



Chapter 3

Transportation Impacts and Mitigation

This chapter evaluates the potential transportation impacts of the proposed alternatives, using existing transportation conditions for year 2010 as well as the future horizon year of 2035. The existing conditions scenario is based on year 2010, as the Notice of Preparation (NOP) was issued by Metro at that time. In addition, no substantial changes in the project area have occurred since 2010 so the existing conditions are unchanged.

The existing conditions analysis is a study of the current transportation infrastructure conditions. The existing conditions scenario assumes that the proposed alternatives would be implemented under year 2010 conditions. This is in response to the Sunnyvale California Environmental Quality Act (CEQA) decision (*Sunnyvale West Neighborhood Assoc. v. City of Sunnyvale*, 190 Cal. App. 4th 1351 [2010]), and is discussed in this chapter under the “Comparison of Alternative Against Existing Conditions” headings. The future horizon year of 2035 takes into account population growth and overall transit system improvements as well as the build out of the alternatives. The 2035 impact analysis examines the impact of the alternatives if they are implemented in 2035, assuming the growth and improvements that would be in place. Information in this section is based on, and updated where appropriate from, the Transportation Impacts Technical Memorandum, included as Appendix M of this Draft EIS/EIR.

3.1 Regulatory Framework/Methodology

The federal, state, and local guidelines for the analysis of transportation impacts are provided below, along with the thresholds of significance and methodology used for the analysis in this chapter.

3.1.1 Federal

The National Environmental Policy Act (NEPA) does not include specific guidance or direction with respect to the evaluation of alternatives and their relative effects on traffic and transportation. However, NEPA does require analysis of impacts to public facilities, which is addressed in this chapter using the California Environmental Quality Act (CEQA) guidance in Section 3.1.2.

3.1.2 State

The following guidance was considered in the development of thresholds of significance used in the CEQA evaluation in this chapter. (Please refer to Section 3.4.4 in Appendix M, Transportation Impacts Technical Memorandum, of this Draft EIS/EIR for further discussion of thresholds of significance used in this analysis.)

Section XVI in Appendix G of the *CEQA Guidelines* provides guidance that can be used to assess potential traffic and transportation impacts by including language used to identify projects that would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program including but not limited to level of service (LOS) standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

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 disabled people, as well as motorists. As of January 2011, any substantive revision of the circulation element in the general plan of a California local government will include complete streets provisions.

There are no airports or airport facilities located in the study area; as such, an evaluation of these facilities was not included in the Draft EIS/EIR.

3.1.3 Local

Regional transportation plans prepared by the Southern California Association of Governments (SCAG) and Metro were reviewed for consistency with the proposed alternatives. General and specific plans for each of the affected jurisdictions in the project area were also reviewed. The general plans, circulation elements and corresponding specific plans for the County of Los Angeles and the cities of Commerce, Los Angeles, South El Monte, Montebello, Monterey Park, Pico Rivera, Rosemead, Santa Fe Springs, and Whittier provided the local regulatory framework and policies related to transportation and traffic issues.

3.1.4 Thresholds of Significance

Since the project alternatives potentially affect portions of ten jurisdictions, a consolidated analytical methodology and criteria were developed

that could be consistently applied throughout the project area. To determine the overall approach, current methodologies and standards were obtained from each jurisdiction and standard significance thresholds generally consistent with those from each jurisdiction were developed. The thresholds of significance for intersections, freeway ramps, parking, transit, and pedestrian and bicycle circulation are described in depth in Section 3.4.4 in Appendix M, Transportation Impacts Technical Memorandum, and shown in **Table 3-1** below. The Transportation Impacts Technical Memorandum also describes how the maintenance yards and construction activities were accounted for in the impact analysis.

3.1.5 Methodology

The transportation area of potential impact focuses on traffic operation, parking, transit, and pedestrian and bicycle circulation in the vicinity of the proposed stations on both the SR 60 and Washington Boulevard LRT Alternatives, and within one-quarter mile of each potential maintenance yard. It also includes all signalized intersections that either alignment would cross at-grade. Key project area intersections and roadway segments were defined based on the following preliminary criteria:

- Intersections directly affected by or within the proposed alignments;
- Intersections in close proximity or adjacent to proposed stations and parking facilities; and
- Freeway ramps within routes that lead directly to and from proposed stations and parking facilities.

A total of 63 intersections were included in the analysis to represent the affected environment from a traffic operation perspective, shown in Table 4-5 of the Transportation Impacts Technical Memorandum, Appendix M of this Draft EIS/EIR.

Table 3-1. Thresholds of Significance

Topic	Threshold
Transit	Significant changes in: <ul style="list-style-type: none"> ▪ Daily Metro Rail Trips ▪ Daily Linked Bus Trips ▪ Daily Linked Transit Trips (Bus and Rail) ▪ Daily Linked Trips (All Modes) ▪ Total Transit Mode Share
Regional Transportation	Significant peak hour variations in: <ul style="list-style-type: none"> ▪ Vehicle Miles Traveled ▪ Vehicle Hours Traveled ▪ Average Vehicle Speed ▪ Vehicle Trips
Intersections	<ul style="list-style-type: none"> ▪ The average delay per vehicle to increase by 10 or more seconds at an intersection that operates at LOS C with the project; ▪ The average delay per vehicle to increase by 7.5 or more seconds at an intersection that operates at LOS D with the project; or ▪ The average delay per vehicle to increase by 5 or more seconds at an intersection that operates at LOS E or LOS F with the project.* ▪ The LOS to change from A through D under the No Build Alternative (under existing conditions, for the comparison of the project to existing conditions) ▪ The LOS to change from LOS E under the No Build Alternative to LOS F under project scenarios
Freeway Off-Ramps	Additional vehicles at the off-ramp causing the 95 th percentile queue to exceed the available queuing space (backups past the beginning of the ramp occur 5% of the time or more).
Parking ¹	A significant amount of utilized on-street and off-street parking displaced along the alignment in the context of the local parking conditions.
Pedestrian	Sidewalk overcrowding, potentially hazardous pedestrian conditions created by project design, or diminishment of pedestrian access.
Bicycle	Interference with existing bicycle access or potentially hazardous conditions created by project design.

Source: Highway Capacity Manual 2000.

Notes:

* LOS is described further in Section 3.1.5

¹ CEQA does not have specific thresholds for impacts on parking because parking changes would not have a physical impact on the environment.

Traffic operations (e.g., signal changes and freeway off-ramps) were analyzed using the Highway Capacity Manual (HCM) operation analysis methodology. With the HCM methodology, LOS thresholds are based on the amount of change in the average delay incurred by vehicles through the intersection. In addition, the HCM methodology was used for the calculation of both 50th and 95th percentile vehicle queue lengths (average and theoretical maximum) for the freeway off-ramp locations. The LOS analysis is used to evaluate

congestion and delay on streets and highways. The relative level of congestion is evaluated on a scale from A through F. LOS A indicates free-flow conditions with no delay. LOS F (> 80 seconds per vehicle) indicates breakdown of the system with very long delays. LOS D (35 to 55 seconds per vehicle) is typically considered the worst acceptable level in an urbanized environment.

Future transit ridership was based on output from the Metro Travel Demand Model, summarizing trips

by mode, daily boardings, and travel speeds/times for each alternative. The parking demand at each station was also determined from the Metro Travel Demand Model ridership projections and compared to the proposed supply.

Three evaluations were conducted with respect to operational impacts to parking for each alternative: 1) whether the proposed parking supply at each station could accommodate the projected parking demand (i.e., shortfall of parking and potential spillover parking); 2) whether implementation of the alternative would displace existing off-street parking spaces (either public or private); and 3) whether implementation of the alternative would eliminate on-street parking.

The evaluation of on-street and off-street parking reflects observations on the existing utilization of on-street parking along the corridor, the availability of potential shared parking opportunities, and the availability of supplemental off-street parking and on-street parking in the immediate vicinity of the corridor.

Data was collected for the following transportation analysis topics:

- Intersections and freeway ramps using counts conducted during weekday AM and PM peak periods and forecast modeling
- Freeway mainline and roadway segments using Annual Average Daily Traffic (AADT) volumes obtained from California Department of Transportation (Caltrans)
- On-street and off-street parking using field surveys performed during weekday business hours
- Transit using data obtained from the agencies that operate transit service in the project area
- Goods movements using freight operation and service information obtained from Los Angeles County and Caltrans
- Pedestrians and bicyclists using information obtained from project area jurisdictions and field surveys performed during weekday business hours

3.1.6 Coordination with Caltrans

Caltrans is a Cooperating Agency for the purposes of NEPA and a Responsible Agency for the purposes of CEQA for the Eastside Transit Corridor Phase 2 Project. Metro and Caltrans have coordinated efforts throughout the analysis of potential transportation impacts. Caltrans provided data for existing conditions that served as the basis for environmental analysis.

3.2 Affected Environment/Existing Conditions

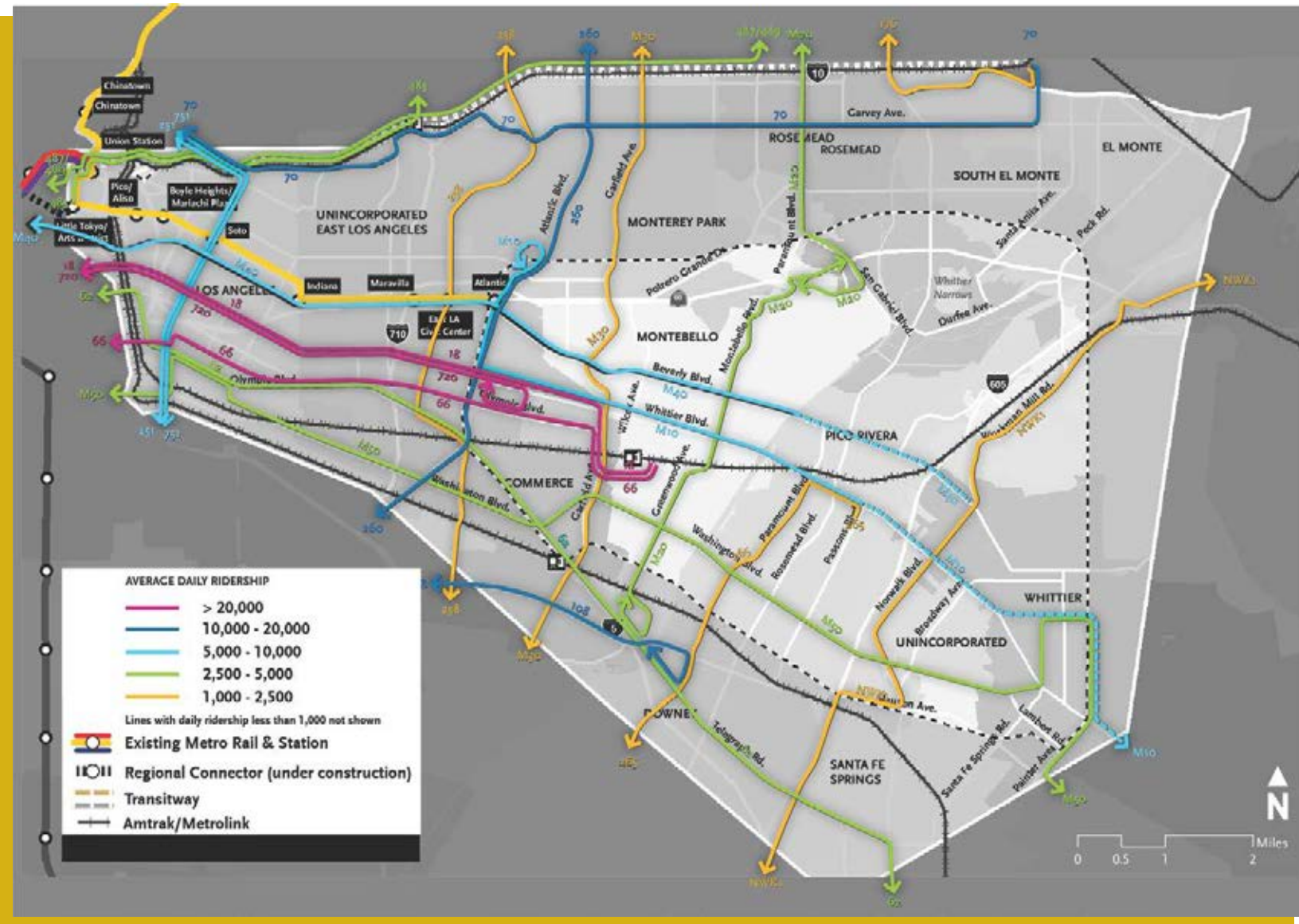
3.2.1 Transit

As shown in **Figure 3-1**, the Eastside Transit Corridor Phase 2 project area is served by local transit agencies, with both bus and limited rail service including Metro Bus and Rail, Metrolink, Montebello Bus Lines, Monterey Park Spirit Bus Lines, Commerce Municipal Bus Lines, Norwalk Transit, Whittier Transit, and Foothill Transit. Service types provided include rapid, express, limited, commuter rail, and local lines. Figure 3-1 illustrates the existing ridership on select bus routes in the project area. A full listing of these services and ridership statistics is provided in the Transportation Impacts Technical Memorandum, Tables 4-1 and 4-2, in Appendix M, of this Draft EIS/EIR.

3.2.2 Regional Transportation

The affected environment for the regional transportation analysis consists of the following freeways:

- Interstate 605 (I-605)
- Interstate 5 (I-5)
- Interstate 710 (I-710)
- Interstate 10 (I-10) State Route 60 (SR 60) and the following major arterial streets:
 - Peck Road – South El Monte
 - Santa Anita Avenue – South El Monte



Source: AECOM 2010. Metro and bus providers in the project area, 2010.

Figure 3-1. Existing Bus Ridership, Selected Lines in Project Area

- Sorensen Avenue – Santa Fe Springs, Unincorporated Los Angeles County, and Whittier
- Norwalk Boulevard – Santa Fe Springs and Unincorporated Los Angeles County
- Pioneer Boulevard – Santa Fe Springs and Unincorporated Los Angeles County
- Rosemead Boulevard – Pico Rivera
- Garfield Avenue – Unincorporated Los Angeles County, Montebello, and Commerce
- Atlantic Boulevard – Unincorporated Los Angeles County and Monterey Park
- Potrero Grande Boulevard – Monterey Park
- Beverly Boulevard – Unincorporated Los Angeles County and Montebello
- Whittier Boulevard – Montebello
- Olympic Boulevard – Unincorporated Los Angeles County and Montebello
- Washington Boulevard – Commerce, Montebello, Pico Rivera, Santa Fe Springs, and Unincorporated Los Angeles County.
- Paramount Boulevard – Pico Rivera and Montebello
- San Gabriel Boulevard - Montebello

3.2.3 Intersections

Of the 63 existing study intersections, 51 are currently operating at an acceptable LOS D or better, and 12 are currently operating at LOS E or F during the weekday morning or evening peak hour or both. **Figure 3-2** illustrates the location of the 12 intersections which are currently operating under unsatisfactory conditions. The intersections in **Figure 3-2** are marked with identifier numbers, and the corresponding street names are given in **Table 3-2**.

3.2.4 Freeway Off-Ramps

At present all freeway off-ramps within the area of potential impact have observed maximum queues

that do not exceed the available queuing space during either the weekday AM or PM peak hours. Queuing calculations for existing conditions are provided in **Table 3-3**.

3.2.5 Parking

Existing off-street parking facilities are available near the proposed stations; however, the majority of these facilities are reserved for businesses and their customers. Therefore, no inventory surveys were conducted as part of this study relative to off-street parking facilities (either public or private). The proposed project would not affect the quantity of existing off-street parking facilities. However, the demand for off-street parking could increase in areas where the on-street parking is removed at or near the proposed stations. On-street parking availability varies considerably along the proposed alignments. Since the proposed station areas may experience spillover parking demand (a higher number of parkers than parking spaces provided at the park and ride facilities), on-street parking conditions for major arterials were observed within a five-minute walking distance, or one-quarter mile, of the proposed stations.

Along the SR 60 LRT Alternative, on-street parking is generally unavailable along Pomona Boulevard and Via Campo as parking is restricted at all times. The remainder of the alignment is proposed to be an aerial configuration along the right-of-way (ROW) south of the SR 60 Freeway; near the station areas, some on-street parking is available in the residential neighborhoods, but these are not located close to the proposed stations. Along the Washington Boulevard LRT Alternative, commercial vehicle parking is generally restricted to a 30-minute time limit throughout the project area. On-street parking is predominately available on Garfield Avenue within the Montebello city limits, while on-street parking along Washington Boulevard is mostly restricted to no parking anytime or no parking during the peak hours of 7:00 AM to 9:00 AM or 4:00 PM to 6:00 PM.



Source: AECOM 2010. Intersection numbers correspond to Table 3-2.

Figure 3-2. LOS E/F Intersections – Existing (2010) Conditions

Table 3-2. LOS E/F Intersections – Existing (2010)

#	Intersection	Existing AM Peak LOS	Existing PM Peak LOS
10	Garfield Avenue/Pomona Blvd.	E	D
11	Garfield Avenue/Via Campo	D	E
26	Garfield Avenue/Washington Blvd.	F	F
33	Paramount Boulevard/Washington Blvd.	E	E
35	Rosemead Boulevard/Washington Blvd.	E	E
37	Pioneer Blvd./Washington Blvd.	E	E
38	Norwalk Blvd./Washington Blvd.	E	E
43	Lambert Road/Santa Fe Springs Road	E	F
45	Whittier Blvd./Washington Blvd./Santa Fe Springs Road	E	E
56	San Gabriel Blvd./Plaza Drive	B	F
62	Durfee Avenue/SR 60 WB Ramps	E	B
63	Peck Road/Durfee Avenue	E	E

Source: AECOM 2010.

Table 3-3. Existing Conditions Freeway Off-Ramp Analysis

	Off-Ramp Location	Controlling Intersection Approach	Available Storage Length (feet)	Percentile ¹	AM Queue Length (feet)	PM Queue Length (feet)
3	SR 60 EB Off-Ramp to Atlantic Boulevard	Eastbound	2,000	50 th	126	137
				95 th	303	317
4	SR 60 WB Off-Ramp to Atlantic Boulevard/1 st Street	Westbound	2,000	50 th	163	186
				95 th	282	298
46	SR 60 WB Off-Ramp to EB Potrero Grande Drive	Northeast	1,500	50 th	89	47
				95 th	209	110
47	SR 60 EB Off-Ramp to Paramount Boulevard	Eastbound	1,500	50 th	129	355
				95 th	279	631
48	SR 60 WB Off-Ramp to Paramount Boulevard	Westbound	2,340	50 th	64	246
				95 th	154	491

Table 3-3. Existing Conditions Freeway Off-Ramp Analysis (continued)

	Off-Ramp Location	Controlling Intersection Approach	Available Storage Length (feet)	Percentile ¹	AM Queue Length (feet)	PM Queue Length (feet)
51	SR 60 EB Off-Ramp to San Gabriel Boulevard	Southbound	1,600	50 th	66	78
				95 th	146	208
54	SR 60 WB Off-Ramp to San Gabriel Boulevard	Westbound	1,430	50 th	68	155
				95 th	249	425
57	SR 60 EB Off-Ramp to Santa Anita Avenue	Eastbound	1,450	50 th	68	80
				95 th	125	138
58	SR 60 WB Off-Ramp to Santa Anita Avenue	Westbound	1,250	50 th	106	142
				95 th	153	200
59	SR 60 EB Off-Ramp to Durfee Avenue	Southbound	1,400	50 th	140	98
				95 th	241	162
62	SR 60 WB Off-Ramp to Durfee Avenue	Westbound	1,600	50 th	15	116
				95 th	62	257

Source: AECOM 2010.

Notes:

¹ 50th percentile means that half of the observed queues are shorter than the length shown. 95th percentile means that 95 percent of the observed queues are shorter than the length shown.

The SR 60 eastbound off-ramps at Findlay and Garfield Avenues and the westbound Potrero Grande Drive off-ramps are located near stations, but are uncontrolled and are not included in this analysis.

Key:

EB = Eastbound

WB = Westbound

3.2.6 Pedestrian Circulation

The existing pedestrian circulation system varies throughout the project area depending on the density, mix of land uses, and vehicular circulation patterns. The entire arterial street system network is considered open to pedestrian traffic, either on sidewalks or road shoulders. In some areas, pedestrian flow is impeded due to missing, inadequate, or unattractive sidewalks and crossings. Existing pedestrian conditions were qualitatively assessed throughout the project area at each of the proposed station locations for the SR 60 LRT Alternative and Washington Boulevard LRT Alternative.

Both LRT Alternatives

- **Near Proposed Garfield Avenue Station:** A residential community north of the SR 60 Freeway would have limited connectivity opportunities for pedestrians between the areas north and south of the SR 60 Freeway. Pedestrian crossings are currently prohibited across the north leg of the Via Campo and Garfield Avenue intersection. The south side of Via Campo east of the Garfield Avenue/Via Campo intersection provides a sidewalk for pedestrians; no other sidewalks are provided along Via Campo.

SR 60 LRT Alternative

- **Near Proposed Shops at Montebello Station:** Vehicle speeds within the shopping center parking lot are relatively low. There is a lack of pedestrian connectivity opportunities for the areas north and south of the SR 60 Freeway. The area surrounding the proposed station location lacks crosswalks and sidewalks for pedestrians.
- **Near Proposed Santa Anita Avenue Station:** Located near the SR 60 Freeway and the eastbound on-ramp, the nearest intersection, Santa Anita Avenue/SR 60 Ramps, has sidewalks and crosswalks on all approaches. Pedestrian connectivity to the residential development north of the SR 60 Freeway is provided by a pedestrian bridge east of the proposed station. The SR 60 Freeway overcrossing lacks sidewalks for pedestrians on the west side of the street. There is limited connectivity to the areas north and south of the SR 60 Freeway, with a pedestrian bridge only a few blocks away from the proposed station. Also, portions of Santa Anita Avenue, south of the SR 60 Freeway, have discontinuous paved and unpaved sidewalks. Segments along both the east and west sides of Santa Anita Avenue have unpaved shoulders, and the area around Lexington-Gallatin Avenue also lacks continuous sidewalks on both sides of the street. In addition, no sidewalks are provided along the north side of Lexington-Gallatin Avenue.
- **Near Proposed Peck Road Station:** The immediate environment does have sidewalks and crosswalks for pedestrian connectivity. At Durfee Avenue/Peck Road, no crosswalk is provided on the north leg of the intersection. The lack of sidewalks, crosswalks, and pedestrian connections, especially connections to the areas north and south of the SR 60 Freeway, contribute to an unattractive pedestrian environment.

Washington Boulevard LRT Alternatives

- **Near Proposed Whittier Boulevard Station:** At the intersection of Garfield Avenue/Whittier Boulevard, sidewalks and crosswalks are

provided on all approaches and directions. The wide roadways and lack of median areas contribute to long pedestrian walk distances, where pedestrians may need more time to cross the intersection.

- **Near Proposed Greenwood Avenue Station:** At the intersection of Greenwood Avenue/Washington Boulevard, continuous sidewalks are provided along both streets. All legs of the intersection allow for adequate pedestrian crossing.
- **Near Proposed Rosemead Boulevard Station:** At the intersection of Rosemead Avenue/Washington Boulevard, continuous sidewalks are provided along both streets. All legs of the intersection allow for adequate pedestrian crossing.
- **Near Proposed Norwalk Boulevard Station:** At the intersection of Norwalk Boulevard/Washington Boulevard, continuous sidewalks and crosswalks are provided on all approaches and directions. The northbound and southbound approaches have channelized right turns with pedestrian push buttons and standing area (refuge) in the island. Channelized right-turns create potential vehicular conflicts for pedestrians.
- **Near Proposed Lambert Road Station:** At the intersection of Lambert Road/Washington Boulevard, continuous sidewalks are provided on all approaches, but pedestrian crossing is not allowed on the west leg of the intersection. The southbound approach of the intersection has channelized right-turns, which create the potential for vehicular/pedestrian conflicts.

3.2.7 Bicycle Circulation

Per California Vehicle Code 21200 to 21212, bicycles are allowed on any street or roadway in the project area, except freeways. The bicycle impact analysis is focused on bicycle facilities (such as designated bicycle lanes and routes), especially near the proposed stations, as this is where the majority of bicycle activity is concentrated for accessing transit and bicycle parking.

Per Highway Design Manual Section 1001.4, a Class I bikeway provides a completely separated right of way for the exclusive use of bicycles and pedestrians with minimized crossflow by motorists. A Class II bikeway provides a striped lane for one-way bike travel on a street or highway. A Class III bikeway provides for shared use with pedestrian or motor vehicle traffic.

Existing bicycle parking is scattered throughout the project area, primarily at commercial establishments.

Existing bicycle conditions were qualitatively assessed throughout the project area at each of the proposed stations of the SR 60 LRT Alternative and the Washington Boulevard LRT Alternative.

No bicycle facilities are provided or currently planned along the proposed SR 60 LRT Alternative.

The Washington Boulevard LRT has Class I and III bicycle routes that intersect Washington Boulevard, such as the Rio Hondo Bike Path (between Bluff Road and Paramount Boulevard) and San Gabriel River Mid Trail (west of the I-605 Freeway).

The following bicycle lanes near the proposed stations are included in the Los Angeles County bicycle map.

SR 60 LRT Alternative

- **Near Proposed Shops at Montebello Station:** Class II facilities exist on Montebello Boulevard for a short distance extending in the east-west direction south of the shopping center. Class I facilities are located on San Gabriel Boulevard and follow the Rio Hondo in a north-south direction.
- **Near Proposed Santa Anita Avenue Station:** Class I facilities are located in the Whittier Narrows Regional Park and Class II facilities exist along Santa Anita Avenue extending north into South El Monte's Class II bicycle route network. These facilities lead the bicyclist to cross the freeway in the north or southbound direction via the Santa Anita Avenue/SR 60 Freeway overcrossing, or at the pedestrian bridge slightly farther east of the overcrossing.

- **Near Proposed Peck Road Station:** Class II facilities are located along Peck Road in the north-south direction and connect with South El Monte's Class II bicycle network. This Class II facility traverses the SR 60 Freeway utilizing the freeway undercrossing at Peck Road.

Washington Boulevard LRT Alternative

- **Near Proposed Whittier Boulevard Station:** Class II facilities exist in the city of Montebello, a short distance away from the proposed Whittier Boulevard station located on Garfield Avenue and Whittier Boulevard.
- **Near Proposed Greenwood Avenue Station:** Class I facilities are located along the Rio Hondo, a short distance from the Greenwood Avenue station. The Rio Hondo Class I bicycle facilities cross under Washington Boulevard below-grade.
- **Near Proposed Rosemead Boulevard Station:** Class II facilities exist north of the Washington Boulevard/Rosemead Boulevard intersection along Mines Avenue.
- **Near Proposed Norwalk Boulevard Station:** Class III facilities exist along Norwalk Boulevard, Broadway Avenue, and Sorensen Avenue in the north-south direction. These Class III facilities cross Washington Boulevard at-grade.
- **Near Proposed Lambert Road Station:** Class I, II, and III facilities are located in the city of Whittier, accessible from the five-point intersection of Washington Boulevard/Whittier Boulevard/Santa Fe Springs Road.

In addition, one bicycle facility is currently planned along the Washington Boulevard LRT Alternative. Class III facilities are proposed along Washington Boulevard in the east-west direction that would connect with the city of Montebello's bicycle network to the north, according to Pico Rivera's General Plan Circulation Element. In addition, a future Class III bicycle route has been identified along Greenwood Avenue that would connect to a future Class II bicycle lane along Montebello Boulevard, as documented in the City of Montebello's Bicycle Lane Feasibility Report.

Existing facilities at or near each of the proposed stations are described in greater detail in Section 4.4 of the Transportation Impacts Technical Memorandum, Appendix M, of this Draft EIS/EIR.

3.3 Environmental Impacts/Environmental Consequences

This section describes the potential impacts of the proposed alternatives on transit, regional transportation, intersections, freeway off-ramps, parking, pedestrian circulation, and bicycle circulation during both construction and operation, using the methodology identified in Section 3.1.5. **Table 3-4** summarizes the potential impacts of each alternative and **Table 3-5** summarizes the potential impacts after mitigation for each alternative. Transportation benefits are summarized in **Table 3-6**, which presents each alternative’s reduction in vehicle miles traveled (VMT), vehicle hours traveled (VHT), average vehicle speed, and number of vehicle trips, compared with the No Build Alternative.

Compared to the No Build Alternative, the other three alternatives would not result in major changes in any of the region-wide or project area performance measures evaluated; however, the data indicates that each of the build alternatives would have a beneficial effect on the project area by reducing VMT, VHT, and peak hour vehicle trips. On a regional scale, beneficial effects on the transportation network would be reflected in the reductions to peak hour vehicle trips.

However, the three alternatives would result in adverse effects under NEPA or significant impacts under CEQA during either construction or operations, as described in the following sections. Further details of impacts are presented in the Transportation Impacts Technical Memorandum, Appendix M.

Table 2-5 in Chapter 2, Alternatives Considered, summarizes the anticipated construction activities, their approximate durations, and a rough order of magnitude for each alternative.

The construction duration for either the SR 60 LRT Alternative or Washington Boulevard LRT Alternative is estimated to be approximately four to six years, with the SR 60 LRT Alternative most likely taking four years to construct and the Washington Boulevard LRT Alternative most likely taking six years to construct.

3.3.1 No Build Alternative

3.3.1.1 Impact Analysis

Construction Impacts

The No Build Alternative would not have any construction impacts because there would be no physical change to the existing environment.

By definition, the No Build Alternative would not result in any adverse effects relative to transit, regional transportation, intersections, freeway off-ramps, parking, pedestrian circulation, or bicycle circulation, as no construction activity is planned to occur.

Operational Impacts

The No Build Alternative would not have any operational impacts. However, it would lack the potential transportation benefits that the build alternatives would provide, such as improved transit access and reliability, enhanced connectivity with the regional transportation network, and better transit interface with pedestrian and bicycle travel. Over time traffic congestion is expected to increase, causing buses and auto traffic to operate more slowly and less efficiently. The No Build Alternative would not provide a reliable transit alternative to these modes of travel in the project area.

Transit

By definition, the No Build Alternative would not result in any adverse transit effects. However, as traffic congestion increases over time, the quality of bus service in the project area would decline due to the increases in time required to travel between destinations. Although the project area contains several employment destinations, active retail centers, and stable residential neighborhoods, there are many more activity and employment centers located adjacent to or outside the project area.

Table 3-4. Summary of Potential Transportation Impacts Before Mitigation

Alternative Under Consideration		No Build	TSM	SR 60 LRT	Washington Boulevard LRT
Transit					
Construction	NEPA	--	Temporary adverse effect	Temporary adverse effect (SR 60 North Side Design Variation would have an additional adverse effect)	Temporary adverse effect
	CEQA	--	Less than significant	Less than significant (SR 60 North Side Design Variation would have no significant impact)	Less than significant
Operation	NEPA	--	Beneficial effect	Beneficial effect	Beneficial effect
	CEQA	--	Less than significant	No significant impact	Less than significant
Regional					
Construction	NEPA	--	Not adverse	Not adverse	Not adverse
	CEQA	--	Less than significant	Less than significant	Less than significant
Operation	NEPA	--	Beneficial effect	Beneficial effect	Beneficial effect
	CEQA	--	Less than significant	Less than significant	Less than significant
Intersection					
Construction	NEPA	--	Not adverse	Temporary adverse effect	Temporary adverse effect
	CEQA	--	Less than significant	Less than significant	Less than significant
Operation	NEPA	--	Not adverse	Adverse effect	Adverse effect
	CEQA	--	Less than significant	Significant impact	Significant impact

**Table 3-4. Summary of Potential Transportation Impacts Before Mitigation
(continued)**

Alternative Under Consideration		No Build	TSM	SR 60 LRT	Washington Boulevard LRT
Freeway Off-Ramps					
Construction	NEPA	--	Not adverse	Temporary adverse effect (SR 60 North Side Design Variation would have an additional adverse effect)	Temporary adverse effect (San Gabriel Boulevard/I-605 aerial crossing would have an additional adverse effect)
	CEQA	--	Less than significant	Significant impact (SR 60 North Side Design Variation would have an additional significant impact)	Significant impact (San Gabriel Boulevard/I-605 aerial crossing would have an additional significant impact)
Operation	NEPA	--	Not adverse	Not adverse	Not adverse
	CEQA	--	Less than significant	Less than significant	Less than significant
Parking¹					
Construction	NEPA Off-	--	Not adverse	Temporary adverse effect	Temporary adverse effect
	NEPA On-	--	Not adverse	Not adverse	Not adverse
Operation	NEPA Off-	--	Not adverse	Adverse effect	Adverse effect
	NEPA On-	--	Not adverse	Not adverse	Not adverse
	NEPA Spillover	--	Not adverse	Not adverse	Not adverse
Pedestrian Circulation					
Construction	NEPA	--	Temporary adverse effect	Temporary adverse effect	Temporary adverse effect
	CEQA	--	Less than significant	Less than significant	Less than significant

Table 3-4. Summary of Potential Transportation Impacts Before Mitigation (continued)

Alternative Under Consideration		No Build	TSM	SR 60 LRT	Washington Boulevard LRT
Operation	NEPA	--	Not adverse	Beneficial effect	Beneficial effect/Adverse effect at Santa Fe Springs Maintenance Yard Option
	CEQA	--	Less than significant	Less than significant	Less than significant
Bicycle Circulation					
Construction	NEPA	--	Temporary adverse effect	Temporary adverse effect	Temporary adverse effect
	CEQA	--	Less than significant	Less than significant	Less than significant
Operation	NEPA	--	Not adverse	Beneficial effect	Adverse effect
	CEQA	--	Less than significant	Less than significant	Less than significant

Source: AECOM 2013.

Notes:

Assumes no operational differences for the SR 60 North Side Design Variation. Assumes no operational differences for the Washington Boulevard LRT Aerial Crossing Options.

Table 3-4 includes results for the North Side Design Variation or the Washington Boulevard LRT Aerial Crossing Options.

Impacts associated with these options are only noted if there are differences in beneficial, adverse, or significant effects.

¹ CEQA does not have specific thresholds for impacts on parking because parking changes would not have a physical impact on the environment.

Table 3-5. Summary of Potential Transportation Impacts After Mitigation

Alternative Under Consideration		No Build	TSM	SR 60 LRT	Washington Boulevard LRT
Transit					
Construction	NEPA	--	Not adverse after mitigation	Not adverse after mitigation (SR 60 North Side Design Variation would have no adverse effects after mitigation)	Not adverse after mitigation
	CEQA	--	--	--	--
Operation	NEPA	--	--	--	--
	CEQA	--	--	--	--
Regional					
Construction	NEPA	--	--	--	--
	CEQA	--	--	--	--
Operation	NEPA	--	--	--	--
	CEQA	--	--	--	--
Intersection					
Construction	NEPA	--	--	Not adverse after mitigation	Not adverse after mitigation
	CEQA	--	--	--	--
Operation	NEPA	--	--	Not adverse after mitigation	Adverse effects after mitigation
	CEQA	--	--	Less than significant after mitigation	Significant and unavoidable after mitigation

Table 3-5. Summary of Potential Transportation Impacts After Mitigation (continued)

Alternative Under Consideration		No Build	TSM	SR 60 LRT	Washington Boulevard LRT
Freeway Off-Ramps					
Construction	NEPA	--	--	Not adverse after mitigation (SR 60 North Side Design Variation would have no adverse effects after mitigation)	Not adverse after mitigation (San Gabriel Boulevard/I-605 aerial crossing would have no adverse effects after mitigation)
	CEQA	--	--	Less than significant after mitigation (SR 60 North Side Design Variation would have no significant impact after mitigation)	Less than significant after mitigation (San Gabriel Boulevard/I-605 aerial crossing would have no significant impacts after mitigation)
Operation	NEPA	--	--	--	--
	CEQA	--	--	--	--
Parking¹					
Construction	Off-street	--	--	Not adverse after mitigation	Not adverse after mitigation
	On-street	--	--	--	--
Operation	Off-street	--	--	Not adverse after mitigation	Not adverse after mitigation
	On-street	--	--	--	--
	Spillover	--	--	--	--
Pedestrian Circulation					
Construction	NEPA	--	Not adverse after mitigation	Not adverse after mitigation	Not adverse after mitigation
	CEQA	--	--	--	--

Table 3-5. Summary of Potential Transportation Impacts After Mitigation (continued)

Alternative Under Consideration		No Build	TSM	SR 60 LRT	Washington Boulevard LRT
Operation	NEPA	--	--	--	--
	CEQA	--	--	--	--
Bicycle Circulation					
Construction	NEPA	--	Not adverse after mitigation	Not adverse after mitigation	Not adverse after mitigation
	CEQA	--	--	--	--
Operation	NEPA	--	--	--	Not adverse after mitigation
	CEQA	--	--	--	--

Source: AECOM 2010.

Notes:

Assumes no operational differences for the SR 60 North Side Design Variation. Assumes no operational differences for the Washington Boulevard LRT Aerial Crossing Options.

Table 3-5 includes results for the North Side Design Variation or the Washington Boulevard LRT Aerial Crossing Options.

Impacts associated with these options are only noted if there are differences in beneficial, adverse, or significant effects.

¹ CEQA does not have specific thresholds for impacts on parking because parking changes would not have a physical impact on the environment.

Table 3-6. Performance Measures for Project Alternatives (2035)

	No Build	TSM	SR 60	Washington Blvd.
Regional				
Vehicle Miles Traveled (VMT)	524,869,000	524,386,000	524,370,000	524,369,000
Vehicle Hours Traveled (VHT)	27,378,000	27,297,000	27,294,000	27,294,000
Average Vehicle Speed (mph)	19.2	19.2	19.2	19.2
AM Peak Vehicle Trips	9,214,000	9,209,000	9,208,000	9,207,000
PM Peak Vehicle Trips	15,630,000	15,624,000	15,624,000	15,623,000
Project Area				
VMT	11,201,000	11,172,000	11,156,000	11,155,000
VHT	514,000	510,000	507,000	507,000

Table 3-6. Performance Measures for Project Alternatives (2035) (continued)

	No Build	TSM	SR 60	Washington
Average Vehicle Speed (mph)	21.8	21.9	22.0	22.0
AM Peak VMT	2,470,000	2,463,000	2,457,000	2,456,000
AM Peak VHT	152,000	150,000	149,000	149,000
AM Peak Average Speed (mph)	16.3	16.4	16.5	16.5
AM Peak Vehicle Trips	281,000	280,000	279,000	278,000
PM Peak VMT	3,595,000	3,583,000	3,579,000	3,579,000
PM Peak VHT	231,000	228,000	227,000	227,000
PM Peak Average Speed (mph)	15.6	15.7	15.8	15.8
PM Peak Vehicle Trips	470,000	468,000	468,000	467,000

Source: AECOM, 2010; Metro Travel Demand Model 2010.

Notes:

VMTs and VHTs include model centroid connectors.

VMT and VHT statistics are daily unless AM or PM peak hours are specified.

Assumes no operational differences for the SR 60 North Side Design Variation.

Assumes no operational differences for the Washington Boulevard LRT Aerial Crossing Options.

Project area travelers, as well as travelers from outside the project area, have limited options and accessibility to existing transit due to the lack of direct connections to the regional rail system and continuing freeway and street system congestion, which causes slow and overburdened bus operation. Future corridor transportation improvements will need to reflect a multi-modal strategy that provides travelers with a more complete set of transportation alternatives.

Regional Transportation

By definition, the No Build Alternative would not result in any adverse regional transportation effects, either region-wide or in the project area, as the No Build Alternative is the established baseline used against the other alternatives for determining impact. It should be noted, however, that the VMT, VHT, and peak hour vehicle trips associated with the No Build Alternative would be slightly higher than those of the TSM, SR 60 LRT, and Washington Boulevard LRT Alternatives due to region-wide area growth.

Intersections

Figure 3-3 and **Table 3-7** show the intersections that are projected to operate at LOS E or F in the year 2035. Of the 24 intersections operating at LOS E/F in year 2035 under the No Build Alternative, 12 intersections currently operate at an acceptable LOS D or better under existing conditions. LOS would worsen and these intersections would represent new unacceptable locations under the No Build Alternative.

Freeway Off-Ramps

As with existing conditions, queues that would develop under the No Build Alternative could be accommodated within the available storage distance. Therefore, the No Build Alternative would not have an adverse effect on operations at the study off-ramps.

Parking

By definition, the No Build Alternative would not result in any adverse parking effects, as no new operations are planned to occur.

Pedestrian Circulation

By definition, the No Build alternative would not result in any adverse pedestrian effects, as no new operations are planned to occur.

Bicycle Circulation

By definition, the No Build alternative would not result in any adverse effects to bicycle circulation, as no new operations are planned to occur.

Comparison of Alternative Against Existing Conditions

No additional impacts would occur from the No Build Alternative under this scenario, since the No Build Alternative does not involve substantial changes to existing conditions.

3.3.1.2 Mitigation Measures

Construction Mitigation Measures

No construction mitigation measures are required for the No Build Alternative because no impacts would occur.

Operational Mitigation Measures

No operational mitigation measures are required for the No Build Alternative because no impacts would occur.

Comparison of Alternative Against Existing Conditions

No significant impacts would occur under this scenario; therefore no mitigation measures are required.

3.3.1.3 Impacts Remaining After Mitigation

NEPA Finding

The No Build Alternative would have no adverse transportation effects during construction or operation.

CEQA Determination

The No Build Alternative would not result in a significant transportation impact during construction or operation.

Comparison of Alternative Against Existing Conditions

No additional impacts would occur under this scenario

3.3.2 TSM Alternative

3.3.2.1 Impact Analysis

Construction Impacts

The TSM Alternative would not have any significant construction impacts under CEQA related to regional transportation, intersections, freeway off-ramps, parking, pedestrians, bicycles, or transit. Under NEPA, the TSM Alternative would have temporary adverse effects during construction to local transit, pedestrian, and bicycle conditions; however, these effects would be mitigated through traffic management plans and use of alternative routes. Construction of the TSM Alternative would include new and reconfigured bus stops, and construction activities would be small in magnitude and short in duration. As the TSM Alternative would only involve the addition of new bus service in the project area, it would not negatively affect traffic flows or parking.



Source: AECOM 2010. Intersection numbers correspond to Table 3-2.

Figure 3-3. LOS E/F Intersections – Future No Build (2035) Conditions

Table 3-7. LOS E/F Intersections – Existing (2010) and Future No Build (2035) Conditions

#	Intersection	Existing AM Peak LOS	Existing PM Peak LOS	Future No Build AM Peak LOS	Future No Build PM Peak LOS
1	Atlantic Blvd./Beverly Blvd.	D	D	D	E
2	Atlantic Blvd./Pomona Blvd.	D	D	D	E
4	Atlantic Blvd./1st Street/ SR 60 WB Ramps	B	B	E	C
10	Garfield Avenue/Pomona Blvd.	E	D	F	E
11	Garfield Avenue/Via Campo	D	E	D	F
18	Garfield Avenue/Beverly Blvd.	D	D	D	E
26	Garfield Avenue/Washington Blvd.	F	F	F	F
33	Paramount Blvd./ Washington Blvd.	E	E	F	F
35	Rosemead Blvd./ Washington Blvd.	E	E	F	F
36	Passons Blvd./Washington Blvd.	D	D	F	F
37	Pioneer Blvd./Washington Blvd.	E	E	F	F
38	Norwalk Blvd./Washington Blvd.	E	E	F	F
40	Broadway/Washington Blvd.	C	D	E	E
41	Sorensen Avenue/ Washington Blvd.	D	D	E	E
42	Lambert Road/Washington Blvd.	D	D	D	F
43	Lambert Road/ Santa Fe Springs Road	E	F	F	F
44	Putnam Street/Washington Blvd.	D	C	F	C
45	Whittier Blvd./Washington Blvd./Santa Fe Springs Road	E	E	F	F
56	San Gabriel Blvd./Plaza Drive	B	F	B	F
57	Santa Anita Avenue/ SR 60 EB Ramps	C	C	E	C
60	Durfee Avenue/Slack Road	C	B	E	C

Table 3-7. LOS E/F Intersections – Existing (2010) and Future No Build (2035) Conditions (continued)

#	Intersection	Existing AM Peak LOS	Existing PM Peak LOS	Future No Build AM Peak LOS	Future No Build PM Peak LOS
61	Durfee Avenue/Farndon Street	B	D	C	E
62	Durfee Avenue/SR 60 WB Ramps	E	B	F	B
63	Peck Road/Durfee Avenue	E	E	F	F

Source: AECOM 2010

Analysis of the TSM Alternative’s effects on these resources is provided in Section 5.2 of the Transportation Impacts Technical Memorandum, Appendix M, of this Draft EIS/EIR.

Transit

It is anticipated that the TSM Alternative would include only minimal construction, such as the installation of new bus stops and associated structures with minimal use of construction equipment. The surrounding transit system and infrastructure would be maintained; however, there might be minor and temporary disruptions to service during periods of construction. This would result in a temporary adverse effect to transit under NEPA and a less than significant impact under CEQA, based upon the magnitude and duration of construction of each individual TSM element.

Regional Transportation

As the TSM Alternative would involve minimal construction, these effects would not be adverse on a region wide basis. As such, construction of the TSM Alternative would not result in an adverse effect to regional transportation and would have a less than significant impact under CEQA.

Intersections

Construction activities for the TSM Alternative would be temporary and minimal. Construction would include the installation of new bus stops and associated structures and restriping of travel lanes. Activities would occur in the existing street and sidewalk ROW and would require minimal use of

construction equipment. The surrounding transportation infrastructure would be maintained and overall construction activities would last for approximately one year. As such, construction of the TSM Alternative would not result in an adverse effect to intersection operating conditions and would have a less than significant impact under CEQA.

Freeway Off-Ramps

Under the TSM Alternative, the transit infrastructure investment (new bus routes, service enhancements, and physical structures such as new bus shelters) would utilize the existing street and sidewalk networks and would not require the alteration of any freeway ramp facilities. As such, there would be no adverse effects to off-ramp conditions and the impact under CEQA would be less than significant.

Parking

Construction activities for the TSM Alternative would be minimal, and typically would include the installation of new bus stops and associated structures and changes to roadway striping. Activities would occur in the existing street and sidewalk ROW and would require minimal use of construction equipment. As a result, there may be temporary displacement of on-street parking spaces during construction. No off-street parking would be affected by construction of the TSM Alternative elements. Any on-street parking displacement would be temporary in nature and there would generally be adjacent on-street parking available; as such, there

would not be an adverse effect under NEPA. In addition, there would be no changes to off-street parking with construction of the TSM Alternative.

Pedestrian Circulation

In general, any new facilities needed for the TSM Alternative bus routes would require minimal construction (such as temporary sidewalk closures or detours for new bus shelters). This would result in a temporary adverse effect under NEPA and a less than significant impact under CEQA to pedestrians, based on the magnitude and duration of construction of each individual TSM element.

Bicycle Circulation

In general, any new facilities that would be needed for the TSM Alternative bus routes would require minimal construction (such as temporary lane closures for new bus shelters or lane restriping). This would result in a temporary adverse effect under NEPA to bicycle circulation and a less than significant impact under CEQA, based on the magnitude and duration of construction of each individual TSM element.

Operational Impacts

The TSM Alternative would not have any significant operational impacts or adverse operational effects under NEPA or CEQA. This is because the TSM Alternative would only involve the addition of new bus service in the project area, and this would not negatively affect transit service, parking, pedestrian circulation, or bicycle circulation. The new bus service would have a beneficial effect on transit by instituting additional bus service in the project area, thereby improving access and mobility. The TSM Alternative would have the same effect on bicycle access as the No Build Alternative, given the existing service would simply be enhanced and would not involve additional upgrades that would affect bicycle networks. However, this effect may not be long-lasting, given the anticipated worsening of traffic congestion in the coming years.

Transit

Effects of the TSM Alternative would be beneficial, as increased levels of transit service would be

provided by numerous upgrades, such as new limited-stop, express, and Rapid bus lines, when compared to the No Build Alternative. However, the TSM Alternative would not provide as high a level of beneficial effects as the two build alternatives in terms of travel time and increased ridership. Under CEQA, operation of the TSM would result in less than significant impacts.

Regional Transportation

Although minimal, the TSM Alternative would have beneficial effects on both a region-wide and project area level. Region-wide, slight reductions in overall VMT, VHT, and peak hour vehicle trips would be seen when compared to the No Build Alternative. In the project area, additional improvements would be seen in performance measures such as peak hour VMT, VHT, and vehicle trips compared to the No Build Alternative. Under CEQA, operation of the TSM would result in less than significant impacts.

Intersections

The addition of buses on the roadways would not affect traffic operations relative to the high number of single occupancy vehicles. Of the 24 intersections operating at LOS E/F under the No Build Alternative, one is projected to improve to LOS D or better during the PM peak hour, and none of the intersections operating above LOS D would worsen. The remaining intersections would continue to operate at LOS E or F conditions during at least one peak period, but the average delay per vehicle would generally decrease with the TSM Alternative. As a result, there would be no adverse effect under NEPA and a less than significant impact under CEQA to intersection operating conditions with the TSM Alternative. Table 5-10 in Appendix M, Transportation Impacts Technical Memorandum, provides detailed LOS calculations.

Freeway Off-Ramps

The transit improvements included in the TSM Alternative would result in minor variations in off-ramp traffic volumes, with slightly lower volumes than under the No Build Alternative. Since the TSM Alternative would result in equal or lower volumes than the No Build Alternative, these two alternatives

would result in similar queue lengths. The operation of the transit infrastructure investment associated with the TSM Alternative would not result in an adverse effect or significant impact to the queue lengths of the studied freeway off-ramps, as the ramp queues would not spill over onto the SR 60 Freeway mainline under the TSM Alternative.

Parking

Additional bus service would be added mostly to roadways with existing routes and existing corresponding bus stops, and in those locations buses would likely use existing bus stops so that on-street parking would not be affected. Where new bus routes are proposed, bus stops would generally be located immediately near intersections where on-street parking is not provided. There may be the potential for a few on-street parking spaces to be impacted. Any reduction in on-street parking would be minimal and would not be considered an adverse effect. No off-street parking facilities would be affected by operations of the TSM Alternative. Overall, there would be no adverse effect under NEPA for on-street or off-street parking conditions.

Pedestrian Circulation

The proposed TSM Alternative would result in a small increase in weekday walking trips throughout the corridor for pedestrian traveling to and from new bus stops. However, based on the general availability of pedestrian space, the new trips would not result in pedestrian congestion on sidewalks or in additional conflict locations. As such, there would be no adverse effects or significant impacts to pedestrian circulation.

Bicycle Circulation

The TSM Alternative would have the same effect on bicycle access as the No Build Alternative, given the existing service would simply be enhanced without additional upgrades that would affect bicycle networks. Any reduction in automobile usage with the TSM Alternative would reduce the potential for conflicts along bicycle facilities throughout the study area. Therefore, the TSM Alternative would not result in adverse effects or significant impacts to bicycle circulation.

More information is provided in Section 5.2 in the Transportation Impacts Technical Memorandum, Appendix M. Overall, the TSM Alternative would have fewer transportation benefits than the proposed build alternatives.

Comparison of Alternative Against Existing Conditions

No additional impacts beyond the year 2035 scenario for the TSM Alternative would occur under the existing conditions scenario, since traffic conditions would be equal to or better than the year 2035 scenario. Therefore, no mitigation measures are required.

3.3.2.2 Mitigation Measures

Construction Mitigation Measures

The TSM Alternative would not have any significant construction impacts under CEQA. As such, no mitigation measures for these topics are required under CEQA. Under NEPA, there would be temporary effects related to transit, pedestrian, and bicycle circulation during construction and these would be adverse before mitigation. As such, mitigation measures are provided below. No adverse effects would occur after implementation of these mitigation measures. Additional detail is provided in the Transportation Impacts Technical Memorandum, Appendix M.

- 3.0-i Metro would prepare a traffic management plan to facilitate the flow of traffic in and around the construction zone. These mitigation measures would also apply to transit service and pedestrian and bicycle circulation. Although more measures may be added, typical measures included in a Traffic Management Plan are:
- Schedule a majority of construction-related travel (i.e., deliveries, hauling, and worker trips) during the off-peak hours;
 - Construction activities would be minimized during weekday AM and PM peak hours (typically 7:00 to 9:00 AM and 4:00 to 6:00 PM);

- Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas;
- Where feasible, temporarily restripe roadways to maximize the vehicular capacity at those locations affected by construction closures;
- Where feasible, temporarily remove on-street parking to maximize the vehicular capacity at those locations affected by construction closures;
- Where feasible, place station traffic control officers at major intersections during peak hours to minimize delays related to construction activities;
- Develop and implement an outreach program to inform the general public about the construction process and planned roadway closures; and
- Develop and implement a program with business owners to minimize effects to businesses during construction activity, including but not limited to signage programs.

Due to the limited nature of TSM Alternative construction, the traffic management plan measures would be less in magnitude than those required for the build alternatives. Metro would also implement a construction mitigation information campaign to inform the community of potential impacts and mitigation measures as a result of the construction period. The campaign would coordinate preparation of traffic control plans with local jurisdiction reviews and approvals.

Transit

The traffic management plan discussed above (mitigation measure 3.0-i) would mitigate temporary disruptions to transit service. In addition, Metro would coordinate with local transit agencies in advance to communicate closures, communicate information on any changes to bus service that would result from the TSM Alternative, and develop detour routes. Combined, these

measures would address the temporary adverse effects.

Regional Transportation

No mitigation measures would be required, as no adverse effects or significant impacts are expected. Overall, the TSM Alternative would have a beneficial effect on transit conditions in the area as compared to the No Build Alternative.

Intersections

No mitigation measures would be required, as no adverse effects or significant impacts are expected.

Freeway Off-Ramps

No mitigation measures would be required, as no adverse effects or significant impacts are expected.

Parking

No mitigation measures would be required, as no adverse effects are expected.

Pedestrian Circulation

In addition to the traffic management plan discussed above, wayfinding signage, lighting, and access to specific pedestrian safety amenities (for example handrails, fences, and alternative walkways) would be implemented during the construction period in areas where existing pedestrian and/or bicycle facilities would be affected.

During final design, Metro would also coordinate with local transit agencies to address pedestrian movements. This may help to ensure that only one side of the street would be closed at a time. If a crosswalk is temporarily closed, pedestrians would be directed to use one that is in close proximity to the closed crosswalk, and adjacent crosswalks would remain open so pedestrians could cross streets. In addition, access to businesses and residences would be maintained throughout construction. Combined, these elements would help address the issues associated with pedestrian circulation and would therefore mitigate the impact. Combined, these measures would address the adverse effects.

Bicycle Circulation

In addition to the traffic management plan discussed above, on-street bicycle detour routes and signage would be used to address temporary effects to bicycle circulation in areas where existing bicycle facilities would be affected. In addition, Metro would coordinate with local transit agencies to address bicycle movements. Furthermore, access to businesses and residences via bicycle routes would be maintained at all times throughout construction. In addition, temporary alternative bike routes on complementary streets would be identified as needed. Combined, these measures would address the adverse effects.

Operational Mitigation Measures

No operational mitigation measures are required for the TSM Alternative because no significant operational impacts or adverse operational effects would occur.

Comparison of Alternative Against Existing Conditions

No additional significant impacts would occur under this scenario, since traffic conditions would be equal to or better than the year 2035 scenario. Therefore no mitigation measures are required.

3.3.2.3 Impacts Remaining After Mitigation

NEPA Finding

The TSM Alternative would have temporary adverse transportation effects during construction that would be addressed through mitigation measures.

CEQA Determination

The TSM Alternative would not result in significant impacts during construction.

Comparison of Alternative Against Existing Conditions

No additional impacts would occur under this scenario.

3.3.3 SR 60 LRT Alternative

3.3.3.1 Impact Analysis

Construction Impacts

The SR 60 LRT Alternative would not have any significant construction impacts under CEQA or

adverse effects under NEPA related to regional transportation. Under NEPA, the SR 60 LRT Alternative would have temporary adverse effects during construction to local transit, intersections, freeway off-ramps, parking, and pedestrian and bicycle conditions; however, these effects would be mitigated through traffic management plans and other measures. Analysis of the SR 60 LRT Alternative's effects on these resources is provided in the Transportation Impacts Technical Memorandum, Appendix M, of this Draft EIS/EIR.

Transit

Since the majority of the SR 60 LRT Alternative would be in an aerial configuration, there would be no direct effects to on-street transit operation. However, temporary full intersection, lane, or sidewalk closures may be necessary during construction, which may result in detours for bus service. Construction of the at-grade portion of the SR 60 LRT Alternative may require temporary lane closures (e.g., left-turn lane restrictions) at the intersection of Pomona Boulevard/Hillview Avenue. Construction of the aerial structure at the intersection of Pomona Boulevard/Sadler Avenue may require temporary full intersection closure. As transit service is not provided on this segment of Pomona Boulevard, construction of the SR 60 LRT Alternative would not result in any direct effects to transit services.

Throughout the SR 60 LRT alignment, temporary intersection or lane closures due to construction would cause a reduction in the capacity of the affected road. This reduction in capacity would likely cause vehicular traffic to divert to parallel roadways, thus increasing congestion, which may cause adverse effects by decreasing bus operating speeds along those parallel streets. As a result, construction of the SR 60 LRT Alternative would result in a temporary adverse effect to transit operation under NEPA and a less than significant impact under CEQA, based on the magnitude and duration of construction as described in Table 2-5.

With the SR 60 North Side Design Variation, temporary closures may be required that would cause a reduction in capacity of the affected roads, particularly for the SR 60 Freeway and the restricted

access roadway, Greenwood Avenue. The new overhead structures on the SR 60 Freeway would require temporary closures of the freeway, particularly overnight. These temporary closures would force vehicles to divert to parallel roadways, and the resulting increased congestion may cause effects by decreasing bus operating speeds along those parallel streets. In addition, one bus route that operates on the SR 60 Freeway, Metro Line 68, would need to be re-routed during any freeway closures. However, freeway closures are likely to occur at night when the bus service no longer runs or has very limited service. As a result, construction of the SR 60 North Side Design Variation would result in a temporary adverse effect to transit operations under NEPA and a less than significant impact under CEQA, based on the magnitude and duration of construction as described in Table 2-5 and the potential SR 60 closures. However, no transit construction effects would result from the temporary closure of the restricted access roadway, Greenwood Avenue, as the bus system does not operate on this facility.

During construction of the maintenance yard for the SR 60 LRT Alternative, temporary closures of roadways and lanes would be required, resulting in potential disruptions to bus service. Service on Metro Lines 70 and 71, which operate on Mission Avenue, may require temporary re-routing and relocation of bus stops. Reduction in lane capacity due to temporary lane closures would decrease bus operating speeds. This site is in an industrial area with a low frequency of transit service. Although temporary, the potential disruptions to transit service may result in an adverse effect under NEPA and a less than significant impact under CEQA to transit conditions, based on the magnitude and duration of construction as described in Table 2-5.

Regional Transportation

Construction activities for the SR 60 Alternative would result in temporary closures of some regional facilities, such as overnight closures of the SR 60 mainline and on- and off-ramps. However, since these closures would be temporary and parallel facilities would be available (for instance, vehicles on SR 60 could reroute to SR 10 to the

north or SR 91 to the south), they would not result in an adverse effect under NEPA, and would be a less than significant impact under CEQA.

Intersections

For the SR 60 LRT Alternative, the majority of the construction would occur in the ROW south of the SR 60 Freeway. For the short at-grade portion of the alignment along Pomona Boulevard from Atlantic Boulevard to Sadler Avenue, the center median would be sectioned off from the rest of the street and construction staging would occur primarily in the median. The project area intersections directly affected by at-grade construction would be Atlantic Boulevard/Pomona Boulevard and Hillview Avenue/Pomona Boulevard.

Some of the streets along the alignment would need to be either completely reconstructed or widened to accommodate the guideway, including portions of Pomona Boulevard and streets adjacent to the proposed stations. Additional street work would be required at all at-grade crossing locations to allow for placement of the track slab and rails and modification of existing curbs, gutters, and sidewalks to accommodate the rail crossings. The construction duration is estimated to be four months to complete track work for a one-mile segment. The estimated construction duration for widening a one-mile street segment is five months to one year, depending on the extent of widening and the utility relocation required.

Construction activities associated with the SR 60 LRT Alternative could temporarily impede traffic mobility at the intersections where at-grade and grade-separated crossings would occur.

For the grade-separated portions of the alignment from Sadler Avenue to Peck Road, construction would occur in the ROW south of the SR 60 Freeway. Construction of the grade-separated portions would require more substantial equipment due to the large cranes needed to secure precast girders in place. Due to the size of the cranes, special staging areas close to the site would be needed and erection of the girders would typically be done at night to minimize traffic disruptions. Project area intersections directly affected by grade-

separated construction would be Gerhart Avenue/Pomona Boulevard, Findlay Avenue/Pomona Boulevard, Garfield Avenue/Via Campo, Wilcox Avenue/Via Campo, Paramount Boulevard/SR 60 WB Ramps/Town Center Drive, Montebello Boulevard/SR 60 EB Ramps, Santa Anita Avenue/SR 60 EB Ramps, and Peck Road/SR 60 EB Ramps.

Construction vehicles may temporarily impede traffic mobility in the areas of construction. During construction, temporary closure of traffic lanes would be necessary. Relocation of utilities and construction of the trackway and stations would require temporary closure of lanes, which would increase intersection delay and potentially modify existing traffic patterns. As a result, vehicular travel time and intersection operations would be affected. As currently planned, the alignment would be constructed in one-mile segments; therefore, not all intersections would be closed or modified simultaneously. As such, not all locations would be affected at the same time. These effects would be temporary and adverse under NEPA and less than significant under CEQA.

Construction haul routes would be on existing truck routes and would be located to minimize noise, vibration, and other possible impacts to adjacent businesses and residential neighborhoods. Routes would be confirmed during the preliminary engineering phase and final design phase of the project, but will likely include nearby local streets and major arterials for truck access to and from SR 60 and I-605.

Haul trips would take place during off-peak hours when there is excess capacity on the roadway network. However, haul and delivery truck routes may affect residents and commuters along the alignment. Hauling and general construction traffic may impact traffic flow patterns as well, because there could be minor reductions in roadway capacity and adjustments to existing traffic patterns as drivers bypass congested areas. If this occurs, vehicular travel times and intersection operations could be affected along these roadways.

During construction of the maintenance yard for the SR 60 LRT Alternative, the Mission Junction

Maintenance Yard Option, temporary closures of roadways would be required.

Construction of the Mission Junction Maintenance Yard for the SR 60 LRT Alternative would occur in a largely industrial area set far from residences or businesses. Impacts to traffic operations during construction would typically occur during nighttime and off-peak hours in order to minimize adverse effects. The construction of the Mission Junction Maintenance Yard would include standard methods associated with construction of trackwork and buildings, including demolition of existing facilities, leveling of land, and construction of new sheds and maintenance buildings, as well as track work for storage of light rail vehicles. Where construction encroaches on roadways and intersections, the temporary operation and flow of vehicular traffic would be affected. As such, construction of the maintenance yard would result in a temporary adverse effect under NEPA and a less than significant impact under CEQA to intersection operations.

In general, where construction encroaches on roadways and intersections, the temporary operation and flow of vehicular traffic would be addressed in the traffic management plan as documented in Section 3.4.4.2. Potential traffic control measures would be determined in part by construction staging activity for the project. The maintenance of traffic lanes during construction would follow local agency requirements and standards with respect to minimum lane widths, the number of available travel lanes, and the duration of temporary lane closures. Specific street closure locations would be identified in close coordination with local agencies during the final design stage. Section 3.3.3.2 discusses the traffic management plan in additional detail.

Freeway Off-Ramps

Under the SR 60 LRT Alternative, the light rail tracks would be constructed in the median of Pomona Boulevard from Atlantic Boulevard to Sadler Avenue, where the alignment would transition to an elevated structure and continue within the Caltrans ROW directly south of the SR 60 Freeway. Construction of the SR 60 LRT Alternative

may require the temporary closure of all eastbound freeway on- and off-ramps between Atlantic Boulevard and Peck Road when the aerial structures that span the ramps are being installed, or during the temporary use of ramp shoulders for construction equipment. An aerial guideway structure requires falsework for vertical support. The falsework system is designed to allow traffic flow during construction. Falsework would be constructed over Findlay Avenue and at the Garfield/Wilcox Avenue off-ramps, Gerhart Avenue undercrossing, Findlay Avenue undercrossing, and Garfield Avenue undercrossing/intersection. Falsework would be designed in accordance with the Caltrans Falsework Manual. The critical phase during construction is the erection, lowering, and removal of falsework. Lowering and removal of falsework would be done during nighttime hours in order to minimize the effects to traffic. If additional time is needed, the aerial guideway would be constructed via a combination of weekend off-ramp closures and staged construction across the affected streets.

As currently planned, the alignment would be constructed in one-mile segments; therefore, not all of the ramps would be closed simultaneously. Although any ramp closures or shoulder closures would be temporary, they would cause a temporary adverse effect under NEPA and a significant impact under CEQA to ramp operation and would result in re-routing of vehicles along the SR 60 Freeway mainline to upstream and downstream ramp locations.

Construction of the North Side Design Variation would likely require a temporary reduction in lane and shoulder widths in order to create additional room in the median to construct support columns in the median for the two proposed bridges. The number of lanes in each direction would not be affected, and the capacity of the freeway would be maintained. In addition, several overnight closures of SR 60 would likely be required to erect falsework or place pre-cast structural elements over the freeway. During freeway closures, only one travel direction of the freeway would be closed at a time.

The extent and duration of the closures would depend on a number of factors, including the construction contract limits and individual contractors' choices; closures would be coordinated with each affected jurisdiction. Restrictions on the extent and duration of the closures can be incorporated in the project construction specifications. In some cases, short-term full closures might be substituted for extended partial closures to reduce overall impacts. A rough order of magnitude and duration for particular construction activities is summarized in Table 2-5. The freeway closures would cause an additional temporary adverse effect under NEPA and a significant impact under CEQA to traffic operations.

Parking

During construction of the SR 60 LRT Alternative, current off-street parking facilities would be utilized for construction activities for the duration of construction, such as staging for the storage of construction materials and equipment, temporary offices for field personnel, parking for field personnel, and fabrication of construction materials. In addition, space would be needed for the physical construction of the stations and parking facilities which would last for approximately two years.

In particular, off-street construction staging and activities would be located at and adjacent to the proposed stations. At the proposed Garfield Avenue station, the parcel on the southeast corner of the intersection of Via Campo and Garfield Avenue would be utilized for construction staging and construction of the TPSS, resulting in the removal of approximately 325 parking spaces. However, the businesses on the western portion of the parcel would remain.

At the proposed Shops at Montebello station, the parcel southwest of the intersection of Town Center Drive and Montebello Town Center Drive would be utilized for construction staging and construction of a TPSS, resulting in the removal of about 400 parking spaces. These spaces are occasionally needed by the Shops at Montebello shopping

center during peak activity periods. In addition, approximately 10 surface parking spaces would be acquired for construction of the TPSS at this location.

The proposed Santa Anita Avenue station would be placed in the underutilized parcel southeast of SR 60 at the Santa Anita Avenue on- and off-ramps, and this would not result in the removal of any existing parking spaces for construction staging or TPSS construction.

At the proposed site of the Peck Road station, 140 parking spaces would be removed in addition to a vacant office building, motel, two auto service stations, and a vacant restaurant. These properties would be fully acquired and utilized for the Peck Road station, its associated park and ride facility, and construction staging.

Although temporary, given that parking would be provided at each station once construction is complete, the potential effects to the off-street parking supply would result in a temporary adverse effect to off-street parking under NEPA, based on the magnitude and duration of construction as shown in Table 2-5. It should be noted that these off-street parking spaces would be utilized for other project purposes as well.

Construction of the SR 60 LRT Alternative would also require temporary closure of travel lanes. Consequently, existing on-street parking spaces and loading stalls may need to be temporarily removed. Under the SR 60 LRT Alternative, approximately 50 on-street parking spaces would be displaced along Pomona Boulevard; these were generally about 60 percent occupied, as shown in **Table 3-8**. Given available parking on adjacent streets, there are replacement on-street parking options. As such, the on-street parking displaced would not result in an adverse effect under NEPA.

During construction of the Mission Junction Maintenance Yard Option, temporary closures of roadways would be required. Where construction encroaches on roadways and intersections, the temporary removal of on-street parking may be required. Exact locations of temporary on-street parking impacts are not known and would depend on many factors including the construction

contract limits and individual contractors' choices. Generally, any on-street parking on side streets adjacent to the current land use are anticipated to be temporarily removed.

Metro would work with local jurisdictions, businesses, and the community to find replacement parking during construction, as discussed in Section 3.3.3.2. Since the parking displacement would be temporary and replacement parking would likely be available, there would not be an adverse effect under NEPA to on-street parking with the Mission Junction Maintenance Yard Option.

Pedestrian Circulation

For the SR 60 LRT Alternative and the Mission Junction Maintenance Yard Option, temporary closures of roadways and sidewalks would be required during construction. The placement of aerial guideway columns and stations may affect sidewalks along the SR 60 LRT alignment. Where construction encroaches on sidewalks, walkways, or crosswalks, pedestrian safety measures would be considered, such as the development of detour routes and temporary pedestrian shelters. Pedestrian access to adjacent properties would be affected and would need to be maintained during construction. Although temporary, the potential disruptions to pedestrian circulation would result in a temporary adverse effect under NEPA and a less than significant impact under CEQA to pedestrian conditions, based on the magnitude and duration of construction as described in Table 2-5.

Bicycle Circulation

For the SR 60 LRT Alternative and the Mission Junction Maintenance Yard Option, temporary closures of roadways would be required during construction. Temporary lane closures may affect existing and proposed bike routes adjacent to, but not directly intersecting, the proposed station locations on Garfield Avenue north of the proposed Garfield Avenue station, on Santa Anita Avenue north of the proposed Santa Anita Avenue station, and on Peck Road north of the proposed Peck Road station. The potential disruptions to bicycle circulation would result in a temporary adverse effect under NEPA and a less than significant

Table 3-8. SR 60 LRT Alternative – Affected On-Street Parking Utilization and Replacement Parking Options

Affected Sections along Pomona Boulevard	Total Removed Parking Spaces Occupied	Total Parking Spaces Removed	% of Removed Spaces Currently Utilized	Potential Replacement Parking Options
North side of Pomona Blvd., between Atlantic Blvd. and Hillview Avenue	3	10	30%	Via Campo, Fernfield Drive, and Hillview Avenue
South side of Pomona Blvd., between Atlantic Blvd. and Hillview Avenue	11	11	100%	Via Campo and Hillview Avenue
North side of Pomona Blvd., between Hillview Avenue and Sadler Avenue	11	19	58%	Via Campo, Fernfield Drive, and Hillview Avenue
South side of Pomona Blvd., between Hillview Avenue and Sadler Avenue	8	11	73%	Via Campo, Hillview Avenue, and Sadler Avenue
Total	33	51	65%	

Source: AECOM 2010.

impact under CEQA to bicycle conditions, based on the magnitude and duration of construction as described in Table 2-5. Bicycle detours and appropriate signage would help mitigate the temporary effects on the bicycle facilities and their users.

Operational Impacts

The SR 60 LRT Alternative would not have any significant operational impacts under CEQA or adverse effects under NEPA related to transit, regional transportation, freeway off-ramps, pedestrians, or bicyclists. Analysis of the SR 60 LRT Alternative’s effects on these resources is provided in the Transportation Impacts Technical Memorandum, Appendix M, of this Draft EIS/EIR. The SR 60 LRT Alternative would have a beneficial impact on transit service and access, although pedestrian ease of access would be lower than under the Washington Boulevard LRT Alternative due to the freeway station locations.

Transit

The SR 60 LRT Alternative would be beneficial, as increased levels of transit service and ridership

would be provided by the new LRT service. For instance, benefits would accrue to transit travel time.

Overall, the SR 60 LRT Alternative would not appreciably reduce vehicular travel time (including bus travel time) when compared to the TSM Alternative. The SR 60 LRT Alternative would have a vehicular travel time only three percent faster than that associated with the No Build Alternative. The SR 60 Alternative would have a beneficial effect on transit in the project area. Under CEQA, operation of the SR 60 LRT Alternative would result in less than significant impacts.

Regional Transportation

Although minimal, the SR 60 LRT Alternative would have beneficial effects on both region-wide and project area levels. Region-wide, slight reductions in overall VMT, VHT, and peak hour vehicle trips can be seen when compared to the No Build Alternative. In the project area, additional improvements are seen in the performance measures such as peak hour VMT, VHT, and vehicle trips compared to the No Build Alternative. The SR 60 LRT Alternative would not add additional

time to the LRT operations and would not noticeably affect regional transportation in a negative manner. Under CEQA, operation of the SR 60 LRT Alternative would result in less than significant impacts.

Intersections

Operations at two intersections are projected to improve with the SR 60 LRT Alternative when compared to the No Build Alternative:

- Atlantic Boulevard/SR 60 EB Ramps: AM and PM peak hours (#3 in **Figure 3-4**)
- Durfee Avenue/Farndon Street: PM peak hour (#61 in **Figure 3-4**)

Based on a comparison to the No Build Alternative conditions, two study intersections would be adversely affected by the SR 60 LRT Alternative, as they would exceed the threshold of significance described in Table 3-1 and cause adverse effects under NEPA and significant impacts under CEQA:

- Santa Anita Avenue/SR 60 EB Ramps: AM and PM peak hours (#57 in **Figure 3-4**)
- Peck Road/Durfee Avenue: AM and PM peak hours (#63 in **Figure 3-4**)

It should be noted that although the intersection at Peck Road/Durfee Avenue would operate at LOS F in both the No Build Alternative and the SR 60 LRT Alternative, the SR 60 LRT Alternative would result in a substantial increase in average vehicular delay over the No Build Alternative as traffic patterns would change due to the introduction of the LRT and park and ride facilities. This would result in an adverse effect under NEPA and a significant impact under CEQA.

Figure 3-4 illustrates the project area intersections which are projected to operate at LOS E or F under year 2035 project conditions with the SR 60 LRT Alternative. Impacted intersection names and their LOS are identified in **Table 3-9**. Other intersections identified in Figure 3-2 and Table 3-2 as already operating at LOS E or F under existing conditions would experience no substantial changes in performance.

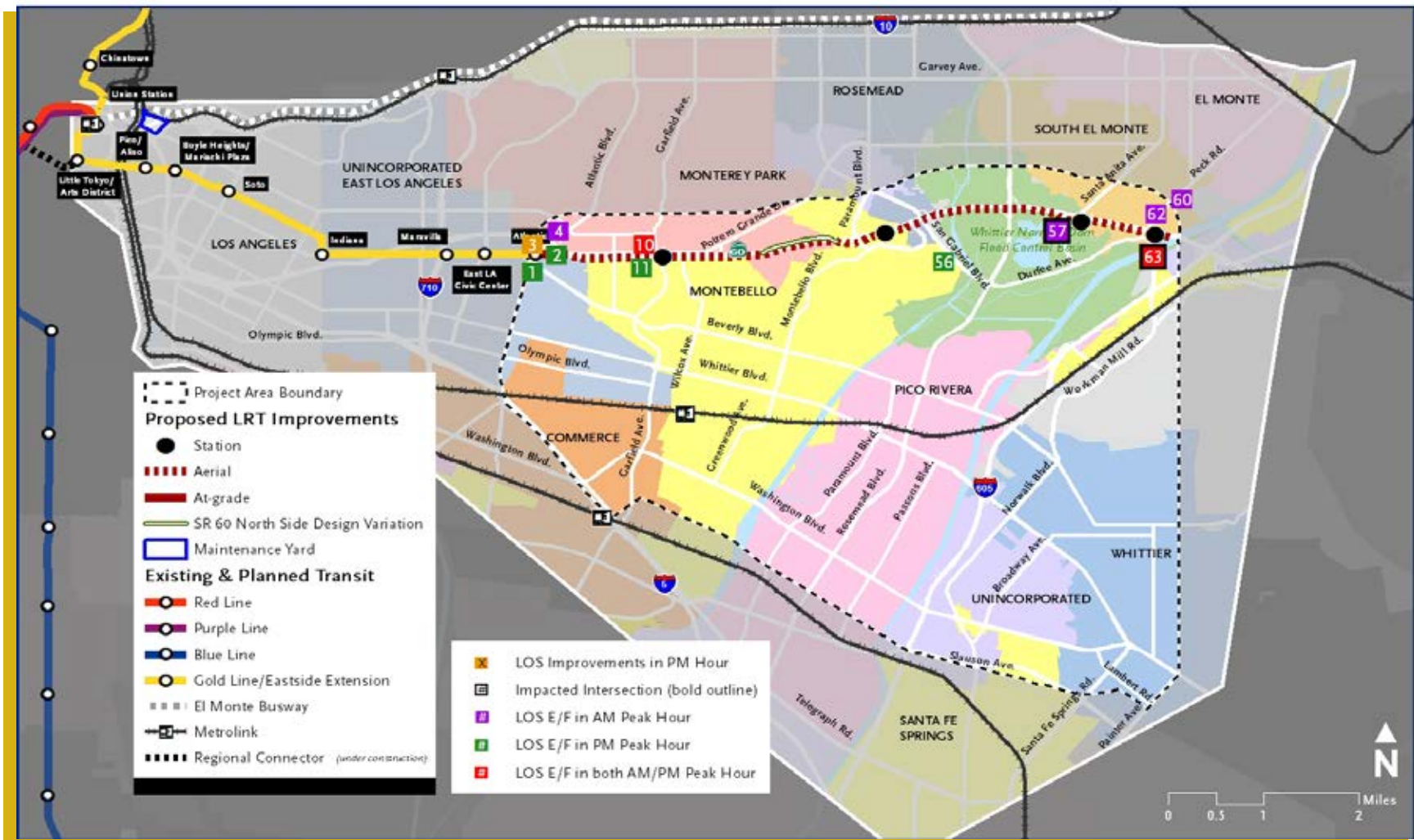
The addition of traffic to the street system as a result of staffing at the Mission Junction Maintenance Yard Option facility is not projected to cause an increase in intersection delay. This conclusion was reached because the typical arrival and departure times for employees are outside typical weekday peak travel periods, since trains are in operation during those times. Therefore, employees would arrive at the yards before the trains begin operating during the AM peak hour and after the PM peak hour when trains are operating at lower frequencies.

As part of the SR 60 LRT North Side Design Variation, the LRT alignment would cross Greenwood Avenue, which is a restricted access roadway for the Oll landfill site. Crossing quad gates, a four-sided crossing gate, would be provided at this location as part of the project design to prevent private vehicles from driving around the gates and crossing the tracks when trains are present.

At peak times of operation, trains are projected to run at five minute headways in each direction, which would result in a maximum of 24 trains crossing Greenwood Avenue in an hour (during non-peak hours, the headways would be greater and the number of trains per hour would be lower). Conservatively, it is estimated that vehicles would have to wait approximately 35 to 40 seconds for trains to cross Greenwood Avenue when the gates are activated. Conservatively estimating three seconds for each private vehicle to clear the crossing gate area, this would allow approximately 900 vehicles an hour in each direction (during peak hours) to safely travel on Greenwood Avenue with operation of the LRT.

Freeway Off-Ramps

Estimates of the SR 60 LRT Alternative traffic volumes at the off-ramps and intersection junctions were based on output from the Metro Travel Demand Model, as discussed previously. As determined from the model output, the LRT service along SR 60 Freeway would result in a decrease in background traffic volumes, as it would increase transit mode share in the area.



Source: AECOM 2013. Intersection numbers correspond to Table 3-7.

Figure 3-4. LOS E/F and Impacted Intersections – 2035 SR 60 LRT Alternative

Table 3-9. LOS E/F and Impacted Intersections – 2035 SR 60 LRT Alternative Before Mitigation

#	Intersection	2035 AM Peak LOS without Project	2035 PM Peak LOS without Project	2035 AM Peak LOS with SR 60 LRT Alternative	2035 PM Peak LOS with SR 60 LRT Alternative
1	Atlantic Blvd./Beverly Blvd.	D	E	D	E
2	Atlantic Blvd./Pomona Blvd.	D	E	D	E
4	Atlantic Blvd./SR 60 Eastbound Ramps	E	C	E	C
10	Garfield Avenue/Pomona Blvd.	F	E	F	E
11	Garfield Avenue/Via Campo	D	F	D	F
56	San Gabriel Blvd./Plaza Drive	B	F	B	F
57	Santa Anita Ave./SR 60 Eastbound Ramps	E	C	F	D
60	Durfee Avenue/Slack Road	E	C	E	C
61	Durfee Avenue/Farndon Street	C	E	C	D
62	Durfee Avenue/SR 60 Westbound Ramps	F	B	F	B
63	Peck Road/Durfee Avenue	F	F	F	F

Source: AECOM 2010

However, the SR 60 LRT Alternative would cause minor increases in traffic volumes along the SR 60 Freeway mainline and at the off-ramps near the proposed stations, as vehicles would be traveling to and from the proposed park and ride facilities.

The operation of LRT and the proposed park and ride facilities associated with it would not adversely affect the queue lengths on the freeway ramps in the project area for either the 50th or the 95th percentile queues. As under the No Build scenario, the ramp queues would not spill over to the freeway mainline for the SR 60 LRT Alternative. Therefore, the SR 60 LRT Alternative would not result in an adverse effect or significant impact to operations at the study area off-ramps under NEPA or CEQA.

Parking

The SR 60 LRT Alternative proposes to provide a total of approximately 3,165 off-street parking spaces at the four proposed stations. Parking supply at park and ride facilities was determined largely by the geometric constraints of the property and is conceptual in nature (the estimated maximum supply of parking is presented at each station). In the final design phase, reconfiguration of the parking lots and spaces may be conducted to create more stalls, or additional parking levels may be added to garages.

Three evaluations were conducted with respect to operational impacts to parking: 1) whether the proposed parking supply at each station could accommodate the projected parking demand; 2) whether implementation of the SR 60 LRT Alternative would displace existing off-street parking

spaces (either public or private); and 3) whether implementation of the SR 60 LRT Alternative would eliminate on-street parking.

Based on estimated peak daily demand at park and ride facilities, there would be a surplus at three of the four proposed stations, as shown in **Table 3-10**. The Shops at Montebello station would have a shortfall of approximately 40 spaces. However, Metro would work with the Shops at Montebello to secure additional off-street parking for use by riders of the SR 60 LRT Alternative. As such, there would be no adverse effect to parking based on spillover parking conditions at the proposed stations.

The SR 60 LRT Alternative would result in the removal of existing on- and off-street parking facilities. Approximately 30 off-street parking spaces would be removed due to the physical track

structure and TPSS, as well as off-street parking at three of the four proposed stations: Garfield Avenue station, Shops at Montebello station, and Peck Road station. For the Garfield Avenue station and park and ride facilities, approximately 325 off-street spaces would be removed from the southeast corner of the Garfield Avenue/Via Campo intersection. The Shops at Montebello station would remove approximately 400 off-street spaces from the Shops at Montebello shopping center; and the Peck Road station would remove approximately 140 off-street parking spaces and associated businesses. Given the large number of off-street parking spaces that would be displaced at these locations, which would affect the surrounding neighborhoods and result in additional traffic on surrounding streets, this would be considered an adverse effect under NEPA.

Table 3-10. SR 60 LRT Alternative - Proposed Parking Spaces at Stations

Station	Peak Daily Park and Ride Parking Demand	Proposed Station Parking	Estimated Parking Surplus/(Shortfall)
Garfield Avenue	358	425	67
Shops at Montebello	550	510	(40)
Santa Anita Avenue	858	955	93
Peck Road	1,160	1,275	116

Source: AECOM 2014.

Notes:

Consistent with traffic analysis, Peak Daily Park and Ride Parking Demand is based on ridership information. Proposed Station Parking spaces was estimated based on parcel and acquisition information.

Approximately 51 on-street parking spaces would be displaced along Pomona Boulevard. Based on field observations, 33 on-street spaces were occupied as shown in Table 3-8. The number of spaces removed is small enough compared to the overall parking supply that the remaining on- and off-street parking supply would provide sufficient options to offset most impacts of the removal. As such, the displacement of on-street parking would not result in an adverse effect under NEPA.

Impacts to parking are not significant under CEQA because impacts to parking would not cause a physical impact on the environment.

Pedestrian Circulation

During operation of the LRT, pedestrians would use the crosswalks and sidewalks that surround each station. This pedestrian activity would not create severe overcrowding during the peak period that would interfere with pedestrian accessibility, as current pedestrian volumes are relatively low. As such, the surrounding pedestrian facilities would

have sufficient capacity to accommodate the increase in pedestrian volumes and would not result in an adverse effect under NEPA or a significant impact under CEQA.

Design of the SR 60 LRT Alternative would ensure that adequate sidewalk widths are maintained. Additional amenities at proposed station locations, such as shade trees, landscaping, and pedestrian-scale lighting, could serve to further enhance pedestrian circulation. Where park and ride structures are introduced at stations, new signalized and clearly-marked walkways would be necessary for pedestrian circulation to and from the parking facilities and station entrances to avoid potential conflicts with automobiles. Specifically, enhanced pedestrian crossings would be necessary at Garfield Avenue, Shops at Montebello, Santa Anita Avenue, and Peck Road, where pedestrian crosswalks and pathways do not currently exist. With the build out of the station designs, the project would have a beneficial effect to pedestrian conditions.

Bicycle Circulation

The SR 60 LRT Alternative would not directly intersect or adjoin any planned or existing bicycle routes. There are no identified bike routes near the at-grade portions of the SR 60 LRT Alternative along Pomona Boulevard/Via Campo. Beyond this point, the SR 60 LRT Alternative and stations transition to an aerial configuration and continue within the SR 60 Freeway ROW. Therefore, no adverse effects or significant impacts to bicycle circulation would occur under NEPA or CEQA.

However, there would be the potential to connect existing and proposed bike routes at proposed stations to the north-south routes along the Rio Hondo and San Gabriel River, providing a beneficial effect by further integrating the bicycle network with regional transit.

Bicycle parking facilities are proposed for each of the four station locations along the SR 60 LRT Alternative alignment, with or without the North Side Design Variation. A limited number of stations would include bicycle lockers in accordance with Metro design criteria. The addition of bicycle parking would have a beneficial effect on the bicycle network

by providing additional facilities and improving bicycle-to-transit connections.

Comparison of Alternative Against Existing Conditions

Construction impacts are anticipated to be the same under both the existing conditions scenario and the year 2035 scenario. The bus transit network, pedestrian ways, and bicycle infrastructure in 2035 are not anticipated to differ greatly from existing conditions. As such, operational impacts for transit, bicycles, and pedestrians would be similar to those described in the year 2035 scenario. No additional impacts would be expected under existing conditions with the addition of the SR 60 LRT Alternative. This finding applies regardless of whether the SR 60 North Side Design Variation is implemented.

Intersections

Six intersections are projected to operate at LOS E or F during one or both of the peak hours under existing conditions with the addition of the SR 60 LRT Alternative. Based on a comparison to 2010 existing conditions, two intersections would be adversely affected by the SR 60 LRT Alternative, as they would exceed the impact criteria:

- Intersection #2 – Atlantic Boulevard/Pomona Boulevard: AM and PM peak hours
- Intersection #63 – Peck Road/Durfee Avenue: AM and PM peak hours

The locations of these intersections are shown in Figure 3-4. Both of these intersections were also impacted in the 2035 scenario. Therefore, no additional intersection impacts would occur under the existing conditions scenario.

Freeway Off-Ramps

The operation of the LRT and the proposed park and ride facilities associated with addition of the SR 60 LRT Alternative under existing conditions would not adversely affect the queue lengths of the freeway ramps in the project area for the 50th or the 95th percentile queues. The ramp queues would not spill over onto the freeway mainline with the addition of the SR 60 LRT Alternative. Therefore, the SR 60 LRT

Alternative would not result in an adverse effect to operations at the study area off-ramps in the existing condition scenario, and no addition impacts would occur compared with the year 2035 scenario.

Parking

The SR 60 LRT Alternative would require the removal of some on-street parking, but replacement parking options with available capacity were found on adjacent streets; therefore, as in the year 2035 scenario, the SR 60 LRT Alternative would not result in an adverse effect to on-street or off-street parking under existing conditions.

Ridership in the existing conditions scenario is projected to be lower than year 2035 ridership; thus, park and ride parking demand would be less and no additional impacts related to spillover parking would occur.

3.3.3.2 Mitigation Measures

Construction Mitigation Measures

The SR 60 LRT Alternative would not have any adverse construction effects under NEPA or significant construction impacts under CEQA related to regional transportation. No mitigation measures for regional transportation are required. Construction-related mitigation measures for transit, intersections, freeway off-ramps, parking, pedestrian circulation, and bicycle circulation impacts are provided below.

3.0-ii Metro would prepare a traffic management plan to facilitate the flow of traffic in and around the construction zone. This mitigation measure would also apply to transit service. Although more measures may be added, typical measures included in a traffic management plan are:

- Schedule a majority of construction-related travel (i.e., deliveries, hauling, and worker trips) during the off-peak hours;
- Construction activities would be minimized during weekday AM and PM peak hours (typically 7:00 to 9:00 AM and 4:00 to 6:00 PM);

- Develop detour routes to facilitate traffic movement through construction zones without significantly increasing cut-through traffic in adjacent residential areas;
- Where feasible, temporarily restripe roadway such as restriping turning lanes, through lanes, and parking lanes at the affected intersections to maximize the vehicular capacity at those locations affected by construction closures;
- Where feasible, temporarily remove on-street parking to maximize the vehicular capacity at those locations affected by construction closures;
- Where feasible, place station traffic control officers at major intersections during peak hours to minimize delays related to construction activities;
- Develop and implement an outreach program to inform the general public about the construction process and planned roadway closures; and
- Develop and implement a program with business owners to minimize effects to businesses during construction activity, including but not limited to signage programs.

Transit

Construction of the SR 60 LRT Alternative (including the SR 60 North Side Design Variation) would result in temporary adverse effects under NEPA and less than significant impacts under CEQA to transit operation, based on the duration and magnitude of construction as shown in Table 2-5.

The traffic management plan discussed above (mitigation measure 3.0-ii) would mitigate temporary disruptions to transit service.

3.0-iii Metro would coordinate with local transit agencies in advance to communicate closures, communicate information on changes to bus service that would result from the SR 60 LRT Alternative, and develop detour routes. Access to businesses and

residences via transit would be maintained at all times throughout construction. Combined, these measures would address the adverse effects.

Regional Transportation

No mitigation measures would be required, as no adverse effects/significant impacts are expected during construction.

Intersections

During the final design phase of the project, the site- and street-specific traffic management plan (mitigation measure 3.0-ii) discussed above would mitigate some of the temporary construction-related adverse effects under NEPA and less than significant impacts under CEQA on intersection operations.

3.0-iv Metro would also coordinate with the local jurisdictions and Caltrans to designate and identify haul routes for trucks and to establish hours of operation. The selected routes should minimize noise, vibration, and other effects.

To the extent practical, traffic lanes will be maintained in both directions, particularly during the morning and afternoon peak hours, and access to adjacent businesses via existing or temporary driveways would be maintained throughout the construction period.

3.0-v Metro would coordinate with local school districts to disclose potential road closures and suggest detour routes for carpooling and accessing schools.

Combined, these measures would address the adverse effects under NEPA and significant impacts under CEQA.

Freeway Off-Ramps

Construction of the SR 60 LRT Alternative may result in temporary adverse effects to freeway ramps, based on the duration and magnitude of construction as shown in Table 2-5, as each eastbound off-ramp from Atlantic Boulevard to Peck Road may need to be temporarily closed when construction reaches the area. The traffic

management plan (mitigation measure 3.0-ii) discussed above would mitigate many of the adverse effects under NEPA and significant impacts under CEQA to the freeway off-ramps.

3.0-vi All ramp closures or usage of ramp shoulders would need to be approved by Caltrans before implementation. If ramps are temporarily closed, vehicles would be directed to use upstream or downstream locations that are in close proximity to closed ramps, and adjacent ramps would be kept open to minimize disruptions.

3.0-vii To accommodate any increase in activity at these ramps, modifications to signal timing (including the provision of additional green time or optimization of signal splits) would be required, and implemented by Caltrans for the affected jurisdiction.

Access to businesses and residences along the SR 60 LRT Alternative would be maintained throughout construction.

Combined, these measures would address the adverse effects under NEPA and significant impacts under CEQA.

The SR 60 North Side Design Variation would have additional temporary adverse effects under NEPA and significant impacts under CEQA to the SR 60 Freeway mainline.

3.0-viii To mitigate this potential impact, public notice of all freeway closures would be provided and detour routes would be indicated. With this mitigation measure, since the freeway closures would be temporary in nature, the public would be notified in advance and detour routes would be provided; the closures would not cause an adverse effect to operations. Freeway closures would occur overnight or on weekends when traffic volume is minimal. The other construction mitigation measures discussed above (mitigation measures 3.0-ii through 3.0-vii) would apply equally to the SR 60 North Side Design Variation and also

mitigate its effects under NEPA and impacts under CEQA.

Parking

3.0-ix In addition to the traffic management plan (mitigation measure 3.0-ii) discussed above, Metro would work with the local jurisdictions, agencies, and businesses to implement potential parking mitigation options to help offset temporary losses during the construction period in areas of high commerce and automobile traffic. This would include the identification of potential replacement parking spaces, and the development of a signage and wayfinding program to direct users to the relocated spaces. In addition, as part of the construction phasing plans, efforts would be made to minimize the loss of parking on both sides of the street or on consecutive blocks. Project contractors would provide alternative off-street parking for their employees during the construction period, in order to minimize the loss of parking to adjacent commercial districts. Project contractors would prohibit parking for their employees in adjacent residential neighborhoods in order to minimize the adverse effects to nearby residents.

Combined, these measures would address the adverse effects under NEPA.

Pedestrian Circulation

Construction of the SR 60 LRT Alternative may result in temporary adverse effects under NEPA and less than significant impacts under CEQA to pedestrians, based on the duration and magnitude of construction as shown in Table 2-5.

3.0-x In addition to the traffic management plan discussed above, wayfinding signage, lighting, and access to specific pedestrian safety amenities (for example handrails, fences, and alternative walkways) would be implemented temporarily during the construction period in areas where existing

pedestrian and/or bicycle facilities would be affected.

3.0-xi During final design, Metro would coordinate with local agencies to address pedestrian movements. This may help to ensure that only one side of the street would be closed at a time. If crosswalks are temporarily closed, pedestrians would be directed to use one that is in close proximity to closed crosswalks, with adjacent crosswalks remaining open so that pedestrians could cross streets. In addition, access to businesses and residences along the SR 60 LRT Alternative alignment would be maintained throughout construction.

Combined, these measures would address the adverse effects under NEPA and impacts under CEQA.

Bicycle Circulation

Construction of the SR 60 LRT Alternative would result in adverse effects under NEPA and less than significant impacts under CEQA to bicycle circulation, based on the duration and magnitude of construction as described in Table 2-5.

3.0-xii In addition to the traffic management plan discussed above (measure 3.0-ii), on-street bicycle detour routes and signage would be used in areas where existing bicycle facilities would be affected to address temporary effects to bicycle circulation. On-street bicycle detour routes would be developed and appropriate signage would be provided.

3.0-xiii In addition, during final design, Metro would coordinate with local agencies to address bicycle movements. Furthermore, in areas where existing bicycle facilities would be affected, access to businesses and residences via bicycle routes would be maintained at all times throughout construction. In addition, temporary alternative bike routes on complementary streets would be identified as needed.

Combined, these measures would address adverse effects under NEPA and impacts under CEQA.

Operational Mitigation Measures

The SR 60 LRT Alternative would not have any adverse effects under NEPA or significant operational impacts under CEQA related to transit, regional transportation, freeway off-ramps, pedestrians, and bicycles. No permanent long-term adverse effects under NEPA or significant impacts under CEQA to these transportation modes and facilities would occur. No mitigation measures for these topics are required. Operational-related mitigation measures for intersections and parking impacts are provided below.

Transit

No mitigation measures would be required, as no adverse effects or significant impacts are expected. Overall, the SR 60 LRT Alternative would have a beneficial effect on transit conditions in the area.

Regional Transportation

No mitigation measures would be required, as no adverse effects or significant impacts are expected. Overall, the SR 60 LRT Alternative would have a beneficial effect on regional transportation conditions in the area as compared to the No Build Alternative.

Intersections

3.0-xiv Mitigation measures have been proposed to improve the operation of the Santa Anita Avenue/SR 60 EB Ramps. Optimizing signal splits and providing additional green time to approaches with long vehicle queues and high delay would be a mitigation measure. With the incorporation of this measure, the adverse effects under NEPA and significant impacts under CEQA at the intersections of Santa Anita Avenue/SR 60 EB Ramps would be mitigated.

3.0-xv The intersection of Peck Road/Durfee Avenue would provide station access on the east leg of the intersection. The lane

configuration of this intersection approach would change from an eastbound all-way middle lane movement to a shared through-left lane and a right-turn lane. In addition, the phasing of this intersection would be updated to accommodate additional traffic volumes and the cycle length of this intersection would be increased to 120 seconds.

With the incorporation of this measure, the adverse effects under NEPA and significant impacts under CEQA at the intersection of Peck Road/Durfee Avenue would be mitigated, as shown in **Table 3-11**.

Freeway Off-Ramps

No mitigation measures would be required, as no adverse effects or significant impacts are expected.

Parking

3.0-xvi For parcels that are adversely affected under NEPA due to the partial acquisition of parking at the Shops at Montebello Station, replacement parking would be provided at the parcel or at a nearby assemblage of parcels. Shared-use parking arrangements would be considered within new Metro facilities. Metro would work with local jurisdictions, businesses and merchants, and commerce associations to implement potential parking mitigation options to help offset losses during operation. At the Shops at Montebello Station, Metro would also work with the Shops at Montebello to identify additional off-street parking facilities that could be used to accommodate the estimated 40-space shortfall. With these additional parking spaces provided, there would be no additional mitigation required as they would address the adverse effects.

Pedestrian Circulation

No mitigation measures would be required, as no adverse effects or significant impacts are expected.

Table 3-11. SR 60 LRT Alternative - LOS Results with Mitigation Measures¹

#	Intersection	Peak Hour	Year 2035 without Project		SR 60 LRT Alternative		Delay Change	Impact?	SR 60 LRT Alternative With Mitigation Measures		Delay Change	Remaining Impact?
			Delay	LOS	Delay	LOS			Delay	LOS		
57	Santa Anita Avenue/ SR 60 EB Ramps	AM	79.2	E	91.7	F	12.5	Yes	76.4	E	-2.8	No
		PM	25.1	C	43.5	D	18.4	Yes	30.0	C	4.9	No
63	Peck Road/ Durfee Avenue	AM	120.7	F	212.5	F	91.8	Yes	110.7	F	-10.0	No
		PM	119.8	F	193.0	F	73.2	Yes	118.2	F	-1.6	No

Source: AECOM, 2010.

Notes:

Shading indicates LOS E or LOS F, which typically denotes unacceptable levels of congestion.

Delay is presented in seconds per vehicle.

¹Mitigation considers measures involving traffic signal adjustments and does not include restriction of turning movements or changes in traffic configurations, since they are not feasible at any of these locations.

LOS = Level of Service EB = Eastbound WB = Westbound

Bicycle Circulation

No mitigation measures would be required, as no adverse effects or significant impacts are expected.

Comparison of Alternative Against Existing Conditions

No additional significant impacts would occur when compared with existing conditions, since traffic conditions would be equal to or better than the year 2035 scenario. Therefore, no mitigation measures are required. The existing condition scenario assumes that the project would be implemented under year 2010 conditions.

3.3.3.3 Impacts Remaining After Mitigation

NEPA Finding

The SR 60 LRT Alternative would have adverse transportation effects during construction and operation that would be addressed through mitigation measures.

CEQA Determination

The SR 60 LRT Alternative would result in significant impacts during construction and operation. Mitigation measures would reduce these impacts below the level of significance.

Comparison of Alternative Against Existing Conditions

No additional impacts would occur under the existing conditions scenario.

3.3.4 Washington Boulevard LRT Alternative

3.3.4.1 Impact Analysis

Construction Impacts

The Washington Boulevard LRT Alternative would not have any significant construction impacts under CEQA or adverse construction effects under NEPA related to regional transportation. Under NEPA, the Washington Boulevard LRT Alternative would have temporary adverse effects during construction on local transit, intersections, freeway off-ramps, parking, and pedestrian and bicycle conditions; however, these effects would be mitigated through traffic management plans and other measures (as documented in Section 3.3.4.2). Analysis of the Washington Boulevard LRT Alternative’s effects on these resources is provided in the Transportation Impacts Technical Memorandum, Appendix M, of this Draft EIS/EIR

Transit

At locations with aerial segments, temporary closures of some intersections, lanes, or sidewalks may be necessary during construction, which may result in detours for bus service. Construction of the at-grade portion of the Washington Boulevard LRT Alternative may also require temporary lane closures and turn restrictions at all affected intersections along Washington Boulevard. Since the project would be constructed in segments, these temporary lane closures and turn restrictions would not affect all intersections simultaneously. In addition, Montebello Bus Lines 30 and 70 operate on Garfield Avenue and Montebello Line 50 operates on Washington Boulevard. During construction, temporary re-routing and relocation of bus stops may be needed for these lines.

Throughout the alignment, temporary intersection or lane closures due to construction would cause a reduction in the capacity of the affected road. This reduction in capacity would likely cause vehicular traffic to divert to parallel roadways, thus increasing congestion; this may cause adverse effects by decreasing bus operating speeds along those parallel streets. As a result, construction of the Washington Boulevard LRT Alternative would result in a temporary adverse effect under NEPA and a less than significant impact under CEQA on transit operation, based on the magnitude and duration of construction as described in Table 2-5.

During construction of any of the proposed maintenance yard options for the Washington Boulevard LRT Alternative, temporary closures of roadways and lanes would be required, resulting in potential disruptions to bus service.

For the potential Mission Junction Maintenance Yard Option, service on Metro Lines 70 and 71, which operate on Mission Avenue, may require temporary re-routing and relocation of bus stops, although the site is located in a primarily industrial area. Reduction in lane capacity due to temporary lane closures would decrease bus operating speeds.

For the potential Commerce Maintenance Yard Option located west of Garfield Avenue near the Garfield Avenue/Flotilla Road intersection, two bus

lines would be affected by construction. Service on Montebello Lines 30 and 70, which operate on Garfield Avenue, may require temporary re-routing and relocation of bus stops. Reduction in lane capacity due to temporary lane closures would decrease bus operating speeds. Although re-routing would be likely, transit service would need to be maintained during construction.

The Santa Fe Springs Maintenance Yard Option located at Washington Boulevard/Allport Avenue is adjacent to both commercial and industrial development, with minimal transit activity and few bus stops. Only the Montebello Line 50 provides service in the vicinity of the potential maintenance yard. Service on this line may require temporary re-routing and relocation of bus stops. Reduction in lane capacity due to temporary lane closures would decrease bus operating speeds.

Although temporary, the potential disruptions to transit service due to construction of the maintenance yard options may result in adverse effects under NEPA and less than significant impacts under CEQA on transit conditions, based upon the magnitude and duration of construction summarized in Table 2-5.

Regional Transportation

Construction activities for the Washington Boulevard LRT Alternative would result in temporary closures of some regional facilities, such as overnight closures of the SR 60 or I-605 on- and off-ramps. However, since these closures would be temporary and parallel facilities would be available, they would not result in an adverse effect under NEPA, and would have a less than significant impact under CEQA.

Intersections

For the at-grade portions of the alignment, the median would be sectioned off from the rest of the street and construction staging would primarily occur in the median. For the Washington Boulevard LRT Alternative, the majority of the construction would occur in the median of the roadways.

Construction activities associated with the Washington Boulevard LRT Alternative could

temporarily impede traffic mobility at the intersections where at-grade and grade-separated crossings would occur.

At-grade portions of the alignment would be along Pomona Boulevard from Atlantic Boulevard to Sadler Avenue and along Washington Boulevard from Montebello Boulevard to Lambert Road. The project area intersections directly affected by the at-grade sections are Atlantic Boulevard/Pomona Boulevard, Hillview Avenue/Pomona Boulevard, and intersections along Washington Boulevard from Montebello Boulevard to Lambert Road.

Grade-separated portions of the alignment would be from Pomona Boulevard at Sadler Avenue to Washington Boulevard at Montebello Boulevard, and possibly two crossing design options at Rosemead Boulevard and Washington Boulevard and at Pioneer Boulevard and Washington Boulevard, referred to as the Rosemead Boulevard and San Gabriel River/I-605 aerial crossings. Construction of these grade-separated portions would require more substantial equipment, due to the large cranes required to secure precast girders in place. Special staging areas close to the site would be needed to accommodate these large cranes. Erection of the girders would typically be done at night to minimize traffic disruption.

The construction duration for either the SR 60 LRT Alternative or the Washington Boulevard LRT Alternative is estimated to be approximately four to six years, with construction of the SR 60 LRT Alternative most likely taking four years and construction of the Washington Boulevard Alternative most likely taking six years. The Washington Boulevard LRT Alternative would likely require more time to construct than the SR 60 LRT Alternative because of its additional length, as well as the on-street construction activities. Surface streets would be affected through intermittent closures and lane reductions.

Some of the streets along the alignments would need to be either completely reconstructed or widened to accommodate the guideway. Additional street work would be required at all at-grade crossing locations to allow for placement of the

track slab and rails and modification of existing curbs, gutters, and sidewalks to accommodate the rail crossing. The construction duration to complete track work for a one-mile segment is estimated to be four months. The estimated construction duration for street widening is five months to one year, depending on the extent of widening and the utility relocation required for a one-mile segment.

Construction vehicles may temporarily impede traffic mobility in the areas of construction. During construction, temporary closure of traffic lanes would be necessary. Relocation of utilities and construction of the trackway and stations would require temporary closure of lanes, which would increase intersection delay and potentially modify existing traffic patterns. As a result, vehicular travel time and intersection operations would be affected.

As currently planned, the alignment would be constructed in approximately one-mile segments in coordination with local municipalities; therefore, not all of the intersections would be closed or modified simultaneously. As such, not all locations would be affected at the same time. These effects would be temporary and adverse under NEPA and less than significant under CEQA.

Construction haul routes would be on existing truck routes and would be located to minimize noise, vibration, and other possible impacts to adjacent businesses and residential neighborhoods. Routes would be confirmed during the preliminary engineering phase and final design phase of the project, but will likely include nearby local streets and major arterials for truck access to and from SR 60 and I-605.

Haul trips would take place during off-peak hours when there is excess capacity on the roadway network. However, haul and delivery truck routes may affect residents and commuters along the alignment. Hauling and general construction traffic may impact traffic flow patterns as well, since there could be minor reductions in roadway capacity and adjustments to existing traffic patterns as drivers bypass congested areas. If this occurs, vehicular travel times and intersection operations could be affected along these roadways.

Potential traffic control measures would be determined in part by construction staging activity for the project. The maintenance of traffic lanes during construction would follow local agency requirements and standards with respect to minimum lane widths, the number of available travel lanes, and the duration of temporary lane closures. Specific street closure locations would be identified in close coordination with local agencies during the final design stage.

During construction of each of the proposed maintenance yard options for the Washington Boulevard LRT Alternative, temporary closures of roadways would be required. Construction of each of the proposed maintenance yard options would include standard methods associated with construction of trackwork and buildings, including demolition of existing facilities, leveling of land, and construction of new sheds and maintenance buildings, as well as track work for storage of light rail vehicles. The Mission Junction Maintenance Yard Option and Commerce Maintenance Yard Option are located in industrially zoned areas far from residences or businesses. Construction activities that would impact traffic operations would typically occur during nighttime and off-peak hours in order to minimize adverse effects. Where construction encroaches on roadways and intersections, the temporary operation and flow of vehicular traffic would be affected. As such, construction of the maintenance yard would result in a temporary adverse effect under NEPA and a less than significant impact under CEQA to intersection operations.

The Santa Fe Springs Maintenance Yard Option is adjacent to both commercial and industrial development. Construction at this site and trackwork on Washington Boulevard would require temporary roadway closures in the eastbound direction along Washington Boulevard. Trackwork would transition from the center median and turn southbound to access the maintenance yard. As such, construction of the Santa Fe Springs maintenance yard would result in a temporary adverse effect to intersection operations under

NEPA and a less than significant impact under CEQA.

In general, where construction encroaches on roadways and intersections, the temporary operation and flow of vehicular traffic would be addressed in the traffic management plan as documented in Section 3.4.4.2.

Freeway Off-Ramps

Construction of the Washington Boulevard LRT Alternative may require the temporary closure of all eastbound SR 60 Freeway on- and off-ramps between Atlantic Boulevard and Garfield Avenue when the aerial structures that span the ramps are being installed, or the temporary use of ramp shoulders for construction equipment may also be required. The alignment would be constructed in one-mile segments; therefore, not all of the ramps would be closed simultaneously. Although any ramp closures or shoulder closures would be temporary, they would cause a temporary adverse effect on ramp operations under NEPA and a significant impact under CEQA, and would result in re-routing of vehicles along the SR 60 Freeway mainline to upstream and downstream ramp locations.

An aerial guideway structure requires falsework for vertical support. The falsework system is designed to allow traffic flow during construction. Falsework would be constructed over Findlay Avenue and at the Garfield/Wilcox Avenue off-ramps, Gerhart Avenue undercrossing, Findlay Avenue undercrossing, and Garfield Avenue undercrossing/intersection. Falsework would be designed in accordance with the Caltrans Falsework Manual. The critical phase during construction is the erection, lowering, and removal of falsework. Lowering and removal of falsework would be done during nighttime hours in order to minimize the effects on traffic. If additional time is needed, the aerial guideway would be constructed during a combination of weekend off-ramp closures and staged construction across the affected streets.

Construction of the San Gabriel River/I-605 aerial crossing would likely require a temporary reduction in lane and shoulder widths in order to create additional room in the median to construct support

columns in the median for the proposed bridge. The number of lanes in each direction would not be affected, and the capacity of the freeway would be maintained. In addition, several overnight closures of I-605 would likely be required to erect falsework or place pre-cast structural elements over the freeway. During freeway closures, only one travel direction of the freeway would be closed at a time.

The extent and duration of the closures would depend on a number of factors, including the construction contract limits and individual contractors' choices; closures would be coordinated with each affected jurisdiction. Restrictions on the extent and duration of the closures can be incorporated in the project construction specifications. In some cases, short-term full closures might be substituted for extended partial closures to reduce overall impacts. A rough order of magnitude and duration for particular construction activities is summarized in Table 2-5. The freeway closures would cause an additional temporary adverse effect under NEPA and a significant impact under CEQA to traffic operations.

Parking

During construction of the Washington Boulevard LRT Alternative, current off-street parking facilities would be utilized for the duration of construction for construction activities such as staging for the storage of construction materials and equipment, temporary offices for field personnel, parking for field personnel, and fabrication of construction materials. In addition, space would be needed for the physical construction of the stations and parking facilities which would last for approximately two years.

In particular, off-street construction staging and activities would be located at and adjacent to the proposed stations. At the proposed Garfield Avenue station, the parcel on the southeast corner of the intersection of Via Campo and Garfield Avenue would be utilized for construction staging and construction of the TPSS, resulting in the removal of approximately 410 parking spaces. However, the businesses on the western portion of the parcel would remain.

At the proposed Whittier Boulevard station, approximately 75 off-street parking spaces would be removed in addition to the businesses that utilize the spaces.

The proposed Greenwood Avenue station and park and ride facility would require the full acquisition of businesses and their associated off-street parking spaces (approximately 125 spaces).

At the proposed Rosemead Boulevard station and park and ride facility, approximately 300 off-street parking spaces would be removed. One property is currently a 250-space parking lot that serves a shopping center; however, there is sufficient parking in the remainder of the shopping center to accommodate demand. The displacement of the other properties would also remove the land use and its parking lots.

For the proposed Norwalk Boulevard Station and park and ride facility, approximately 205 off-street parking spaces would be removed, in conjunction with the associated business uses.

At the proposed Lambert Road station and park and ride facility, approximately 510 spaces would be removed at the southwest corner of the Lambert Road/Washington Boulevard intersection. These spaces serve multiple businesses, and adequate replacement parking would not be provided.

Multiple TPSS facilities would be provided along the Washington Boulevard LRT alignment that would require the removal of 149 off-street parking spaces as well as the acquisition of properties (both partial and full). For the partial acquisitions (60 spaces for TPSS-09), replacement parking would be provided elsewhere on the property. In addition, 20 off-street parking spaces would be removed for the Washington Boulevard LRT tail track along Lambert Road.

Although temporary, the potential effects to the off-street parking supply at these locations would result in a temporary adverse effect under NEPA to off-street parking, based on the magnitude and duration of construction as shown in Table 2-5. It should be noted that these off-street parking spaces would also be utilized for other project purposes.

Construction of the Washington Boulevard LRT Alternative would require temporary closure of travel lanes. Consequently, existing on-street parking spaces and loading stalls may need to be temporarily removed. In particular, on-street parking would need to be removed along the north and south sides of Pomona Boulevard between Atlantic Boulevard and Sadler Avenue (approximately 50 spaces), on the east side of Garfield Avenue between Via Campo and Washington Boulevard (approximately 400 spaces), and along most of Washington Boulevard from Broadway to Rivera Road (approximately 250 spaces). These are preliminary estimates; the amount of on-street parking to be removed during construction will be determined during the final design phase of the project and could vary based on various factors, including the construction contract limits and individual contractors' choices. In general, replacement parking options on nearby side streets that could replace the on-street parking removed from these roadways.

On-street parking is predominately available on Garfield Avenue within the Montebello city limits, while on-street parking along Washington Boulevard is mostly restricted to no parking anytime or no parking during the rush hours of 7:00 AM to 9:00 AM and/or 4:00 PM to 6:00 PM. Most businesses along the alignment have off-street parking lots, and side street parking is also available to absorb some of the displaced spaces.

Since construction of the Washington Boulevard LRT Alternative would happen in sections, the parking displacement would be temporary, and replacement parking would be available, there would not be an adverse effect to on-street parking in these segments.

However, one portion of Garfield Avenue from Via Paseo to Via Acosta has high on-street parking occupancy with limited side street parking replacement options. Since the parking displacement would be temporary, parking would be available to the north and south of the segment during construction, and Metro would implement measures to minimize the impact of the

displacements, this would not be considered an adverse effect. (See Section 3.3.4.2.)

Rosemead Boulevard Crossing Option

On-street parking is not currently permitted near the Rosemead Boulevard aerial crossing structure. Therefore, the on-street parking losses described for the Washington Boulevard LRT Alternative would remain unchanged with the Rosemead Boulevard aerial crossing.

San Gabriel River/I-605 Crossing Option

On-street parking is not currently permitted near the San Gabriel River/I-605 aerial crossing structure; therefore, the on-street parking losses described for the Washington Boulevard LRT Alternative would remain unchanged with the San Gabriel River/I-605 aerial crossing. The Mission Junction Maintenance Yard Option proposed for the Washington Boulevard LRT Alternative is the same site proposed for the SR 60 LRT Alternative. The impacts and findings are therefore also the same. Construction of the Santa Fe Springs Maintenance Yard Option and trackwork along Washington Boulevard would require temporary roadway closures in the eastbound direction along Washington Boulevard. Removal of on-street parking on Washington Boulevard may be required during construction, but there are replacement parking options on nearby side streets that would accommodate the displaced parking. Since parking displacement would be temporary and replacement parking would be available, there would not be an adverse effect under NEPA to on-street parking in these segments.

Pedestrian Circulation

Temporary closures of sidewalks would be required during construction. The placement of aerial guideway columns and stations may affect sidewalks along the Washington Boulevard LRT Alternative by locating permanent columns within the ROW. For at-grade segments of the Washington Boulevard LRT Alternative, trackway construction and permanent street configuration changes to Washington Boulevard east of Montebello Boulevard would require lane closures for extended periods, and may also require temporary sidewalk

closures. Where construction encroaches on sidewalks, walkways, and crosswalks, pedestrian safety measures such as detour routes and temporary pedestrian shelters would be considered. Pedestrian access to adjacent properties would be affected and would need to be maintained during construction. Although temporary, the potential disruptions to pedestrian circulation would result in a temporary adverse effect under NEPA and a less than significant impact under CEQA to pedestrian conditions, based upon the magnitude and duration of construction summarized in Table 2-5.

During construction of any of the proposed maintenance yard options for the Washington Boulevard LRT Alternative, temporary closures of roadways and sidewalks would be required. Where construction encroaches on sidewalks, walkways, and crosswalks, pedestrian safety measures such as the development of detour routes, temporary pedestrian shelters, sufficient lighting, and clear signage would be considered. The Mission Junction Maintenance Yard Option and Commerce Maintenance Yard Option sites are located in industrially zoned areas where minimal pedestrian activity and sidewalk facilities exist. The Santa Fe Springs Maintenance Yard Option is adjacent to both commercial and industrial development, with minimal pedestrian activity and existing sidewalk facilities. Construction of this maintenance yard and trackwork on Washington Boulevard would require temporary rerouting of pedestrians around closed sidewalks, and the maintenance of access to neighboring businesses. Although temporary, the potential disruptions to pedestrian circulation would result in an adverse effect under NEPA and a less than significant impact under CEQA to pedestrian conditions, based on the magnitude and duration of construction as described in Table 2-5.

Bicycle Circulation

For the Washington Boulevard LRT Alternative, temporary closures of roadways would be required during construction. Temporary lane closures may affect existing and proposed bike routes along Garfield Avenue and along Washington Boulevard between Greenwood Avenue and Paramount

Boulevard. In addition, temporary lane closures would interfere with intersecting north-south bike routes at proposed station locations, including Garfield Avenue and Norwalk Boulevard. Bicycle traffic movements would be maintained during construction, but lane reductions and street closures would inhibit the flow of bicycle traffic. In addition, Class I facilities exist along the Rio Hondo and San Gabriel River and intersect with Washington Boulevard; these facilities are grade-separated from Washington Boulevard and pass under the roadway. Construction of LRT on the bridge over these bicycle facilities may temporarily affect these Class I bicycle paths.

The at-grade portions of the Washington Boulevard LRT Alternative along Washington Boulevard include track construction and permanent street configuration changes. Both would require lane closures for extended periods, and may also require temporary sidewalk closures. Construction along Washington Boulevard could shift some of the through traffic movements to Mines Avenue, where portions between Paramount Boulevard and Sorenson Avenue are designated as Class II bicycle lanes and Class III bicycle routes. Consequently, the flow of bicycle traffic could be hampered due to increased traffic volumes on Mines Avenue.

Although temporary, the potential disruptions to bicycle circulation would result in an adverse effect under NEPA and a less than significant impact under CEQA to bicycle conditions, based on the magnitude and duration of construction as described in Table 2-5. Bicycle detours and appropriate signage would help mitigate the temporary effects on the bicycle facilities and their users.

During construction of any of the proposed maintenance yard options for the Washington Boulevard LRT Alternative, temporary closures of roadways would be required. No adverse effects are expected for the proposed Mission Junction Yard. The potential Santa Fe Springs Yard Option is adjacent to commercial and industrial development. Construction of this yard may result in temporary adverse effects to bicyclists based on the duration

and magnitude of construction. A rough order of magnitude and duration for construction activities is summarized in Table 2-5.

In addition to the traffic management plan, on-street bicycle detour routes and signage would be used to address temporary effects to bicycle circulation. On-street bicycle detour routes would be developed in areas where existing bicycle facilities would be affected to address impacts to bicycle movements. Access to businesses and residences via existing bicycle routes would be maintained during construction. In addition, temporary alternative bicycle routes on complementary streets would be identified as needed. Combined, these measures would mitigate adverse effects.

Operational Impacts

The Washington Boulevard LRT Alternative would not have any adverse effects under NEPA or significant operational impacts under CEQA related to transit, regional transportation, or freeway off-ramps. Analysis of the Washington Boulevard LRT Alternative's effects on these resources is provided in the Transportation Impacts Technical Memorandum, Appendix M, of this Draft EIS/EIR. The Washington Boulevard LRT Alternative would have a beneficial impact on transit service and access, although pedestrian ease of access would generally be higher than under the SR 60 LRT Alternative due to the roadway median station locations. However, as discussed in the following sections, the Washington Boulevard LRT Alternative would result in an adverse effort and significant impact related to intersection operations, parking, and bicycles, and on pedestrians for the Santa Fe Springs Maintenance Yard option only.

Transit

Bus operating speeds may decrease because of the proposed traffic lane reductions along the Washington Boulevard LRT Alternative alignment and the resulting increases in traffic congestion. Regionally (at a multi-county level), benefits would be nominal due to the very large project area. However, from an overall countywide perspective, the Washington Boulevard LRT Alternative would have a benefit when compared to both the No Build

and TSM Alternatives by increasing levels of transit service and ridership countywide. As such, the Washington Boulevard LRT Alternative would have a beneficial effect under NEPA and less than significant under CEQA.

Regional Transportation

Although minimal, the Washington Boulevard LRT Alternative would have beneficial effects on both a region-wide (multi-county) and project area level. As such, the Washington Boulevard LRT Alternative would have a beneficial effect under NEPA and a less than significant impact under CEQA.

Intersections

Operations at one intersection is projected to improve from LOS C to LOS B during the AM and PM peak hours with the Washington Boulevard LRT Alternative when compared to the No Build Alternative:

- Atlantic Boulevard/SR 60 EB Ramps: AM and PM peak hours (#3 in Figure 3-4)

Based on a comparison with the No Build Alternative conditions, 17 intersections would be adversely effected under NEPA and significantly impacted under CEQA by the Washington Boulevard LRT Alternative, (identification numbers in parentheses correspond to Figure 3-4), as they would exceed the threshold of significance described in Table 3-1:

- Garfield Avenue/Whittier Boulevard: AM and PM peak hours (#21)
- Garfield Avenue/Olympic Boulevard: AM and PM peak hours (#23)
- Garfield Avenue/Ferguson Drive: AM and PM peak hours (#24)
- Garfield Avenue/Flotilla Avenue: PM peak hour (#25)
- Vail Avenue/Washington Boulevard: AM peak hour (#28)
- Maple Avenue/Washington Boulevard: AM and PM peak hours (#29)
- Greenwood Avenue/Washington Boulevard: AM and PM peak hours (#30)

- Montebello Boulevard/Washington Boulevard: AM peak hour (#31)
- Bluff Road/Washington Boulevard: AM and PM peak hours (#32)
- Paramount Boulevard/Washington Boulevard: AM and PM peak hours (#33)
- Crossway Drive/Washington Boulevard: AM and PM peak hours (#34)
- Rosemead Boulevard/Washington Boulevard: AM and PM peak hours (#35)
- Passons Boulevard/Washington Boulevard: AM and PM peak hours (#36)
- Pioneer Boulevard/Washington Boulevard: AM and PM peak hours (#37)
- Norwalk Boulevard/Washington Boulevard: AM and PM peak hours (#38)
- Broadway/Washington Boulevard: AM and PM peak hours (#40)
- Sorensen Avenue/Washington Boulevard: AM and PM peak hours (#41)

An adverse effect under NEPA and a significant impact under CEQA would be caused not only by a degradation of LOS from acceptable (levels A through D) to unacceptable (level E or F), but also by a change in delay beyond the significance criteria. This would occur for the Bluff Road/Washington Boulevard intersection in the PM peak hour, and for the Crossway Drive/Washington Boulevard intersection in the AM peak hour. Other

intersections identified in Figure 3-1 and Table 3-2 as already operating at LOS E or F under existing conditions would experience no substantial changes in performance.

Figure 3-5 illustrates the project area intersections which are projected to operate at LOS E or F under year 2035 project conditions with the Washington Boulevard LRT Alternative. Corresponding intersection names and their LOS are identified in **Table 3-12**.

The Washington Boulevard LRT Alternative would have more grade crossings than the SR 60 LRT Alternative. All grade crossings would be designed

in collaboration with the affected cities and the California Public Utilities Commission.

The addition of traffic to the street system as a result of staffing at each of the three potential maintenance yard facilities is not projected to cause an increase in intersection delay.

This conclusion was reached because the typical arrival and departure times for employees are outside typical weekday peak travel periods since trains are in operation during those times.

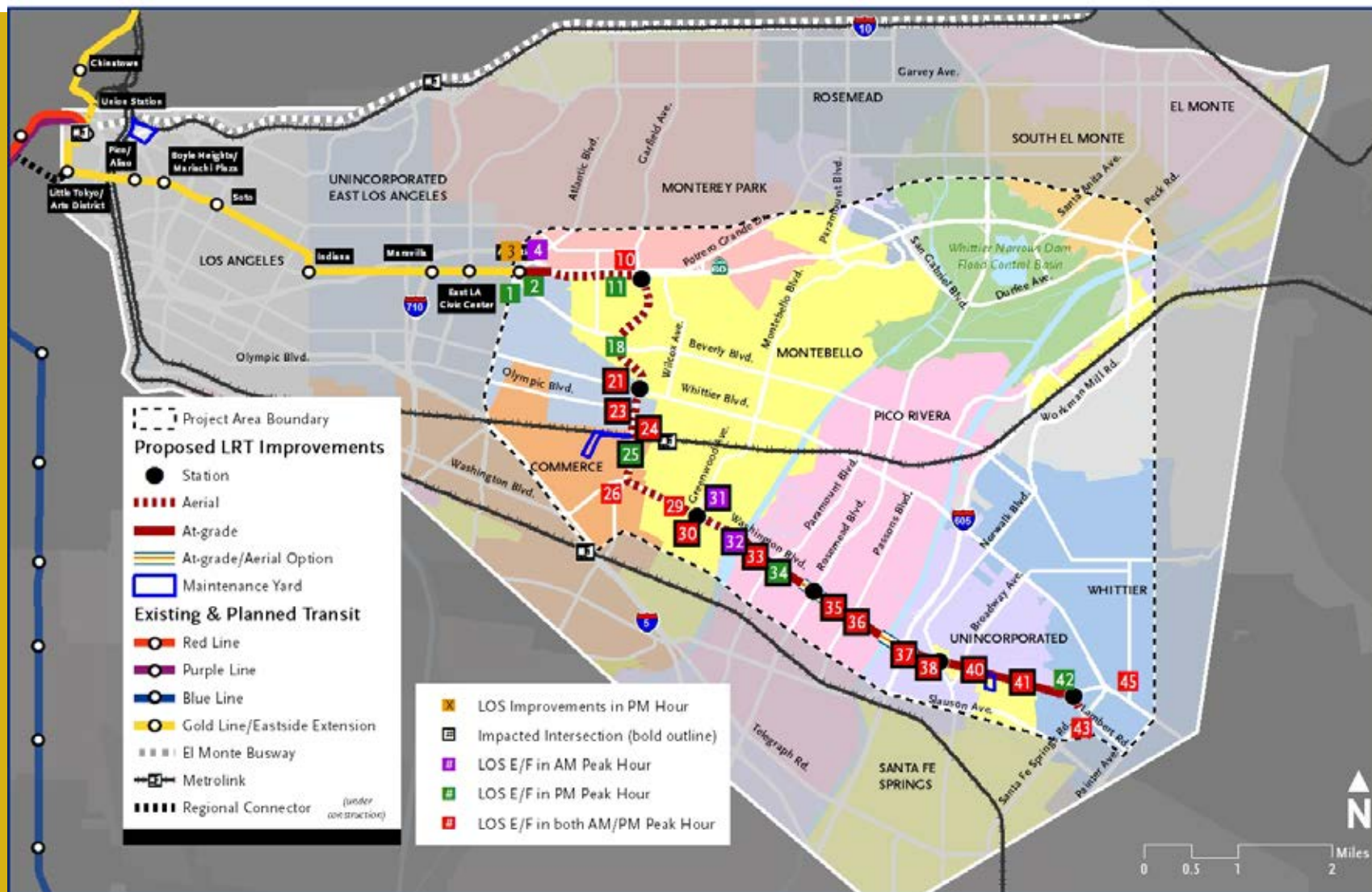
Therefore, employees would arrive at the yards before the trains begin operation during the AM peak hour and after the PM peak hour when trains operate at lower frequencies.

The Santa Fe Springs Maintenance Yard Option would operate at-grade along Washington Boulevard. The addition of traffic to the street system as a result of staffing at this facility is not projected to cause any increase in intersection delay. This conclusion was reached because the principal arrival and departure times for employees are outside typical weekday peak travel periods.

Therefore, there would not be adverse effects under NEPA or significant impacts under CEQA to traffic as a result of increased traffic volumes generated to and from the maintenance yard options. However, the geometric configuration of the Santa Fe Springs Maintenance Yard Option would affect traffic operation along Washington Boulevard.

Light rail vehicles being serviced by this maintenance yard would cross eastbound vehicular travel on Washington Boulevard from the center median to the maintenance yard located directly south along Washington Boulevard.

The transition of the LRT vehicles from the median alignment along Washington Boulevard crossing into and out of the maintenance yard would result in an increase in adjacent intersection delay. Adequate grade crossing devices (e.g., crossing gates, flashing signals, and pedestrian safety signage) and improvements to the local streets would be needed for traffic management and to prevent conflicts between pedestrians, LRT vehicles, and other



Source: AECOM 2010. Intersection numbers correspond to Table 3-7

Figure 3-5. LOS E/F and Impacted Intersections – 2035 Washington Boulevard LRT Alternative

**Table 3-12. LOS E/F and Impacted Intersections –
2035 Washington Boulevard LRT Alternative Before Mitigation**

#	Intersection	2035 AM Peak LOS without Project	2035 PM Peak LOS without Project	2035 AM Peak LOS with Washington Boulevard LRT Alternative	2035 PM Peak LOS with Washington Boulevard LRT Alternative
1	Atlantic Boulevard/ Beverly Boulevard	D	E	D	E
2	Atlantic Boulevard/ Pomona Boulevard	D	E	D	E
4	Atlantic Avenue/1 st Street/SR 60 Westbound Ramps	E	C	E	C
10	Garfield Avenue/ Pomona Boulevard	F	E	F	E
11	Garfield Avenue/Via Campo	D	F	D	F
18	Garfield Avenue/ Beverly Boulevard	D	E	D	E
21	Garfield Avenue/Whittier Boulevard	C	D	E	F
23	Garfield Avenue/Olympic Boulevard	C	C	F	F
24	Garfield Avenue/Ferguson Drive	C	B	F	F
25	Garfield Avenue/Flotilla Street	C	C	C	F
26	Garfield Avenue/ Washington Boulevard	F	F	F	F
28	Vail Avenue/Washington Boulevard	C	B	D	C
29	Maple Avenue/Washington Boulevard	C	C	E	E
30	Greenwood Avenue/ Washington Boulevard	D	D	F	F
31	Montebello Boulevard/Washington Boulevard	C	B	E	C
32	Bluff Road/Washington Boulevard	C	C	F	C

**Table 3-12. LOS E/F and Impacted Intersections –
2035 Washington Boulevard LRT Alternative Before Mitigation(continued)**

#	Intersection	2035 AM Peak LOS without Project	2035 PM Peak LOS without Project	2035 AM Peak LOS with Washington Boulevard LRT Alternative	2035 PM Peak LOS with Washington Boulevard LRT Alternative
33	Paramount Boulevard/ Washington Boulevard	F	F	F	F
34	Crossway Drive/ Washington Boulevard	C	C	D	F
35	Rosemead Boulevard/ Washington Boulevard	F	F	F	F
36	Passons Boulevard/ Washington Boulevard	F	F	F	F
37	Pioneer Boulevard/ Washington Boulevard	F	F	F	F
38	Norwalk Boulevard/Washington Boulevard	F	F	F	F
40	Broadway/Washington Boulevard	E	E	E	F
41	Sorenson Avenue/ Washington Boulevard	E	E	F	F
42	Lambert Road/ Washington Boulevard	D	F	D	F
43	Lambert Road/ Santa Fe Springs Road	F	F	F	F
45	Whittier Boulevard/ Washington Boulevard/ Santa Fe Springs Road	F	F	F	F

Source: AECOM 2010

vehicles specific to this location. The additional at-grade crossing location would result in an adverse effect under NEPA and a significant impact under CEQA on intersection operation.

Freeway Off-Ramps

LRT service along Washington Boulevard would result in a minor decrease in background traffic volumes, as it would increase transit mode share in the area. However, the Washington Boulevard LRT

Alternative alignment would cause minor increases in traffic volumes along the SR 60 Freeway mainline and at the off-ramps near the proposed stations, as vehicles would be traveling to and from the proposed park and ride facilities.

The operation of the Washington Boulevard LRT Alternative and its associated park and ride facilities would not cause an adverse effect on the queue lengths of the freeway ramps in the project area for

either the 50th or the 95th percentile queue. As in the No Build scenario, the ramp queues would not spill over to the SR 60 Freeway mainline. Therefore, the Washington Boulevard LRT Alternative would not have an adverse effect or significant impact on operation at the study area off-ramp locations.

Parking

The Washington Boulevard LRT Alternative would provide a total of 3,145 off-street parking spaces at the six proposed stations, as shown in **Table 3-13**. Parking supply at the park and ride facilities was determined largely by the geometric constraints of the property and is conceptual in nature (the estimated maximum supply of parking is presented at each station). During the final design phase, reconfiguration of the parking lots and spaces may be conducted to create more stalls, or additional parking levels may be added to garages.

Three evaluations were conducted with respect to operational impacts to parking: 1) whether the proposed parking supply at each station could accommodate the projected parking demand; 2) whether implementation of Washington Boulevard LRT Alternative would displace existing off-street parking spaces (either public or private); and 3) whether implementation of the Washington Boulevard LRT Alternative would eliminate on-street parking.

Based on estimated peak daily demand at park and ride facilities, there would be a surplus at all of the proposed stations that provide parking, as shown in Table 3-13.

The Whittier Boulevard station would not include park and ride facilities due to space constraints. Property would be acquired to support the construction of a station; however very little property would remain after construction and this would not be sufficient for a park and ride lot. In addition, the station area is built out with commercial and dense housing nearby. As such, additional property acquisitions would result in additional cost and environmental impacts. This would be unlike most of the other stations along the proposed alternatives, where the park and ride lots have been located primarily on underutilized, surface parking

lots. Although the lack of parking supply may result in slightly reduced ridership, it may also encourage transit patrons to use other modes to access the stations such as walking, bicycling, transit, and kiss and ride. For example, in the vicinity of the station site there is convenient access to existing Metro bus lines (Lines 18 and 66) with five- to 15-minute headways. The station design would also include features that encourage and invite pedestrians to access the station. Some of these features may include landscaping, lighting, crosswalks, pedestrian paths, pedestrian signals with countdowns, corner bulbs, and bicycle storage, as well as connections to bike lanes. In addition, faced with constrained parking conditions, some drivers may change their travel patterns to use the nearby park and ride facilities at the Greenwood Avenue station or the Garfield Avenue station. Any unmet parking demand would need to find available on-street parking in the surrounding neighborhoods, which currently has some availability.

Overall, the Washington Boulevard LRT Alternative would not result in an adverse effect to parking based on spillover parking conditions at the proposed stations.

The Washington Boulevard LRT Alternative would require the elimination of existing off-street parking facilities near each of the proposed stations, which would result in displaced parking to the surrounding streets and the potential for use of other nearby off-street facilities. Approximately 1,685 parking spaces would be removed, including about 410 spaces at the Garfield Avenue Station, about 75 spaces at the Whittier Boulevard Station, about 125 spaces at the Greenwood Avenue Station, about 300 spaces at the Rosemead Boulevard Station, about 205 spaces at the Norwalk Boulevard Station, about 510 spaces at the Lambert Road Station, and about 60 spaces for the TPSS located on Washington Boulevard between Calobar Avenue and Appledale Avenue.

Table 3-13. Washington Boulevard LRT Alternative - Proposed Parking Spaces

Station	Peak Daily Park and Ride Parking Demand	Proposed Station Parking	Estimated Parking Surplus/(Shortfall)
Garfield Ave.	582	680	98
Whittier Blvd.	0	0	0
Greenwood Ave.	132	340	208
Rosemead Blvd.	258	425	167
Norwalk Blvd.	515	680	165
Lambert Rd.	898	1,020	122

Source: AECOM 2014.

Notes:

Consistent with traffic analysis, Peak Daily Park and Ride Parking Demand is based on ridership information. Proposed Station Parking spaces were estimated based on parcel and acquisition information.

These displaced off-street parking spaces would result in additional parking demand on surrounding streets and the potential for use of other nearby off-street parking facilities. As displaced off-street parking would be an inconvenience to the surrounding neighborhood, this would be considered an adverse effect under NEPA.

The parking acquisitions and displacement totals assume the LRT at-grade crossing options at Rosemead Boulevard and the San Gabriel River/I-605 as further described below.

The Washington Boulevard LRT Alternative includes options for crossing the San Gabriel River and I-605 either at-grade or with an aerial alignment. The aerial (elevated) option is expected to require the same parking acquisitions as the at-grade option.

For the Washington Boulevard LRT Alternative, on-street parking would need to be removed permanently along Pomona Boulevard between Atlantic Boulevard and Sadler Avenue, on Garfield

Avenue between Via Campo and Via San Clemente, and along most of Washington Boulevard from Montebello to Whittier. Parking is already prohibited on portions of Garfield Avenue in Montebello and on Washington Boulevard in Pico Rivera. During field visits on both weekdays and weekends, on-street parking along all affected roadway segments was about 27 percent occupied. Most businesses have off-street parking lots, and side street parking is also available to absorb some of the displaced spaces. **Table 3-14** shows the location of potentially displaced on-street parking spaces and potential replacement parking options.

Given the overall on-street parking utilization and available replacement parking supplies, the Washington Boulevard LRT Alternative would result in sufficient options to offset the number of on-street spaces to be removed. Therefore, the Washington Boulevard LRT Alternative would not result in an adverse effect to on-street parking conditions.

**Table 3-14. Washington Boulevard LRT Alternative -
Affected On-Street Parking Utilization and Replacement Parking Options**

Affected Sections along Washington Blvd.	Total Removed Parking Spaces Occupied ¹	Total Parking Spaces Removed	% of Removed Spaces Currently Utilized	Potential Replacement Parking Options
North side of Pomona Blvd. between Atlantic Blvd. and Hillview Avenue	3	10	30%	Via Campo, Fernfield Drive, and Hillview Avenue
South side of Pomona Blvd. between Atlantic Blvd. and Hillview Avenue	11	11	100%	Via Campo and Hillview Avenue
North side of Pomona Blvd. between Hillview and Sadler avenues	11	19	58%	Via Campo, Fernfield Drive, and Hillview Avenue
South side of Pomona Blvd. between Hillview and Sadler avenues	8	11	73%	Via Campo; Hillview and Sadler avenues
East side of Garfield Avenue between Via Campo and Via Paseo	7	17	41%	None required
North side of Washington Blvd. between Montebello Blvd. and Bluff Road	0	19	0%	None required
South side of Washington Blvd. between Montebello Blvd. and Bluff Road	0	30	0%	None required
North side of Washington Blvd. between Sorensen and Appledale avenues	5	29	17%	Appledale Avenue
North side of Washington Blvd. between Gretna and Sorensen avenues	2	23	9%	Gretna and Allport avenues
South side of Washington Blvd. between Gretna and Sorensen avenues	1	29	5%	Gretna and Allport avenues
South side of Washington Blvd. between Sorensen Avenue and Rivera Road	14	22	64%	Sorensen Avenue and Rivera Road
South side of Washington Blvd., between Duchess Drive and Broadway	0	11	0%	None required
Total	62	231	27%	

Source: AECOM, 2010.

¹Based on field surveys conducted in September 2010.

Pedestrian Circulation

During operation, pedestrians would use the crosswalks and sidewalks that surround each station. The pedestrian activity would not create severe overcrowding during peak periods that would interfere with pedestrian accessibility, as current pedestrian volumes are relatively low.

As such, the surrounding pedestrian facilities would have sufficient capacity to accommodate the increase in pedestrian volumes and this increase would not result in an adverse effect under NEPA or significant impact under CEQA.

Design of the Washington Boulevard LRT Alternative would ensure that adequate sidewalk widths are maintained. Additional amenities at proposed station locations, such as shade trees, landscaping, and pedestrian-scale lighting, could serve to further enhance pedestrian circulation. Where park and ride structures are introduced at stations, new signalized and clearly-marked walkways would be necessary to facilitate pedestrian circulation to and from the parking facilities and station entrances to avoid potential conflicts with automobiles. With the build out of the station designs, the project would have a beneficial effect to pedestrian conditions.

The Santa Fe Springs Maintenance Yard Option is located directly south of Washington Boulevard at Allport Avenue. The alignment would operate in an at-grade configuration along this portion of Washington Boulevard.

The transition of the LRT service between the median alignment along Washington Boulevard and the maintenance yard would create a conflict between the LRT and pedestrians when light rail vehicles are accessing the maintenance yard. Currently, pedestrians can freely navigate this portion of Washington Boulevard without interruption from other modes of travel. This new conflict location would result in an adverse effect under NEPA and a significant impact under CEQA

to pedestrian conditions unless adequate safety controls are provided.

Bicycle Circulation

The Washington Boulevard LRT Alternative transitions from an at-grade alignment east of Pomona and Atlantic boulevards to an aerial configuration before the first proposed station location at Via Campo Boulevard and Garfield Avenue. No current or planned bicycle facilities were identified along Pomona Boulevard or Garfield Boulevard within the project area. Although the project would result in localized increases in traffic volumes and bicycle activity, these increases would not result in the potential for hazardous conditions or affect bicycle accessibility. Therefore, the Washington Boulevard LRT Alternative would not have an adverse effect on bicycle conditions in these portions of the corridor; however, effects to the at-grade portion are discussed below.

There is a proposed Class III bicycle route along Washington Boulevard. While Class III facilities permit vehicle cross-flow and shared motor vehicle use, the reduction in travel lanes east of Montebello Boulevard could create conflicts between bicycle and automobile traffic along the at-grade segment of the alignment, resulting in adverse effects under NEPA and less than significant impacts under CEQA to bicycle circulation. Enhanced striping and pavement markings would help to clearly mark the flow of bicycle circulation on Washington Boulevard, and other east-west arterials would be programmed as alternative bike routes.

For both the at-grade and aerial configuration options, bicycle parking facilities are proposed for each station along the alignment. A limited number of stations would include bicycle lockers in accordance with Metro design criteria. The addition of bicycle parking would have a beneficial effect on the bicycle network by providing additional facilities and improving bicycle-to-transit connections.

Comparison of Alternative Against Existing Conditions

Construction impacts are anticipated to be the same under both the existing conditions scenario and the year 2035 scenario.

The bus transit network and pedestrian and bicycle infrastructure in 2035 are not anticipated to differ greatly from existing conditions. As such, operational impacts for transit, bicycles, and pedestrians would be similar to those described in the year 2035 scenario. No additional impacts would be expected under existing conditions with the addition of the Washington Boulevard LRT Alternative. This finding applies regardless of whether the Rosemead Boulevard Crossing Option and/or the I-605/San Gabriel River Crossing Option are implemented.

Intersections

Twelve intersections would be adversely affected by the addition of the Washington Boulevard LRT Alternative to the existing conditions scenario, as they would exceed the impact criteria:

- Intersection #21 – Garfield Avenue/Whittier Boulevard: PM peak hour
- Intersection #23 – Garfield Avenue/Olympic Boulevard: AM and PM peak hours
- Intersection #24 – Garfield Avenue/Ferguson Drive: AM and PM peak hours
- Intersection #25 – Garfield Avenue/Flotilla Avenue: PM peak hour
- Intersection #30 – Greenwood Avenue/Washington Boulevard: AM peak hour
- Intersection #33 – Paramount Boulevard/Washington Boulevard: AM and PM peak hours
- Intersection #34 – Crossway Drive/Washington Boulevard: PM peak hour
- Intersection #35 – Rosemead Boulevard/Washington Boulevard: AM and PM peak hours
- Intersection #36 – Passons Boulevard/Washington Boulevard: AM and PM peak hours

- Intersection #37 – Pioneer Boulevard/Washington Boulevard: AM and PM peak hours
- Intersection #38 – Norwalk Boulevard/Washington Boulevard: AM and PM peak hours
- Intersection #41 – Sorensen Avenue/Washington Boulevard: AM and PM peak hours

The locations of these intersections are shown in Figure 3-5. All of these intersections were also impacted in the 2035 scenario. Therefore, no additional intersection impacts would occur under the existing conditions scenario.

Freeway Off-Ramps

The operation of the LRT and the proposed park and ride facilities associated with addition of the Washington Boulevard LRT Alternative under existing conditions would not adversely affect the queue lengths of the freeway ramps in the project area for the 50th or the 95th percentile queues. The ramp queues would not spill over onto the freeway mainline with the addition of the Washington Boulevard LRT Alternative. Therefore, the Washington Boulevard LRT Alternative would not result in an adverse effect to operations at the study area off-ramps in the existing condition scenario, and no additional impacts would occur compared with the year 2035 scenario.

Parking

The Washington Boulevard LRT Alternative would require the removal of some on-street parking, but replacement parking options with available capacity were found on adjacent streets; therefore, as in the 2035 scenario, the Washington Boulevard LRT Alternative would not result in an adverse effect to on-street or off-street parking under existing conditions.

Ridership in the existing conditions scenario is projected to be lower than year 2035 ridership; thus, demand at park and ride facilities would be less and no impacts related to spillover parking would occur.

3.3.4.2 Mitigation Measures

Construction Mitigation Measures

The Washington Boulevard LRT Alternative would not have any adverse construction effects under NEPA or significant construction impacts under CEQA related to regional transportation. No mitigation measures for regional transportation are required. Construction-related mitigation measures for transit, intersections, freeway off-ramps, parking, pedestrian circulation, and bicycle circulation impacts are provided below.

Metro would prepare a traffic management plan to facilitate the flow of traffic in and around the construction zone. This mitigation measure would also apply to transit service. The same mitigation measure described for the SR 60 LRT Alternative (mitigation measure 3.0-ii), which is identified above in Section 3.3.3.2 and summarized in Table ES-2, would also apply to the Washington Boulevard LRT Alternative.

Transit

Construction of the Washington Boulevard LRT Alternative would result in temporary adverse effects under NEPA and less than significant impacts under CEQA to transit operations, based on the duration and magnitude of construction as shown in Table 2-5.

The traffic management plan discussed above (mitigation measure 3.0-ii) would mitigate temporary disruptions to transit service.

Metro would coordinate with local transit agencies in advance to communicate closures, communicate information on any changes to bus service that would result from the Washington Boulevard LRT Alternative, and develop detours. The same mitigation measure described for the SR 60 LRT Alternative (Mitigation Measure 3.0-iii), which is identified above in Section 3.3.3.2 and summarized in Table ES-2, would also apply to the Washington Boulevard LRT Alternative.

Construction of the San Gabriel River/I-605 aerial crossing option may result in temporary additional adverse effects to transit operations, based on the duration and magnitude of construction as shown in

Table 2-5, specifically on the I-605 Freeway. The traffic management plan discussed above (mitigation measure 3.0-ii) would mitigate temporary disruptions to transit service. In addition, Metro would coordinate with local transit agencies in advance to communicate closures, communicate information on any changes to bus service, and develop detour routes. Combined, these measures would address the adverse effects under NEPA and impacts under CEQA.

Regional Transportation

No mitigation measures would be required, as no adverse effects or significant impacts are expected.

Intersections

During the final design phase of the project, the site- and street-specific traffic management plan (mitigation measure 3.0-ii) discussed above would mitigate temporary adverse effects under NEPA and less than significant impacts under CEQA of construction on intersection operations.

Metro would also coordinate with the local jurisdictions and Caltrans to designate and identify haul routes for trucks and establish hours of operation. The same mitigation measure described for the SR 60 LRT Alternative (mitigation measure 3.0-iv), which is identified above in Section 3.3.3.2 and summarized in Table ES-2, would also apply to the Washington Boulevard LRT Alternative.

Combined, these measures would address adverse effects under NEPA and impacts under CEQA.

Freeway Off-Ramps

Construction of the Washington Boulevard LRT Alternative may result in temporary adverse effects under NEPA and significant impacts under CEQA to freeway ramps, based on the duration and magnitude of construction, as each eastbound on- and off-ramp from Atlantic Boulevard to Garfield Avenue may need to be temporarily closed when construction reaches the area. The traffic management plan (mitigation measure 3.0-ii) discussed above would mitigate many of the adverse effects to the freeway off-ramps.

Access to businesses and residences along the Washington Boulevard LRT Alternative would be maintained throughout construction. Combined, these measures would address the temporary and adverse effects under NEPA and impacts under CEQA.

3.0-xvii The San Gabriel River/I-605 aerial crossing would have additional temporary adverse effects under NEPA and significant impacts under CEQA to the I-605 Freeway mainline. To mitigate this potential impact, public notice of all freeway closures would be provided and detour routes would be indicated. With this mitigation measure, since the freeway closures would be temporary in nature, the public would be notified in advance and detour routes would be provided; the closures would not cause an adverse effect under NEPA or a significant impact under CEQA to operations. Freeway closures would occur overnight or on weekends when traffic volume is minimal. The other construction mitigation measures discussed above (3.0-ii through 3.0-iv) would apply equally to the San Gabriel River/I-605 aerial crossing and would also mitigate its effects under NEPA and impacts under CEQA.

Parking

The same mitigation measures described for the SR 60 LRT Alternative (mitigation measure 3.0-ii and 3.0-ix), which are identified above in Section 3.3.3.2 and summarized in Table ES-2, would also apply to the Washington Boulevard LRT Alternative.

Combined, these measures would address adverse effects under NEPA.

Pedestrian Circulation

The same mitigation measures described for the SR 60 LRT Alternative (mitigation measure 3.0-x and 3.0-xi), which are identified above in Section 3.3.3.2 and summarized in Table ES-2, would also apply to the Washington Boulevard LRT Alternative.

Combined, these measures would address temporary and adverse effects under NEPA and impacts under CEQA.

Bicycle Circulation

The same mitigation measures described for the SR 60 LRT Alternative (mitigation measure 3.0-ii, 3.0-xii, and 3.0-xiii), which are identified above in Section 3.3.3.2 and summarized in Table ES-2, would also apply to the Washington Boulevard LRT Alternative.

Combined, these measures would address the adverse effects under NEPA and impacts under CEQA.

Operational Mitigation Measures

The Washington Boulevard LRT Alternative would not have any adverse operational effects under NEPA or significant operational impacts under CEQA related to transit, regional transportation, or freeway off-ramps. No permanent long-term adverse effects under NEPA or significant impacts under CEQA to these transportation modes and facilities would occur. No mitigation measures regarding these topics are required. Operational-related mitigation measures for intersections, parking, pedestrian circulation, and bicycle circulation impacts are provided below.

Transit

No mitigation measures would be required, as no adverse effects or significant impacts are expected. Overall, the Washington Boulevard LRT Alternative would have a beneficial effect on transit conditions in the area.

Regional Transportation

No mitigation measures would be required, as no adverse effects or significant impacts are expected. Overall, the Washington Boulevard LRT Alternative would have a beneficial effect on transit conditions in the area as compared to the No Build Alternative.

Intersections

Potential improvements were applied to the adversely affected intersections in the following order:

- Optimized signal splits and manually altered green times, if necessary;
- Increase the cycle length;
- Update signal phasing; and
- Lane configuration changes, such as restriping turning, through, and parking lanes at the affected intersections where feasible.

3.0-xviii With the implementation of the following mitigation measures, the adverse effect under NEPA and significant impacts under CEQA at the following intersection would be mitigated:

Montebello Boulevard/Washington Boulevard: AM peak hour (#31). Optimizing signal splits and providing additional green time to approaches with long vehicle queues and high delay would be a mitigation measure. With the incorporation of these measures, the substantial adverse effects at the intersection of Montebello Boulevard/Washington Boulevard could be mitigated.

For the 16 remaining intersections, additional mitigation measures were investigated to improve conditions. Further mitigation measures, such as lane configuration changes that would increase capacity of the roadways or restrictions in allowable turning movements, were considered infeasible due to ROW constraints or secondary effects to upstream and downstream locations.

Since the remaining adversely affected intersections could not be mitigated, impacts would be adverse and unavoidable under NEPA and significant and unavoidable under CEQA, as shown in **Table 3-15**.

The grade separation of the Rosemead Boulevard aerial crossing may slightly improve operation of the Rosemead Boulevard/Washington Boulevard intersection as compared with the at-grade option at this intersection. Similarly, the grade separation of the San Gabriel River/I 605 aerial crossing may slightly improve operation of the Passons Boulevard/Washington Boulevard intersection as compared with the at-grade option at this location. However, the intersections would continue to

operate with unacceptable levels of service regardless of whether the grade separations are implemented. Mitigation measures would be applied, but would not be able to reduce the significance of these impacts under CEQA. Effects would continue to be adverse under NEPA.

Freeway Off-Ramps

No mitigation measures would be required, as no adverse effects or significant impacts are expected.

Parking

3.0-xix For parcels that would be affected by the acquisition of parking, replacement parking would be provided at the parcel or at a nearby assemblage of parcels. Shared-use parking arrangements would be considered within new Metro facilities. Metro would work with local jurisdictions, businesses and merchants, and commerce associations to implement potential parking mitigation options to help offset losses during operation.

Pedestrian Circulation

Mitigation measures are required to address adverse effects under NEPA and significant impacts under CEQA at the proposed station locations where inadequate pedestrian crosswalks and sidewalks are not included in the final designs, especially at the at-grade stations.

3.0-xx Additional enhancement to the existing crosswalks at each proposed station location would be implemented to further improve pedestrian circulation.

3.0-xxi Where park and ride structures are introduced at stations, new signalized and clearly marked walkways would be necessary for pedestrian circulation to and from the parking facilities and station entrances. For example, new at-grade crosswalks with marked pavement and flashing crossing lights would help to address potential conflicts with pedestrians.

Table 3-15. Washington Boulevard LRT Alternative - LOS Results with Mitigation Measures¹

#	Intersection	Peak Hour	Year 2035 without Project		Washington Blvd. LRT Alternative		Delay Change	Impact?	Washington Blvd. LRT Alternative With Mitigation Measures		Delay Change	Remaining Impact?
			Delay	LOS	Delay	LOS			Delay	LOS		
21	Garfield Avenue/ Whittier Blvd.	AM	33.5	C	55.5	E	22.0	Yes	50.2	D	16.7	Yes
		PM	54.5	D	138.9	F	84.4	Yes	120.6	F	66.1	Yes
23	Garfield Avenue/ Olympic Blvd.	AM	27.1	C	90.8	F	63.7	Yes	90.8	F	63.7	Yes
		PM	34.8	C	130.8	F	96.0	Yes	130.8	F	96.0	Yes
24	Garfield Avenue/ Ferguson Drive	AM	22.7	C	102.7	F	80.0	Yes	88.9	F	66.2	Yes
		PM	16.4	B	103.0	F	86.6	Yes	75.3	E	58.9	Yes
25	Garfield Avenue/ Flotilla Street	AM	22.8	C	22.0	C	-0.8	No	--	--	--	No
		PM	28.6	C	101.3	F	72.7	Yes	78.3	E	49.7	Yes
28	Vail Avenue/ Washington Blvd.	AM	20.8	C	35.7	D	14.9	Yes	35.7	D	14.9	Yes
		PM	18.2	B	24.8	C	6.6	No	--	--	--	No
29	Maple Avenue/ Washington Blvd.	AM	30.4	C	78.0	E	47.6	Yes	42.2	D	11.8	Yes
		PM	25.5	C	64.6	E	39.1	Yes	38.7	D	13.2	Yes
30	Greenwood Avenue/ Washington Blvd.	AM	42.0	D	109.9	F	67.9	Yes	90.3	F	48.3	Yes
		PM	50.0	D	121.3	F	71.3	Yes	78.2	E	28.2	Yes
31	Montebello Blvd./ Washington Blvd.	AM	26.1	C	65.5	E	39.4	Yes	32.8	C	6.7	No
		PM	14.2	B	21.0	C	6.8	No	--	--	--	No
32	Bluff Road/ Washington Blvd.	AM	23.8	C	102.0	F	78.2	Yes	80.2	F	56.4	Yes
		PM	20.7	C	32.6	C	11.9	Yes	30.4	C	9.7	No
33	Paramount Blvd./ Washington Blvd.	AM	110.8	F	189.1	F	78.3	Yes	176.0	F	65.2	Yes
		PM	139.0	F	235.3	F	96.3	Yes	217.4	F	78.4	Yes
34	Crossway Drive/ Washington Blvd.	AM	22.7	C	38.5	D	15.8	Yes	36.2	D	13.5	Yes
		PM	33.4	C	130.7	F	97.3	Yes	115.0	F	81.6	Yes

Table 3-15. Washington Boulevard LRT Alternative - LOS Results with Mitigation Measures¹ (continued)

#	Intersection	Peak Hour	Year 2035 without Project		Washington Blvd. LRT Alternative		Delay Change	Impact?	Washington Blvd. LRT Alternative With Mitigation Measures		Delay Change	Remaining Impact?
			Delay	LOS	Delay	LOS			Delay	LOS		
35	Rosemead Blvd./ Washington Blvd.	AM	119.6	F	199.6	F	80.0	Yes	192.3	F	72.7	Yes
		PM	143.2	F	234.6	F	91.4	Yes	228.9	F	85.7	Yes
36	Passons Blvd./ Washington Blvd.	AM	89.7	F	203.7	F	114.0	Yes	191.5	F	101.8	Yes
		PM	88.6	F	229.3	F	140.7	Yes	214.8	F	126.2	Yes
37	Pioneer Blvd./ Washington Blvd.	AM	143.9	F	311.6	F	167.7	Yes	236.3	F	92.4	Yes
		PM	151.1	F	301.9	F	150.8	Yes	215.3	F	64.2	Yes
38	Norwalk Blvd./ Washington Blvd.	AM	112.6	F	151.5	F	38.9	Yes	117.9	F	5.3	Yes
		PM	135.7	F	235.5	F	99.8	Yes	190.3	F	54.6	Yes
40	Broadway/Washington Blvd.	AM	62.7	E	71.2	E	8.5	Yes	65.2	E	2.5	Yes
		PM	57.6	E	87.5	F	29.9	Yes	76.1	E	18.5	Yes
41	Sorensen Avenue/ Washington Blvd.	AM	65.1	E	123.0	F	57.9	Yes	123.9	F	58.8	Yes
		PM	68.9	E	115.5	F	46.6	Yes	112.0	F	43.1	Yes

Source: AECOM, 2010.

Notes:

Shading indicates LOS E or LOS F, which typically denote unacceptable levels of congestion.

Delay is presented in seconds per vehicle.

¹Mitigation considers measures involving traffic signal adjustments and does not include restriction of turning movements or changes in traffic configurations since they are not feasible at any of these locations. LOS = Level of Service EB = Eastbound WB = Westbound

3.0-xxii Metro would prepare a community linkages study that would document preferred pedestrian access to each station, general pedestrian circulation in the immediate vicinity of the station, and potential sites for connections to nearby bus services. The purpose of this study would include ensuring sufficient circulation, access, and information important to users of the transit system. The results of the study would be implemented through coordination between Metro and local jurisdictions.

In addition, other techniques to increase pedestrian safety may be implemented, such as educational programs for local businesses, marketing and advertising campaigns, and consistent signage. Programs would be instituted via a combination of outreach strategies and information available on the Metro website.

Combined, these measures would address adverse effects under NEPA and impacts under CEQA.

Bicycle Circulation

Mitigation measures are required to address adverse effects under NEPA and less than significant impacts under CEQA to bicycle circulation for the Washington Boulevard LRT Alternative at-grade segment along Washington Boulevard.

3.0-xxiii Enhanced striping and pavement markings would help to clearly mark the flow of bicycle circulation on Washington Boulevard.

As part of the community linkages study discussed above (mitigation measure 3.0-xvi), Metro would document bicycle network improvements. Identification and enhancement of alternative bike

routes on parallel streets would be documented as part of the study. Metro would also document bicycle parking at each of the proposed stations.

Combined, these measures would address adverse effects under NEPA and impacts under CEQA.

Comparison of Alternative Against Existing Conditions

No additional significant impacts would occur under the existing condition scenario, since traffic conditions would be equal to or better than in the year 2035 scenario. Therefore no mitigation measures are required.

3.3.4.3 Impacts Remaining After Mitigation

NEPA Finding

The Washington Boulevard LRT Alternative would have adverse transportation effects during construction that would be addressed through mitigation measures.

The Washington Boulevard LRT Alternative would have unavoidable adverse transportation effects during operation that cannot be addressed through mitigation measures.

CEQA Determination

The Washington Boulevard LRT Alternative would result in significant impacts during construction. Mitigation measures would reduce these impacts below the level of significance. The Washington Boulevard LRT Alternative would result in significant impacts during operation. No feasible mitigation measures exist that would reduce these impacts below the level of significance.

Comparison of Alternative Against Existing Conditions

No additional impacts would occur under the existing condition scenario.