occur where new facilities are added or existing facilities are upgraded. The potential for pedestrian and bicycle impacts is evaluated in the areas adjacent to stations and along the alignment.

As summarized in Section 4.1, Land Use Section, in Chapter 4, jurisdictions in the Study Area have planned bicycle facilities. Because these facilities are not currently funded or scheduled for implementation, they are not considered reasonably foreseeable. Therefore, potential transportation impacts on these facilities are not evaluated within this section. Refer to Section 3.6.1 and Section 4.1 for a summary of potential impacts on these facilities from the perspective of consistency with adopted plans and policies.

3.4.3.1 No Build Alternative

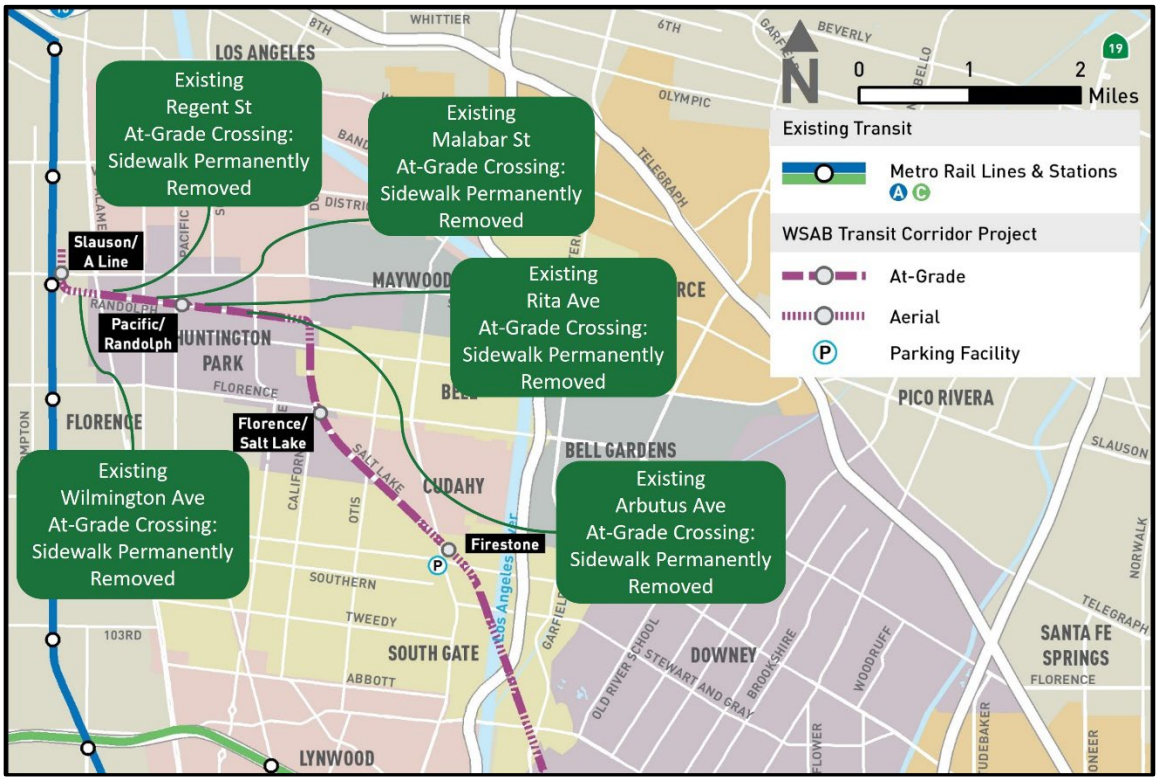
The committed and planned projects under the No Build Alternative may include potential impacts on and/or incorporation of active transportation elements to stand-alone or integrated projects. However, these projects and their potential impacts on active transportation elements would be subject to their own independent environmental review and approval process, which would identify and address potential impacts.

3.4.3.2 Locally Preferred Alternative

The bicycle and pedestrian system under the LPA will generally be the same as the No Build Alternative. Where features associated with the LPA will encroach on existing bicycle facilities or sidewalks, these facilities will be realigned or reconstructed as part of the LPA, so the potential for permanent impacts will be avoided. Figure 3-10 and Figure 3-11 show the locations where the LPA will remove or relocate existing pedestrian and bicycle facilities. These impacts are summarized below.

The LPA will require closure of existing at-grade crossings, as shown in Table 3-11. In these locations, the sidewalks will also be removed as they will no longer be required. Five of the at-grade crossing closures will occur along Randolph Street, at Wilmington Avenue, Regent Street, Malabar Street, Rita Avenue, and Arbutus Avenue. The other at-grade crossing closure will occur at 187th Street in City of Artesia. At these locations, pedestrians and bicyclists will be able to access open at-grade crossings using the next cross street with crosswalks within one to two blocks. Additionally, a pedestrian crossing will be provided at 187th Street. As a result, the LPA will not interfere with pedestrian and bicycle access. The LPA design will also comply with ADA requirements.

Figure 3-10. Active Transportation Facilities Removed or Relocated by the LPA – Los Angeles to Huntington Park



Source: Metro 2024s

Figure 3-11. Active Transportation Facilities Removed or Relocated by the LPA – Huntington Park to Artesia

Source: Metro 2024s

The existing Paramount High School pedestrian bridge will be reconstructed over the LPA and freight tracks to maintain the connection between Paramount High School and the athletics fields. The LPA will be adjacent to the Paramount Bike Trail, Bellflower Bike Trail, and Artesia Historic District Recreation Trails located parallel along and partially within the PEROW in the Cities of Paramount, Bellflower, and Artesia. The Paramount Bike Trail is located south and adjacent to the rail ROW. Currently, the Paramount Bike Trail is between Somerset Boulevard and Lakewood Boulevard, but it is ultimately planned to be extended from the Los Angeles River Bike Trail and connect to the Bellflower Bike Trail at Lakewood Boulevard. The Bellflower Bike Trail is located within the existing PEROW between Lakewood Boulevard and Ruth R. Caruthers Park and connects to the San Gabriel River Bike Trail. The Artesia Historic District Recreation Trails follow the PEROW from 183rd Street to 187th Street.

The Paramount Bike Trail segment between Somerset Boulevard and Lakewood Boulevard is located within the PEROW. Segments of the PEROW extending south from the intersection of Rosecrans Avenue and Paramount Boulevard to Lakewood Boulevard may not have sufficient room to accommodate the alignment of the LPA, which may require a realignment of the Paramount Bike Trail. Specifically, under the LPA, tracks will be installed along the southwest side of the PEROW along this segment. To accommodate the track alignment, the LPA will require the removal of an approximately 930-foot-long segment of the existing Paramount Bike Trail between Somerset Boulevard and Lakewood Boulevard. As part of Mitigation Measure LU-1 (Consistency with Bike Plans), as described in Section 4.1.4 of the Land Use Section in Chapter 4, this segment of the existing bike trail will be realigned to the north side but within the PEROW in this area. The relocation of this segment of the Paramount Bike Trail will require users of the bike trail to cross the railroad tracks at Lakewood Boulevard to access the bike trail across the street. Although segments of the Paramount Bike Trail will be realigned, the bike trail will remain operational and the existing segment east of Lakewood Boulevard will remain.

Additionally, the Bellflower Station platform and tracks will conflict with an approximately 350-foot-long segment of the existing Bellflower Bike Trail east of Bellflower Boulevard. As part of Mitigation Measure LU-1 (Consistency with Bike Plans), as described in Section 4.1.4 of the Land Use Section in Chapter 4, this segment of the existing bike trail will be realigned to the south side of the PEROW. The existing segment west of Bellflower Boulevard will remain.

Overall, although segments of the Paramount Bike Trail and Bellflower Bike Trail will be realigned with implementation of Mitigation Measure LU-1 (Consistency with Bike Plans), the bike trails will remain operational within the PEROW and the function of the bike trails will be maintained. Therefore, continuity with other segments of the Paramount Bike Trail and Bellflower Bike Trail will be maintained and, with mitigation, there will not be adverse effects on these facilities.

The LPA will not require the realignment of the Artesia Historic District Recreation Trails. The bike trails will remain within the PEROW, the function of the bike trails will be maintained, and access to and from these bike trails will not be affected. The bike trails will continue to be available for use by the community.

The LPA alignment has been developed in consideration of the planned bike trail extension north of Somerset Boulevard to Paramount Park as identified in the *Bellflower-Paramount Active Transportation Plan* (City of Bellflower and City of Paramount 2019), thereby avoiding impacts to the future bike trail extension.

The LPA will also include a wide range of features to enhance active transportation facilities for the benefit of users, including physical improvements (e.g., barriers and gates), channelization and signing, illumination, and other design improvements that will enhance user experience and security. Where new pedestrian trips will occur between stations and parking areas, pedestrian facilities will be enhanced with improved signing and lighting as part of the LPA. Additional sidewalks and bicycle facilities implemented as part of the LPA will result in a beneficial impact, both for active transportation users accessing the stations and for the broader community. Additional details regarding design improvements are provided in Sections 4.1.2 and 5.2.3 of the *West Santa Ana Branch Transit Corridor Project Final Safety and Security Impact Analysis Report* (Metro 2024c) and Section 4.18 of the Safety and Security Section in Chapter 4.

Under NEPA, the LPA will result in adverse effects related to the Paramount and Bellflower Bike Trails. With implementation of Mitigation Measure LU-1 (Consistency with Bike Plans), these existing active transportation facilities will be realigned to maintain continuity. Therefore, there will not be adverse effects on these facilities with mitigation.

3.4.3.3 Design Option: Close 186th Street

The LPA with the design option differs from the LPA without the design option in that the 187th Street at-grade crossing would be open and the 186th Street at-grade crossing would be closed. Implementation of the design option would result in removal of the sidewalk at 186th Street but would maintain the sidewalk at 187th Street. Pedestrians and bicyclists will be able to use sidewalks and travel lanes at adjacent open at-grade crossings to cross the tracks, and the design option will not interfere with pedestrian and bicycle access. Therefore, the LPA with the design option would not result in additional adverse effects compared to the LPA without the design option.

3.4.3.4 Maintenance and Storage Facility

The MSF will not affect active transportation facilities because it will not result in the closure of sidewalks or bicycle facilities. Therefore, no impacts related to active transportation are anticipated and no resulting adverse effects will occur.

3.4.3.5 U.S. Army Corps of Engineers Facilities

The active transportation impact assessment for USACE facilities considered changes to pedestrian and bicycle facilities in proximity to USACE facilities. The LPA will not remove the Los Angeles River Bike Path, Rio Hondo River Path, San Gabriel River Mid-Trail, and/or any existing pedestrian or bike access to these facilities. Therefore, no impacts related to active transportation are anticipated to USACE facilities, and no resulting adverse effects will occur.

3.4.4 Parking

As summarized in Section 3.2.4, the analysis of effects to parking considers how the LPA will affect on- and off-street parking supplies, and whether the demand for transit parking will exceed the available parking supply, which could result in increased traffic circulation and delay, and air quality impacts due to vehicles circling while looking for parking. The evaluation considered parking availability from field observation, the expected demand for park-and-ride trips at each station, and the addition (through a new dedicated transit park-and-ride lot) or reduction (parking permanently removed to accommodate the LPA) of parking spaces.

3.4.4.1 No Build Alternative

The committed and planned projects under the No Build Alternative may include potential impacts to parking through removal, modification, or reductions to existing parking resources. However, these projects and their potential parking impacts will be subject to their own independent and required environmental approval process, which will identify and address potential impacts.

3.4.4.2 Locally Preferred Alternative

The following sections summarize the results of the parking analysis for the LPA based on the evaluation of permanent physical loss of on- and off-street parking and spillover parking

impacts associated with the demand for transit parking. As summarized in Table 3-17 and Table 3-18, the LPA will result in the permanent loss of approximately 450 on-street and 95 off-street parking spaces. This reflects an increase in the loss of on-street parking and a decrease in the loss of off-street parking identified in the Draft EIS/EIR (91 on-street parking spaces and 121 off-street parking spaces at 9 locations), as described in Section 3 of the Draft EIS/EIR. The LPA will add approximately 2,800 parking spaces at five of the new transit station locations.

On- and Off-Street Parking Impacts

Implementation of the LPA, including traffic project measures and mitigation measures identified in Section 3.5, will require removal of on-street parking at locations along the alignment. The traffic project measures and mitigation measures, however, are subject to city approval; if they are not implemented, parking impacts could decrease from what is presented in Table 3-17 because fewer on-street parking spaces would be affected by roadway geometry changes or lane modifications as part of the traffic project measures and mitigation measures. The results of the on-street parking impact analysis are summarized in Table 3-17. The analysis considered observations of utilization and whether there was sufficient supply after removal of the on-street parking spaces. Locations where the parking supply will decrease below the observed utilization are as follows:

- **City of Los Angeles**: At Long Beach Avenue within the City of Los Angeles, the loss of on-street parking will result in the parking supply to decrease below the observed utilization. On-street parking is permitted on adjacent streets, and there is sufficient capacity on adjacent streets to accommodate the excess parking demand.
- **City of Huntington Park**: Within the City of Huntington Park, the loss of on-street parking will result in the parking supply to decrease below the observed utilization along segments of Randolph Street, Albany Street, Seville Avenue, and Gage Avenue. On-street parking is permitted on adjacent streets, and there is sufficient capacity on adjacent streets to accommodate the excess parking demand.
- **City of South Gate**: At Main Street within the City of South Gate, the loss of on-street parking will result in the parking supply to decrease below the observed utilization by one parking space. There is sufficient capacity on adjacent streets to accommodate the excess parking demand and any circulation on local roads to find parking will be minimal.

For the cities not listed above, parking loss due to implementation of LPA will not result in the on-street parking supply to decrease below demand, and impacts will not be adverse at these locations.

The physical loss of parking at the locations identified in Table 3-17 could contribute to motorists circulating along adjacent roads as they attempt to find available parking. This will cause an increase in localized traffic and delay on roadways and at intersections, including idling and increased vehicular emissions. Based on observed utilization, parking supply on adjacent blocks and surrounding streets will have sufficient capacity to accommodate those utilizing on-street parking that will be displaced by the LPA. Therefore, it is anticipated that parking demand will be accommodated despite the loss of parking with minimal circulation and there will not be adverse effects. While adverse effects are not anticipated, Mitigation Measure TRA-20 (Parking Mitigation Program [Permanent]) will be implemented at all locations where implementation of the LPA results in a permanent, physical loss of on-street parking. The measure is described in Section 3.5.2.4.

Off-street parking effects were analyzed for properties where the LPA will require a permanent property acquisition that will result in the permanent loss of off-street parking spaces, and whether the loss of parking will affect the function of the properties. The analysis did not include properties where the permanent acquisition resulted in the loss of all off-street parking and the corresponding business(es) that utilized that supply. This is because the business(es) will no longer exist, and, consequently, the associated parking demand will be eliminated. The loss of off-street parking spaces will, therefore, have no effect on the function of the property.

The off-street parking impacts analysis considered whether the loss of off-street parking spaces will result in the supply for that property to fall below the requirement as per the parking code from the applicable city.[2] Table 3-18 summarizes the off-street parking analysis. Metro will provide compensation as required under the Uniform Act at properties where off-street parking is removed. Governmental institutions are not required to comply with parking code requirements. These properties are included in the table for completeness but were not assessed further. Metro will enter into an agreement with each of these properties for the use of the existing off-street parking.

Off-street parking will be removed permanently at seven locations, affecting approximately 95 parking spaces. These properties are located in the Cities of Huntington Park, Vernon, South Gate, and Cerritos. The loss of parking will result from the addition of LPA elements, including TPSS sites, grade-crossing modifications, the LRT track, and traffic mitigation measures. The removal of off-street parking spaces will not cause the off-street parking supply to decrease below the respective city parking code requirements and, therefore, will not result in an adverse effect.

[2] City of South Gate Municipal Code: Chapter 11.33 Parking Standards; City of Huntington Park Municipal Code: Chapter 3 General Regulations Article 8 Off-street Parking Standards. City of Vernon Zoning Ordinance: Article V. Sec. 26.5.1. Off-street Parking and Loading Facilities; City of Cerritos Municipal Code: Chapter 22.74.500 Minimum parking space requirements

Table 3-17. On-street Parking Impacts

Jurisdiction	Location	From	To	Parking Type	Existing On-street Parking Spaces	Observed Field Utilization[a]	Parking Spaces Removed[b]	Excess Parking Supply	Description of Effect
Los Angeles	Long Beach Ave	Slauson Ave	55th St	M1H	60	95%	15	-12	Straddle bent support columns are required along the west side of Long Beach Ave, removing existing parking spaces
Huntington Park	Randolph St	Alameda St	Albany St	TU, TL20	118	34%	52	26	Expansion of center track median to allow for new LRT tracks and the addition of grade-crossing equipment near grade crossings
		Albany St	Santa Fe Ave	TU	60	73%	48	-32	Expansion of center track median to allow for new LRT tracks and the addition of grade-crossing equipment near grade crossings
		Santa Fe Ave	Rugby Ave	TU	48	56%	12	9	Expansion of center track median to allow for new LRT tracks and the addition of grade-crossing equipment near grade crossings
		Rugby Ave	Pacific Blvd	TU	5	80%	2	-1	Expansion of center track median to allow for new LRT tracks and the addition of grade-crossing equipment near grade crossings
		Pacific Blvd	Seville Ave	TU	21	81%	9	-5	Expansion of center track median to allow for new LRT tracks and station platform and the addition of grade-crossing equipment near grade crossings

Jurisdiction	Location	From	To	Parking Type	Existing On-street Parking Spaces	Observed Field Utilization[a]	Parking Spaces Removed[b]	Excess Parking Supply	Description of Effect
		Seville Ave	Miles Ave	TU, TL20	60	75%	11	4	Expansion of center track median to allow for new LRT tracks and the addition of grade-crossing equipment near grade crossings
		Miles Ave	Arbutus Ave	TU	81	83%	9	5	Expansion of center track median to allow for new LRT tracks and the addition of grade-crossing equipment near grade crossings
		Arbutus Ave	State St	TU	34	91%	3	0	Expansion of center track median to allow for new LRT tracks and the addition of grade-crossing equipment near grade crossings
		State St	Plaska Ave	TU	7	43%	6	-2	Shifting of Randolph St lanes south to accommodate new LRT tracks, the addition of a westbound dedicated left-turn lane, and the addition of grade-crossing equipment near grade crossings
	Alameda St	Belgrave Ave	Randolph St	TL20	2	0%	1	1	Sidewalk reconstruction is required at the northeast corner of Randolph St and Alameda St East.
	Albany St	Belgrave Ave	Randolph St	TU	11	100%	3	-3	Southbound dedicated left-turn lane is being added in support of grade-crossing modifications
		Randolph St	Clarendon Ave	TU	65	78%	3	11	Northbound dedicated left-turn lane is being added in support of grade-crossing modifications
	Santa Fe Ave	Belgrave Ave	Randolph St	TU	13	0%	4	9	Wider cross section required to allow for grade-crossing gate islands

Jurisdiction	Location	From	To	Parking Type	Existing On-street Parking Spaces	Observed Field Utilization[a]	Parking Spaces Removed[b]	Excess Parking Supply	Description of Effect
		Randolph St	Clarendon Ave	TU, TL20	42	69%	6	7	Wider cross section required to allow for grade-crossing gate islands and a northbound dedicated left-turn lane
	Rugby Ave	Belgrave Ave	Randolph St	TU	34	76%	4	4	Southbound dedicated left-turn lane is being added in support of grade-crossing modifications
		Randolph St	Clarendon Ave	TU	42	79%	1	8	Northbound dedicated left-turn lane is being added in support of grade-crossing modifications
	Pacific Blvd	Belgrave Ave	Randolph St	M2H	26	31%	13	5	Wider cross section required to allow for grade-crossing gate islands
		Randolph St	Clarendon Ave	M2H, TL20	54	41%	22	10	Wider cross section required to allow for grade-crossing gate islands
	Seville Ave	Belgrave Ave	Randolph St	TU	43	86%	4	2	Southbound dedicated left-turn lane is being added in support of grade-crossing modifications
		Randolph St	Clarendon Ave	TU, TL20	36	72%	13	-3	Northbound dedicated left-turn lane is being added in support of grade-crossing modifications
	Miles Ave	Belgrave Ave	Randolph St	TL2H, TL20	28	46%	6	9	Wider cross section required to allow for grade-crossing gate islands
		Randolph St	Clarendon Ave	TU	10	60%	1	3	Wider cross section required to allow for grade-crossing gate islands
	Gage Ave	Bissell St	Salt Lake Ave	TU, TL2H, TL20	22	73%	10	-4	Eastbound dedicated right-turn lane is being added in support of grade crossing modifications

Jurisdiction	Location	From	To	Parking Type	Existing On-street Parking Spaces	Observed Field Utilization[a]	Parking Spaces Removed[b]	Excess Parking Supply	Description of Effect
	Bell Ave	Bissell St	Salt Lake Ave	TU	32	31%	2	20	Eastbound dedicated left-turn lane is being added in support of grade crossing modifications and westbound dedicated left-turn lane is being added as part of traffic mitigation
	Florence Ave	California Ave W	California Ave E	TU	4	0%	3	1	Westbound dedicated left-turn lane is being added as part of traffic mitigation
Huntington Park/ South Gate	Santa Ana St	Otis Ave	Salt Lake Ave	TU	26	58%	3	8	Westbound dedicated left-turn lane and signalization is being added in support of grade-crossing modifications
Downey/ South Gate	Gardendale St	Garfield Ave	Arizona Ave	TU	87	13%	51	25	Westbound through lane is being added as part of traffic mitigation and wider cross section required to allow for grade-crossing gate islands
South Gate/ Paramount	Century Blvd	Center St	Industrial Ave	TU	35	6%	6	27	Wider cross section required to allow for grade-crossing gate islands
South Gate	Industrial Ave	Lincoln Ave	Century Blvd	TU	59	32%	6	34	Parking facility entrances are being added along the west side of Industrial Ave
	Main St	Center St	Industrial Ave	TU	12	17%	11	-1	Wider sidewalks are required to allow for grade-crossing equipment
Cudahy	Ardine St	Salt Lake Ave	Atlantic Ave	TU	37	32%	1	24	Medians at crossing, westbound dedicated left-turn lane and signalization are being added in support of grade-crossing modifications
Bellflower	Bellflower Blvd	Oak St	Mayne St	TU, TL2H	9	11%	2	6	Grade crossing and associated equipment is being added to street/sidewalks

Jurisdiction	Location	From	To	Parking Type	Existing On-street Parking Spaces	Observed Field Utilization[a]	Parking Spaces Removed[b]	Excess Parking Supply	Description of Effect
	Clark Ave	Alondra St	Mayne St	TU, TL2H, TL20	61	41%	19	17	Southbound dedicated left-turn lane and signal is being added at Los Angeles St as a result of coordination with city
	Alondra Blvd	Clark Ave	Stevens Ave	TU, TL20	51	25%	15	23	Wider sidewalks and cross section are required to allow for grade-crossing equipment and grade-crossing gate islands
	Somerset Blvd	Cerritos Ave	Touchwood Ave	TU, TL20	53	74%	11	3	Eastbound dedicated right-turn lane and signal is being added for access to the MSF as a result of coordination with city
	Lakewood Blvd	Somerset Blvd	Paseo St	TU	28	11%	2	23	Wider cross section required to allow for grade-crossing gate islands
Artesia	186th St	Gridley Rd	Corby Ave	TU, P	149	50%	26[c]	48	Wider cross section required to allow for grade-crossing gate islands and grade crossing and associated equipment being added to street/sidewalks
	187th St	Alburtis St	Corby Ave	P	21	10%	14	5	Closure of street
	188th St	Corby Ave	Pioneer Blvd	TU	11	9%	7	3	Closure of street to construct parking structure
Artesia/ Cerritos	Pioneer Blvd	187th St	South St	TU, M2H	32	6%	10	20	Grade crossing and associated equipment being added to street/sidewalks

Source: Metro 2024s

Notes: M1H = metered one hour, M2H = metered two hours, TU = time unlimited, TL20 = time limited 20 minutes, TL2H = time limited two hours, P = permit-only

[a] Observations made during peak parking periods based on land use.

[b] Based on engineering plans included in Appendix B of the Final EIS/EIR.

[c] With implementation of the design option to close 186th Street, the number of parking spaces removed would be reduced to 17.

Table 3-18. Off-street Parking Impacts

Location	Jurisdiction	Project Element	Number of Lost Spaces	Approximate % of Total Parking	Remaining Spaces Within Code Requirements?
Commercial supplier northwest corner of Alameda Street and Randolph Street[1, 2]	Huntington Park	Mitigation Measure TRA-12	19	35%	Yes
Strip mall north of the Randolph Street and Rita Avenue intersection	Huntington Park	TPSS Site 15	32	10%	Yes
Industrial building at the northeast corner of State Street and Randolph Street	Vernon	Grade Crossing	12	<5%	Yes
Bowling alley at the northeast corner of rail ROW and Gage Avenue[2]	Huntington Park	Grade Crossing	3	<5%	Yes
Truck dealer at the northeast corner of Salt Lake Avenue and Walnut Street[2]	Huntington Park	TPSS Site 12	22	10%	Yes
Trucking business south of Ardine Street[2]	South Gate	Grade Crossing	3	<5%	Yes
Business park on the southeast corner of Studebaker Road and Business Circle[2]	Cerritos	Grade Crossing	2	<5%	Yes

Source: Metro 2024s
Notes:
[1] The business at this location had vacated at the time of analysis. However, the property is allocated for commercial purposes, thus an assessment was conducted to determine if the removal of parking spaces will affect the use of the property.
[2] Parking loss identified after circulation of the Draft EIS/EIR. These parking impacts are a result of refinements made to grade-crossing designs, transportation mitigation measure, and a change in a TPSS location. Mitigation Measure TRA-12 is subject to city approval.
ROW = right-of-way; TPSS = traction power substation

Spillover Parking Impacts

As summarized in Section 3.2.4.2, the spillover parking analysis has been updated in response to comments received on the Draft EIS/EIR. Dedicated transit parking will be provided at the Firestone, I-105/C Line, Paramount/Rosecrans, Bellflower, and Pioneer Stations. Project Measure TR PM-11 (Pioneer Station Parking Access) will be implemented at the Pioneer Station to limit vehicles accessing the parking structure through the adjacent residential streets.

Table 3-19 summarizes the two model runs completed in support of the spillover parking analysis: 1) forecasted parking demand for all nine stations along the LPA to determine corridor-wide transit parking demand regardless of proposed parking supply, and 2) forecasted parking demand limited to the five stations with dedicated transit parking.

Table 3-19. Station Parking Facility Supply and Demand

Station	Proposed Station Parking Spaces[1]	Projected 2042 Parking Demand[1] (All Stations)	Excess Transit Parking Demand (All Stations)	Projected 2042 Parking Demand[1] (Constrained Locations)	Excess Transit Parking Demand (Constrained Locations)
Slauson/A Line	0	30	-30	0	0
Pacific/Randolph	0	120	-120	0	0
Florence/Salt Lake	0	490	-490	0	0
Firestone	600	370	230	670	-70
Gardendale	0	200	-200	0	0
I-105/C Line	340[2]	170	170	240	90
Paramount/Rosecrans	490	220	270	300	190
Bellflower	260	330	-70	420	-160
Pioneer	1,100	870	230	1,090	10
Total[3]	2,800	2,800	-10	2,720	50

Source: Metro 2024s
Notes:
[1] Station parking and projected parking demand are rounded to nearest tenth.
[2] Parking supply assumes TPSS site 07E is located within the parking lot. If TPSS 07 is selected instead, parking supply would increase to approximately 360 spaces.
[3] Numbers may not equal due to rounding (to nearest 10).

As shown in Table 3-19, the corridor-wide transit parking demand exceeds the total parking supply, resulting in a deficit of 10 parking spaces. However, when transit parking is restricted to the five stations with transit parking, a surplus of 50 parking spaces was projected, and overall parking demand throughout the corridor decreases by approximately 60. The two forecasts show that there will be adjustments to demand if passengers seeking to park at stations encounter limitations of supply, with these adjustments being either a shift to a station with available dedicated transit parking or a decrease in demand as drivers find another way to access the station (e.g., kiss-and-ride, bicycle, transit) or drive to their ultimate destination.

Therefore, there will not be adverse impacts associated with spillover parking. While adverse effects related to spillover parking are unlikely, Mitigation Measure TRA-19 (Parking Monitoring and Community Outreach), described in Section 3.5.2.4, will be implemented.

3.4.4.3 Design Option: Close 186th Street

Parking impacts associated with the LPA with the design option would be similar to that of the LPA without the design option. The LPA with the design option differs from the LPA without the design option in that the 187th Street at-grade crossing would remain open, and

the 186th Street at-grade crossing would be closed. Closure of 186th Street would result in the removal of 9 fewer on-street parking spaces compared to the LPA without the design option (17 with the LPA with the design option compared to 26 with the LPA without the design option). However, while adverse effects are unlikely, the physical loss of parking could contribute to a local concern.

Similar to the LPA without the design option, Mitigation Measure TRA-20 (Parking Mitigation Program [Permanent]) will be implemented at all locations with a physical loss of on-street parking. A spillover parking analysis was unnecessary for the LPA with the design option as this is not a ridership-generating project element and the demand for parking at the Pioneer Station would remain unchanged compared to the LPA without the design option.

3.4.4.4 Maintenance and Storage Facility

The MSF will not require the removal of off-street parking. With implementation of TR PM-7 (Section 3.5.1), removal of two on-street parking spaces will be required to accommodate a traffic signal and right-turn lane at the MSF entrance/exit driveway. The traffic signal and right-turn lane were added as a refinement to the LPA after circulation of the Draft EIS/EIR in coordination with the City of Bellflower. It is anticipated that parking demand will be accommodated despite the loss of parking and there will not be adverse effects. However, while adverse effects are unlikely, the physical loss of parking could contribute to a local concern. Mitigation Measure TRA-20 (Parking Mitigation Program [Permanent]) will be implemented.

The MSF will not result in adverse spillover parking effects as the facility will not generate parking demand from transit users and employee parking will be provided at the MSF site.

3.4.4.5 U.S. Army Corps of Engineers Facilities

There is no parking within USACE jurisdiction, therefore, the parking analysis is not applicable to the USACE channels.

3.4.5 Freight

This section addresses how the No Build Alternative and LPA will affect vehicular freight (e.g., freight trucks) and rail freight. The vehicular freight analysis was added in response to comments on the Draft EIS/EIR.

3.4.5.1 No Build Alternative

In general, under the No Build Alternative, traffic conditions and operations are projected to be worse in 2042, consistent with traffic growth in a congested corridor. This added delay could affect vehicular freight operating during peak periods, which could result in delays to vehicular freight deliveries. Rail freight would not be affected.

3.4.5.2 Locally Preferred Alternative

Vehicular Freight

Section 3.4.1.2 summarizes the traffic impact assessment for changes in traffic operations (i.e., increased delay) and the street network due to implementation of the LPA. The assessment also included vehicular freight because freight trucks operate on arterial streets. The following are general changes in the traffic operations relevant to vehicular freight:

- The LPA will result in delays at new crossings and additional gate down time at existing crossings.
- Additional station area traffic on roadways generally will increase delay at intersections during peak periods.
- Implementation of the LPA will require localized street closures and/or modifications. These closures/modifications are described in the project measures listed in Section 3.5.1, with permanent closures and restrictions shown in Table 3-11. The project measures include closing at-grade crossings, realigning intersections, turn prohibitions, street closures, and one-way street conversions. Most of these modifications will not affect designated truck routes, but trucks occasionally travel on all of these streets (i.e., for local deliveries).
- In addition to the turn restrictions noted in Section 3.4.1.2, truck turns would also be prohibited along Randolph Street at Pacific Boulevard, Seville Avenue, and Miles Avenue and along Salt Lake Avenue at Otis Avenue, Santa Ana Street, and Ardine Street.

Adverse effects could occur—even with the inclusion of mitigation measures—if vehicular freight activity occurs during peak periods. However, vehicular freight travel generally occurs outside of the peak traffic periods when there is less roadway congestion. LRT headways will also be lower during off-peak periods. Therefore, the adverse effects of delay at intersections will be reduced or eliminated outside the peak periods. The LPA will not affect the designation of truck routes, and trucks will not be rerouted to secondary streets.

Rail Freight

Table 3-20 summarizes the extent of existing rail ROW where the LPA tracks will share the right-of-way with freight tracks that have active freight operations, and the miles of existing freight tracks that will require relocation and reconstruction to accommodate the LPA. Figure 3-9 illustrates freight ownership and areas of relocation. Specifically, the LPA will require relocation of freight tracks at the following locations:

- Wilmington Branch ROW at Slauson Avenue
- La Habra Branch ROW south of Slauson Avenue and east along Randolph Street from Holmes Avenue to the San Pedro Subdivision ROW
- San Pedro Subdivision ROW from Randolph Street to the PEROW
- PEROW from the San Pedro Subdivision ROW to Somerset Boulevard in the City of Paramount

Table 3-20. Freight Track Realignment

Rail ROW	Shared ROW with Freight (miles)	Freight Relocation (miles)
Wilmington Branch	0.3	0.1
La Habra Branch	2.3	2.3
San Pedro Subdivision	6.1	5.5
Metro-owned PEROW	1.2	0.8
Total	**9.8**	**8.7**

Source: Prepared by WSP on behalf of Metro in 2023
Notes: PEROW = Pacific Electric Right-of-Way; ROW = right-of-way

Although the LPA will operate adjacent to existing freight tracks, each will operate on its own exclusive track. The LPA will provide a minimum 20-foot clearance between the track centerlines of the closest LRT and freight track. Where feasible, design incorporates horizontal clearances up to 22 feet when the LRT tracks will be in a retained fill configuration. Additionally, a minimum vertical clearance of 24 feet is provided when freight passes under an LRT viaduct, and a minimum horizontal clearance of 10 feet is provided where columns are proposed. Pier protection is included at columns within 20 feet of LRT track. All bridge crossings along the LPA alignment will include separate LRT and freight bridges, and the minimum clearance is met at each crossing.

The LPA will not introduce new at-grade crossings where LRT will operate at-grade adjacent to freight tracks. Operation of the LPA will require the closure of at-grade crossings along the La Habra Subdivision. At these locations, a fence will be installed to prevent trespassing by pedestrians and bicyclists.

Freight operations, maintenance, and access for existing rail customers will be accommodated by the LPA. If existing customer access cannot be maintained, a full acquisition of the parcel is proposed. In coordination with the UPRR and the Ports of Long Beach and Los Angeles, the design of the LPA has been modified at several locations to accommodate future spur connections to customers, as identified in Section 2.4.3.2 of Chapter 2, Project Description/Alternatives Considered, of this Final EIS/EIR. The locations of these modifications are primarily along the north side of the La Habra Subdivision, the west side of the San Pedro Subdivision, and the north side of the PEROW. Metro will continue coordination with UPRR and the Ports of Los Angeles and Long Beach as project design advances. Therefore, operation of the LPA will not result in adverse effects to rail freight.

3.4.5.3 Design Option: Close 186th Street

Vehicular Freight

Vehicular freight impacts of the LPA with the design option would be similar to that of the LPA without the design option. The LPA with the design option differs from the LPA without the design option in that the 187th Street at-grade train crossing would be open and the 186th Street at-grade train crossing would be closed. The two streets are not designated routes for vehicular freight.

Rail Freight

Rail freight activity ends just north of Somerset Boulevard and does not extend to 186th or 187th Street. Therefore, freight operations, maintenance, and access for customers would not be affected by the design option.

3.4.5.4 Maintenance and Storage Facility

Vehicular Freight

The MSF is located south of Somerset Boulevard and west of Clark Avenue, each designated as truck routes. Section 3.4.1.4 summarizes the traffic impact assessment for the MSF, considering the street network, traffic in the affected City of Bellflower, and the facility's peak hour trip generation. The projected peak hour vehicular trips generated by the MSF are substantially lower than LADOT's thresholds; therefore, the effect on traffic will not be adverse and the MSF will not have an adverse effect on vehicular freight travel.

Rail Freight

The MSF is located adjacent to the Metro-owned PEROW. Rail freight activity ends just north of Somerset Boulevard and does not extend to the MSF. Therefore, freight operations, maintenance, and access for customers will not be affected by the MSF.

3.4.5.5 U.S. Army Corps of Engineers Facilities

Vehicular Freight

Vehicular freight does not operate in areas under USACE jurisdiction. Therefore, the freight analysis is not applicable to the USACE channels.

Rail Freight

Existing rail freight along the LPA alignment crosses two USACE facilities: the Los Angeles River and Rio Hondo channel. Freight will operate on bridges separate from the LPA. Therefore, freight operations, maintenance, and access for customers will be accommodated by the LPA at the USACE facilities and no adverse effects will occur.

3.5 Project Measures and Mitigation Measures

This section identifies the project measures and mitigation measures identified for the transportation elements. Project measures are included as part of the design of the LPA and will minimize or avoid impacts. Mitigation measures will minimize or eliminate the adverse impacts from the LPA identified in Section 3.4. The evaluation methodology described in Section 3.2 was applied to determine the effectiveness of the mitigation measures.

3.5.1 Project Measures

The following project measures will be part of the LPA.

TR PM-1: Pre-signals and Queue-cutter Signals. Installation of pre-signals or queue-cutter signals to discourage vehicles from stopping on tracks. Pre-signals are traffic control devices that control traffic approaching a grade crossing in conjunction with the traffic control for the intersection(s) beyond the tracks. Pre-signals can be used to stop vehicular traffic before the railroad crossing. Queue-cutter signals only control traffic approaching a crossing and are operated independently of other traffic signals in the vicinity. The concept of operation of a queue-cutter is to hold traffic upstream from a crossing before a queue caused by a downstream traffic control signal or other roadway congestion can grow long enough to back up into the crossing.

TR PM-2: Lane Configurations. Existing lane configurations near the at-grade crossings will be modified to operate the pre-signals or queue-cutter signals as required by regulations.

TR PM-3: Randolph Street Intersection Modifications. Intersection modifications along Randolph Street to close access for vehicles to cross the existing train tracks, resulting in the removal of the existing at-grade train crossing at the following intersections:

- Wilmington Avenue
- Regent Street

- Malabar Street
- Rita Avenue
- Arbutus Avenue

TR PM-4: Randolph Street Lane Reduction. Randolph Street will be reduced from two lanes in each direction to one lane in each direction between Alameda Street (West) and State Street and left-turn lanes will be provided along Randolph Street at each middle-of-intersection at-grade crossing to accommodate existing on-street parking.

Specifically, left-turn lanes will be added at the following cross streets:

- Alameda Street (West): Add northbound left-turn lane
- Santa Fe Avenue: Add northbound left-turn lane

Left turns will be prohibited at the following cross streets along Randolph Street:

- Santa Fe Avenue: Southbound left turns
- Pacific Boulevard: Northbound left turns
- Miles Avenue: Southbound left turns
- State Street: Northbound left turns

TR PM-5: The Atlantic Avenue/Azalea West intersection will be converted from a three-legged intersection to a four-legged intersection. The added intersection leg will be aligned with the Firestone Station parking area entrance/exit driveway.

TR PM-6: One-way street conversion to Dakota Avenue between Gardendale Street and Main Street to accommodate the LRT tracks.

TR PM-7: The MSF entrance/exit driveway will be aligned with Somerset Boulevard at Bayou Avenue and a traffic signal will be installed at the intersection.

TR PM-8: Alondra Boulevard Intersection Modifications. Intersections adjacent to the Alondra Boulevard at-grade train crossing will be modified. The intersections are Alondra Boulevard at Flora Vista Street and Alondra Boulevard at Pacific Avenue. Right-turn access only entering Flora Vista Street and right-turn only entering and leaving Pacific Avenue is required to accommodate crossing features required by regulations. Additionally, a traffic signal and southbound dedicated left-turn lane will be installed at the intersection of Clark Avenue and Los Angeles Street.

TR PM-9: 187th Street between Corby Avenue (West) and Corby Avenue (East) will be closed to minimize the number of at-grade crossings. With the design option, 186th Street instead of 187th Street will be closed between Corby Avenue (West) and Corby Avenue (East).

TR PM-10: 188th Street between Corby Avenue (West) and Pioneer Boulevard will be closed to accommodate the Pioneer Station parking structure.

TR PM-11: Pioneer Station Parking Access. Vehicle access to the Pioneer Station parking structure will be directed by signage to occur primarily from Pioneer Boulevard. The Pioneer Boulevard entrance/exit driveway will be aligned with the Solana

Place driveway and a traffic signal will be installed. Corby Avenue will serve as a secondary entrance/exit point as required, limiting vehicle access to/from adjacent residential streets.

3.5.2 Mitigation Measures

This section presents mitigation measures to address adverse impacts from the LPA on the transportation network.

3.5.2.1 Traffic Operations

This section identifies mitigation measures for the intersections with adverse impacts from the LPA, as identified in Section 3.4.1.2. The evaluation assumes the roadway project measures identified in Section 3.5.1 are part of the LPA. These measures include existing at-grade crossing improvements, traffic signal installations, lane modifications, and street closures to enhance the safety and traffic operations with the LPA in place. The intersections are evaluated with a structured assessment approach, and the evaluations are delineated by section because the impacts are specific to localized areas.

As described in Section 3.4.1.2, the LPA will result in adverse impacts at 19 intersections related to LOS and delays. With the mitigation measures described, 7 of the 19 intersections will be fully mitigated (i.e., no adverse effects will remain after mitigation).

Overview and Approach for Assessing Mitigation

For each intersection, potential mitigation measures, including strategies and improvement options, were identified and evaluated. The mitigation measures generally included three types of modifications:

- Signalizing intersections that are currently stop-controlled
- Adding lanes (right, through, and/or left)
- Extending turn bays (right or left)

In developing the mitigation options, consideration was given to the benefit of the mitigation (reducing delays); however, the potential for secondary impacts associated with implementation of the mitigation measure (typically ROW) was considered.

In certain scenarios, the mitigation options evaluated at one intersection could result in an effective mitigation or an additional impact at nearby intersections. For example, adding a turn lane to an intersection where the queues extend back to the upstream intersection will generally have a positive effect on both intersections. However, adding a through lane to one intersection may allow more traffic to pass through to a downstream intersection, thereby increasing delay and resulting in a potential impact.

Focused Assessment of Potential Mitigation Measures

Appendix A of the Transportation Impact Analysis Report provides a detailed description of the evaluation of potential mitigation options to address traffic operations impacts. The discussion is organized by geographic section using groups of intersections with cross-effects between intersections (upstream or downstream). Five groups of intersections and three individual intersections were assessed. These are described in the following subsections.

Intersections Nos. 31, 34, 35, 37, 40, 42, 43, and 45: This intersection group is located on Randolph Street near the Pacific/Randolph Station and includes eight intersections:

- No. 31 – Randolph Street and Alameda Street (West)
- No. 34 – Randolph Street and Albany Street
- No. 35 – Randolph Street and Santa Fe Avenue
- No. 37 – Randolph Street and Rugby Avenue
- No. 40 – Randolph Street and Pacific Boulevard
- No. 42 – Randolph Street and Seville Avenue
- No. 43 – Randolph Street and Miles Avenue
- No. 45 – Randolph Street and State Street

The LPA is projected to result in adverse effects on these intersections during one or both peak periods. With the LPA, the LRT will travel in the median of Randolph Street, passing through the listed intersections at-grade.

Multiple mitigation measures were considered, but many measures will require right-of-way acquisition and will have secondary impacts. A list of feasible mitigation measures was developed, as shown in Table 3-21.

Table 3-21. Mitigation Measures for Intersections Nos. 31, 34, 35, 37, 40, 42, 43, and 45

No	Intersection	Mitigation Description	Peak	No Build Delay/ LOS[a]	LPA Delay/LOS Without Mitigation[a]	LPA Delay/LOS With Mitigation[a]	Adverse Effect With Mitigation?[b]
31	Randolph Street/ Alameda Street (West)	TRA-11: Add northbound left-turn lane with 150-foot turn bay. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Huntington Park).	AM	49.9/D	129.1/F	77.8/E	**Yes**
			PM	60.8/E	192.2/F	71.1/E	**Yes**
34	Randolph Street/ Albany Street	TRA-10: Add northbound and southbound left-turn lane with 100-foot turn bays. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Huntington Park).	AM	18.2/C	99.8/F	98.5/F	**Yes**
			PM	17.0/C	68.7/E	64.7/E	**Yes**
35	Randolph Street/Santa Fe Avenue	No feasible mitigation options were identified.	AM	30.3/C	71.6/E	69.6/E	**Yes**
			PM	30.1/C	89.8/F	87.2/F	**Yes**
37	Randolph Street/Rugby Avenue	TRA-9: Add northbound and southbound left-turn lane with 100-foot turn bays. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Huntington Park).	AM	6.7/A	59.7/E	58.2/E	**Yes**
			PM	3.9/A	112.1/F	79.9/E	**Yes**

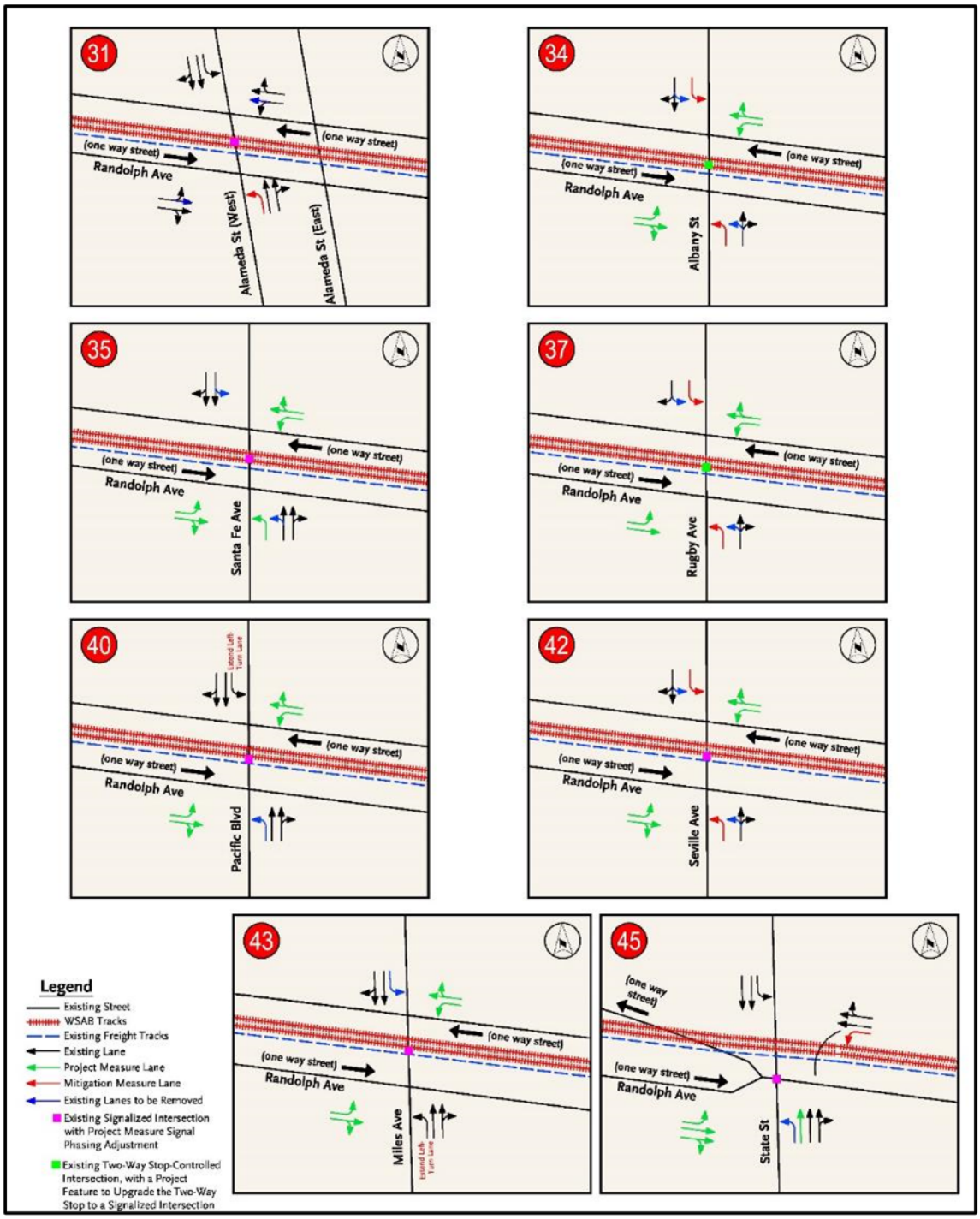
No	Intersection	Mitigation Description	Peak	No Build Delay/ LOS[a]	LPA Delay/LOS Without Mitigation[a]	LPA Delay/LOS With Mitigation[a]	Adverse Effect With Mitigation?[b]
40	Randolph Street/ Pacific Boulevard	TRA-8: Extend southbound left-turn lane to 150-foot turn bay. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Huntington Park).	AM	26.0/C	67.3/E	58.6/E	**Yes**
			PM	32.5/C	57.6/E	50.3/D	**Yes**
42	Randolph Street/ Seville Avenue	TRA-7: Add northbound and southbound left-turn lane with 150-foot left-turn bays. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Huntington Park).	AM	37.5/D	135.8/F	100.1/F	**Yes**
			PM	34.9/C	108.8/F	106.2/F	**Yes**
43	Randolph Street/Miles Avenue	TRA-6: Extend northbound left-turn lane to 150-foot turn bay. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Huntington Park).	AM	36.7/D	107.8/F	91.5/F	**Yes**
			PM	36.2/D	119.8/F	116.5/F	**Yes**
45	Randolph Street/State Street	TRA-5: Add a westbound left-turn lane with a 150-foot turn bay. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Huntington Park).	AM	43.6/D	212.2/F	128.8/F	**Yes**
			PM	19.4/B	130.9/F	73.7/E	**Yes**

Source: Metro 2024s
Notes: [a] This column shows the peak hour delay in seconds per vehicle, followed by the LOS.
[b] The cells highlighted in yellow with bold "Yes" text indicate that adverse effects still occur at the intersection after implementation of mitigation. The cells with "No" text indicate adverse effects from the LPA will be fully mitigated such that no adverse effect will remain after mitigation.
LOS = level-of-service; LPA = Locally Preferred Alternative

For intersection No. 35 (Randolph Street/Santa Fe Avenue), Mitigation Measure TRA-11 was identified in the Draft EIS/EIR. The measure, which proposed the addition of northbound and southbound left-turn bays, was discussed with the City of Huntington Park after circulation of the Draft EIS/EIR. The new northbound left-turn bay was recommended by the city and included as part of Project Measure TR PM-4. The second part of the previously proposed mitigation measure, to add a southbound left-turn bay, was deemed infeasible by the City of Huntington Park and therefore eliminated as part of the mitigation.

While delays related to the LPA will be reduced, impacts will remain after implementation of mitigation measures. Adding additional lanes or lane extensions without acquiring right-of-way will not provide substantial reduction in vehicle delay. Therefore, impacts will remain adverse after mitigation. Figure 3-12 illustrates the intersection lane configurations with the mitigation measures.

Figure 3-12. Intersection Nos. 31, 34, 35, 37, 40, 42, 43, and 45 Lane Configurations with Mitigation Measures



Source: Metro 2024s

Intersections Nos. 48 and 49: This intersection group is adjacent to the Gage Avenue crossing and includes intersections No. 48 – Gage Avenue and California Avenue and No. 49 – Gage Avenue and Salt Lake Avenue (West). The LPA is projected to result in adverse effects on these intersections during both peak periods. With the LPA, the LRT will travel through the at-grade crossing between the two intersections.

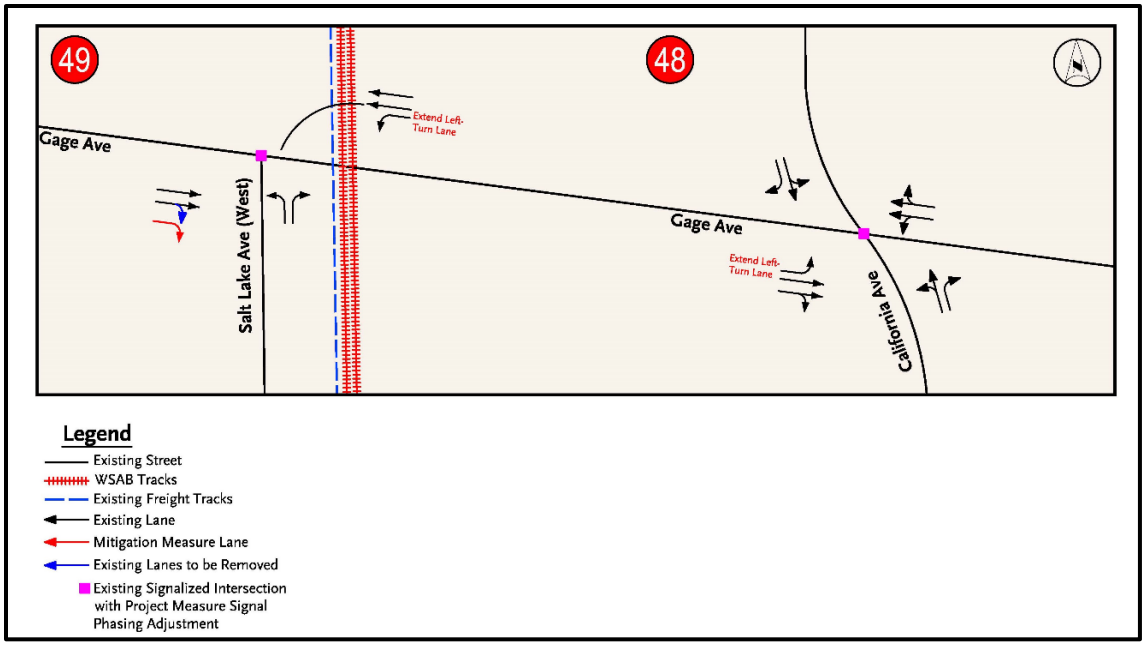
Multiple mitigation measures were considered, but many mitigation measures will require right-of-way acquisition and will have secondary impacts. A list of feasible mitigation measures was developed, as shown in Table 3-22. As shown, with implementation of mitigation, adverse effects will remain for both intersections during the AM and PM peak periods under the LPA. Figure 3-13 illustrates the intersection lane configurations with the mitigation measures.

Table 3-22. Mitigation Measures for Intersections Nos. 48 and 49

No	Intersection	Mitigation Description	Peak	No Build Delay/ LOS[a]	LPA Delay/LOS Without Mitigation[a]	LPA Delay/LOS With Mitigation[a]	Adverse Effect With Mitigation?[b]
48	Gage Avenue/ California Avenue	TRA-4: Extend eastbound left-turn lane with a 150-foot turn bay. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Bell).	AM	19.6/B	69.4/E	63.1/E	**Yes**
			PM	97.5/F	120.3/F	123.2/F	**Yes**
49	Gage Avenue/ Salt Lake Avenue (West)	TRA-3: Add eastbound right-turn lane with a 250-foot turn bay. Extend westbound left-turn lane with a 225-foot turn bay. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Bell).	AM	16.3/B	64.9/E	33.8/C	**Yes**
			PM	34.2/C	114.4/F	100.9/F	**Yes**

Source: Metro 2024s
Notes: [a] This column shows the peak hour delay in seconds per vehicle, followed by the LOS.
[b] The cells highlighted in yellow with bold "Yes" text indicate that adverse effects still occur at the intersection after implementation of mitigation.
LOS = level-of-service; LPA = Locally Preferred Alternative

Figure 3-13. Intersection Nos. 48 and 49 Lane Configurations with Mitigation Measures



Source: Metro 2024s

While the projected delays are reduced, adverse effects will remain after implementation of the mitigation measures. Adding additional lanes or lane extensions will not provide substantial reduction in vehicle delay without acquiring right-of-way. Therefore, adverse effects will remain after mitigation.

Intersection No. 51: This intersection is located west of the Bell Avenue crossing. The LPA is projected to result in adverse effects at this intersection during the PM peak period. Under the LPA, the LRT will travel through the at-grade crossing to the east of the intersection, and there will be additional traffic volumes associated with the projected kiss-and-ride peak hour trips from the Florence/Salt Lake Station traveling through the intersection.

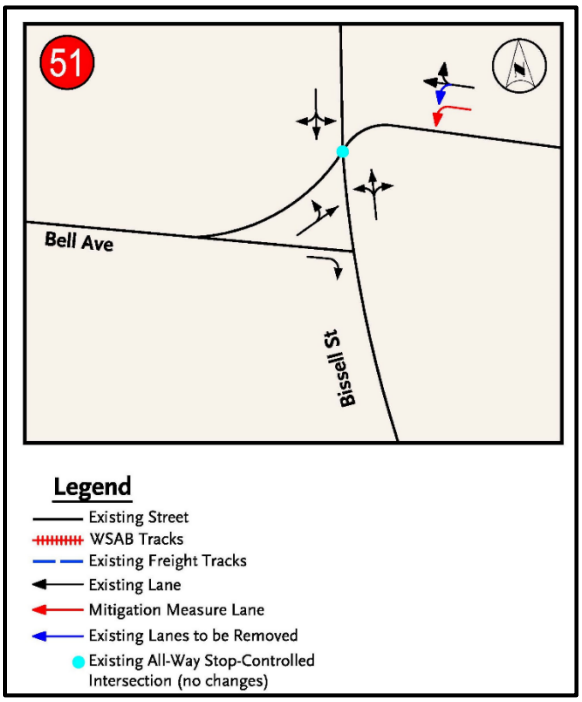
A mitigation measure, which eliminate the adverse impacts, is shown in Table 3-23. Additionally, no right-of-way acquisitions associated with these mitigation measures are anticipated because they can be accommodated within the existing right-of-way. Figure 3-14 illustrates the intersection lane configurations with the mitigation measures.

Table 3-23. Mitigation Measures for Intersection No. 51

No	Intersection	Mitigation Description	Peak	No Build Delay/ LOS[a]	LPA Delay/LOS Without Mitigation[a]	LPA Delay/ LOS With Mitigation[a]	Adverse Effect With Mitigation?[b]
51	Bell Avenue/ Bissell Street	TRA-2: Add a westbound left-turn lane. Convert westbound left-through-right lane into a through-right lane. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Bell).	AM	5.3/A	13.9/B	6.8/A	No
			PM	5.7/A	22.5/C	9.6/A	No

Source: Metro 2024s
Notes: [a] This column shows the peak hour delay in seconds per vehicle, followed by the LOS.
[b] The cells with "No" text indicate adverse effects from the LPA will be fully mitigated such that no adverse effect will remain after mitigation.
LOS = level-of-service; LPA = Locally Preferred Alternative

Figure 3-14. Intersection No. 51 Lane Configuration with Mitigation Measures



Source: Metro 2024s

Intersections Nos. 53 and 54: This group of intersections is located north of the Florence/Salt Lake Station and includes intersections No. 53 – Florence Avenue and California Avenue (West) and No. 54 – Florence Avenue and California Avenue (East). The LPA is projected to result in adverse effects on these intersections during one or both peak periods. With the LPA, the LRT will travel through the at-grade crossing between the two intersections, and there will be additional traffic volumes associated with the projected kiss-and-ride peak hour trips at the Florence/Salt Lake Station.

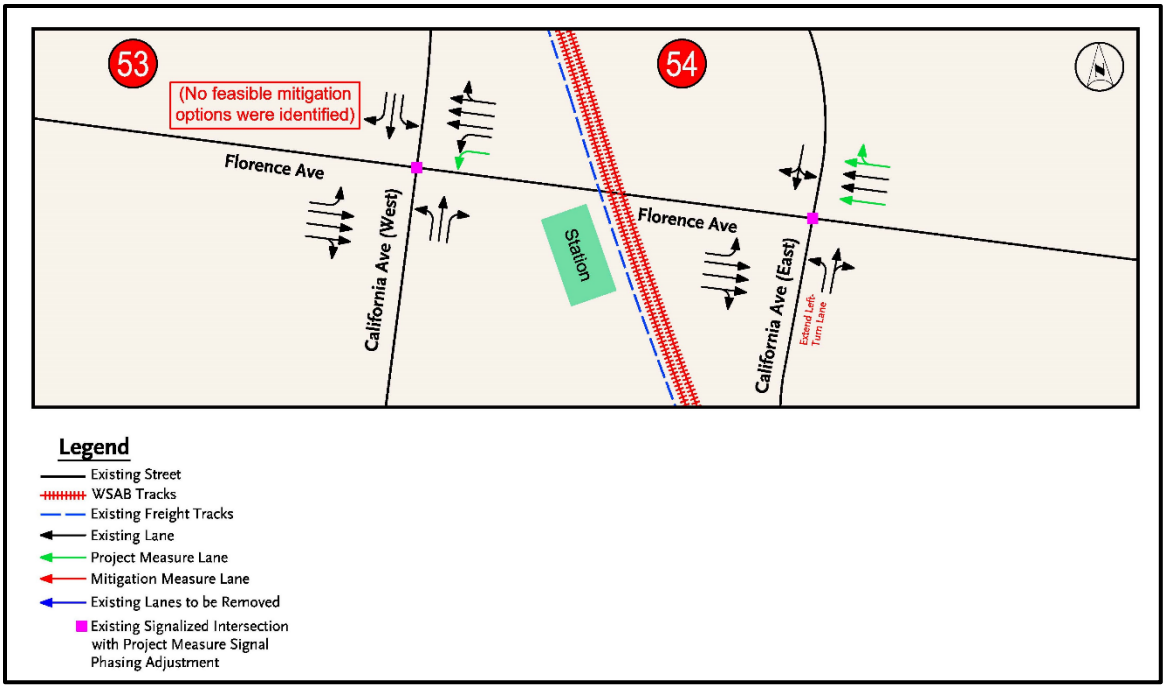
After detailed evaluation, no feasible mitigation was developed for No. 53 – Florence Avenue and California Avenue (West), and one feasible mitigation option was identified for No. 54 – Florence Avenue and California Avenue (East), as summarized in Table 3-24. As shown, impacts will remain at both intersections during one or both peak periods. Adding additional lanes or lane extensions will not provide substantial reduction in vehicle delay without acquiring right-of-way. Therefore, these impacts will be unmitigable and an adverse effect will remain. Figure 3-15 illustrates the intersection lane configurations with the mitigation measures.

Table 3-24. Mitigation Measures for Intersections Nos. 53 and 54

No	Intersection	Mitigation Description	Peak	No Build Delay/ LOS[a]	LPA Delay/ LOS Without Mitigation[a]	LPA Delay/ LOS With Mitigation[a]	Adverse Effect With Mitigation?[b]
53	Florence Avenue/ California Avenue (West)	No feasible mitigation options were identified.	AM	37.1/D	103.2/F	101.7/F	**Yes**
			PM	42.3/D	80.8/F	50.3/D	**Yes**
54	Florence Avenue/ California Avenue (East)	TRA-1: Extend the northbound left-turn lane to 300 feet. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Huntington Park).	AM	65.2/E	143.2/F	142.3/F	**Yes**
			PM	44.3/D	31.4/C	31.8/C	No

Source: Metro 2024s
Notes: [a] This column shows the peak hour delay in seconds per vehicle, followed by the LOS.
[b] The cells highlighted in yellow with bold "Yes" text indicate that adverse effects still occur at the intersection after implementation of mitigation. The cells with "No" text indicate adverse effects from the LPA will be fully mitigated such that no adverse effect will remain after mitigation.
LOS = level-of-service; LPA = Locally Preferred Alternative

Figure 3-15. Intersection Nos. 53 and 54 Lane Configurations with Mitigation Measures



Source: Metro 2024s

Intersections Nos. 68 and 70: This intersection group is located adjacent to the Gardendale Street crossing and includes intersections No. 68 – Gardendale Street and Center Street and No. 70 – Gardendale Street and Industrial Avenue. The LPA is projected to result in adverse effects on these intersections during both peak periods. With the LPA, the LRT will travel through the at-grade crossing between the two intersections, and there will be additional traffic volumes associated with the projected park-and-ride and kiss-and-ride peak hour trips traveling through the intersection.

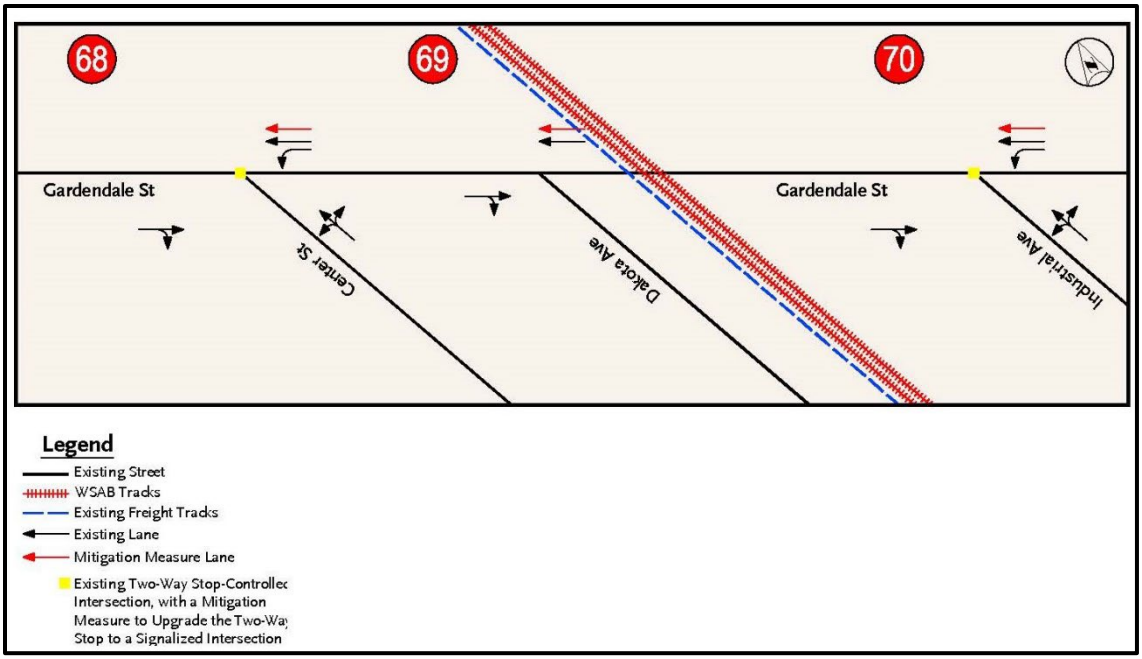
A set of mitigation measures, which will eliminate the anticipated adverse impacts, are summarized in Table 3-25. As shown, adverse effects will be fully mitigated. No substantial right-of-way impacts are anticipated. Figure 3-16 illustrates the intersection lane configurations with the mitigation measures.

Table 3-25. Mitigation Measures for Intersections Nos. 68 and 70

No	Intersection	Mitigation Description	Peak	No Build Delay/ LOS[a]	LPA Delay/LOS Without Mitigation[a]	LPA Delay/ LOS With Mitigation[a]	Adverse Effect With Mitigation?[b]
68	Gardendale Street/ Center Street	TRA-12: Convert the two-way stop-controlled intersection to a signalized intersection. Add a westbound through lane. Metro will implement this measure subject to approval of the applicable jurisdiction (City of South Gate and City of Downey).	AM	23.5/C	48.8/E	7.8/A	No
			PM	17.2/C	41.0/E	15.6/B	No
70	Gardendale Street/ Industrial Avenue	TRA-13: Convert the two-way stop-controlled intersection to a signalized intersection. Add a westbound through lane, the length of which will continue through the grade crossing. Metro will implement this measure subject to approval of the applicable jurisdiction (City of South Gate and City of Downey).	AM	75.5/F	594.2/F	4.0/A	No
			PM	28.9/D	50.9/F	5.9/A	No

Source: Metro 2024s
Notes: [a] This column shows the peak hour delay in seconds per vehicle, followed by the LOS.
[b] The cells with "No" text indicate adverse effects from the LPA will be fully mitigated such that no adverse effect will remain after mitigation.
LOS = level-of-service; LPA = Locally Preferred Alternative

Figure 3-16. Intersection Nos. 68 and 70 Lane Configurations with Mitigation Measures



Source: Metro 2024s

Intersections Nos. 81 and 82: This intersection group is located adjacent to the Alondra Boulevard and Clark Avenue crossings and includes intersections No. 81 – Flora Vista Street and Clark Avenue, and No. 82 – Alondra Boulevard and Clark Avenue. The LPA is projected to result in adverse effects on these intersections during both peak periods. With the LPA, the LRT will travel through the at-grade crossing between the intersections, and there will be additional traffic volumes associated with the projected park-and-ride and kiss-and-ride peak hour trips traveling through the area.

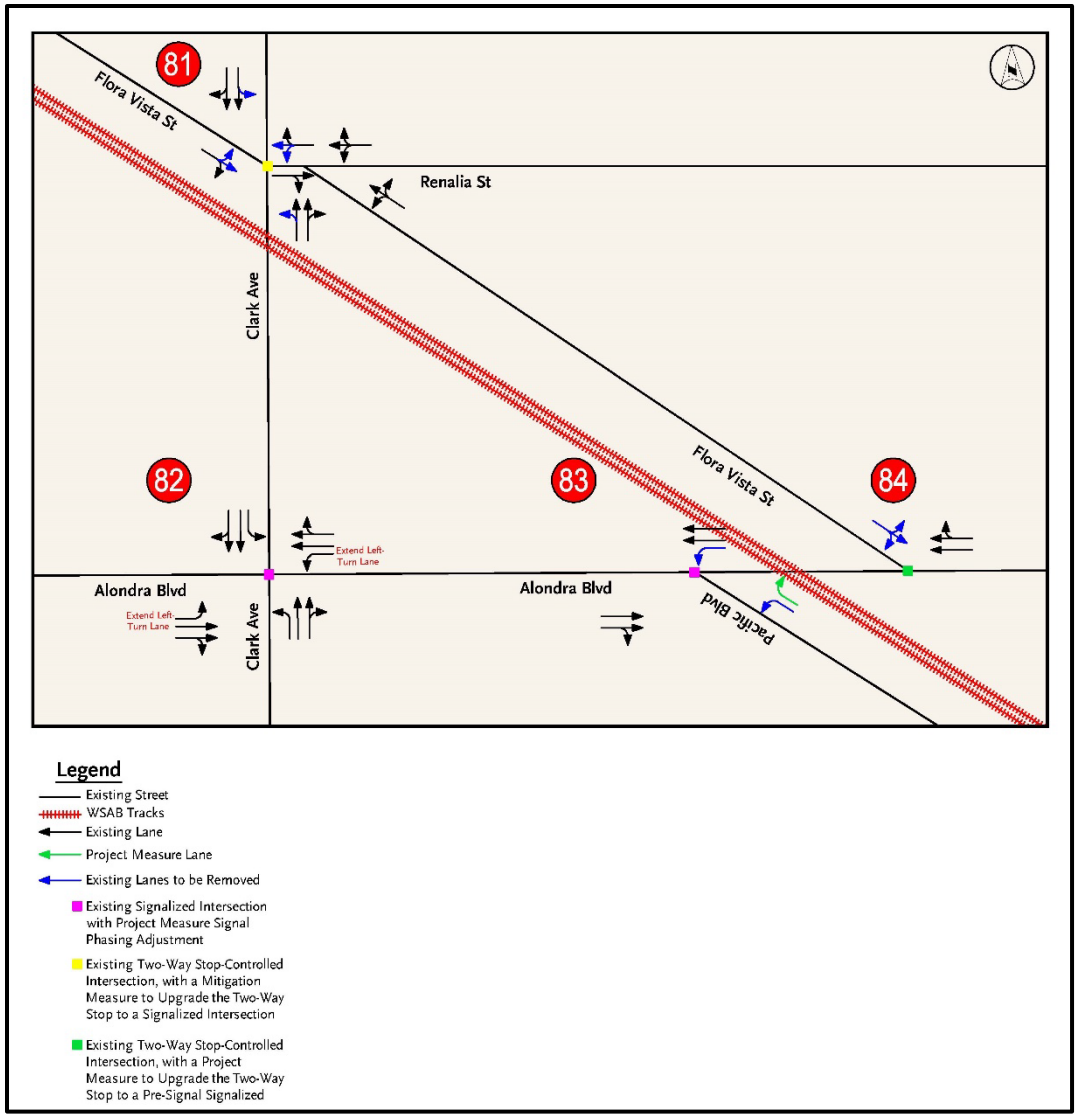
A set of mitigation measures, which will address impacts, is summarized in Table 3-26. As shown, adverse effects will be fully mitigated such that no adverse effect will remain after mitigation. No right-of-way impacts are anticipated because mitigation can be accommodated within the existing right-of-way. Figure 3-17 illustrates the intersection lane configurations with the mitigation measures.

Table 3-26. Mitigation Measures for Intersections Nos. 81 and 82

No	Intersection	Mitigation Description	Peak	No Build Delay/ LOS[a]	LPA Delay/ LOS Without Mitigation[a]	LPA Delay/ LOS With Mitigation[a]	Adverse Effect With Mitigation?[b]
81	Flora Vista Street/ Clark Avenue	TRA-14: Convert the two-way stop-controlled intersection to a signalized intersection. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Bellflower).	AM	7.6/A	172.1/F	10.1/B	No
			PM	22.4/C	389.0/F	12.3/B	No
82	Alondra Boulevard/ Clark Avenue	TRA-15: Extend eastbound left-turn lane to 150 feet. Extend westbound left-turn lane to 200 feet. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Bellflower).	AM	46.2/D	61.1/E	46.1/D	No
			PM	69.3/E	83.3/F	49.7/D	No

Source: Metro 2024s
Notes: [a] This column shows the peak hour delay in seconds per vehicle, followed by the LOS.
[b] The cells with "No" text indicate adverse effects from the LPA will be fully mitigated such that no adverse effect will remain after mitigation.
LOS = level-of-service; LPA = Locally Preferred Alternative

Figure 3-17. Intersection Nos. 81 and 82 Lane Configurations with Mitigation Measures



Source: Metro 2024s

Intersection No. 89: Intersection No. 89 – Artesia Boulevard and Dumont Avenue is located adjacent to the Artesia crossing and was analyzed independently because there are no other existing intersections nearby. The LPA is projected to result in adverse effects on these intersections during both peak periods. With the LPA, the LRT will travel through the at-grade crossing east of the intersection.

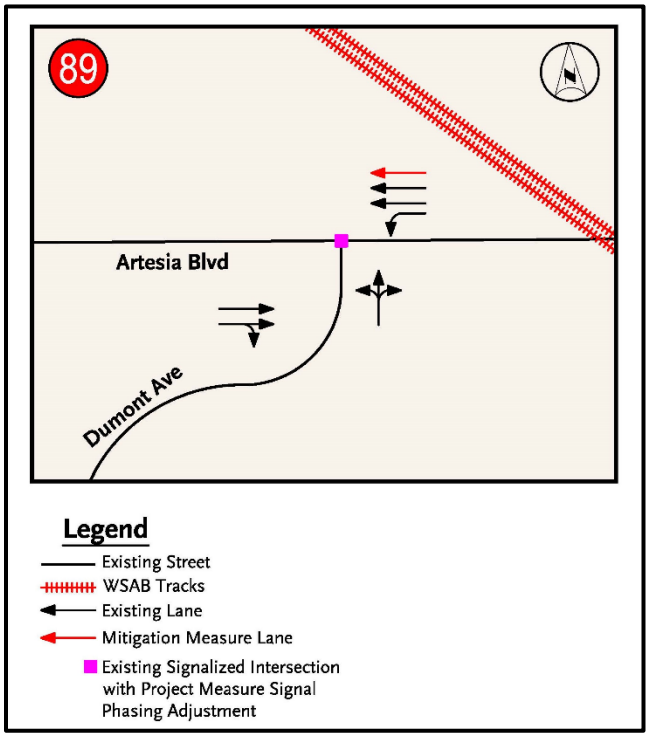
A mitigation measure, which will address the projected adverse impacts, is summarized in Table 3-27. As shown, adverse effects will be fully mitigated such that no adverse effect will remain after mitigation. Minimal right-of-way impacts are anticipated. The necessary right-of-way acquisition will include property on Artesia Boulevard west of Dumont Avenue, but these acquisitions will be limited to the existing landscaping areas along this street. Figure 3-18 illustrates the intersection lane configurations with the mitigation measures.

Table 3-27. Mitigation Measure for Intersection No. 89

No	Intersection	Mitigation Description	Peak	No Build Delay/ LOS[a]	LPA Delay/ LOS Without Mitigation[a]	LPA Delay/ LOS with Mitigation[a,]	Adverse Effect With Mitigation?[b]
89	Artesia Boulevard/ Dumont Avenue	TRA-16: Add westbound through lane. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Cerritos).	AM	14.7/B	24.2/C	15.9/B	No
			PM	21.6/C	58.2/E	26.4/C	No

Source: Metro 2024s
Notes: [a] This column shows the peak hour delay in seconds per vehicle, followed by the LOS.
[b] The cells with "No" text indicate adverse effects from the LPA will be fully mitigated such that no adverse effect will remain after mitigation.
LOS = level-of-service; LPA = Locally Preferred Alternative

Figure 3-18. Intersection No. 89 Lane Configuration with Mitigation Measures



Source: Metro 2024s

Intersection No. 91: Intersection No. 91 – Business Circle and Studebaker Road is adjacent to the Studebaker crossing and was analyzed independently because there are no other existing intersections nearby. The LPA is projected to result in adverse effects on this intersection during the PM peak period. With the LPA, the LRT will travel through the at-grade crossing south of the intersection.

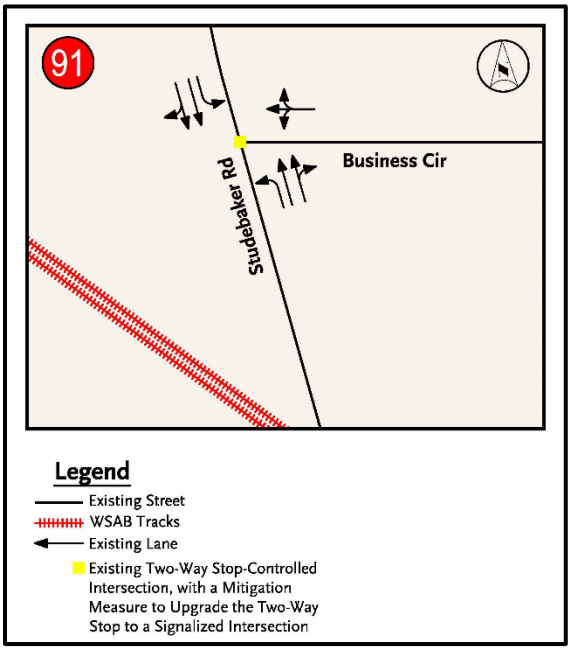
A mitigation measure, which will address the projected adverse impacts, is summarized in Table 3-28. As shown, adverse effects will be fully mitigated such that no adverse effect will remain after mitigation. No right-of-way impacts are anticipated because the mitigation measure can be accommodated within the existing right-of-way. Figure 3-19 illustrates the intersection lane configurations with the mitigation measures.

Table 3-28. Mitigation Measure for Intersection No. 91

No	Intersection	Mitigation Description	Peak	No Build Delay/ LOS[a]	LPA Delay/ LOS Without Mitigation[a]	LPA Delay/ LOS With Mitigation[a,]	Adverse Effect With Mitigation?[b]
91	Business Circle/ Studebaker Road	TRA 17: Convert the two-way stop-controlled intersection to a signalized intersection. Metro will implement this measure subject to approval of the applicable jurisdiction (City of Cerritos).	AM	8.4/A	3.3/A	6.3/A	No
			PM	8.0/A	15.3/C	8.9/A	No

Source: Metro 2024s
Notes: [a] This column shows the peak hour delay in seconds per vehicle, followed by the LOS.
[b] The cells with "No" text indicate adverse effects from the LPA will be fully mitigated such that no adverse effect will remain after mitigation.
LOS = level-of-service; LPA = Locally Preferred Alternative

Figure 3-19. Intersection No. 91



Source: Metro 2024s

Conclusion

With mitigation, adverse effects will be fully mitigated in both peak periods at 7 intersections, and adverse impacts will remain at 12 intersections in one or both peak periods during operation of the LPA with or without the design option.

3.5.2.2 Transit Conditions

As described in Section 3.4.2.2, the LPA with or without the design option will be beneficial to transit conditions in the Study Area as increased levels of transit service will be provided by a new LRT line. No substantial impacts have been identified, so no adverse effects will result, and mitigation measures are not required.

Impacts to traffic operations, described in Section 3.4.1.2, have the potential to delay bus service and increase unreliability. While these impacts from traffic operations will affect bus operations, they will not result in adverse effects because the change in delays would be minimal and local bus service schedules are continually reviewed and adjusted by regional and local transit agencies.

3.5.2.3 Active Transportation

The LPA will affect existing and planned bicycle and pedestrian facilities at several locations. In addition, the new transit service provided by the LPA will increase demand for bicycle and pedestrian facilities. However, certain bike and pedestrian facilities will be improved as part of the LPA. No adverse effects on these facilities are anticipated, and thus, no mitigation measures will be required.

To accommodate the track alignment, the LPA will require the removal of an approximately 930-foot-long segment of the existing Paramount Bike Trail between Somerset Boulevard and Lakewood Boulevard. As part of Mitigation Measure LU-1 (Consistency with Bike Plans), described in Section 4.1.4 of the Land Use Section, this segment of the existing bike trail will be realigned to the northern side of the PEROW.

East of Bellflower Boulevard, the Bellflower Bike Trail will be realigned to the south side of the PEROW to accommodate an existing historic building located near the southeast corner of Bellflower Boulevard and the PEROW. The realigned bike trail will then match the existing bike trail east of the historic building near Bellflower Boulevard. As part of Mitigation Measure LU-1 (Consistency with Bike Plans), this segment of the existing bike trail will be realigned.

With mitigation, there will not be adverse impacts to active transportation facilities for the LPA with or without the design option.

3.5.2.4 Parking

Section 3.4.4.2 describes the expected parking impacts associated with the LPA. Parking impacts are associated with additional demand at new stations and the permanent loss of parking from stations, the LPA alignment, and other project components that support the LPA.

The LPA will result in the permanent loss of approximately 545 existing parking spaces (approximately 450 on-street and 95 off-street spaces) and the addition of approximately 2,800 new dedicated transit parking spaces throughout the Affected Area for parking. Mitigation Measures TRA-19 (Parking Monitoring and Community Outreach) and TRA-20 (Parking Mitigation Program [Permanent]) will be implemented to reduce the effects from parking demand forecasted at the new stations and the loss of on- and off-street parking spaces, respectively.

TRA-19: Parking Monitoring and Community Outreach

- Within the one-half-mile area surrounding each project station, an assessment would be conducted to monitor on-street and off-street parking activity resulting from project operation. The assessment would compare parking availability prior to the opening of service to the availability six months following the opening of service. Surveys will be conducted at each station area to identify where WSAB parking demand is at least 20 percent greater than the demand before opening of service (i.e., the new transit service has increased parking demand by 20 percent or more).
- Metro will work with the appropriate local jurisdiction, business owners, and affected communities for that station area to assess the need for an appropriate on- and off-street parking management program, considering the nearby community's and each proposed station's parking needs.
- Specific parking management strategies could include restriping, modifying parking restrictions, and adjusting the time limits for on-street parking. For off-street parking, signing and enforcement services could be included.
- Another element could include implementing or enhancing a residential permit parking program for the affected neighborhoods. Metro would coordinate with and support jurisdictions in outreach meetings within the affected communities to gauge the interest of residents participating in a residential permit parking program (prior to the opening of the new light rail service), regardless of whether parking shortages have been identified.
- Metro may implement a parking fee at the transit parking facilities, consistent with the Supportive Transit Parking Program Master Plan.

TRA-20: Parking Mitigation Program (Permanent)

Metro will coordinate with local jurisdictions to address the physical loss of public parking spaces resulting from implementation of the Locally Preferred Alternative. This could include, but not be limited to, restriping the existing street to allow for diagonal parking, reducing the number of restricted parking areas, utilizing remnants of parcels acquired for the Project as off-street parking, and adjusting the time limits for on-street parking.

Implementation of TRA-19 (Parking Monitoring and Community Outreach) and TRA-20 (Parking Mitigation Program [Permanent]) will reduce parking impacts and also provide indirect mitigation for the loss of off-street parking by allowing additional on-street parking where appropriate and feasible. The timing of implementation for TRA-19 is noted in the mitigation measure; TRA-20 will be implemented prior to the start of service on the LPA. This timing will ensure that the parking, social, and economic conditions at that time are considered when identifying the most appropriate parking strategies to implement. Adverse effects will be reduced with implementation of these measures; however, adverse effects may remain.

3.6 California Environmental Quality Act Determination

3.6.1 Threshold TRA-1: Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

3.6.1.1 No Project Alternative

Under the No Project Alternative, the LPA would not be introduced, and no changes would occur to the existing conditions within the Affected Area for operation of transit, roadway, bicycle, and pedestrian facilities. Therefore, conflicts with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system would not occur; impacts would be less than significant, and mitigation would not be required.

3.6.1.2 Locally Preferred Alternative

Regionally, the LPA comprises 1 of the 17 transit projects funded by Measure R, a one-half cent sales tax approved by LA County voters in November 2008, and Measure M, an extension of Measure R and an additional one-half cent sales tax approved by voters in November 2016. The Project is identified in the LRTP (Metro 2009a). The LPA will provide expanded transit service through a new LRT line consistent with adopted policies, plans, and programs related to public transit.

Table 3-29 summarizes an evaluation of general plans or transportation and traffic study guidelines for 15 cities, as well as Metro and LA County within the Study Area. As shown, the LPA will be consistent with plans, ordinances, and policies addressing the circulation system for transit, roadway, bicycle, and pedestrian facilities.

In select locations, the LPA will include physical changes to local streets. Modifications will vary along the LPA and will include new train at-grade crossings, modified access near grade separations, new driveways to provide access to parking and stations, realignment of existing bike facilities, modification of existing pedestrian crossings, elimination of left-turn movements (including for trucks), and realignment of local streets. These modifications have been identified to improve operations and safety for drivers, bicyclists, and pedestrians. The location and nature of the modifications are consistent with the programs, plans, ordinances, and policies of the affected jurisdictions, as summarized in Table 3-29.

Additionally, implementation of the LPA will not preclude construction of a roadway project identified in approved plans. The new project elements (e.g., tracks, stations, and supporting infrastructure) will be designed consistent with Metro Rail Design Criteria or equivalent criteria[3] and with the local city General Plan Circulation Elements (e.g., City of Bellflower Circulation Element, Section 6.3 – Goal 3: Provide residents and business occupants in the City of Bellflower with a convenient and viable public transportation system).

[3] Flexibility for the development of other performance criteria, perhaps in support of a Public-Private Partnership procurement, is provided. The ultimate criteria used will achieve the same performance standards as those established in the Metro guidance.

Table 3-29. LPA Consistency with Circulation System Policy, by Study Area Jurisdiction

No.	City/Agency	Circulation System				Source
		Transit	Roadway*	Bicycle	Pedestrian	
1	Los Angeles	Yes	Yes	Yes	Yes	*Transportation Impact Study Guidelines* (LADOT 2016)
2	Vernon	Yes	Yes	Yes	Yes	*General Plan* (City of Vernon 2015)
3	Huntington Park	Yes	Yes	Yes	Yes	*General Plan* (City of Huntington Park 1991)
4	Maywood	Yes	Yes	Yes	Yes	*General Plan* (City of Maywood no date)
5	Bell	Yes	Yes	Yes	Yes	*General Plan* (City of Bell 1996)
6	Cudahy	Yes	Yes	Yes	Yes	*General Plan* (City of Cudahy 2016)
7	South Gate	Yes	Yes	Yes	Yes	*General Plan* (City of South Gate 2009)
8	Bell Gardens	Yes	Yes	Yes	Yes	*General Plan* (City of Bell Gardens 2016)
9	Lynwood	Yes	Yes	Yes	Yes	*General Plan* (City of Lynwood 2003)
10	Downey	Yes	Yes	Yes	Yes	*General Plan* (City of Downey 2005)
11	Paramount	Yes	Yes	Yes	Yes	*General Plan* (City of Paramount 2007)
12	Bellflower	Yes	Yes	Yes	Yes	*General Plan* (City of Bellflower 1997)
13	Lakewood	Yes	Yes	Yes	Yes	*General Plan* (City of Lakewood 2009)
14	Artesia	Yes	Yes	Yes	Yes	*General Plan* (City of Artesia 2010)
15	Cerritos	Yes	Yes	Yes	Yes	*General Plan* (City of Cerritos 2004)
16	Metro Congestion Management Program	Yes	Yes	Yes	Yes	*Congestion Management Program* (Metro 2010e)
17	LA County	Yes	Yes	Yes	Yes	*Traffic Impact Analysis Report Guidelines* (LA County 1997)

Source: Metro 2024s
Notes: * LOS was not considered when determining environmental impacts.
LA = Los Angeles; LADOT = Los Angeles Department of Transportation; LOS = level-of-service

The LPA will improve transit service and accessibility, which is a broad goal of most plans. Because the LPA will operate in an exclusive right-of-way, travel times with the LRT will be shorter than existing transit service in the corridor. Reliability will also improve. Existing transit services in the Study Area include Metro Rail (six lines), Metrolink (three lines), Metro Rapid (six routes), Metro Express (two routes), shuttle bus (two routes), local bus (nine routes), municipal operators (seven routes), and local operators. For all of these transit services, there is the potential for positive and negative changes to individual routes and stops/stations. New service on the LPA will shift transit riders away from some services but could also increase ridership on feeder routes and on transit service in general.

Changes to active transportation (pedestrians and bicyclists) facilities will occur where the LPA will remove or limit the functionality of a bike facility or sidewalk. At locations where at-grade crossings will be closed, the sidewalks will also be removed as they will no longer be required. However, the closures will not interfere with pedestrian and bicycle access because pedestrians and bicyclists will be able to access open at-grade crossings using the next cross street with crosswalks within one to two blocks. Where the LPA will encroach on existing bike facilities or sidewalks, such as the Paramount Bike Trail and Bellflower Bike Trail, Mitigation Measure LU-1 (Consistency with Bike Plans), described in Section 4.1.4 of the Land Use Section, will require realignment of these segments so the overall function will be maintained and operational, and there will not be permanent significant impacts.

The LPA could also preempt the future development and implementation of several proposed bicycle paths, including the Class I bicycle path along Salt Lake Avenue (Cities of Huntington Park, Bell, and Cudahy) and Class I bicycle path north of Rayo Avenue and south of the Los Angeles River (City of South Gate). However, while planned, the bike facilities are unfunded and not scheduled for implementation. As further discussed in Section 4.1.3.2 of the Land Use Section and Section 4.16.3.2 of the Parklands and Community Facilities Section, sufficient space will be available to develop a Class II or Class III bicycle path along the street, which will maintain the connectivity identified in the bicycle master plans. However, the reclassification of the bike paths is considered a conflict with the current bike plans and a significant impact will occur.

Section 4.18.3.2 of the Safety and Security Section addresses pedestrian and bicycle safety at individual station locations near the alignment and at-grade crossings. Potential conflicts have been identified, and measures to address safety are provided. The net effect is that the bicycle system with the LPA will generally be the same as with the No Project Alternative. Additional sidewalks and bicycle facilities will provide a beneficial impact, both for active transportation users accessing the stations and the broader community.

The LPA design will also comply with ADA requirements. The LPA will improve nonmotorized/active transportation facilities by replacing and upgrading the existing ones removed during construction and confirming those facilities (crosswalks, sidewalks, paths, and mid-block crossings) are retained and/or replaced to meet the required continuity and performance.

Under Mitigation Measure LU-1 (Consistency with Bike Plans) described in Section 4.1.4 of the Land Use Section, Metro will continue coordination efforts with jurisdictions and local agencies to minimize potential impacts on the future implementation of the planned bike trails identified in their bicycle master plans. As part of this effort, Metro, as appropriate, will support preparation of amended language for each affected bicycle plan demonstrating that

planned bicycle facilities could still achieve an individual city's mobility and connectivity goals. However, because the process to amend bike plans is a local process, including public participation, the ultimate outcome and resolution of plan elements cannot be predicted. As such, despite Metro's best efforts and coordination and with implementation of mitigation, the LPA may still conflict with bicycle master plans. Therefore, even with implementation of mitigation, the LPA will result in a significant and unavoidable impact.

Mitigation Measures: Mitigation Measure LU-1 (Consistency with Bike Plans)

Impacts Remaining after Mitigation: Significant and unavoidable for active transportation.

3.6.1.3 Design Option: Close 186th Street

The impact analysis described in Section 3.6.1.2 applies to the LPA with the design option. The design option would close 186th Street and introduce an at-grade crossing at 187th Street. The location and nature of the physical changes to local streets are consistent with the programs, plans, ordinances, and policies of the affected jurisdictions. The LPA with the design option would have similar proposed improvements to the public transit system as the LPA without the design option. Therefore, less than significant impacts would occur for traffic and transit. The LPA with the design option would have similar potential impacts to the future implementation of the planned bike trails identified in bicycle master plans as the LPA without the design option.

Mitigation Measures: Mitigation Measure LU-1 (Consistency with Bike Plans)

Impacts Remaining after Mitigation: Significant and unavoidable for active transportation.

3.6.1.4 Maintenance and Storage Facility

The impact analysis described for the LPA in Section 3.6.1.2 also applies to the MSF.

The Bellflower Bike Trail segment from Lakewood Boulevard south to Clark Avenue is located within the PEROW and south of the MSF. This segment of the PEROW will not have sufficient room to accommodate the MSF lead tracks, LRT tracks, and operate the Bellflower Bike Trail safely. Realignment in this segment of the Bellflower Bike Trail will be required to maintain connectivity with the Paramount Bike Trail west of Lakewood Boulevard and the other segments of the Bellflower Bike Trail, although realignment will not be required near the MSF.

The realignment of the segment of the Bellflower Bike Trail located within the PEROW may preempt future development and implementation of the Bellflower Bike Trail to the west of the MSF. Implementation of Mitigation Measure LU-1 (Consistency with Bike Plans) will be effective to demonstrate that modifications to the bicycle facilities will maintain continuity with other segments of the Paramount Bike Trail and Bellflower Bike Trail. The MSF will not result in inconsistencies with the *Bellflower-Paramount Active Transportation Plan*. Therefore, less than significant impacts will occur with mitigation.

Mitigation Measures: Mitigation Measure LU-1 (Consistency with Bike Plans)

Impacts Remaining after Mitigation: Less than significant impact.

3.6.2 Threshold TRA-2: Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Section 15064.3(b) addresses both land use and transportation projects, and broadly describes the methodology (including the potential for qualitative analysis used to assess VMT). The overall guidance for transportation projects is that they will have a less than significant project impact if they reduce VMT. Agencies are given "broad discretion" to select the methodology for analysis, or even apply a qualitative approach. The assessment for this CEQA requirement is focused on the projected change in VMT with the Project.

3.6.2.1 No Project Alternative

Under the No Project Alternative, the LPA would not be introduced and there would be no change to the existing conditions within the Affected Area for traffic operations. Therefore, the change in VMT associated with implementation of the LPA would not occur, no significant impacts are projected, and no mitigation is required.

3.6.2.2 Locally Preferred Alternative

Using the Metro Travel Demand Model, VMT was assessed for the LPA. The six-county SCAG region was used as the basis for the geographic evaluation of VMT. Table 3-30 is a summary of the VMT for the LPA (assuming operation in 2017) compared to existing condition. Regionally, the VMT for the LPA is approximately 463.1 million VMT per day. The LPA will reduce VMT by approximately 0.02 percent.

Table 3-30. Existing and LPA Daily Vehicle Miles Traveled (2017)

Alternative	Daily Regional VMT	Reduction (over Existing) in VMT (Miles)	Reduction
Existing	463,245,800	-	-
LPA	463,174,000	71,800	-0.02%

Source: Metro 2021b
Notes: LPA = Locally Preferred Alternative; VMT = vehicle miles traveled

Table 3-31 is a summary of the daily regional VMT measure for the LPA compared to the No Build Alternative for 2042. As shown, the LPA will decrease VMT by approximately 0.02 percent compared to the No Build Alternative.

Table 3-31. No Build and LPA Daily Vehicle Miles Traveled (2042)

Alternative	Daily Regional VMT	Reduction (over No Build) in VMT (Miles)	Reduction
No Build	606,329,900	-	-
LPA	606,199,000	130,900	-0.02%

Source: Metro 2021b
Notes: LPA = Locally Preferred Alternative; VMT = vehicle miles traveled

The LPA will have a less than significant impact because implementation of the LPA will result in a decrease in VMT under both the existing and horizon year scenarios, and mitigation will not be required. This conclusion is reinforced by guidance published by the OPR in December 2018. CEQA Guidelines Section 15064.3(b)(2) provides that

"[t]ransportation projects that reduce, or have no impact on, [VMT] should be presumed to cause a less-than-significant transportation impact." Similarly, the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR 2018) notes that "transit and active transportation projects generally reduce VMT and therefore are presumed to cause a less-than-significant impact on transportation." Therefore, mitigation is not required.

3.6.2.3 Design Option: Close 186th Street

The impact analysis described in Section 3.6.2.2 also applies to the LPA with the design option. VMT reductions for the LPA with the design option would be similar to those projected for the LPA without the design option. Therefore, the less than significant impact determination described in Section 3.6.2.2 would also apply to the LPA with the design option.

3.6.2.4 Maintenance and Storage Facility

The MSF will generate 23 and 26 vehicular trips from workers during the AM and PM peak hours, respectively, which will increase VMT locally. However, the MSF is a component of the LPA, which will decrease regional daily VMT by 130,900 miles. Because implementation of the LPA and the MSF will result in an overall reduction in regional VMT, there will be a less than significant impact, and mitigation will not be required.

3.6.3 Threshold TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

3.6.3.1 No Project Alternative

Under the No Project Alternative, the LPA would not be introduced and there would be no change to the existing conditions within the Affected Area for traffic operations. Therefore, there would be no change in hazards, and mitigation would not be required.

3.6.3.2 Locally Preferred Alternative

As described in Section 4.18.3.2 of the Safety and Security Section, the primary new safety hazard for pedestrians, bicyclists, and vehicular traffic will be the locations where the LPA will cross streets at-grade. This impact will be addressed through features of the light rail vehicle, such as audible warning devices to alert pedestrians, bicyclists, and vehicular traffic that a light rail vehicle is approaching. Additionally, design of the at-grade crossings will comply with federal and state regulations. Design of the crossings will incorporate safety measures, such as crossing gates, and comply with regulatory requirements, including those established by the California Public Utilities Commission. Design will also be consistent with Metro Rail Design Criteria, and the at-grade crossings will be operated in accordance with Metro system safety plans, policies, and procedures.

The LPA will operate adjacent to existing freight service along portions of the alignment that operate in shared right-of-way. There could be a potential for derailment, which could present a safety concern.

Additionally, operational changes could result in the lengths of vehicle queues from nearby intersections extending back to train crossings. The result could be vehicles stopped on the tracks unless other measures are taken, such as placing signs to indicate that stopping on the tracks is not permitted. To minimize the potential for vehicles queuing onto at-grade

crossings, Project Measure TR PM-1 (Pre-signals and Queue-cutter Signals) will be implemented (refer to Section 3.5.1). These strategies will reduce the potential for hazards between other users and the new LRT service to a less than significant level.

Mitigation Measures: No mitigation measures related to motorist, pedestrian, and bicycle safety are required. Mitigation Measure SAF-1 (Encroachment Detection), as described in Section 4.18.4 of the Safety and Security Section, will be implemented to reduce safety and security impacts associated with operation of freight and LRT in shared ROW and reported incidents of criminal activity to reduce operation-related impacts to less than significant for the LPA.

Impacts Remaining after Mitigation: Less than significant.

3.6.3.3 Design Option: Close 186th Street

The impact analysis and mitigation measure described in Section 3.6.3.2 also applies to the LPA with the design option. The strategies would reduce the potential for hazards between other users and the new LRT service to a less than significant level after mitigation.

3.6.3.4 Maintenance and Storage Facility

The MSF will not introduce design elements that could increase hazards (e.g., new at-grade crossings, pedestrian crossings with safety issues). The MSF will be located on a site with fencing, preventing public access. Additionally, the entrance to the MSF has been designed as a signalized intersection and will include a dedicated right-turn lane into the facility. Therefore, the MSF will not introduce design features that could result in hazards, will have less than significant impacts, and mitigation will not be required.

3.6.4 Threshold TRA-4: Result in inadequate emergency access?

3.6.4.1 No Project Alternative

Under the No Project Alternative, the LPA would not be introduced and no changes are projected to the existing conditions within the Affected Area. Therefore, no changes are anticipated that would result in inadequate emergency access, no impacts are projected to occur, and no mitigation is required.

3.6.4.2 Locally Preferred Alternative

As described in Section 4.18.5.1 of the Safety and Security Section, the potential for significant impacts will be less than significant because the LPA will not interfere with adopted emergency response or evacuation plans, emergency service providers, or otherwise increase the demand for emergency response services. The LPA will not remove access routes used by existing emergency service providers. Delays in emergency response services or evacuation plans due to at-grade crossings gate down times will also be less than significant because these plans will not typically involve crossing active rail corridors.

Section 5.2.5 of the Safety and Security Impact Analysis Report and Section 4.18.3.2 of the Safety and Security Section describe the Emergency Preparedness Plan that will be integrated with local jurisdictional emergency response plans. The Emergency Preparedness Plan will reduce impacts on emergency access by establishing the roles and responsibilities that will be carried out by emergency response agencies in the event of a fire, medical, or security emergency. Through this process and coordination with local jurisdictions, operation of the LPA will avoid interference with emergency response plans, minimize

scenarios where the emergency response service providers are overtaxed, and reduce the potential for significant delayed response times.

3.6.4.3 Design Option: Close 186th Street

The impact analysis described in Section 3.6.4.2 also applies to the LPA with the design option because project elements and impact minimization strategies will be similar. The LPA with the design option would not be expected to interfere with emergency response plans or increase the demand for emergency response services. Therefore, the LPA with the design option would result in less than significant impacts, and mitigation would not be required.

3.6.4.4 Maintenance and Storage Facility

No additional grade crossings will be used to access the MSF, and the MSF will not remove access routes used by existing emergency service providers. Therefore, the MSF will not interfere with local jurisdictions' emergency response plans or overtax existing emergency service providers, and mitigation will not be required.

3.7 Construction

This section has been revised since the Draft EIS/EIR to reflect identification of the LPA, inclusive of refinements, and comments received on the Draft EIS/EIR. Similar to the operations analysis, the methodology for the freight analysis was expanded to include vehicular freight (e.g., freight trucks) in addition to rail freight. Temporary construction closures have been updated to reflect updated permanent grade crossing closures/openings presented in Section 2.4.3.2 of this Final EIS/EIR in response to comments received on the Draft EIS/EIR. Table 3-32 was revised to include a footnote defining "intermittent" closures to increase clarity. Additionally, construction laydown areas and planned haul routes have been adjusted in response to comments received on the Draft EIS/EIR and are reflected in Table 3-33. Refer to Section 2.4.3.2 of this Final EIS/EIR for details on construction laydown area relocations. Section 3.7.1 was revised to focus on construction activities that are relevant to effects on the transportation network. General construction means and methods for the LPA are provided in Section 4.19 of this Final EIS/EIR.

3.7.1 Construction Activities

Construction of the LPA will include at-grade track and station construction through and adjacent to local streets with live traffic, overhead/aerial track and station construction, and construction of supporting facilities, such as park-and-ride-facilities. Locations of closures and associated closure durations are shown in Table 3-32. These locations and durations may change once the contractor is selected and as construction sequencing and methods are further refined during final design. Permanent closures as a result of the Project are identified in Table 3-11; these permanent closures will begin during the construction period. The analysis conservatively assumes longer durations of closures and more peak hour, weekday, and full street closures than are likely to be required. Refer to the *West Santa Ana Branch Transit Corridor Project Construction Methods Report* (Metro 2024g) and Section 4.19 of this Final EIS/EIR for additional detail on construction activities.

Construction of the LPA will result in effects to traffic, transit service, active transportation facilities, parking, and freight activity at select locations. Construction-related impacts are analyzed for each element of the transportation network in Section 3.7.3. Construction of the LPA will primarily occur within existing rail ROW after freight tracks have been relocated to the final configuration. Construction of grade crossings will be the primary conflict with transportation facilities. Both aerial grade crossings and at-grade crossings will require temporary closures of traffic lanes and pedestrian/bike facilities at the crossing location.

Closures required for construction will generally be limited to nighttime, weekend, and/or off-peak travel hours, including overnight hours, to minimize disruption to the traveling public. However, a number of factors are considered when determining construction activities, which could require construction closures during the daytime or for multiple consecutive days. Detours for vehicular, transit, or nonmotorized traffic will be provided as needed. The local community will be informed of road closures and detours.

Construction staging areas[4] have been identified for the contractor to store construction equipment and machinery during the construction period. Haul routes associated with construction staging areas have also been identified. Table 3-33 is a summary of the potential staging and laydown area options. The locations of staging/laydown areas and haul routes are based on the information known at this time. These locations may change once the contractor is selected and as construction sequencing and methods are further refined during final design.

[4] The term "construction staging areas" is used interchangeably with "laydown areas."

Table 3-32. Anticipated Construction-Related Closures

No.	Closure Element	LPA Element/Area	Closure Type[1]	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details[3]
1	Road	Long Beach Ave Viaduct	Temporary	Long Beach Ave; Northbound Lanes	55th Street to Slauson Blvd	24-48	Metro A (Blue) Line	Northbound road temporarily closed; intersections closed (typically intermittently). Up to 18' width of road to be permanently closed at viaduct columns.
2	Road	Slauson/A Line Station	Temporary	Randolph Street, Northbound Lane	Slauson Blvd	24-48	Metro A (Blue) Line	Northbound road temporarily closed; intersections closed (typically intermittently).
3	Road	Grade Separation	Temporary	Holmes Ave	Randolph Street	12-24	DASH Pueblo Del Rio	Lane width reduction to accommodate construction of modified median and grade separation; full road closures (typically intermittently).
4	Sidewalk	Grade Crossing	Temporary	Randolph St	Alameda St, Albany St, Santa Fe Ave, Rugby Ave, Pacific Blvd, Seville Ave, Miles Ave, State St	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
5	Road	Grade Crossing	Temporary	Randolph St	Holmes Ave, Alameda St, Albany St, Santa Fe Ave, Rugby Ave, Pacific Blvd, Seville Ave, Miles Ave	1-3	Metro 60, 251; HP Express	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently)

No.	Closure Element	LPA Element/Area	Closure Type[1]	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details[3]
6	Road	Grade Crossing	Temporary	Randolph St	State St	3-6	-	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently)
7	Road	Grade Crossing	Temporary	Gage Ave	Salt Lake Ave	1-3	Metro 110; HP Express	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently)
8	Road	Grade Crossing	Temporary	Otis Ave	Salt Lake Ave	1-3	-	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently)
9	Sidewalk	Grade Crossing	Temporary	Gage Ave	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
10	Sidewalk	Grade Crossing	Temporary	Otis Ave	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
11	Road	Grade Crossing	Temporary	Bell Ave	Salt Lake Ave	1-3	-	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently)
12	Sidewalk	Grade Crossing	Temporary	Bell Ave	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
13	Road	Transportation Mitigation	Temporary	Bell Ave	-	1-3	-	Temporary lane closures and relocations during construction; intermittent nighttime closures.

No.	Closure Element	LPA Element/Area	Closure Type[1]	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details[3]
14	Sidewalk	Transportation Mitigation	Temporary	Bell Ave	-	1-3	-	Close sidewalks during reconstruction.
15	Road	Grade Crossing	Temporary	Florence Ave	Salt Lake Ave	1-3	Metro 111	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently)
16	Sidewalk	Grade Crossing	Temporary	Florence Ave	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
17	Sidewalk	Grade Crossing	Temporary	Santa Ana St	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
18	Road	Grade Crossing	Temporary	Santa Ana St	Salt Lake Ave	1-3	Metro 611	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently)
19	Sidewalk	Grade Crossing	Temporary	Ardine St	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
20	Road	Grade Crossing	Temporary	Ardine St	Salt Lake Ave	1-3	-	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently)
21	Road	Grade Separation	Temporary	Atlantic Ave and Firestone Blvd	-	12-24	Metro 115, 260; SG East	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently)

No.	Closure Element	LPA Element/Area	Closure Type[1]	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details[3]
22	Sidewalk	Grade Crossing	Temporary	Southern Ave, Rayo Ave	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
23	Road, Bicycle	Grade Crossing	Temporary	Southern Ave, Rayo Ave	-	1-3	-	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently)
24	Road	I-710 Undercrossing	Temporary	I-710	-	6-12	-	Full lane closures (typically intermittently).
25	Road	Grade Separation	Temporary	Imperial Blvd and Garfield Ave	-	12-24	Metro 117, 120, 258; SG East	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently).
26	Sidewalk	Grade Separation	Temporary	Imperial Blvd and Garfield Ave	-	12-24	-	Close sidewalks during reconstruction.
27	Road	Grade Crossing	Temporary	Main St	-	1-3	SG East	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently).
28	Sidewalk	Grade Crossing	Temporary	Century Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.

No.	Closure Element	LPA Element/Area	Closure Type[1]	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details[3]
29	Road	Grade Crossing	Temporary	Century Blvd	-	1-3	SG East	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently)
30	Road	Grade Crossing	Temporary	Gardendale St	-	1-3	-	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently)
31	Sidewalk	Grade Crossing	Temporary	Gardendale St	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
32	Road	Grade Separation	Temporary	N. Somerset Ranch Rd	-	12-24	-	Full closures (typically intermittently).
33	Road	Grade Separation	Temporary	I-105	-	12-24	Metro C (Green) Line	Full closures (typically intermittently); potential lane width reduction.
34	Road	Grade Separation	Temporary	S. Somerset Ranch Rd	-	12-24	-	Full closures (typically intermittently).
35	Road	Grade Separation	Temporary	Paramount Blvd	-	12-24	Metro 265, LBT 23 and 71	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently)
36	Sidewalk	Grade Separation	Temporary	Paramount Blvd	-	12-24	-	Close sidewalks during reconstruction.

No.	Closure Element	LPA Element/Area	Closure Type[1]	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details[3]
37	Road	Grade Separation	Temporary	Rosecrans Ave	-	12-24	Metro 125, LBT 23 and 71	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently)
38	Sidewalk	Grade Separation	Temporary	Rosecrans Ave	-	12-24	-	Close sidewalks during reconstruction.
39	Road	Grade Separation	Temporary	Downey Ave	-	12-24	LBT 22	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently)
40	Sidewalk	Grade Separation	Temporary	Downey Ave	-	12-24	-	Close sidewalks during reconstruction.
41	Sidewalk	Grade Crossing	Temporary	Somerset Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
42	Road	Grade Crossing	Temporary	Somerset Blvd	-	1-3	Metro 127	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently)
43	Road	Transportation Mitigation	Temporary	Somerset Blvd	-	1-3	Metro 127	Temporary lane closures and relocations during lane and signal addition; Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently)

No.	Closure Element	LPA Element/Area	Closure Type[1]	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details[3]
44	Road	Grade Separation	Temporary	Woodruff Ave and Flower St	-	12-24	NTS 1; LBT 92, BB South, North	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
45	Sidewalk	Grade Separation	Temporary	Woodruff Ave and Flower St	-	12-24	-	Close sidewalks during reconstruction.
46	Sidewalk	Grade Crossing	Temporary	Lakewood Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
47	Road, Bicycle	Grade Crossing	Temporary	Lakewood Blvd	-	1-3	Metro 266	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently)
48	Sidewalk	Grade Crossing	Temporary	Clark Ave	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
49	Road	Grade Crossing	Temporary	Clark Ave	-	1-3	Metro 127, NTS 1	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
50	Sidewalk	Transportation Mitigation	Temporary	Clark Ave	Los Angeles St	1-3	-	Close sidewalks during reconstruction.
51	Road	Transportation Mitigation	Temporary	Clark Ave	Los Angeles St	1-3	NTS 1	Temporary lane closures and relocations during turn lane and signal addition; full closures (typically intermittently).

No.	Closure Element	LPA Element/Area	Closure Type[1]	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details[3]
52	Sidewalk	Grade Crossing	Temporary	Alondra Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
53	Road	Grade Crossing	Temporary	Alondra Blvd	-	1-3	Metro 127, 128	Temporary lane closures and relocations during grade crossing and median construction; potential full closures during construction of trackwork at the grade crossing.
54	Sidewalk	Grade Crossing	Temporary	Bellflower Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
55	Road	Grade Crossing	Temporary	Bellflower Blvd	-	1-3	LBT 91, 93; BB South, North	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
56	Sidewalk	Grade Crossing	Temporary	Artesia Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
57	Road	Grade Crossing	Temporary	Artesia Blvd	-	1-3	Metro 130; COW 1, 2	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
58	Road	Private Driveway	Temporary	Extra Space Storage	San Gabriel River and Artesia Blvd	-	-	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).

No.	Closure Element	LPA Element/Area	Closure Type[1]	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details[3]
59	Sidewalk	Grade Crossing	Temporary	Studebaker Rd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
60	Road	Grade Crossing	Temporary	Studebaker Rd	-	1-3	Metro 130; COW 1, 2; LBT 172, 173; NTS 2	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
61	Road	Grade Separation	Temporary	Gridley Rd and 183rd St	-	12-24	Metro 62 and 577; COW 1, 2; LBT 172, 173 and 192; NTS 2; OCTA 30	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
62	Sidewalk	Grade Separation	Temporary	Gridley Rd and 183rd St	-	12-24	-	Close sidewalks during reconstruction.
63	Sidewalk	Grade Crossing	Temporary	Pioneer Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
64	Road	Grade Crossing	Temporary	Pioneer Blvd	-	1-3	-	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).

No.	Closure Element	LPA Element/Area	Closure Type[1]	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details[3]
65	Road	Grade Crossing	Temporary[1]	186th St	-	1-3	-	Temporary lane closures and relocations during grade crossing construction full closures (typically intermittently).
66	Sidewalk	Grade Crossing	Temporary[1]	186th St	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
67	Road	Grade Crossing	Temporary[2]	187th St	-	1-3	-	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
68	Sidewalk	Grade Crossing	Temporary[2]	187th St	-	1-3		Close sidewalks during reconstruction and integration of new grade crossing equipment.

Source: Metro 2024s
Notes: BB = Bellflower Bus; COW = Cerritos on Wheels; DASH = Downtown Area Short Hop; HP = Huntington Park COMBI; I = Interstate; LBT = Long Beach Transit; LPA = Locally Preferred Alternative; NTS = Norwalk Transit System; OCTA = Orange County Transportation Authority; SG GATE = South Gate Get Around Town Express
[1] Baseline condition. Closure of crossing will be permanent under the design option.
[2] Design option condition. Closure of crossing will be permanent under the baseline condition.
[3] Intermittent = Full closure of vehicular travel lanes, which will occur during nighttime, off-peak periods, and/or over weekends.

Table 3-33. Construction Staging Areas and Haul Routes

No.	Location	Location Description	Private/Public Ownership	Project Component	Haul Route
25	Northeast Corner, Long Beach Ave and Slauson Ave	Industrial	Public/Private	Long Beach Blvd Viaduct/Slauson A Line Station	I-10, Alameda St, Slauson Ave
26	Along Long Beach Ave north of Slauson Ave	Industrial	Public	Long Beach Blvd Viaduct/Slauson A Line Station	I-10, Alameda St, Slauson Ave
41	Southwest Corner, Slauson Ave and Randolph St	Industrial	Private (UPRR ROW)	Long Beach Blvd Viaduct/Slauson A Line Station	I-110, I-710, Alameda St, Atlantic Blvd, Florence Ave, Slauson Ave
42	Southwest Corner, Randolph St and Rugby Ave	Commercial	Private (Permanent/Full Acquisition for Grade Crossing)	Randolph St Grade Crossings	I-10, Alameda St, Slauson Ave
43	East of State Street and Randolph Street	Railroad ROW	Private (UPRR ROW)	State St Grade Crossing	I-710, Atlantic Blvd, Florence Ave, Randolph St
44	Existing Railroad ROW at Bissell St and Randolph St	Railroad ROW	Private (UPRR ROW)	Randolph Grade Separation	I-710, Atlantic Blvd, Florence Ave, Randolph St
45	Northwest of Cecilia St and Salt Lake Ave	Commercial	Private (Permanent/Full Acquisition for TPSS)	Spur track connections	I-710, Atlantic Boulevard, Firestone Blvd
46	Southeast of Firestone Blvd between Patata St and Mason St along Railroad ROW	Warehousing/Logistics	Private (Permanent/Full Acquisition for LPA Parking Facility)	Firestone Station and Grade Separation	I-710, Atlantic Boulevard, Firestone Blvd
47	East of Atlantic Ave and Azalea West	Vacant	Private	Parking Facility Access	I-710, Atlantic Boulevard, Firestone Blvd

No.	Location	Location Description	Private/Public Ownership	Project Component	Haul Route
47A	Northeast Corner, Southern Ave and Rail ROW	Cold Storage	Private	Track Construction	I-710, Firestone Blvd, Rayo Ave, Salt Lake Ave, Southern Ave
48	East of Salt Lake Ave between Duncan Way and Wood Ave	Vacant	Public and Private	Los Angeles River Bridge	I-710, Firestone Blvd, Miller Way, Rayo Ave, Salt Lake Ave, Southern Ave
49	West of Salt Lake Ave at end of Wood Ave	Vacant	Private	Los Angeles River Bridge	I-710, Firestone Blvd, Miller Way, Rayo Ave, Salt Lake Ave, Southern Ave
50	South of Miller Way, adjacent to I-710	Light Industrial Storage	Public and Private	I-710 Undercrossing and Rio Hondo Channel Bridge	I-710, Firestone Blvd, Garfield Ave, Miller Way, Southern Ave
51	Northeast Corner, Railroad ROW and Garfield Ave, North of Imperial Hwy	Vacant	Private	Los Angeles River Bridge and I-170 Undercrossing	I-710, Imperial Hwy, Garfield Ave
52	Northeast of Railroad ROW and Gardendale Street	Vacant	Public	Gardendale Station	I-710, Imperial Hwy, Garfield Ave
53	East of Center St and west of Industrial Ave between Century and Nevada	Commercial	Private	I-105/C Line Station	I-105, Century Blvd, Center St
54	East of Center St and west of Industrial Ave between Lincoln and Nevada	Parking Lot/ Commercial/Recycling	Public (Permanent/Full Acquisition for Project Parking Facility)	I-105/C Line Station	I-105, Century Blvd, Center St
55	North of Rosecrans Ave, West of San Pedro Sub Division Railroad ROW	Railroad ROW	Private (Rail ROW)	Paramount/Rosecrans Station and Grade Separation	I-105, I-710, Rosecrans Ave, Paramount Blvd, Garfield Ave

No.	Location	Location Description	Private/Public Ownership	Project Component	Haul Route
56	North of Rosecrans Ave, South of San Pedro Sub Division Railroad ROW	Commercial and Industrial GCR Tires & Service 7801 E Rosecrans, Paramount	Public and Private (Permanent/Full Acquisition for Project Parking Facility)	Paramount/Rosecrans Station and Grade Separation	I-105, I-710, Rosecrans Ave, Paramount Blvd, Garfield Ave
57	Northwest Corner, Bellflower Blvd and Railroad ROW	Commercial and Parking Lot	Permanent/Full Acquisition (Project Parking Facility)	Bellflower Station	Alondra Blvd, I-605
58	Southwest Corner, San Gabriel River and SR-91	Vacant	Metro-Owned Right-of-Way	San Gabriel River Bridge	I-605, SR-91, Alondra Blvd, Artesia Blvd, Bellflower Blvd, South St, Studebaker Rd
59-61	Northwest and Southwest Corner, 188th and Pioneer Blvd	Commercial	Permanent/Full Acquisition (Project Parking Facility)	Pioneer Station Parking Structure	I-605, South St

Source: Metro 2024s
Notes: I = Interstate; LA = Los Angeles; LPA = Locally Preferred Alternative; ROW = right-of-way; SR = State Route; TPSS = traction power substation; UPRR = Union Pacific Railroad; US = U.S. Highway

3.7.2 Construction Methodology

Refer to Section 3.2 for a discussion of the approach to assessing construction-related impacts on the transportation system. The evaluation considered the locations, number of lanes, and the duration of closures for traffic. The methodology applied to the CEQA evaluation is described in Section 3.2.7. To satisfy CEQA requirements, transportation impacts related to construction are analyzed in accordance with Appendix G of the CEQA Guidelines, identified in Section 3.7.4 of this chapter.

3.7.3 Construction Impacts

3.7.3.1 No Build Alternative

The No Build Alternative includes planned projects, other than the LPA. The construction activities associated with the other planned projects could include temporary street closures/turning restrictions, temporary lane closures, and road detours. These other planned projects would undergo the required environmental approval process, which would disclose adverse construction impacts to the public if any are identified and unable to be fully mitigated.

3.7.3.2 Locally Preferred Alternative

Traffic Operations Effects

Construction activities will have temporary effects to traffic associated with lane or street closures, reconfiguration of roads, detours, and traffic related to construction workers accessing and departing construction staging areas. The locations, duration, and details regarding closures are summarized in Table 3-32. In general, effects to traffic will include increased delay for drivers where there are lane reductions, or increased travel distances because of detours, resulting in additional delay and traffic circulation. Where there is reduced capacity or where detours will be required, some travelers may choose alternate routes around the area to avoid construction activity and traffic delays.

Detours will be identified to preserve circulation around temporary street closures or where turning movements are restricted. The detour route will be assessed to provide sufficient capacity. These enhancements could include adjusting traffic signal timing or installing temporary traffic signals. Pursuant to Mitigation Measure TRA-18 (Transportation Management Plan(s) [TMP]), TMP(s) will be prepared to address construction-related impacts to the roads and establish detours. The TMP(s) will be coordinated with the applicable jurisdiction, agencies, and other potentially affected parties. Refer to Section 3.7.3.6 for a description of Mitigation Measure TRA-18.

The LPA will cross existing freeways at I-710, I-105, SR-91, and I-605. At the SR-91 and I-605 freeway crossings, the existing bridge structures contain sufficient space to accommodate the LRT tracks. Construction will occur below the existing bridges and will not result in adverse effects on the existing freeway travel lanes.

Similar to the analysis shown in the Draft EIS/EIR, Table 3-32 shows that at I-105, the existing freight bridge over the freeway travel lanes will be reconstructed to the west to accommodate the new LRT bridge. Once the replacement freight bridge is constructed, the existing freight bridge will be demolished and a new LRT bridge will be constructed in its place to support the LRT tracks and connect the new WSAB I-105/C Line Station to the new infill C Line Station. Temporary closures of the freeway lanes below the bridges will be

required during demolition and construction of the bridges. These closures will occur during off-peak travel hours to the extent feasible, including the overnight hours, to minimize disruption to the traveling public. Detour routes will be identified accordingly. Based on the timing of temporary closures and the implementation of detour routes, adverse effects will still occur.

At I-710, there is insufficient horizontal clearance for the new LRT tracks, and a new opening will need to be constructed adjacent to the existing opening. Therefore, a jacked box structure underneath the freeway is proposed. Construction is not anticipated to affect peak freeway operations, although ground improvements from the surface of the freeway may be needed to maintain support. The I-710 freeway may require ground monitoring to measure potential settlement that may occur during the jacking and excavation operations. It is anticipated the freeway lanes will remain open during this process, although there may be temporary closures to install ground-monitoring instruments and/or ground support infrastructure in the median. These closures will occur during the off-peak travel hours to the extent feasible, including the overnight hours to minimize disruption to travelers. Detour routes will be identified. Although temporary freeway lane closures will be minimized to the extent feasible, based on the timing of such temporary closures of lanes and the implementation of detour routes, adverse effects may still occur.

During construction, connections to freeways via on-ramps and off-ramps will be maintained to the extent feasible. Short-term ramp closures will occur during off-peak travel hours to the extent feasible to minimize disruption to the traveling public. Detour routes will be identified accordingly. Construction activities near or on freeway facilities, including ramp closures, will be coordinated with Caltrans.

Minor impacts will occur to traffic operations associated with construction traffic accessing staging/laydown areas and haul routes. Construction vehicles and trucks entering and exiting the staging/laydown areas will increase traffic on local streets. Construction trucks will use designated haul routes, as listed in Table 3-33, or as otherwise identified in coordination with the applicable jurisdiction, to access the regional freeway system. Construction-related traffic volumes will be minimal compared to overall background traffic volumes and will generally occur during off-peak periods when volumes and congestion are lower. Further, additional traffic associated with these activities will be temporary. During final design and prior to any construction, preconstruction evaluations will be completed to determine existing conditions that will affect construction methods and timing. An environmental reevaluation will be conducted as applicable if construction means and methods vary from what is described in the Final EIS/EIR.

Impacts to traffic operations during construction will be minimized with the implementation of a TMP, as required per Mitigation Measure TRA-18 (Transportation Management Plan(s) (TMPs)). The TMP will address construction impacts on transportation facilities under the jurisdiction of affected cities and agencies, including Caltrans. More details on the TMP are provided in Section 3.7.3.6. With implementation of the TMP, temporary construction-related impacts will be minimized, but adverse effects will still occur resulting from construction activities on the street and highway system.

Transit Effects

Construction of the LPA will require temporary rerouting of existing transit routes identified in Table 3-32. Impacts to transit could include increases in travel time for transit vehicles, either as a result of changes to routes or increased traffic delay from lane closures. However, coordination with transit service operators will occur to maintain transit routes and schedules to the extent feasible. It is anticipated that transit providers will modify routes and schedules as needed to account for construction activities. The locations of transit stops may also need to be modified/relocated to remain outside the work zone. Transit stop access will be maintained while providing ADA-compliant access. With these elements, temporary construction impacts will be minimized, and no adverse effects are anticipated.

Impacts to transit associated with the staging/laydown areas could occur if the staging/laydown areas require relocation of existing transit stops, if there is a conflict with the traffic at the staging area, or with the physical constraints of the site itself. If these impacts occur, they will be temporary and fully addressed by modifications (minor relocations) to transit stops and coordination with transit service providers. Haul routes are not anticipated to affect transit service because hauling activities will use existing roadways and will not require relocation of transit stops. Similar to construction effects associated with construction of the LPA, relocation of transit stops and coordination with transit providers will minimize impacts to transit and no adverse effects are anticipated.

Active Transportation Effects

Construction of the LPA will require temporary closures of sidewalks, crosswalks, and bicycle facilities to protect the safety of pedestrians and bicyclists. Table 3-32 outlines the locations and anticipated duration of effects on sidewalk and bicycle facilities. As a result, pedestrian and bicycle access routes in the construction area will be temporarily disrupted during construction. Many sidewalks along local streets in the vicinity of and/or crossed by the LPA are ADA-compliant; therefore, there will be alternative ADA-accessible detour routes identified during those closures to maintain access.

There may be impacts to active transportation associated with the staging/laydown areas if the staging/laydown area encroaches on sidewalks or bicycle facilities that were not already identified for closure to support construction of the LPA. There may be localized conflicts between bicycle and pedestrian facilities at staging areas if local access requires modifications to sidewalks or bike lanes. These impacts will be temporary and fully mitigated by contractor requirements to provide alternate access. The haul routes will not have an effect on active transportation facilities because haul activity will utilize existing roads and will not encroach on sidewalks or bicycle facilities.

The Paramount High School pedestrian bridge will be demolished prior to the start of construction activities in proximity to the high school. The replacement pedestrian bridge will be constructed when construction of the LRT is complete. Detours will be coordinated between Metro and the school district.

Additionally, construction of the LRT bridges over the three USACE facilities will require the temporary closure of three adjacent bike trails: the Los Angeles River Trail, the Rio Hondo Trail, and the San Gabriel River Trail. The closure could be up to a month total to install and remove falsework. Detours will be provided.

Section 7.3.2.1 of the Safety and Security Impact Analysis Report and Section 4.19.3.18 (Construction-related Safety and Security) in Chapter 4 outline the impacts of temporary construction-related activities/conditions on pedestrian, bicycle, and motorist safety. Detour routes and signage will be provided during construction to address the potential for these temporary impacts. In addition, as required by Mitigation Measure TRA-18 (Transportation Management Plan(s) [TMP]), TMP(s) will be prepared to address construction-related impacts to sidewalks and bicycle facilities and establish detours. The TMP(s) will be coordinated with the applicable jurisdiction, agencies, and other potentially affected parties. This program will be used for communicating traffic control measures, schedules of activities, appropriate detours, and durations to the public and stakeholders. With these elements, temporary construction impacts to active transportation facilities will remain, as described above.

Parking Effects

Temporary parking losses will occur during construction. These impacts will be associated with physical construction activities, including the temporary shifting of vehicle lanes onto existing on-street parking areas to maintain the number of lanes. Table 3-32 lists the locations where temporary road closures and shifting lanes are anticipated to occur.

Table 3-33 lists the potential staging and laydown area options that could have parking effects. Off-street parking will be temporarily removed where needed for construction of the LPA. On-street parking adjacent to the staging areas could be temporarily removed during construction. Metro will coordinate with local jurisdictions to address the loss of public parking spaces during construction. The haul routes will not have an effect on parking because haul activity will occur on existing roads and will not encroach on- or off-street parking locations. Available open space for use as temporary parking is currently not available to accommodate any parking areas displaced by construction activities. Mitigation Measure TRA-21 (Loss of Parking (Construction)), described in Section 3.7.3.6, would reduce parking impacts as feasible and could also provide indirect mitigation for the loss of off-street parking by allowing additional on-street parking where appropriate and feasible. In summary, the temporary construction impacts from staging and laydown areas will be reduced by implantation of this mitigation measure, but adverse effects are anticipated to remain.

Freight Effects

Vehicular Freight

As discussed in "Traffic Operations Effects," construction activities will have temporary effects to vehicular freight traffic associated with lane closures, reconfiguration of roads, detours, and traffic related to construction workers accessing and departing construction staging areas, as summarized in Table 3-32 and Section 3.7.3.2. This could include temporary impacts to freight-related vehicles. Pursuant to Mitigation Measure TRA-18 (Transportation Management Plan(s) [TMP]), TMP(s) will be prepared to address construction-related impacts to the roads and establish detours. The TMP(s) will be coordinated with the applicable jurisdiction, agencies, and other potentially affected parties. Refer to Section 3.7.3.6 for a description of Mitigation Measure TRA-18 (Transportation Management Plan(s) [TMP]).

Adverse effects could occur, even with the inclusion of Mitigation Measure TRA-18 (Transportation Management Plan(s) [TMP]), due to construction closures, lane reductions, and/or detours. However, vehicular freight travel generally occurs outside of the peak traffic

periods when there is less roadway congestion. Therefore, the delay to vehicle freight due to construction activities at intersections is not anticipated to be adverse.

Rail Freight

As described in Section 3.4.5.2, implementation of the LPA will require realignment of active rail freight tracks. To minimize disruptions and maintain active rail freight operations to the extent feasible, the new freight, storage, and/or siding tracks will be constructed first. Temporary shoo-fly tracks will be constructed to allow for the construction of new freight tracks. Existing rail freight operations will use the temporary shoo-fly tracks while the existing freight tracks are relocated. At the completion of construction of the new freight tracks, existing freight operations will be transferred to the new freight tracks. The old freight track will be demolished to allow space for construction of the new LRT tracks. Metro will coordinate with rail operators to maintain freight operations during LPA construction activities to the extent feasible.

Adverse effects could occur if there are periods when freight service cannot be maintained. However, rail freight service will be maintained throughout the construction period to the extent feasible, and Metro will coordinate with freight providers to minimize disruptions to freight service.

3.7.3.3 Design Option: Close 186th Street

The analysis described in Section 3.7.3.2 also applies to the LPA with the design option. The LPA with the design option includes similar construction activities as the LPA without the design option. Therefore, the impact conclusions for the LPA without the design option would also apply to construction of the LPA with the design option.

3.7.3.4 Maintenance and Storage Facility

Construction of the MSF will primarily occur within the MSF site. The intersection modifications for the MSF entrance at Somerset Boulevard and Bayou Avenue are minor and will result in minor disruptions to vehicles, bicyclists, and pedestrians traveling through the area. Construction of the MSF will include similar project elements and impact minimization strategies as the LPA.

3.7.3.5 U.S. Army Corps of Engineers Facilities

The USACE facilities are channels and do not accommodate traffic, transit, parking, or rail or vehicular freight. Construction of the LRT bridges over the three USACE facilities will require the temporary closure of three adjacent bike trails: the Los Angeles River Trail, the Rio Hondo Trail, and the San Gabriel River Trail. The closure could be up to a month total to install and remove falsework. Detours will be provided. Therefore, there will not be adverse effects.

3.7.3.6 Mitigation Measures

TRA-18: Transportation Management Plan(s) (TMP)

TMP(s) will be prepared to address construction impacts on transportation facilities as applicable under the jurisdiction of all involved cities and agencies.

The TMP(s) will address potential impacts from construction activities on vehicular, transit, pedestrian, and bicycle access and mobility, including, but not

limited to, temporary lane/roadway, sidewalk, bicycle facility, and freeway ramp closures; detours; increases in traffic volumes (including regular traffic and construction traffic, construction equipment, materials delivery vehicles, waste/haul vehicles, and employee commutes); construction parking; and emergency services (e.g., fire, police, ambulances).

The development of the TMP will be coordinated with Metro, local jurisdictions (cities and the county), agencies, and other potentially affected parties (e.g., school bus and transit operators and police, fire, and emergency services providers). The TMP(s) will identify specific TMP strategies, the party/parties responsible for implementing those strategies, the agencies and parties the TMP strategies will be coordinated with, and implementation timing.

The TMP will include specific strategies to address short-term, project-related construction effects on traffic, bicyclists, pedestrians, and area residents and businesses. The following list, which is part of this mitigation measure, identifies the types of TMP strategies that will be applicable:

- Public Information
  - Brochures and Mailers
  - Press Releases
  - Paid Advertising
  - Public Meetings/Speakers Bureau
  - Internet
  - Public Meeting Rooms
- Motorist Information
  - Portable Changeable-Message Signs
  - Ground-mounted Signs
- Incident Management
  - Traffic Management Team
- Construction
  - Lane Closure Chart
  - Reduced Speed Zone
  - Incentives and Disincentives (e.g., early completion payments and late re-opening penalties for contractors)
  - Movable Barrier
  - Temporary Pedestrian Walkways and Detour

The Resident Engineer will require the Construction Contractor to implement the strategies in the TMP prior to, during, and after construction activities, as required in the TMP.

Pedestrian and Bicycle Facility Closures: When sidewalks, crosswalks, and/or bicycle facilities are temporarily closed during construction, pedestrian and bicycle detours will be developed and clearly signed prior to closing those facilities.

TMPs are a proven strategy for minimizing impacts during construction. Metro has successfully implemented TMPs on its sponsored projects to minimize short-term transportation impacts during construction. These plans have proved to be effective at reducing potential transportation impacts during construction. Metro proactively follows the strategies identified in its TMPs and makes adjustments during construction to best accommodate all vehicles and active transportation users.

With implementation of the TMP, temporary construction-related impacts will be minimized, but adverse effects will occur resulting from construction activities on the street and highway system.

In addition to Mitigation Measure TRA-18 (Transportation Management Plan(s) (TMP)), impacts to active transportation (bicycle and pedestrian) school users will be addressed with Mitigation Measure SAF-2 (School District Coordination), as described in Section 4.19.3.18 (Construction-related Safety and Security) of this Final EIS/EIR. This provides a means to coordinate with school districts and communicate temporary modifications during construction activities.

TRA-21: Loss of Parking (Construction)

Metro will coordinate with local jurisdictions to address the loss of public parking spaces during construction. This could include, but not be limited to, restriping the existing street to allow for diagonal parking, reducing the number of restricted parking areas, phasing construction activities in a way that minimizes parking disruption, and adjusting the time limits for on-street parking.

Implementation of TRA-21 will reduce parking impacts and also provide indirect mitigation for the loss of off-street parking by allowing additional on-street parking where appropriate and feasible. Adverse effects will be reduced with implementation of this measure; however, adverse effects will likely remain.

To minimize disruptions and maintain active rail freight operations to the extent feasible, the new freight, storage, and/or siding tracks will be constructed first. Temporary shoo-fly tracks will be constructed to allow for the construction of new freight tracks. Metro will coordinate with rail operators to maintain freight operations during construction activities for the LPA to the extent feasible.

3.7.4 California Environmental Quality Act Determination

3.7.4.1 Threshold TRA-CON-1: Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, and bicycle and pedestrian facilities?

No Project Alternative

Project-related construction activities would not occur under the No Project Alternative. Therefore, no construction-related impacts would occur under the No Project Alternative, and no mitigation measures would be required.

Locally Preferred Alternative

Construction activities are temporary and will not conflict with plans, policies, or ordinances associated with the transportation system. All modes of transportation will be accommodated

within the construction areas to the extent feasible. When closures will be needed, alternate routes will be provided to maintain connectivity for all modes of transportation. Therefore, less than significant impacts from construction activities will occur. Mitigation Measure TRA-18 (TMP), identified to address impacts to traffic pursuant to NEPA, will be implemented during construction, thereby further reducing impacts.

Mitigation Measures: No mitigation measures are required. Nonetheless, pursuant to Mitigation Measure TRA-18, a TMP will be implemented to further confirm that construction activities do not conflict with plans, policies, or ordinances associated with the transportation system.

Impacts Remaining after Mitigation: Less than significant.

Design Option: Close 186th Street

The impact analysis described for the LPA without the design option also applies to the LPA with the design option. The LPA with the design option will have similar construction activities as described for the LPA without the design option. Therefore, less than significant impacts from construction activities will occur.

Mitigation Measures: No mitigation measures are required. Nonetheless, pursuant to Mitigation Measure TRA-18, a TMP will be implemented to further confirm that construction activities do not conflict with plans, policies, or ordinances associated with the transportation system.

Impacts Remaining after Mitigation: Less than significant.

Maintenance and Storage Facility

Construction of the MSF will primarily occur at the MSF site, with minor effects to Somerset Boulevard and Bayou Avenue associated with the new driveway. Construction activities will not conflict with plans, policies, or ordinances associated with the transportation system. Therefore, less than significant impacts from construction activities will occur.

Mitigation Measures: No mitigation measures are required.

Impacts Remaining after Mitigation: Less than significant.

3.7.4.2 Threshold TRA-CON-2: Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

No Project Alternative

Project-related construction activities would not occur under the No Project Alternative. Therefore, no construction-related impacts would occur, and no mitigation measures would be required.

Locally Preferred Alternative

Section 3.7.1 describes the construction activities anticipated for the LPA, and impacts are summarized in Section 3.7.3.2. Impacts during construction are identified for freight operations, traffic operations, transit, active transportation, and parking. VMT will be similar to the existing conditions within the Study Area. Construction activity will be localized to the work area haul routes and will not significantly change vehicle circulation in the Study Area as a whole. Therefore, no mitigation measures are required, and construction will have less than significant impacts.

Design Option: Close 186th Street

The impact analysis described for the LPA without the design option also applies to the LPA with the design option. The LPA with the design option will have similar construction activities as described for the LPA without the design option. Therefore, no mitigation measures are required, and construction will have less than significant impacts.

Maintenance and Storage Facility

The impact analysis described for the LPA also applies to the MSF. The MSF will be part of construction activities. Therefore, no mitigation measures are required, and construction will have less than significant impacts.

3.7.4.3 Threshold TRA-CON-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Project Alternative

Project-related construction activities would not occur under the No Project Alternative. Therefore, no construction-related impacts would occur, and no mitigation measures would be required.

Locally Preferred Alternative

Construction activity associated with the LPA will require the temporary modification of the existing transportation facilities, as needed. These temporary modifications will follow standard construction practices for temporary vehicle, freight, pedestrian, and bicycle handling that will minimize hazards. These standards will also include preparation of a detailed transportation/traffic management plan per Mitigation Measure TRA-18 (Transportation Management Plan(s) (TMP)). While application of these standards will not completely eliminate hazards, the resulting impacts will be less than significant.

Mitigation Measures:

No mitigation measures are required. Nonetheless, pursuant to Mitigation Measure TRA-18 Transportation Management Plan(s) (TMP), a TMP will be implemented to further reduce hazards of construction activities.

Impacts Remaining after Mitigation: Less than significant.

Design Option: Close 186th Street

The impact analysis described for the LPA without the design option also applies to the LPA with the design option. The LPA with the design option will have similar construction activities as described for the LPA without the design option. Therefore, less than significant impacts from construction activities will occur.

Mitigation Measures: No mitigation measures are required. Nonetheless, pursuant to Mitigation Measure TRA-18 (Transportation Management Plan[s]), a TMP will be implemented to further reduce the hazards of construction activities.

Impacts Remaining after Mitigation: Less than significant.

Maintenance and Storage Facility

Construction of the MSF will primarily occur at the MSF site, with minor effects to Somerset Boulevard and Bayou Avenue associated with the new driveway. Construction will not result in hazards and, therefore, there will be less than significant impacts.

Mitigation Measures: No mitigation measures are required.

Impacts Remaining after Mitigation: Less than significant.

3.7.4.4 Threshold TRA-CON-4: Result in inadequate emergency access?

No Project Alternative

Project-related construction activities are not projected to occur under the No Project Alternative. Therefore, no construction-related impacts are projected to occur, and no mitigation measures will be required.

Locally Preferred Alternative

Construction activity will require the temporary modification of the existing transportation facilities, as needed. Coordination with emergency responders will occur to maintain emergency access or to minimize delays in response times. However, the coordination will not completely eliminate interference with local jurisdictions' emergency response plans for emergency service providers.

As presented in Section 3.7.3.2, Mitigation Measure TRA-18 (Transportation Management Plan[s]) will require development of a TMP. As part of the TMP, all closures and detours will be coordinated with the affected emergency service providers to address access and response time requirements during construction and, once in operation, will reduce impacts to a less than significant level. Mitigation Measure COM-1 (Construction Outreach Plan), described in Section 4.19.3.2 (Construction-related Communities and Neighborhoods), will be implemented, which requires development of a Construction Outreach Plan in coordination with affected communities and businesses that will be implemented by Metro and its contractors during construction of the LPA.

As discussed in Section 4.19.3.18 (Construction-related Safety and Security), in response to construction-related impacts on emergency response plans or emergency evacuation plans, fire and emergency medical services personnel have the ability to use onboard live mapping software that alerts drivers of construction activities that may impede travel times to and from the scene of an emergency. Emergency responders are also able to see which roadways are experiencing delays due to construction, accidents, or other events, and will be able to take alternate routes accordingly. Metro and the contractor would coordinate with involved police, medical, and fire service providers during construction. Therefore, impacts related to emergency access will be less than significant.

Mitigation Measures: Mitigation Measure TRA-18 (Transportation Management Plan[s]) and Mitigation Measure COM-1 (Construction Outreach Plan).

Impacts Remaining after Mitigation: Less than significant.

Design Option: Close 186th Street

Construction of the LPA with the design option would have similar construction activities as described for the LPA without the design option. Therefore, less than significant impacts from construction activities would occur.

Mitigation Measures: Mitigation Measures TRA-18 (Transportation Management Plan[s]) and COM-1 (Construction Outreach Plan).

Impacts Remaining after Mitigation: Less than significant.

Maintenance and Storage Facility

The impact analysis described for the LPA also applies to the MSF. Therefore, less than significant impacts from construction activities will occur.

Mitigation Measures: Mitigation Measures TRA-18 (Transportation Management Plan(s)) and COM-1 (Construction Outreach Plan).

Impacts Remaining after Mitigation: Less than significant.