

## CHAPTER 3—TRANSPORTATION

This chapter presents information on transportation impacts of the No Build Alternative and Locally Preferred Alternative (LPA) for the Westside Subway Extension Project (Project). These alternatives are described in Chapter 2, Alternatives Considered, of this Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR). Transportation impacts include benefits such as improved transit times and reliability as well as impacts on traffic, parking, pedestrians, and bicycles. The LPA could either be constructed under the America Fast Forward (30/10) Scenario (Concurrent Construction) or under the Metro Long Range Transportation Plan Scenario (Phased Construction). Under the Concurrent Construction Scenario, the Project will be constructed in a single phase to Westwood/VA Hospital. The Phased Construction Scenario will have three phases—Phase 1 will extend subway service to the Wilshire/La Cienega Station; Phase 2 will extend service to the Century City Station; and Phase 3 will extend service to the Westwood/VA Hospital Station.

The analysis presented includes both station area and regional transportation effects for the No Build Alternative and the LPA under both the Concurrent Construction Scenario and the Phased Construction Scenario. More detailed information on estimated transportation impacts is provided in the *Westside Subway Extension Transportation Impacts Technical Report* (Metro 2010a), the *Addendum to the Westside Subway Extension Transportation Impacts Technical Report* (Metro 2011a), and the *Westside Subway Extension Construction Traffic Analysis Report* (Metro 2011ai).

### 3.1 Introduction

Travel in the Westside Study Area is currently characterized by pronounced peak-period congestion that is affected by large concentrations of jobs as compared to the region as a whole. The jobs-housing imbalance in the Study Area has reached a point where east-bound travel in the afternoon/early evening (3:00 p.m. to 7:00 p.m.) exceeds volumes for more traditional PM-peak westbound peak travel. Per the Metro Travel Demand Model, typical travel speeds during these hours are less than 10 miles per hour (mph). By virtue of this congestion, all known options involving east-west arterials have lost their viability and any major traffic accident in the Study Area (or subregion) can result in area-wide

gridlock. Accordingly, travel-time reliability has diminished dramatically over the past years.

Typical rush hours on the Westside of Los Angeles extend from 6:30 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. and beyond. For example, travel time runs indicate that during a typical weekday evening, an auto trip along Wilshire Boulevard from Santa Monica to Beverly Hills takes up to 60 minutes to cover a distance of only 8 miles. The travel

time runs also indicate that morning and evening peak-hour speeds along Santa Monica Boulevard in Beverly Hills average less than 7 mph. (*Westside Subway Extension Transportation Impacts Technical Report* [Metro 2010a]).

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Travel in the Study Area is characterized by congested streets and highways in both directions during protracted periods. While bus service levels and ridership also are high, particularly along east-west arterials, transit vehicles must operate in the same conditions as general-purpose traffic.

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While there are no fixed-guideway transit facilities located in the Westside area, there is a substantial demand for bus transit service, notably in the east-west direction, as demonstrated by the number of routes, the frequency of service, and the high levels of ridership. The Study Area includes a large number of existing intersecting bus lines and over one-half million customers ride the transit system each day.

Table 3-1 provides a summary of the transportation categories considered in this chapter—public transit; streets and highways; parking; pedestrian, bicycle, and bus networks; and construction-related transportation impacts. This table identifies the transportation impacts and benefits resulting from the Project as well as the mitigation measures proposed to minimize these identified impacts.

### **3.2 Changes to this Chapter in Response to Draft Environmental Impact Statement/Environmental Impact Report Comments and Selection of the Locally Preferred Alternative**

This chapter has been revised to reflect identification of Alternative 2 (Westwood/Veterans Affairs (VA) Hospital) as the LPA for the Project. The definition of the LPA, including revised station names, has been modified consistent with the description included in Chapter 2, Alternatives Considered, of this Final EIS/EIR. This chapter has been updated from the Draft EIS/EIR to focus on the analysis of the effects of the LPA on transportation. The LPA could either be constructed as a single phase under the Concurrent Construction Scenario or as three consecutive phases under the Phased Construction Scenario. The opening of the LPA as a single phase or in three sequential phases does not substantially change the analysis that was presented in the Draft EIS/EIR. The analysis of all Build Alternatives and the Transportation System Management (TSM) Alternative in the Draft EIS/EIR is incorporated into this document by reference.

Chapter 3 was reorganized to group together all discussion by topic area (Public Transit, Streets and Highways, Parking, Pedestrian, Bicycle and Bus Networks, and Construction). Each topic includes a discussion of the existing conditions/affected environment, environmental impacts/environmental consequences, mitigation measures, and CEQA determination. The following sections have been modified since the publication of the Draft EIS/EIR or contain new details in response to public and agency comments received on the Draft EIS/EIR:

- Section 3.3, Methodology, includes added language on dates for traffic counts conducted in the Study Area. This section also includes added language on use of the Metro Travel Demand Model and assumptions for the traffic analysis.
- Section 3.4, Public Transit, includes new language clarifying the focus of information on current Westside transit service and revised information on major transfer locations. This section also includes language clarifying newly designated rail lines serving Los Angeles County and revised language on system travel times, speeds, and extent of exclusive fixed guideway to reflect comparison of the LPA with the No Build Alternative. In addition, revised information on transit ridership that reflects the LPA and, where appropriate, the No Build Alternative has been incorporated to reflect the latest operating characteristics of the LPA.

**Table 3-1. Summary of Transportation Impacts and Mitigation Measures**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation	
		NEPA	CEQA		NEPA Finding	CEQA Determination
<b>3.4 Public Transit</b>						
<i>Transit Travel Times</i>						
Concurrent Construction Scenario	The LPA will reduce transit travel times to the Westside from various locations around Los Angeles County. Estimated transit travel times from Wilshire/Western Purple Line Station to the Westwood/UCLA Station, for example, will be approximately 14 minutes under the LPA as compared to 46 minutes under the No Build Alternative. Given the proximity to the Westwood/UCLA Station, comparable transit travel time savings will occur for trips to the Westwood/VA Hospital Station. See Figures 3-4 to 3-10.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since impacts of the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
Phased Construction Scenario	Phase 1 As compared to the No Build Alternative, Phase 1 will have reduced transit travel times to the Westside from various locations around Los Angeles County. However, since Phase 1 will terminate at the Wilshire/La Cienega Station, these transit travel time savings to points west of this station will not be as significant as under the full LPA to the Westwood/VA Hospital Station.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since impacts of the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
	Phase 2 As compared to the No Build Alternative, Phase 2 will have reduced transit travel times to the Westside from various locations around Los Angeles County. However, since Phase 2 will terminate at the Century City Station, these transit travel time savings to points west of this station will not be as significant as under the full LPA to the Westwood/VA Hospital Station. For example, transit travel time for trips between Wilshire/Western and Century City under the LPA will be approximately 20 minutes less than under the No Build Alternative.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since impacts of the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
	Phase 3 Phase 3 will complete the LPA in its entirety to the Westwood/VA Hospital Station and, therefore, will provide the same transit travel times to the Westside from various locations around Los Angeles County as the LPA under the Concurrent Construction Scenario. See Concurrent Construction Scenario description above and Figures 3-4 to 3-10, Transit Travel Times from Various Locations. For example, transit travel time for trips between Wilshire/Western and Westwood/UCLA under the LPA will be approximately 30 minutes less than under the No Build Alternative. Given the proximity to the Westwood/UCLA Station, comparable transit travel time savings will occur for trips to the Westwood/VA Hospital Station.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since impacts of the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
<i>Transit Speed and Reliability</i>						
Concurrent Construction Scenario	The number of passenger miles in exclusive fixed guideway operations will be substantially greater under the LPA than the No Build Alternative. The share of passenger miles in exclusive fixed guideway service in the Study Area under the LPA will be approximately 40 percent, compared to about 5 percent under the No Build Alternative. Due to the greater extent of exclusive fixed guideway and congestion-free service, transit reliability and transit speeds in the Study Area will improve. See Figure 3-11 and Figure 3-12.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since impacts of the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
Phased Construction Scenario	Phase 1 Phase 1 will increase the number of passenger miles in exclusive fixed guideway operations compared to the No Build. However, since Phase 1 will terminate at the Wilshire/La Cienega Station, the extent of the exclusive fixed guideway will be less than the full LPA to the Westwood/VA Hospital Station. While the Phase 1 exclusive fixed guideway will result in improved transit reliability and transit speeds as compared to the No Build Alternative, points west of this station will not experience the same improved transit reliability and transit speeds as under the full LPA to the Westwood/VA Hospital Station due to a shorter exclusive fixed guideway.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since impacts of the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
	Phase 2 Phase 2 will increase the number of passenger miles in exclusive fixed guideway operations compared to the No Build. However, since Phase 2 will terminate at the Century City Station, the extent of the exclusive fixed guideway will be less than the full LPA to the Westwood/VA Hospital Station. While the Phase 2 exclusive fixed guideway will result in improved transit reliability and transit speeds as compared to the No Build Alternative, points west of this station will not experience the same improved transit reliability and transit speeds as under the full LPA to the Westwood/VA Hospital Station due to a shorter exclusive fixed guideway.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since impacts of the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
	Phase 3 Phase 3 will complete the LPA in its entirety to the Westwood/VA Hospital Station and, therefore, will provide the same increase in the number of passenger miles operating in exclusive fixed guideway as the LPA under the Concurrent Construction Scenario. See Concurrent Construction Scenario description above and Figure 3-11, Transit Operating Speeds and Figure 3-12, Extent of Passenger Miles in Exclusive Guideway Service.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since impacts of the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	

**Table 3-1. Summary of Transportation Impacts and Mitigation Measures (continued)**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation		
		NEPA	CEQA		NEPA Finding	CEQA Determination	
<i>Transit Ridership</i>							
Concurrent Construction Scenario	Due to the improved transit travel times and reliability, the LPA will increase transit ridership on the Metro rail system. Under the LPA, total boardings at new Purple Line stations west of the existing Wilshire/Western Station are estimated to range from approximately 46,000 to 49,300 passengers per day and by 2035, approximately 27,200 to 30,100 net additional daily riders will be attracted to public transportation in Los Angeles. The Century City Constellation Station is expected to result in higher ridership than the Century City Santa Monica Station due to a higher concentration of employment surrounding the Century City Constellation Station. See Table 3-5 and Table 3-6.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts	
		Transit Benefits			Transit Benefits		
Phased Construction Scenario	Phase 1 will increase transit ridership on the Metro rail system and on the bus and rail system in Los Angeles County. However, since Phase 1 will terminate at the Wilshire/La Cienega Station, the total boardings at new Purple Line stations west of the existing Wilshire/Western Station are estimated to be lower than the full LPA to the Westwood/VA Hospital Station—19,900 passengers per day. The boardings at the Wilshire/La Cienega Station, the terminus of Phase 1, will be higher than under the full LPA, which extends further west. See Table 3-5 and Table 3-6. By 2035, total daily transit demand in Los Angeles County will increase by approximately 13,100 riders under Phase 1.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts	
			Transit Benefits			Transit Benefits	
	Phase 2	Phase 2 will increase transit ridership on the Metro rail system and on the bus and rail system in Los Angeles County. However, since Phase 2 will terminate at the Century City Station, the total boardings at new Purple Line stations west of the existing Wilshire/Western Station are estimated to be lower than the full LPA to the Westwood/VA Hospital Station—30,000 to 31,700 passengers per day. The boardings at the Century City Station, the terminus of Phase 2, will be higher than under the full LPA, which extends further west. The Century City Constellation Station is expected to result in higher ridership than the Century City Santa Monica Station due to a higher concentration of employment surrounding the Century City Constellation Station. See Table 3-5 and Table 3-6. By 2035, total daily transit demand in Los Angeles County will increase by between 18,700 and 23,300 riders under Phase 2. The lower end of the demand reflects a Century City Santa Monica Station option, and the higher end reflects a Century City Constellation option.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits		
Phase 3	Phase 3 will complete the LPA in its entirety to the Westwood/VA Hospital Station and, therefore, transit ridership is estimated to be the same as the LPA under the Concurrent Construction Scenario. See Concurrent Construction Scenario description above and Table 3-5, LPA Daily Station Boardings and Table 3-6, Daily Mode of Access percentages.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts	
		Transit Benefits			Transit Benefits		

**Table 3-1. Summary of Transportation Impacts and Mitigation Measures (continued)**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation	
		NEPA	CEQA		NEPA Finding	CEQA Determination
<i>Impacts on Local Bus Service</i>						
Concurrent Construction Scenario	The LPA will increase rail passenger demand, shifting some bus riders to rail service and decreasing overall bus ridership. The total daily bus ridership in 2035 ranges from 265,000 to 271,000 boardings per day under the LPA, compared to 282,300 boardings per day under the No Build. The Century City Constellation Station option will result in a greater reduction in bus ridership due to higher projected rail ridership compared to the Century City Santa Monica Station option. See Figure 3-13.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide overall transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
Phased Construction Scenario	Phase 1 Phase 1 will increase rail passenger demand, shifting former bus riders to rail service and decreasing overall bus ridership. However, since Phase 1 will terminate at the Wilshire/La Cienega Station, fewer riders will shift from bus to rail compared to the LPA under the Concurrent Construction Scenario. For riders destined to locations west of Wilshire/La Cienega, transfers to buses will still be necessary. This will result in higher bus ridership under Phase 1 as compared to the Concurrent Construction Scenario. Thus, ridership on Westside bus routes will be higher under Phase 1 as compared to the full LPA; however, the ridership under Phase 1 will still be lower than under the No Build Alternative. See Figure 3-13.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide overall transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
	Phase 2 Phase 2 will increase rail passenger demand, shifting former bus riders to rail service and decreasing overall bus ridership. However, since Phase 2 will terminate at the Century City Station, fewer riders will shift from bus to rail compared to the LPA under the Concurrent Construction Scenario. For riders destined to locations west of Century City, transfers to buses will still be necessary. This will result in higher bus ridership under Phase 2 as compared to the Concurrent Construction Scenario. However, as compared to Phase 1, the number of bus riders will decrease with Phase 2 since trains will serve locations further west of Wilshire/La Cienega. Thus, ridership on Westside bus routes will be higher under Phase 2 as compared to the full LPA; however, the ridership under Phase 2 will still be lower than under the No Build Alternative. See Figure 3-13.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide overall transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
	Phase 3 Phase 3 will complete the LPA in its entirety to the Westwood/VA Hospital Station and, therefore, reductions in bus ridership are estimated to be the same as the LPA under the Concurrent Construction Scenario. See Concurrent Construction Scenario description above and Figure 3-13.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide overall transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
<i>Expandability</i>						
Concurrent Construction Scenario	Expandability of the LPA will involve added cars and frequency of train service. In addition, HRT service could be extended farther west in the study corridor in the future.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide overall transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
Phased Construction Scenario	Phase 1 The expandability of subway service under Phase 1 of the LPA will involve added train consists and increased frequencies using exclusive fixed guideway operations. This expandability will apply to service operating to the Wilshire/La Cienega Station and will be less extensive as compared to the full LPA.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide overall transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
	Phase 2 The expandability of subway service under Phase 2 of the LPA will involve added train consists and increased frequencies using exclusive fixed guideway operations. This expandability will apply to service operating to Century City and will be less extensive as compared to the full LPA.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide overall transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
	Phase 3 The expandability of subway service under Phase 3 of the LPA will involve added train consists and increased frequencies using exclusive fixed guideway operations.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide overall transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	

**Table 3-1. Summary of Transportation Impacts and Mitigation Measures (continued)**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation	
		NEPA	CEQA		NEPA Finding	CEQA Determination
<i>Passenger Comfort and Convenience</i>						
Concurrent Construction Scenario	The LPA will provide frequent and reliable subway service. This will occur regardless of the traffic conditions on streets in the Study Area due to the exclusive fixed guideway. The LPA will lead to a major reduction in the number of passenger transfers since the LPA will provide a one seat ride from Downtown Los Angeles and the Wilshire Center areas to Westside destinations.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
Phased Construction Scenario	Phase 1 Phase 1 will provide frequent and reliable subway service to the Wilshire/La Cienega Station. However, since Phase 1 will terminate at the Wilshire/La Cienega Station, improvements to passenger comfort and convenience for passengers traveling west of this station will be less than the full LPA to the Westwood/VA Hospital Station. Phase 1 will lead to a reduction in the number of passenger transfers since the LPA will provide a one seat ride from Downtown Los Angeles and the Wilshire Center areas to the Wilshire/La Cienega Station. However, Purple Line passengers will still need to transfer to buses to reach destinations west of the Wilshire/La Cienega Station.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
	Phase 2 Phase 2 will provide frequent and reliable subway service to the Century City Station. However, since Phase 2 will terminate at the Century City Station, improvements to passenger comfort and convenience for passengers traveling west of this station will be less than the full LPA to the Westwood/VA Hospital Station. Phase 2 will lead to a reduction in the number of passenger transfers since the LPA will provide a one seat ride from Downtown Los Angeles and the Wilshire Center areas to the Century City Station. However, Purple Line passengers will still need to transfer to buses to reach destinations west of the Century City Station.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts
		Transit Benefits			Transit Benefits	
Phase 3 Phase 3 will complete the LPA in its entirety to the Westwood/VA Hospital Station and, therefore, improvements to passenger comfort and convenience will be the same as the LPA under the Concurrent Construction Scenario. See Concurrent Construction Scenario description above.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide transit benefits.	No Adverse Impacts	No Significant Impacts	
		Transit Benefits			Transit Benefits	
<b>3.5 Streets and Highways</b>						
<i>Regional and Study Area Transportation Performance</i>						
Concurrent Construction Scenario	The LPA will have a beneficial effect on the regional transportation network by reducing VMT, VHT, and peak-hour trips in comparison to both future year and existing conditions. The Century City Constellation Station option will result in a greater reduction of VMT, VHT, and peak period trips than the Century City Santa Monica Station. For example, there will be approximately 581,000 less regional VMTs in 2035 under the LPA (Century City Constellation option) as compared to the No Build Alternative. See Table 3-9.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide regional and Study Area transportation benefits.	No Adverse Impacts	No Significant Impacts
		Transportation Benefits			Transportation Benefits	
Phased Construction Scenario	Phase 1 Phase 1 will have a beneficial effect on the regional transportation network by reducing VMT, VHT, and peak period trips in comparison to both future year and existing conditions. However, since Phase 1 will terminate at the Wilshire/La Cienega Station, reductions to VMT, VHT, and peak hour trips will be less than the reductions resulting from the full LPA to the Westwood/VA Hospital Station. For example, there will be approximately 214,000 less regional VMTs in 2035 under the LPA as compared to the No Build Alternative. See Table 3-9.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide regional and Study Area transportation benefits.	No Adverse Impacts	No Significant Impacts
		Transportation Benefits			Transportation Benefits	
	Phase 2 Phase 2 will have a beneficial effect on the regional transportation network by reducing VMT, VHT, and peak period trips in comparison to both future year and existing conditions. However, since Phase 2 will terminate at the Century City Station, reductions to VMT, VHT, and peak hour trips will be less than the reductions resulting from the full LPA to the Westwood/VA Hospital Station. For example, there will be 394,000 less regional VMTs in 2035 under the LPA (Century City Constellation) as compared to the No Build Alternative. See Table 3-9.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide regional and Study Area transportation benefits.	No Adverse Impacts	No Significant Impacts
		Transportation Benefits			Transportation Benefits	
Phase 3 Phase 3 will complete the LPA in its entirety to the Westwood/VA Hospital Station and, therefore, reductions in VMT, VHT, and peak-period trips will be the same as the LPA under the Concurrent Construction Scenario. See Concurrent Construction Scenario description above and Table 3-9.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will provide regional and Study Area transportation benefits.	No Adverse Impacts	No Significant Impacts	
		Transportation Benefits			Transportation Benefits	

**Table 3-1. Summary of Transportation Impacts and Mitigation Measures (continued)**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation	
		NEPA	CEQA		NEPA Finding	CEQA Determination
<i>Reduction in Peak Period Auto Trips</i>						
Concurrent Construction Scenario	The LPA is expected to reduce the number of auto trips occurring during peak periods by 12,000 trips. The Century City Constellation Station will result in a higher reduction in peak period auto trips than the Century City Santa Monica Station. See Figure 3-15.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will reduce the number of auto trips during peak periods.	No Adverse Impacts	No Significant Impacts
		Transportation Benefits			Transportation Benefits	
Phased Construction Scenario	Phase 1 Phase 1 is expected to reduce the number of auto trips occurring during peak periods by 6,000 trips. See Figure 3-15.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will reduce the number of auto trips during peak periods.	No Adverse Impacts	No Significant Impacts
		Transportation Benefits			Transportation Benefits	
	Phase 2 Phase 2 is expected to reduce the number of auto trips occurring during peak periods by approximately 8,000 trips. The Century City Constellation Station will result in a higher reduction in peak period auto trips than the Century City Santa Monica Station. See Figure 3-15.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will reduce the number of auto trips during peak periods.	No Adverse Impacts	No Significant Impacts
		Transportation Benefits			Transportation Benefits	
	Phase 3 Phase 3 will complete the LPA in its entirety to the Westwood/VA Hospital Station and, therefore, reductions in peak-period auto trips will be the same as the LPA under the Concurrent Construction Scenario. See Concurrent Construction Scenario description above and Figure 3-15, Reduction in Auto Trips under LPA during Seven-hour Peak Period.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will reduce the number of auto trips during peak periods.	No Adverse Impacts	No Significant Impacts
		Transportation Benefits			Transportation Benefits	
<i>Transit Mode Share Changes</i>						
Concurrent Construction Scenario	Due to improved transit times, speed, and reliability, the LPA will result in increases in transit mode shares during peak periods, which represents a beneficial effect since a higher transit mode share indicates less traffic on the regional road network. For example, under the LPA, travel between Pasadena and Century City would have a 22-percent transit mode share as compared to 18 percent under the No Build Alternative.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will increase the transit mode share.	No Adverse Impacts	No Significant Impacts
		Transportation Benefits			Transportation Benefits	
Phased Construction Scenario	Phase 1 Phase 1 will result in increases in transit mode shares, which represents a beneficial effect since a higher transit mode share indicates less traffic on the regional road network. However, since Phase 1 will terminate at the Wilshire/La Cienega Station, increases in transit mode shares will be lower than the increases experienced with full LPA to the Westwood/VA Hospital Station.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will increase the transit mode share.	No Adverse Impacts	No Significant Impacts
		Transportation Benefits			Transportation Benefits	
	Phase 2 Phase 2 will result in increases in transit mode shares, which represents a beneficial effect since a higher transit mode share indicates less traffic on the regional road network. However, since Phase 2 will terminate at the Century City Station, increases in transit mode shares will be lower than the increases experienced with full LPA to the Westwood/VA Hospital Station.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will increase the transit mode share.	No Adverse Impacts	No Significant Impacts
		Transportation Benefits			Transportation Benefits	
	Phase 3 Phase 3 will complete the LPA in its entirety to the Westwood/VA Hospital Station and, therefore, increases in transit mode share will be the same as the LPA under the Concurrent Construction Scenario. See Concurrent Construction Scenario description above.	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required since the subway extension will increase the transit mode share.	No Adverse Impacts	No Significant Impacts
		Transportation Benefits			Transportation Benefits	

**Table 3-1. Summary of Transportation Impacts and Mitigation Measures (continued)**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation	
		NEPA	CEQA		NEPA Finding	CEQA Determination
<i>Intersection Analysis</i>						
Concurrent Construction Scenario	The LPA will result in improved level-of-service at several Study Area intersections. In the future (year 2035), the LPA is expected to improve level-of-service at 12 locations in the AM peak hour and at 8 locations in the PM peak hour. Under existing with LPA conditions, the LPA is expected to improve level-of-service at 9 locations in the AM peak hour and 13 locations in the PM peak hour. See Table 3-11. In general, the intersection level-of-service results indicate that the LPA will not negatively impact any analyzed Study Area intersections compared to existing as well as future No Build Alternative conditions. The exception is the Bank of America entrance at the Wilshire/Rodeo Station, which would result in a significant impact at the intersection of Wilshire Boulevard and Beverly Drive under future conditions.	No Adverse Impacts with the exception of the Bank of America station entrance at the Wilshire/Rodeo Station.	No Significant Impacts with the exception of the Bank of America station entrance at the Wilshire/Rodeo Station.	No mitigation measures will be required for all stations with the exception of the Bank of America entrance at the Wilshire/Rodeo Station.  The traffic impact resulting from the Bank of America station entrance at the Wilshire/Rodeo Station cannot be mitigated.	No Adverse Impacts with the exception of the Bank of America station entrance at the Wilshire/Rodeo Station, which will result in an adverse impact.	No Significant Impacts with the exception of the Bank of America station entrance at the Wilshire/Rodeo Station, which will result in a significant unavoidable impact.
Phased Construction Scenario	Phase 1	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required	No Adverse Impacts	No Significant Impacts
	Phase 2	No Adverse Impacts with the exception of the Bank of America station entrance at the Wilshire/Rodeo Station.	No Significant Impacts with the exception of the Bank of America station entrance at the Wilshire/Rodeo Station.	No mitigation measures will be required for all stations with the exception of the Bank of America entrance at the Wilshire/Rodeo Station.  The traffic impact resulting from the Bank of America station entrance at the Wilshire/Rodeo Station cannot be mitigated.	No Adverse Impacts with the exception of the Bank of America station entrance at the Wilshire/Rodeo Station, which will result in an adverse impact.	No Significant Impacts with the exception of the Bank of America station entrance at the Wilshire/Rodeo Station, which will result in a significant unavoidable impact.
	Phase 3	No Adverse Impacts	No Significant Impacts	No mitigation measures will be required	No Adverse Impacts	No Significant Impacts
<i>Traffic due to Parking Spillover</i>						
Concurrent Construction Scenario	With parking mitigation measures T-2 through T-4 in place as described in the parking section below, LPA-related peak-hour traffic entering neighborhoods will be nominal and no impacts are expected to occur.	No Adverse Impacts	No Significant Impacts	T-2—Parking Monitoring and Community Outreach T-3—Residential Permit Parking Districts T-4—Consideration of Shared Parking Program	No Adverse Impacts	No Significant Impacts
Phased Construction Scenario	Phase 1	No Adverse Impacts	No Significant Impacts	T-2—Parking Monitoring and Community Outreach T-3—Residential Permit Parking Districts T-4—Consideration of Shared Parking Program	No Adverse Impacts	No Significant Impacts
	Phase 2	No Adverse Impacts	No Significant Impacts	T-2—Parking Monitoring and Community Outreach T-3—Residential Permit Parking Districts T-4—Consideration of Shared Parking Program	No Adverse Impacts	No Significant Impacts
	Phase 3	No Adverse Impacts	No Significant Impacts	T-2—Parking Monitoring and Community Outreach T-3—Residential Permit Parking Districts T-4—Consideration of Shared Parking Program	No Adverse Impacts	No Significant Impacts



**Table 3-1. Summary of Transportation Impacts and Mitigation Measures (continued)**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation	
		NEPA	CEQA		NEPA Finding	CEQA Determination
<b>3.6 Parking</b>						
<i>Parking Loss</i>						
Concurrent Construction Scenario	The LPA will be constructed below grade and will not result in permanent parking loss at most stations. However, the following station locations will result in impacts to parking: Wilshire/Rodeo – Loss of off-street parking associated with the entrance options at the Bank of America and Union Bank Buildings. In addition, the entrance option at the Bank of America Building would result in the removal of three metered on-street parking spaces and one on-street loading space from the west side of Beverly Drive and up to 13 on-street spaces from the east side of Beverly Drive. Century City Santa Monica Station – some displaced parking in the nearby underground garage at the southwest corner of Santa Monica Boulevard and Century Park East. Westwood/UCLA On- and Off-Street Stations – Loss of existing off-street parking at UCLA Lot 36.	Adverse Impacts	N/A	T-1—Coordination with Property Owners Metro will coordinate with the appropriate property owners and other relevant parties, such as local jurisdictions, regarding permanent parking losses and measures appropriate to that location as further described in Section 4.2.2.	No Adverse Impacts	N/A
Phased Construction Scenario	Phase 1 Phase 1 will be constructed below grade and will not result in permanent parking loss at any stations.	No Adverse Impacts	N/A	No mitigation measures will be required	No Adverse Impacts	N/A
	Phase 2 Phase 2 will be constructed below grade and will not result in permanent parking loss at most stations. However, the following station locations will result in impacts to parking: Wilshire/Rodeo – Loss of off-street parking associated with the entrance options at the Bank of America and Union Bank Buildings. In addition, the entrance option at the Bank of America Building would result in the removal of three metered on-street parking spaces and one on-street loading space from the west side of Beverly Drive and up to 13 on-street spaces from the east side of Beverly Drive. Century City Santa Monica Station – some displaced parking in the nearby underground garage at the southwest corner of Santa Monica Boulevard and Century Park East.	Adverse Impacts	N/A	T-1—Coordination with Property Owners Metro will coordinate with the appropriate property owners and other relevant parties, such as local jurisdictions, regarding permanent parking losses and measures appropriate to that location as further described in Section 4.2.2.	No Adverse Impacts	N/A
	Phase 3 The LPA will be constructed below grade and will not result in permanent parking loss at most stations. However, the following station locations will result in impacts to parking: Westwood/UCLA On- and Off-Street Stations – Loss of existing off-street parking at UCLA Lot 36.	Adverse Impacts	N/A	T-1—Coordination with Property Owners Metro will coordinate with the appropriate property owners and other relevant parties regarding permanent parking losses.	No Adverse Impacts	N/A
<i>Neighborhood Spillover Parking</i>						
Concurrent Construction Scenario	The LPA will result in neighborhood spillover parking impacts at the Wilshire/La Brea, Wilshire/Fairfax, Wilshire/La Cienega, Westwood/UCLA (On-Street and Off-Street) and Westwood/VA Hospital (South and North) Stations. This will result in adverse impacts at all identified stations if not mitigated. See Table 3-17.	Adverse Impacts	N/A	T-2—Parking Monitoring and Community Outreach T-3—Residential Permit Parking Districts T-4—Consideration of Shared Parking Program	No Adverse Impacts	N/A
Phased Construction Scenario	Phase 1 Phase 1 will result in neighborhood spillover parking impacts at the Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega Stations. This will result in adverse impacts at all identified stations if not mitigated. Although the daily boardings at the Wilshire/La Cienega Station are higher under Phase 1 than the under the full LPA, no new unidentified parking spillover impacts will occur under Phase 1 as compared to the LPA under the Concurrent Construction Scenario. See Table 3-17.	Adverse Impacts	N/A	T-2—Parking Monitoring and Community Outreach T-3—Residential Permit Parking Districts T-4—Consideration of Shared Parking Program	No Adverse Impacts	N/A
	Phase 2 Phase 2 will not result in neighborhood spillover parking impacts because on-street parking in the vicinity of the Wilshire/Rodeo and Century City (Santa Monica and Constellation) Stations is restricted. See Table 3-17.	No Adverse Impacts	N/A	No mitigation measures will be required.	No Adverse Impacts	N/A
	Phase 3 Phase 3 will result in neighborhood spillover parking impacts at the Westwood/UCLA (On-Street and Off-Street) and Westwood/VA Hospital (South and North) Stations. This will result in adverse impacts at all identified stations if not mitigated. See Table 3-17.	Adverse Impacts	N/A	T-2—Parking Monitoring and Community Outreach T-3—Residential Permit Parking Districts T-4—Consideration of Shared Parking Program	No Adverse Impacts	N/A

**Table 3-1. Summary of Transportation Impacts and Mitigation Measures (continued)**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation	
		NEPA	CEQA		NEPA Finding	CEQA Determination
<b>3.7 Pedestrian, Bicycle, and Bus Networks</b>						
<i>Increase Hazards Related to Pedestrian, Bicycle and Bus Networks</i>						
Concurrent Construction Scenario	The following five LPA Station entrance options are expected to result in increased hazards due to a design feature or incompatible uses: Wilshire/Fairfax Station—South entrance option Wilshire/Rodeo Station—Union Bank entrance option Wilshire/Rodeo Station—Ace Gallery entrance option Westwood/VA Hospital—South Westwood/VA Hospital—North All other station entrance options would not have an adverse impact. See Table 3-18.	Adverse Impacts	Significant Impacts	T-5—Install Crossing Deterrents Wilshire/Fairfax Station—South entrance option T-6—Install High-Visibility Crosswalk/Crossing Deterrents Wilshire/Rodeo Station—Union Bank entrance option T-7—Install High-Visibility Crosswalk Wilshire/Rodeo Station—Ace Gallery entrance option T-8—Install High-Visibility Crosswalk Westwood/VA Hospital—South Westwood/VA Hospital—North	No Adverse Impacts	Less than Significant Impacts
Phased Construction Scenario	Phase 1 The south entrance option for the Wilshire/Fairfax Station will result in increased hazards due to a design feature or incompatible uses. All other Phase 1 station entrance options would not have an adverse impact. See Table 3-18	Adverse Impacts	Significant Impacts	T-5—Install Crossing Deterrents Wilshire/Fairfax Station—South entrance option	No Adverse Impacts	Less than Significant Impacts
	Phase 2 The Union Bank and Ace Gallery entrance options for the Wilshire/Rodeo Station will result in increased hazards due to a design feature or incompatible uses. All other Phase 2 station entrance options would not have an adverse impact. See Table 3-18.	Adverse Impacts	Significant Impacts	T-6—Install High-Visibility Crosswalk/Crossing Deterrents Wilshire/Rodeo Station—Union Bank entrance option T-7—Install High-Visibility Crosswalk Wilshire/Rodeo Station—Ace Gallery entrance option	No Adverse Impacts	Less than Significant Impacts
	Phase 3 The north and south entrance options for the Westwood/VA Hospital Station will result in increased hazards due to a design feature or incompatible uses. All other Phase 3 station entrance options would not have an adverse impact. See Table 3-18.	Adverse Impacts	Significant Impacts	T-8—Install High-Visibility Crosswalk Westwood/VA Hospital—South Westwood/VA Hospital—North	No Adverse Impacts	Less than Significant Impacts

**Table 3-1. Summary of Transportation Impacts and Mitigation Measures (continued)**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation	
		NEPA	CEQA		NEPA Finding	CEQA Determination
<i>Conflict with Policies, Plans or Programs Regarding Public Transit, Bicycle or Pedestrian Facilities</i>						
Concurrent Construction Scenario	All 7 LPA Stations are expected to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. See Table 3-18.	Adverse Impacts	Significant Impacts	T-9—Provide consistency with General Plan Designation Sidewalk Width Adjacent to Metro-Controlled Parcels T-10—Provide consistency with General Plan Designation Sidewalk Width Coordination with Jurisdictions T-11—Provide High Visibility Crosswalk Treatments T-12—Meet Federal, State, and Local Standards for Crossing T-13—Meet Metro Rail Design Criteria Minimums for Bicycle Parking T-14—Study Bicycle Parking Demand and Footprint Configuration T-15—Determine Alternative Sites for Bicycle Parking T-16—Study Bus-Rail Interface	No Adverse Impacts	Less than Significant Impacts
Phased Construction Scenario	Phase 1 The Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega Stations are expected to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. See Table 3-18.	Adverse Impacts	Significant Impacts	T-9—Provide consistency with General Plan Designation Sidewalk Width Adjacent to Metro-Controlled Parcels T-10—Consistency with General Plan Designation Sidewalk Width Coordination with Jurisdictions T-11—Provide High Visibility Crosswalk Treatments T-12—Meet Federal, State, and Local Standards for Crossing T-13—Meet Metro Rail Design Criteria Minimums for Bicycle Parking T-14—Study Bicycle Parking Demand and Footprint Configuration T-15—Determine Alternative Sites for Bicycle Parking T-16—Study Bus-Rail Interface	No Adverse Impacts	Less than Significant Impacts
	Phase 2 The Wilshire/Rodeo Station and Century City Station (Constellation and Santa Monica) are expected to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. See Table 3-18.	Adverse Impacts	Significant Impacts	T-9—Provide consistency with General Plan Designation Sidewalk Width Adjacent to Metro-Controlled Parcels T-10—Provide consistency with General Plan Designation Sidewalk Width Coordination with Jurisdictions T-11—Provide High Visibility Crosswalk Treatments T-12—Meet Federal, State, and Local Standards for Crossing T-13—Meet Metro Rail Design Criteria Minimums for Bicycle Parking T-14—Study Bicycle Parking Demand and Footprint Configuration T-15—Determine Alternative Sites for Bicycle Parking T-16—Study Bus-Rail Interface	No Adverse Impacts	Less than Significant Impacts
	Phase 3 The Westwood/UCLA Station (On-Street and Off-Street) and Westwood/VA Hospital Station (North and South) are expected to conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. See Table 3-18.	Adverse Impacts	Significant Impacts	T-9—Provide consistency with General Plan Designation Sidewalk Width Adjacent to Metro-Controlled Parcels T-10—Provide consistency with General Plan Designation Sidewalk Width Coordination with Jurisdictions T-11—Provide High Visibility Crosswalk Treatments T-12—Meet Federal, State, and Local Standards for Crossing T-13—Meet Metro Rail Design Criteria Minimums for Bicycle Parking T-14—Study Bicycle Parking Demand and Footprint Configuration T-15—Determine Alternative Sites for Bicycle Parking T-16—Study Bus-Rail Interface	No Adverse Impacts	Less than Significant Impacts

**Table 3-1. Summary of Transportation Impacts and Mitigation Measures (continued)**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation	
		NEPA	CEQA		NEPA Finding	CEQA Determination
<b>3.8 Construction-related Transportation Impacts</b>						
<i>Traffic and Circulation</i>						
Truck Haul Routes						
Concurrent Construction Scenario	Truck traffic volume will increase during construction of the LPA along anticipated haul routes. Table 3-19 shows roadways proposed as haul routes and Table 3-21 shows the estimated daily haul truck trips. The truck volumes will range from 25 daily trips for the emergency exit shaft at the Westwood/VA Hospital Station and the Wilshire/Crenshaw construction staging area to between 100 and 140 trips for the tunnel boring machine launch activity at Westwood/VA Hospital. Increased truck traffic volume could cause visual, noise and vibration impacts along haul routes. These impacts would be felt by residential land uses in particular. Section 3.8.1 identifies potential streets which may be used for haul routes where clusters of residential units are located.	Temporary Adverse Impact	Temporary Significant Impact	TCON-2—Designated Haul Routes	Temporary Adverse Impact	Temporary Significant Impact
Phased Construction Scenario	Truck traffic volume will increase during construction of Phase 1 along anticipated haul routes. Table 3-20 shows roadways proposed as haul routes and Table 3-21 shows the estimated daily haul truck trips. The truck volumes will range from 25 daily trips for the Wilshire/Crenshaw construction staging site to between 80 and 120 trips for the TBM activity and station construction at the Wilshire/La Brea Station. Increased truck traffic volume could cause visual, noise and vibration impacts along Phase 1 haul routes. These impacts would be felt by residential land uses in particular. Section 3.8.1 identifies potential streets along Phase 1 which may be used for haul routes where clusters of residential units are located.	Temporary Adverse Impact	Temporary Significant Impact	TCON-2—Designated Haul Routes	Temporary Adverse Impact	Temporary Significant Impact
	Truck traffic volume will increase during construction of Phase 2 along anticipated haul routes. Table 3-20 shows roadways proposed as haul routes and Table 3-21 shows the estimated daily haul truck trips. The truck volumes will range between 40 and 60 daily trips for the Wilshire/Rodeo Station construction to between 90 and 130 trips for station construction and tunnel boring machine activity at Century City. Increased truck traffic volume could cause visual, noise and vibration impacts along Phase 2 haul routes. These impacts would be felt by residential land uses in particular. Section 3.8.1 identifies potential streets along Phase 2 which may be used for haul routes where clusters of residential units are located.	Temporary Adverse Impact	Temporary Significant Impact	TCON-2—Designated Haul Routes	Temporary Adverse Impact	Temporary Significant Impact
	Truck traffic volume will increase during construction of Phase 3 along anticipated haul routes. Table 3-20 shows roadways proposed as haul routes and Table 3-21 shows the estimated daily haul truck trips. Truck volumes will range from 25 trips for the emergency exit shaft at the Westwood/VA Hospital Station to between 100 and 140 trips for station construction and tunnel boring machine activity at the Westwood/VA Hospital Station. Increased truck traffic volume could cause visual, noise and vibration impacts along Phase 3 haul routes. These impacts would be felt by residential land uses in particular. Section 3.8.1 identifies potential streets along Phase 3 which may be used for haul routes where clusters of residential units are located.	Temporary Adverse Impact	Temporary Significant Impact	TCON-2—Designated Haul Routes	Temporary Adverse Impact	Temporary Significant Impact

**Table 3-1. Summary of Transportation Impacts and Mitigation Measures (continued)**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation	
		NEPA	CEQA		NEPA Finding	CEQA Determination
<b>Traffic Handling</b>						
Concurrent Construction Scenario	Traffic impacts associated with LPA construction include reduced roadway traffic lanes and temporary street closures which could result in major traffic disruptions and bottlenecks. Additionally, commercial driveways may be subject to reduced access around construction sites. Emergency vehicle access (e.g. police, fire and rescue, and ambulance) in and around construction work sites may be affected by lane closures and/or temporary street closures.	Temporary Adverse Impact	Temporary Significant Impact	TCON-1—Traffic Control Plans TCON-3—Emergency Vehicle Access TCON-4—Transportation Management Plan TCON-5—Coordination with Planned Roadway Improvements	Temporary Adverse Impact	Temporary Significant Impact
Phased Construction Scenario	Phase 1 Traffic impacts associated with Phase 1 construction include reduced roadway traffic lanes and temporary street closures which could result in major traffic disruptions and bottlenecks. Additionally, commercial driveways may be subject to reduced access around construction sites. Emergency vehicle access (e.g. police, fire and rescue, and ambulance) in and around Phase 1 construction work sites may be affected by lane closures and/or temporary street closures.	Temporary Adverse Impact	Temporary Significant Impact	TCON-1—Traffic Control Plans TCON-3—Emergency Vehicle Access TCON-4—Transportation Management Plan TCON-5—Coordination with Planned Roadway Improvements	Temporary Adverse Impact	Temporary Significant Impact
	Phase 2 Traffic impacts associated with Phase 2 construction include reduced roadway traffic lanes and temporary street closures which could result in major traffic disruptions and bottlenecks. Additionally, commercial driveways may be subject to reduced access around construction sites. Emergency vehicle access (e.g. police, fire and rescue, and ambulance) in and around Phase 2 construction work sites may be affected by lane closures and/or temporary street closures.	Temporary Adverse Impact	Temporary Significant Impact	TCON-1—Traffic Control Plans TCON-3—Emergency Vehicle Access TCON-4—Transportation Management Plan TCON-5—Coordination with Planned Roadway Improvements	Temporary Adverse Impact	Temporary Significant Impact
	Phase 3 Traffic impacts associated with Phase 3 construction include reduced roadway traffic lanes and temporary street closures which could result in major traffic disruptions and bottlenecks. Additionally, commercial driveways may be subject to reduced access around construction sites. Emergency vehicle access (e.g. police, fire and rescue, and ambulance) in and around Phase 3 construction work sites may be affected by lane closures and/or temporary street closures.	Temporary Adverse Impact	Temporary Significant Impact	TCON-1—Traffic Control Plans TCON-3—Emergency Vehicle Access TCON-4—Transportation Management Plan TCON-5—Coordination with Planned Roadway Improvements	Temporary Adverse Impact	Temporary Significant Impact
<b>Public Transit</b>						
Concurrent Construction Scenario	Bus service will be impacted by temporary street closures and will require the temporary rerouting of bus lines and bus stop locations. This will result in additional transit travel time for bus riders.	Temporary Adverse Impact	Temporary Significant Impact	TCON-6—Temporary Bus Stops and Route Diversions	Temporary Adverse Impact	Temporary Significant Impact
Phased Construction Scenario	Phase 1 Bus service will be impacted by temporary street closures during Phase 1 construction and will require the temporary rerouting of bus lines and bus stop locations. This will result in additional transit travel time for bus riders.	Temporary Adverse Impact	Temporary Significant Impact	TCON-6—Temporary Bus Stops and Route Diversions	Temporary Adverse Impact	Temporary Significant Impact
	Phase 2 Bus service will be impacted by temporary street closures during Phase 2 construction and will require the temporary rerouting of bus lines and bus stop locations. This will result in additional transit travel time for bus riders.	Temporary Adverse Impact	Temporary Significant Impact	TCON-6—Temporary Bus Stops and Route Diversions	Temporary Adverse Impact	Temporary Significant Impact
	Phase 3 Bus service will be impacted by temporary street closures during Phase 3 construction and will require the temporary rerouting of bus lines and bus stop locations. This will result in additional transit travel time for bus riders.	Temporary Adverse Impact	Temporary Significant Impact	TCON-6—Temporary Bus Stops and Route Diversions	Temporary Adverse Impact	Temporary Significant Impact

**Table 3-1. Summary of Transportation Impacts and Mitigation Measures (continued)**

Scenario <sup>1</sup>	Description of Identified Impacts <sup>2</sup>	Impact Before Mitigation		Mitigation <sup>3</sup>	Impact Remaining After Mitigation	
		NEPA	CEQA		NEPA Finding	CEQA Determination
<i>Parking</i>						
Concurrent Construction Scenario	During construction, existing on-street parking and loading zones will be temporarily removed where traffic lanes are closed or eliminated temporarily. In addition a number of off-street parking spaces will be removed during construction of the Wilshire/La Cienega, Wilshire/Rodeo, Century City Santa Monica option, Westwood/UCLA, and Westwood/VA Hospital Stations.	Temporary Adverse Impact	Temporary Significant Impact	TCON-7—Parking Management TCON-8—Parking Monitoring and Community Outreach TCON-9—Construction Worker Parking	Temporary Adverse Impact	Temporary Significant Impact
Phased Construction Scenario	Phase 1 During Phase 1 construction, existing on-street parking and loading zones will be temporarily removed where traffic lanes are closed or eliminated temporarily. In addition a number of off-street parking spaces will be removed during construction of the Wilshire/La Cienega Station.	Temporary Adverse Impact	Temporary Significant Impact	TCON-7—Parking Management TCON-8—Parking Monitoring and Community Outreach TCON-9—Construction Worker Parking	Temporary Adverse Impact	Temporary Significant Impact
	Phase 2 During Phase 2 construction, existing on-street parking and loading zones will be temporarily removed where traffic lanes are closed or eliminated temporarily. In addition a number of off-street parking spaces will be removed during construction of the Wilshire/Rodeo Station and Century City Station (Santa Monica option).	Temporary Adverse Impact	Temporary Significant Impact	TCON-7—Parking Management TCON-8—Parking Monitoring and Community Outreach TCON-9—Construction Worker Parking	Temporary Adverse Impact	Temporary Significant Impact
	Phase 3 During Phase 3 construction, existing on-street parking and loading zones will be temporarily removed where traffic lanes are closed or eliminated temporarily. In addition a number of off-street parking spaces will be removed during construction of the Westwood/UCLA Station (On-Street and Off-Street) and Westwood/VA Hospital Station (North and South).	Temporary Adverse Impact	Temporary Significant Impact	TCON-7—Parking Management TCON-8—Parking Monitoring and Community Outreach TCON-9—Construction Worker Parking	Temporary Adverse Impact	Temporary Significant Impact
<i>Pedestrian and Bicycle Access</i>						
Concurrent Construction Scenario	During construction, pedestrian and bicycle access in and around construction work sites will be impacted as a result of street and sidewalk closures and disruptions to bike routes.	Temporary Adverse Impact	Temporary Significant Impact	TCON-10—Pedestrian Routes and Access TCON-11—Bicycle Paths and Access	Temporary Adverse Impact	Temporary Significant Impact
Phased Construction Scenario	Phase 1 During Phase 1 construction, pedestrian and bicycle access in and around construction work sites will be impacted as a result of street and sidewalk closures and disruptions to bike routes.	Temporary Adverse Impact	Temporary Significant Impact	TCON-10—Pedestrian Routes and Access TCON-11—Bicycle Paths and Access	Temporary Adverse Impact	Temporary Significant Impact
	Phase 2 During Phase 2 construction, pedestrian and bicycle access in and around construction work sites will be impacted as a result of street and sidewalk closures and disruptions to bike routes.	Temporary Adverse Impact	Temporary Significant Impact	TCON-10—Pedestrian Routes and Access TCON-11—Bicycle Paths and Access	Temporary Adverse Impact	Temporary Significant Impact
	Phase 3 During Phase 3 construction, pedestrian and bicycle access in and around construction work sites will be impacted as a result of street and sidewalk closures and disruptions to bike routes.	Temporary Adverse Impact	Temporary Significant Impact	TCON-10—Pedestrian Routes and Access TCON-11—Bicycle Paths and Access	Temporary Adverse Impact	Temporary Significant Impact

<sup>1</sup>The only major difference between the Concurrent Construction Scenario and the Phased Construction Scenario is the timing of potential transportation impacts and benefits. Under the Phased Construction Scenario, the potential for transportation impacts and benefits along Phase 2 and Phase 3 would occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for potential transportation impacts and benefits along Phase 1 of the LPA would occur earlier than under the Concurrent Construction Scenario since Phase 1 would open for operation in 2020.

<sup>2</sup>Unless otherwise noted, the LPA includes all station, alignment, and station entrance options.

<sup>3</sup>Refer to Sections 3.4, 3.5, 3.6, 3.7, and 3.8 and Appendix I, Mitigation Monitoring and Reporting Plan, for the full description of all proposed mitigation measures.

- Section 3.5, Streets and Highways, has modified text, tables, and maps to show the study area of the LPA, under either the Concurrent Construction Scenario or the Phased Construction Scenario. This section also includes new information on traffic-related impacts, including results relating to new station entrance options and added analysis involving the Existing plus LPA approach for estimating potential impacts. This information reflects results of the *Westside Subway Extension Existing Plus Project Traffic Impact Analysis Report* (Metro 2011aj) and the *Westside Subway Extension Wilshire/Rodeo Station Bank of America Entrance Option Traffic Impact Analysis Report* (Metro 2011ak) that was carried out after publication of the Draft EIS/EIR.
- Section 3.6, Parking, added language on available parking capacity in station areas. The information on off-street parking supply reflects results of the *Westside Subway Extension Updated Off-Street Parking Analysis Memorandum* (Metro 2011ah) that was updated since publication of the Draft EIS/EIR. Updated information on parking impacts and mitigation that reflect the LPA and new station entrance options under either the Concurrent Construction Scenario or the Phased Construction Scenario and additional analysis carried out after publication of the Draft EIS/EIR.
- Section 3.7, Pedestrian, Bicycle, and Bus Transit, includes updated information on impacts relating to the bicycle and pedestrian networks that reflect follow-up station access analysis of the LPA under either the Concurrent Construction Scenario or the Phased Construction Scenario. This information reflects results of the *Westside Subway Extension Station Circulation Report* (Metro 2011am) that was carried out after publication of the Draft EIS/EIR.
- Section 3.8, Construction-related Transportation Impacts, includes a description of construction-related impacts that reflect the alignment, new station entrance options, construction laydown areas, and further information on haul routes for the LPA under either the Concurrent Construction Scenario or the Phased Construction Scenario. In addition, language describing potential impacts and associated mitigation measures for the LPA under either the Concurrent Construction Scenario or the Phased Construction Scenario was added.

### 3.3 Methodology

#### 3.3.1 Analytical Tools and Data Sources

The estimate of transportation-related impacts is based on analytical tools and data such as the Metro Travel Demand Model that identifies major effects such as future transit

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The analytical tools used to assess transportation impacts included comprehensive travel and traffic forecasting methods. These methods were coordinated with affected jurisdictions in the Study Area.

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ridership under each alternative. The *Westside Subway Extension Study Methodology Report* (Metro 2009f) describes the approach to traffic forecasting and impact assessment for the transportation analysis. This approach was presented to and coordinated with all agencies in the Study Area, including the Los Angeles Department of Transportation (LADOT), the County of Los Angeles, and the Cities of Beverly Hills, West Hollywood, and Santa Monica.

The travel forecasting model used was developed by Metro and is based on the Southern California Association of Governments' (SCAG) Regional Travel Demand Model. The



Federal Transit Administration (FTA) requires the use of regional travel demand models for analysis. The travel demand forecast model includes the approved land use and financially constrained future highway and transit network for year 2035. By being *financially constrained*, the existing and new elements of the future highway and transit network can be funded from various local, state, and federal sources. Under the Concurrent Construction Scenario, 2022 is the anticipated opening year of the Project, while under the Phased Construction Scenario, the Project will open in three phases: Phase 1 to La Cienega in 2020, Phase 2 to Century City in 2026, and Phase 3 to Westwood/VA Hospital in 2036. For both scenarios, 2035 is the planning horizon year, as reflected in the SCAG travel forecasting model. The model estimates future travel demand based on several input data, including the following:

- SCAG forecasts of population and employment growth
- SCAG forecasted changes in the socio-demographic characteristics of travelers
- Future characteristics of the roadway and transit systems, including travel times, costs, and capacity reflective of the No Build Alternative and the LPA, under either the Concurrent Construction Scenario or the Phased Construction Scenario.

To represent the affected environment from a traffic operations perspective, 192 intersections in the Study Area were analyzed. The intersections are located near rail stations along the project corridor and at intersections of major arterials in the Study Area. The jurisdictions affected by the Project were consulted throughout the scoping process and assisted in the selection of study intersections. Detailed AM and PM peak period intersection turning movement counts were conducted in 2009 and 2010 to represent existing traffic volumes on a typical weekday throughout the Study Area. In addition, for some locations, the analysis used counts conducted in the fall of 2008 for the Wilshire Bus Rapid Transit (BRT) Environmental Impact Report.

An assessment of impacts of alternatives on parking, pedestrians, bicyclists, and transit facilities in the Study Area was also conducted. The results of these forecastings and assessments were documented in several reports, including the *Westside Subway Extension Transportation Impacts Technical Report* (Metro 2010a) and the *Addendum to the Westside Subway Extension Transportation Impacts Technical Report* (Metro 2011b). Results were also documented in the *Westside Subway Extension Updated Off-Street Parking Analysis Memorandum* (Metro 2011ah), *Westside Subway Extension Station Circulation Report* (Metro 2011am), *Westside Subway Extension Existing Plus Project Traffic Impact Analysis Report* (Metro 2011aj), and the *Westside Subway Extension Wilshire/Rodeo Station Bank of America Portal Traffic Impact Analysis Report* (Metro 2011ak).

Refinements were made to the Metro Travel Demand Model for the Final EIS/EIR, as noted in the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* (Metro 2011an), resulting in higher transit ridership estimates for the LPA under either the Concurrent Construction Scenario or the Phased Construction Scenario as compared to those identified for Alternative 2 in the Draft EIS/EIR. Based on the higher ridership estimates, improved traffic conditions in the form of reduced auto trip volumes will occur than previously forecasted in the Draft EIS/EIR. Thus, the traffic impact information, which uses model results developed for Alternative 2 in the Draft EIS/EIR, remains applicable and represents a conservative estimate of potential



impacts on intersections and parking due to the LPA under either the Concurrent Construction Scenario or the Phased Construction Scenario. The assumptions for Alternative 2 in the Draft EIS/EIR are substantially similar to those for the LPA under either the Concurrent Construction Scenario or the Phased Construction Scenario, and the traffic results are considered conservative.

Traffic impacts related to phases under the Phased Construction Scenario were determined using findings from refined traffic studies as well as relevant traffic analysis results from the Draft EIS/EIR. For Phase 1, which involves an extension of subway service to the Wilshire/La Cienega Station, results of a supplemental study are included in the *Addendum to the Westside Subway Extension Transportation Impacts Technical Report* (Metro 2011a). Key findings of the study relating to intersection level-of-service are included in this chapter.

Analysis of traffic involving the subway extension from the Wilshire/La Cienega Station to Century City under Phase 2 of the Phased Construction Scenario used results of modeling efforts for Minimum Operable Segment (MOS) 2 identified in the Draft EIS/EIR. This MOS also involved the extension of subway service to Century City. As is the case with other travel analyses, the modeling efforts for MOS 2 reflected 2035 conditions even though operations of the extension will occur before that date. The estimated vehicle trip reductions under MOS 2 (as compared to the No Build Alternative) are less than the trip reductions for Phase 2 identified in the travel model for the Final EIS/EIR. Thus, the traffic results for MOS 2 in the Draft EIS/EIR reflect a conservative estimate of impacts for Phase 2. The assumptions for MOS 2 in the Draft EIS/EIR are substantially similar to those for Phase 2 and the traffic results are considered conservative.

### 3.3.2 Approach to Estimating Transportation Effects

The transportation impact analysis focused on two items—the regional transportation system and station-area impacts. To assess impacts to the regional transportation system, changes in travel patterns were analyzed for the LPA, under both the Concurrent Construction Scenario and the Phased Construction Scenario, and compared to existing conditions and the No Build Alternative. The regional performance measures of vehicle miles traveled (VMT), vehicle hours traveled (VHT), average vehicle speed, and peak hour variations of these metrics are derived from the Metro Travel Demand Model.

The impacts analysis also addressed estimated differences in transit characteristics resulting from the LPA, under both the Concurrent Construction Scenario and the Phased Construction Scenario, and compared the results with the No Build Alternative. These characteristics include peak-period transit travel times, travel speeds, service reliability (expressed in terms of the extent of exclusive fixed guideway demand under the two financial scenarios of the LPA), system expandability, passenger comfort and convenience, such as extent of passenger transfers, and ridership expressed in terms of station-specific and zone-to-zone demand.

For the Project, study intersections have been analyzed by applying the operational analysis methodology from the Highway Capacity Manual (HCM) (TRB 2000). The

traffic forecasting process used a combination of the updated Metro Travel Demand Model and the VISUM modeling software.

The underlying traffic impact methodology used includes the following analytical elements:

- Development of sub-area model (the Metro Travel Demand Model derived from the regional SCAG model)
- Production of model outputs for each alternative
- Development of Study Area VISUM roadway network
- Calibration of VISUM model to existing conditions
- Production of 2035 turning movement forecasts
- SYNCHRO 6.0 software suite for intersection analysis used to calculate the volume-to-capacity ratio, delay, and delay-based level-of-service (LOS) for each study location

### **3.4 Public Transit**

#### **3.4.1 Affected Environment/Existing Conditions**

Since 1990, a regional fixed-guideway transit system serving Los Angeles County has been progressively implemented and includes 79.1 miles of rail transit (17.4 miles of heavy rail transit [HRT] and 61.7 miles of light rail transit [LRT]), 14 miles of dedicated BRT, and more than 500 miles of the five-county Metrolink commuter rail line system. The existing fixed guideway transit system is shown in Figure 3-1. As indicated by the figure, short sections of the Metro Red and Purple HRT Lines are located in the far eastern portions of the Study Area. The existing public transit system is further described in this section.

#### **Study Area Transit Network**

Metro is the principal public transit provider in the Study Area. The Study Area is also served by Santa Monica's Big Blue Bus, LADOT Downtown Area Shuttle (DASH), LADOT Commuter Express, Santa Clarita Transit Commuter Express Service, Culver City Bus, West Hollywood CityLine/DayLine, and Antelope Valley Transit Authority Commuter Services.

Transit service is provided on most major east-west and north-south arterials in the Study Area, as illustrated in Figure 3-1. This figure also shows the top 10 bus service corridors in the Study Area as measured by weekday boardings. The volumes of weekday boardings represent passenger demand for the listed routes operating between major travel generators (e.g., between Downtown Los Angeles and Century City). In some cases, multiple bus routes provide these connections. While several bus routes provided by other transit systems also serve the Study Area, the focus of the information in Figure 3-1 is on Metro-operated lines. Although the Study Area is well-served by transit lines, all bus service in the Study Area must operate in mixed-flow conditions that are subject to the area's significant traffic congestion.

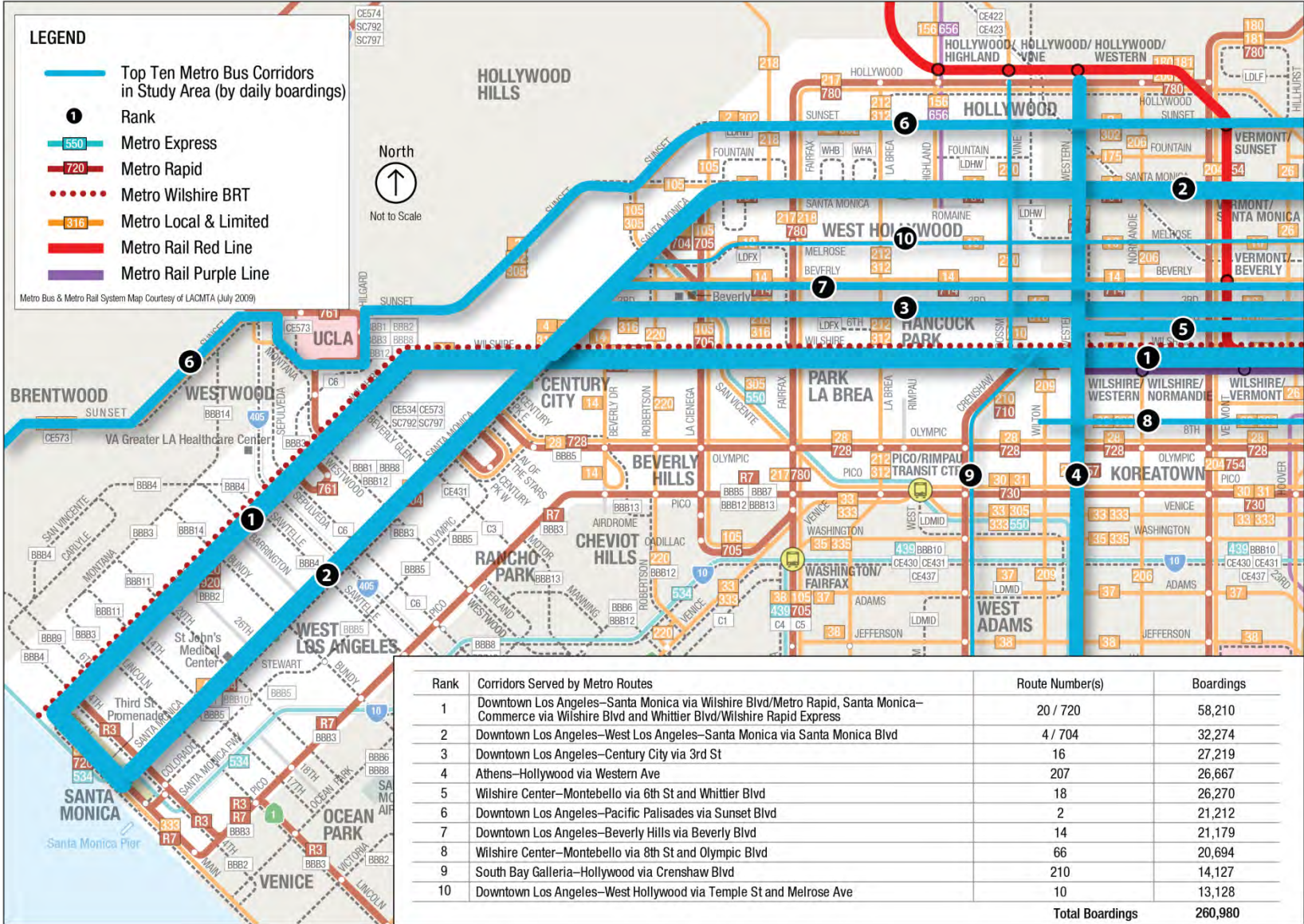


Figure 3-1. Existing Bus and Rail Service within the Study Area with Top 10 Ridership Corridors

Transit ridership in the Westside Study Area involves more than a half-million boardings per weekday. A large portion of this demand, about 50 percent, occurs on a relatively small number of bus routes.

The highest number of boardings occurs on Metro Line 720, which provides limited-stops service along Wilshire Boulevard with about 41,000 boardings per weekday. Local Metro bus service on Wilshire Boulevard, provided by Line 20, serves an additional 17,200 riders. With combined weekday boardings on Metro bus lines of about 58,000, Wilshire Boulevard represents the most heavily used transit travel corridor in Southern California.

Other bus lines with some of the highest levels of ridership in the Study Area include Metro Line 2 on Sunset Boulevard (21,100 boardings), Metro Line 4 on Santa Monica Boulevard (20,500 boardings), and Metro Line 16 on 3rd Street (27,200 boardings). These bus lines all operate east-west in the Study Area along Sunset Boulevard, Santa Monica Boulevard, and 3rd Street, respectively, and travel parallel routes to the LPA alignment under either the Concurrent Construction Scenario or the Phased Construction Scenario.

Ridership on seven east-west streets currently accounts for approximately 40 percent of total transit demand in the Study Area. Weekday ridership for service on these east-west streets is shown in Table 3-2. Bus ridership levels presented in Table 3-2 represent routes that include Metro service as well as lines operated by the Santa Monica Big Blue Bus.

**Table 3-2. Major East-West Streets/Bus Lines in Study Area**

Street/Bus Line	Weekday Ridership
Wilshire Boulevard/Metro 20 and 720, Santa Monica Big Blue Bus 2	62,860
Pico Boulevard/Metro 30 and 730, Santa Monica Big Blue Bus 7	32,160
Santa Monica Boulevard/Metro 4 and 704, Santa Monica Big Blue Bus 1	40,910
3rd Street/Metro 16	27,220
Sunset Boulevard/Metro 2	21,120
Olympic Boulevard/Metro 28 and 728, Santa Monica Big Blue Bus 5	20,100
Beverly Boulevard/Metro 14	21,180
<b>Total</b>	<b>225,550</b>

The distribution of ridership for all bus routes serving the Study Area is shown in Table 3-3 and includes service operated by Metro, Santa Monica Big Blue Bus, Culver City Bus, and other transit systems. The 62 bus routes operating in the Study Area serve approximately 490,000 boardings, or about 50 percent of total weekday bus ridership, on all Metro bus lines. For north-south travel, buses that travel along the Westwood Boulevard Corridor generate more than 48,000 boardings a day. Many of these buses, which involve several transit systems, only operate a portion of the route along Westwood Boulevard, but they all provide access to the University of California at Los Angeles (UCLA). Major north-south/east-west transfer points within the Study Area are shown in Figure 3-2. Major transfer points are defined as locations where a

Metro Rapid bus line, operating on weekday peak headways of 12 minutes or less, intersects with another bus line that is also operating on weekday peak headways of 12 minutes or less. Based on this criterion, there are 29 major transfer points in the Study Area. Seven of these major transfer points are located in areas where stations are proposed.

**Table 3-3. Existing Study Area Transit Service and Weekday Boardings**

Provider	Line	Description	Riders
Metro	720	Metro Rapid (Santa Monica—Commerce via Wilshire Boulevard and Whittier Boulevard)	41,004
Metro	204	Athens—Hollywood via Vermont Avenue	28,298
Metro	16	Downtown Los Angeles—Century City via 3rd Street	27,219
Metro	18	Wilshire Center—Montebello via 6th Street and Whittier Boulevard	26,270
Metro	207	Athens—Hollywood via Western Avenue	26,667
Metro	754	Metro Rapid (Athens—Hollywood via Vermont Avenue)	22,021
Metro	2	Downtown Los Angeles—Pacific Palisades via Sunset Boulevard	21,121
Metro	66	Wilshire Center—Downtown Los Angeles—Montebello via 8th Street & Olympic Boulevard	20,694
Metro	4	Downtown Los Angeles—West Los Angeles—Santa Monica via Santa Monica Boulevard	20,531
Metro	30	Pico/Rimpau—Dozier/Rowan—Monterey Park via Pico Boulevard and East 1st Street	13,422
Metro	20	Downtown LA—Santa Monica via Wilshire Boulevard	17,206
Metro	14	Downtown Los Angeles—Beverly Hills via Beverly Boulevard	21,179
Metro	206	Athens—Hollywood via Normandie Avenue	13,555
Metro	210	South Bay Galleria—Hollywood via Crenshaw Boulevard	14,127
Metro	10	Downtown Los Angeles—West Hollywood via Temple Street and Melrose Avenue	13,128
Metro	212	Hawthorne—Hollywood via La Brea Avenue	13,136
SM	7	Pico Boulevard	13,639
Metro	704	Metro Rapid (Downtown Los Angeles—Santa Monica via Santa Monica Boulevard )	11,743
Metro	105	West Hollywood—Vernon via La Cienega Boulevard and Vernon Avenue.	12,528
Metro	761	Metro Rapid (Pacoima—Westwood via Van Nuys Boulevard )	11,309
Metro	163	West Hills Medical Center—Sun Valley/North Hollywood Station via Sherman Way and Lankershim Boulevard	10,915
Metro	180	Pasadena—Hollywood via Colorado Boulevard. and Hollywood Boulevard	11,524
Metro	217	Vermont/Sunset—Fairfax/Washington via Fairfax Avenue and Hollywood Boulevard	9,613
Metro	780	Pasadena—West Los Angeles via Colorado Boulevard. and Hollywood Boulevard	10,408
Metro	28	Downtown Los Angeles—Century City via Olympic Boulevard	8,749
CCB	6/Rapid 6	Sepulveda Boulevard	7,888
Metro	728	Metro Rapid (Downtown LA—Century City via Olympic Boulevard)	7,258
SM	1	Santa Monica Boulevard	8,634
SM	3	Montana Ave and Lincoln Boulevard	8,488
Metro	705	Metro Rapid (West Hollywood—Vernon via La Cienega Boulevard and Vernon Avenue)	8,137
Metro	710	Metro Rapid (South Bay Galleria—Wilshire Center via Crenshaw Boulevard)	7,668
SM	12	Westwood and Palms	6,419
Metro	730	Pico Boulevard	5,098
SM	8	Ocean Park Boulevard	5,120
SM	2	Wilshire Boulevard	4,650
SM	14	Bundy Drive and Centinela Avenue	4,094
SM	5	Olympic Boulevard	3,154
Metro	305	UCLA—Willowbrook via Sunset Boulevard , San Vicente Boulevard and Western Avenue	2,571
Metro	550	Metro Express (San Pedro—West Hollywood via Harbor Transitway)	3,048
Metro	534	Metro Express (Malibu—Fairfax/Washington via Pacific Coast Hwy.)	2,941
LADOT	DASH	Wilshire/Koreatown	2,586
Metro	156	Van Nuys—Hollywood Panorama City—Hollywood	1,791
CCB	3	Crosstown	2,422
SM	R3	Rapid 3	2,239
SM	10	Freeway Express	2,028
LADOT	DASH	Hollywood	1,895
SM	9	Pacific Palisades	1,335

**Table 3-3. Existing Study Area Transit Service and Weekday Boardings (continued)**

Provider	Line	Description	Riders
SM	R7	Rapid 7	1,259
LADOT	DASH	Fairfax	1,106
LADOT	DASH	West Hollywood	1,087
SM	4	San Vicente Boulevard and Carlyle Avenue	1,037
Metro	209	Athens—Wilshire Center via Van Ness Avenue and Arlington Avenue	1,001
SM	S12	UCLA Commuter	931
LADOT	CE 573	Mission Hills/Encino	813
SM	11	Campus Connector	699
LADOT	DASH	Midtown	369
SCT	797	Century City	313
WH	A/B	West Hollywood Loop	225
LADOT	CE 534	West Los Angeles/Century City/Westwood	181
LADOT	CE 431	Westwood/Rancho Park/Palms	175
AVTA	786	West Los Angeles	66
LADOT	CE 430	Pacific Palisades/Brentwood/Westwood	63
SCT	792	Century City	32
<b>Total</b>			<b>486,170</b>

Source: Metro 2011, Santa Monica Big Blue Bus (SM) 2007, Los Angeles Department of Transportation (LADOT) FY08-09, Culver CityBus (CCB) 2010, Antelope Valley Transit Authority (AVTA) 2009, Santa Clarita Transit (SCT) 2009, West Hollywood CityLine (WH) 2009

### Station Area Transit Service

Each area with subway stations was reviewed to determine the characteristics of bus routes, including peak headway and off-peak headway. The locations of stops were also determined to evaluate local bus access with respect to station entrances. Station locations would provide access to an average of six bus lines, with the highest number of connecting bus lines (16) occurring at the Westwood/UCLA Station. The relatively high number of commuter bus lines at the Century City and Westwood/UCLA Stations reflects the importance of these areas as regional employment centers.

### Conditions for Transit Operations

Existing bus transit service must operate in some of the most congested traffic conditions in Los Angeles County. With the exception of small segments of the Metro Rail Red and Purple Lines located in the far eastern portions of the Study Area, transit service is characterized by mixed-flow operations. Therefore, current traffic conditions as described in Section 3.3 also affect transit service. Although ridership on Westside bus routes is high, congestion on arterial streets and freeways affect bus travel times and reliability, thereby resulting in less than optimal service conditions. With high passenger loads, congested roads make reduced bus service headways (improved frequency of service) difficult to maintain and result in overcrowded buses.

### Planned Transit Program Improvements

There will be limited improvements affecting transit facilities in the Study Area. Under the No Build Alternative, possible improvements include a bus-only lane on Wilshire Boulevard (except in Beverly Hills and Santa Monica). Service-frequency improvements will also occur on Metro Red and Purple Lines according to HRT plans.

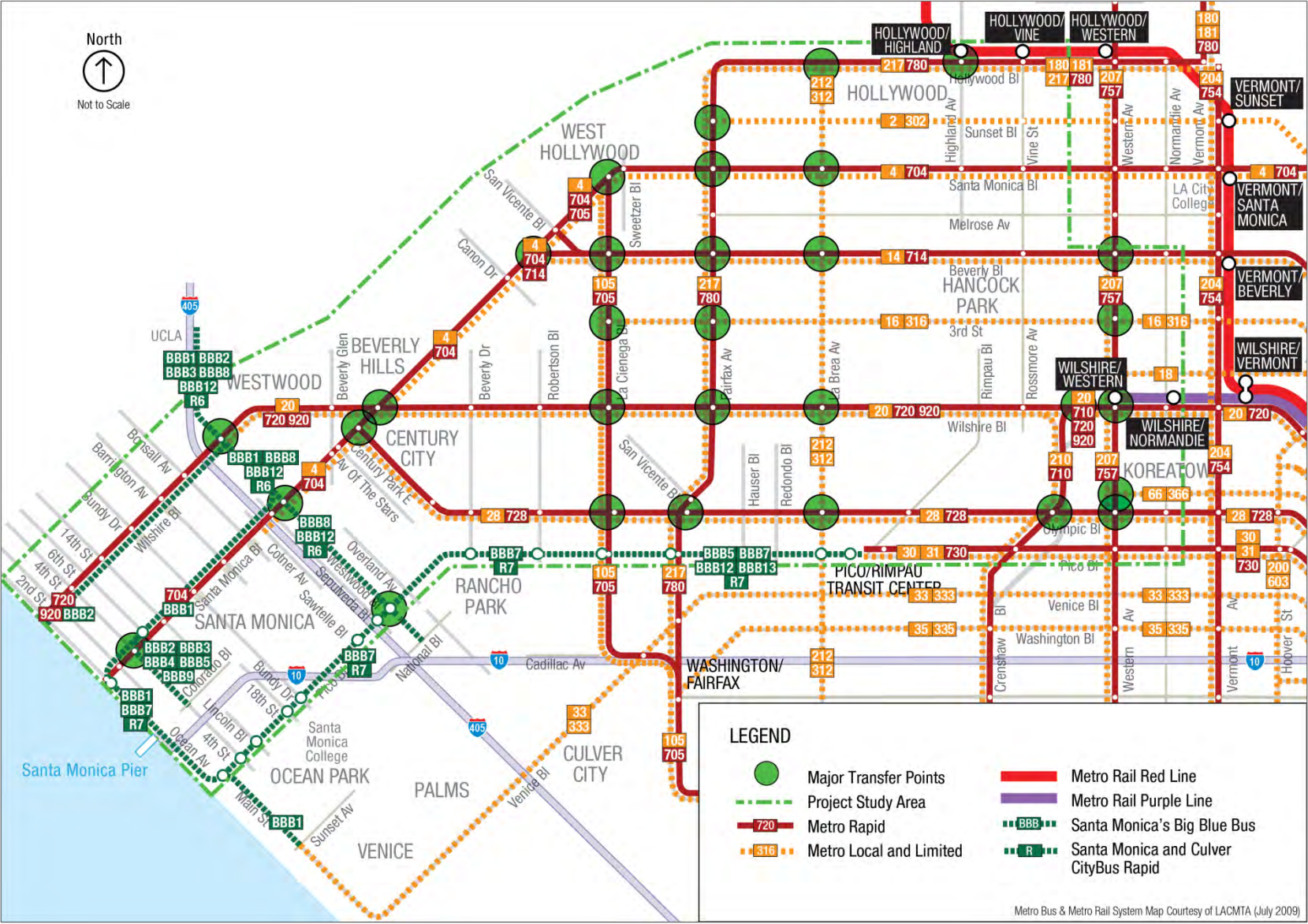


Figure 3-2. Major Transfer Points in the Study Area

### 3.4.2 Environmental Impacts/Environmental Consequences

This section describes impacts and environmental consequences of the 2035 public transit network affecting the Study Area. Comparisons are also made to current conditions. Regional impacts are discussed first followed by those involving station areas. Key transit characteristics, such as travel times between selected origins and destinations or “zone pairs” and service reliability characteristics, are presented for the No Build Alternative and the LPA. For transit travel times within Los Angeles County, the discussion focuses on selected zone pairs. These characteristics provide an indication of impacts of alternatives in influencing transit demand.

#### Transit Travel Times

Transit travel times are a major factor for determining transit demand. Several zone pairs were selected to show estimated AM-peak-period travel times in 2035 under each alternative. The origin and destination locations are shown in Figure 3-3 within the context of existing and planned high capacity transit rail lines in Los Angeles County. The figure shows two new rail line designations that will result from construction of the Regional Connector in Downtown Los Angeles. The East-West Line will consist of that segment of the current Gold Line serving East Los Angeles (including future extension) and the Expo Line (including future extension). The North-South Line will consist of the current Blue Line and that segment of the current Gold Line serving Pasadena and the San Gabriel Valley (including extension).

The zone pairs were selected based on several factors, such as the following:

- The destination zones include major concentrations of employment in the Study Area.
- The seven origin zones are spread throughout Los Angeles County.
- Each origin includes an existing high capacity transit station on the Metro Red, Gold, Orange, Blue, and Purple Lines or Metrolink commuter rail service. Figure 3-3 identifies stations on these rail lines.
- In addition to reflecting geographic diversity, the origin locations involve a demographic mix, including household income levels and a variation of concentrations of minority communities.

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Impacts of alternatives include changes in key transit service characteristics, such as speed and reliability. Under the LPA, a substantial reduction in travel times and improved service reliability are anticipated as compared to the No Build Alternative.

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The three destination zones, all located in the Study Area, encompass locations in Los Angeles (Century City and Westwood districts of Los Angeles) and Beverly Hills. The seven origin zones are as follows:

- Pasadena (Del Mar Station) is located on the existing Metro LRT Gold Line in Pasadena and northeast of the Study Area. From this location, access to the Westside is provided via transfer in Downtown Los Angeles at Union Station.





Figure 3-3. Origins and Destinations for Transit Travel Times



- The Pershing Square Station, located in the central part of Downtown Los Angeles, is due east of the Study Area and is served by the existing Metro Purple and Red HRT Lines. Direct HRT service is currently provided from this station to Wilshire Center.
- South Los Angeles at the Florence Station is southeast of the Study Area on the existing Metro LRT Blue Line. Westside access can be provided with one transfer in Downtown Los Angeles.
- Reseda is in the central part of the San Fernando Valley at the existing Metro Orange Line Station BRT Station. The station is north of the Study Area.
- Covina is located east of Downtown Los Angeles and the Study Area at the existing Covina Metrolink commuter rail station. Access to the Westside from Covina can be provided with a transfer at Union Station in Downtown Los Angeles.
- Wilshire Center (Wilshire/Western Purple Line Station) is located at the east end of the Study Area. For the Westside Subway Extension, this will be the starting point for service along Wilshire Boulevard.
- North Hollywood, at the Metro North Hollywood Red/Orange Line Station, is the terminus for the Orange BRT Line and the Red HRT Line. The station is located north and east of the Study Area.

Summary information on estimated 2035 AM-peak-period transit travel times is presented in the following sections for the above zone pairs for the No Build Alternative and the LPA. The estimated travel time of the LPA reflects the extent of exclusive guideway service that will be involved in making the trip. Travel times for the zone pairs under existing conditions are less than those estimated for the No Build Alternative; however, they are still more than what has been estimated under the LPA.

### **No Build Alternative**

The No Build Alternative includes all existing highway and transit services and facilities and the committed highway and transit projects in the *2009 Metro Long Range Transportation Plan (LRTP)* (Metro 2009a) and the *SCAG 2008 Regional Transportation Plan (RTP)* (SCAG 2008a). Under the No Build Alternative, no new infrastructure would be built within the Study Area aside from projects currently under construction or funded for construction, environmentally cleared, planned to be in operation by 2035, and identified in the Metro LRTP.

Under the No Build Alternative, transit travel times will increase since service in the Study Area will still be dominated by buses operating in mixed traffic. The expected growth in general-purpose traffic volumes, particularly along major east-west arterials such as Wilshire Boulevard, will contribute to slower bus operating speeds and result in increased transit travel times.

### **Locally Preferred Alternative**

The LPA could either be constructed as a single phase under the Concurrent Construction Scenario or as three consecutive phases under the Phased Construction Scenario. The opening of the LPA as a single phase or in three sequential phases will not result in substantially differing impacts related to transit travel times during operation of the LPA.

***America Fast Forward (30/10) Scenario (Concurrent Construction)***

Variations in transit travel time will occur due to alignment and station options; however, most variations in travel time will be attributable to the extent of subway service for each alternative. With the LPA, there will be several variations in transit travel time that reflect station location options in Century City and in Westwood at UCLA and the VA Hospital. The travel times also reflect variations in subway alignments between Wilshire/Rodeo and Westwood. Given possible locations of the station options in Century City, travel-time differences will be more pronounced as compared to station options and related alignments associated with the Westwood/UCLA and Westwood/VA Hospital Station options.

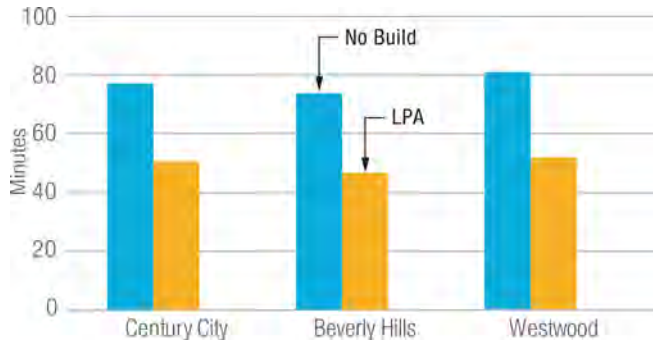
Table 3-4 lists distances and running times (eastbound and westbound) for several station combinations within the LPA between Century City and Westwood. For any given station-to-station trip scenario, the greatest distance variation will be 0.4 mile and the greatest travel-time difference will be approximately 1 minute. This variation involves distances and running times for the following two trip scenarios:

- Century City Santa Monica—Westwood/UCLA On-Street—Westwood/VA Hospital South (lowest distance/running time)
- Century City Constellation—Westwood/UCLA Off-Street—Westwood/VA Hospital North (highest distance/running time)

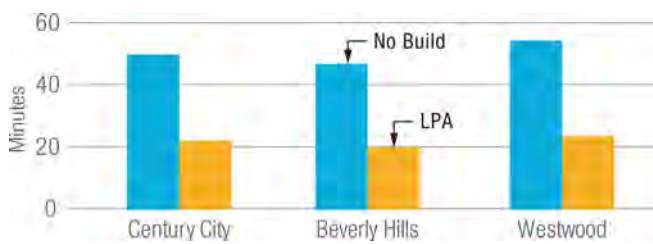
Other station-to-station distance/travel time variations along the LPA could occur, for example between Wilshire/Rodeo and either Westwood/UCLA On-Street or Westwood/UCLA Off-Street. The greatest variations in travel time and other transportation effects will involve trips to and from the Century City Station options. Any variations between the Century City Station options will primarily involve travel to Beverly Hills. However, the transit ridership resulting from each station location option also will be determined by land use characteristics. These include the more central location of the Constellation Boulevard Station Option as compared to the Santa Monica Boulevard Station Option. Given the relatively small variations in transit travel times, the LPA information presented in the following sections is for the Santa Monica Boulevard option for the Century City Station.

**Table 3-4. Distance and Run Time along LPA Alignment (from Wilshire/Western)**

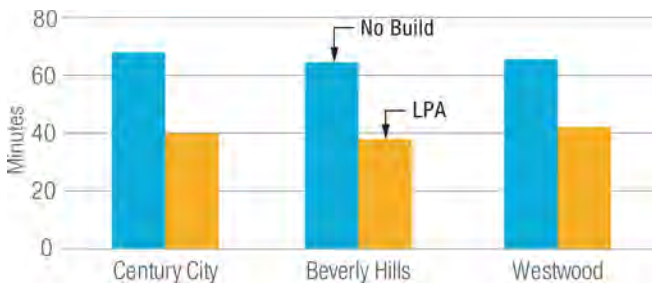
Phase	Station Combination		Distance (Miles)	Total Run Time (Eastbound)	Total Run Time (Westbound)	
<b>Concurrent Construction Scenario</b>						
LPA (Wilshire/Western to Westwood/VA Hospital)	Century City Santa Monica	Westwood/UCLA On-Street	Westwood/VA Hospital South	8.57	14:19	14:26
		Westwood/UCLA On-Street	Westwood/VA Hospital North	8.73	14:21	14:28
		Westwood/UCLA Off-Street	Westwood/VA Hospital South	8.60	14:45	14:52
		Westwood/UCLA Off-Street	Westwood/VA Hospital North	8.74	14:50	14:58
	Century City Constellation	Westwood/UCLA On-Street	Westwood/VA Hospital South	8.80	14:44	14:49
		Westwood/UCLA On-Street	Westwood/VA Hospital North	8.95	14:45	14:52
		Westwood/UCLA Off-Street	Westwood/VA Hospital South	8.83	15:11	15:16
		Westwood/UCLA Off-Street	Westwood/VA Hospital North	8.97	15:17	15:21
<b>Phased Construction Scenario</b>						
Phase 1 (Wilshire/Western to Wilshire/La Cienega)	Wilshire/Western to Wilshire/La Cienega		3.80	6:12	6:15	
Phase 2 (Wilshire/Western to Century City)	Wilshire/Rodeo	Century City Santa Monica	6.23	10:28	10:31	
	Wilshire/Rodeo	Century City Constellation	6.48	10:47	10:50	
Phase 3 (Wilshire/Western to Westwood/VA Hospital)	See LPA under Concurrent Construction Scenario					



**Figure 3-4. Transit Travel Times—Pasadena to Westside**



**Figure 3-5. Transit Travel Times—Downtown Los Angeles to Westside**



**Figure 3-6. Transit Travel Times—South Los Angeles to Westside**

**From Pasadena (Del Mar Gold Line Station)**

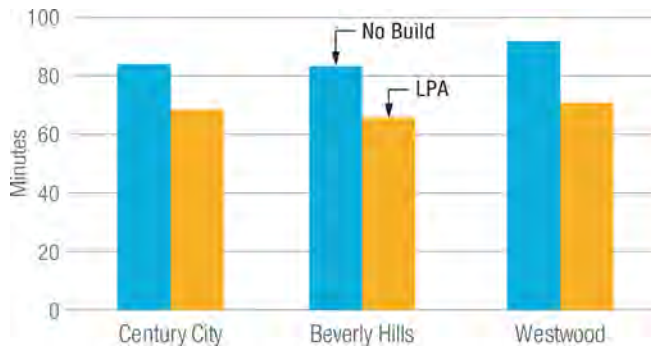
Estimated transit travel times from Pasadena to various Westside destinations are shown in Figure 3-4. Under the LPA, a transfer at Union Station will be necessary to complete the trip to the Westside. The travel times with the LPA will be generally much lower than with the No Build Alternative. Particularly, major reductions in times will occur for travel to Century City, Beverly Hills, and Westwood. For these Westside destinations, travel times under the LPA will be about 60 percent of the travel times under the No Build Alternative.

**From Downtown Los Angeles (Pershing Square Station)**

Estimated transit travel times from Downtown Los Angeles (Pershing Square Station) to various Westside destinations are shown in Figure 3-5. Under the LPA, direct/no transfer transit access to the Westside will be available. Even with direct bus access to the Westside, the No Build Alternative would have more than twice the travel time than the LPA for trips to Century City, Beverly Hills, and Westwood.

**From South Los Angeles (Florence Blue Line Station)**

The estimated transit travel times from South Los Angeles (Florence Blue Line Station) to various Westside destinations are shown in Figure 3-6. Under the LPA, transfers between the Blue and extended Purple Lines will be required in Downtown Los Angeles to complete the trip to Westside locations.



**Figure 3-7. Transit Travel Times—Reseda to Westside**

**From Reseda (Orange Line Station)**

Estimated transit travel times from Reseda in the San Fernando Valley to Westside destinations are shown in Figure 3-7. Under the LPA, transfers at North Hollywood and Wilshire/Vermont will be required to complete the trip to Westside locations. The travel time savings under the LPA will be about 20 percent as compared to the No Build Alternative.



**Figure 3-8. Transit Travel Times—Covina to Westside**

**From Covina (Metrolink Station)**

The estimated transit travel times from the Covina Metrolink Station to various Westside destinations are shown in Figure 3-8. Under the LPA, transfers in Downtown Los Angeles at Union Station will be required to complete the trip to Westside locations. However, even with direct bus access from Downtown Los Angeles, the No Build Alternative would have higher transit travel times than the LPA for all Westside locations.



**Figure 3-9. Transit Travel Times—Wilshire/Western to Westside**

**From Wilshire Center (Wilshire/Western Station)**

The estimated transit travel times from the Wilshire/Western Purple Line Station reflect an extension of HRT service within the Study Area. The estimated travel times from this location to various Westside destinations are shown in Figure 3-9. Major variations can be seen between the No Build Alternative travel times and the LPA. For example, transit travel time to Westwood will be 14 minutes under the LPA as compared to 46 minutes under the No Build Alternative.



**Figure 3-10. Transit Travel Times—North Hollywood to Westside**

***From North Hollywood (Red Line Station)***

Estimated transit travel times from North Hollywood to selected Westside destinations are shown in Figure 3-10. Under the LPA, transfers at Wilshire/Vermont will be required to complete the trip to Westside locations. However, even with this transfer, transit travel times under the LPA for Century City and Beverly Hills trips will be 30 percent less than under the No Build Alternative. For trips to Westwood, the transit travel times under the LPA will be 40 percent less than under the No Build Alternative.

***Metro Long Range Transportation Plan Scenario (Phased Construction)***

Under the Phased Construction Scenario, the impacts related to transit travel times are the same as under the Concurrent Construction Scenario. The only difference between the two scenarios is the timing of potential for impacts to transit travel times. Under the Phased Construction Scenario, the potential for impacts related to transit travel times during Phase 2 and Phase 3 will occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for potential impacts related to transit travel times along Phase 1 of the LPA will occur earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020. Transit service characteristics are the same as discussed above for the Concurrent Construction Scenario.

***Phase 1 to Wilshire/La Cienega***

Under Phase 1, the LPA will operate to the Wilshire/La Cienega Station. Travel times for the destination zone in Beverly Hills under the Phased Construction Scenario will be comparable to the Concurrent Construction Scenario, as discussed above, but only the one station in Beverly Hills at Wilshire/La Cienega is included as part of Phase 1. The second station in Beverly Hills at Wilshire/Rodeo is included in Phase 2. Transit travel time savings to points west of the Wilshire/La Cienega Station will not be as significant as under the full LPA to Westwood/VA Hospital.

***Phase 2 to Century City***

Under Phase 2, the LPA will operate to the Century City Station (either Santa Monica or Constellation option). Transit travel times for the destination zone in Beverly Hills and Century City will be similar as shown for the full LPA. However, Transit travel time savings to points west of the Century City Station will not be as significant as under the full LPA to Westwood/VA Hospital.

***Phase 3 to Westwood/VA Hospital***

Under Phase 3, the LPA will be opened in its entirety to the Westwood/VA Hospital Station. Travel times for the destination zone in Beverly Hills, Century City and Westwood will be the same as shown for the LPA under the Concurrent Construction Scenario.

## Transit Speed and Reliability

### No Build Alternative

The No Build Alternative includes all existing highway and transit services and facilities, and the committed highway and transit projects in the 2009 LRTP (Metro 2009a) and the 2008 SCAG RTP (SCAG 2008a). Under the No Build Alternative, no new infrastructure would be built within the Study Area aside from projects currently under construction or funded for construction, environmentally cleared, planned to be in operation by 2035, and identified in the Metro LRTP.

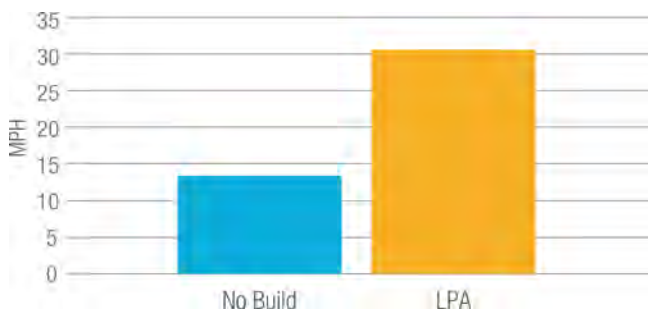
Under the No Build Alternative, transit speed and reliability in the Study Area will be affected by the continued dominance of buses operating in mixed traffic. Since buses operate in mixed traffic, overall reliability will be compromised. The expected growth in general-purpose traffic volumes, particularly along major east-west arterials, such as Wilshire Boulevard, will further contribute to less reliable transit service in the Westside.

### Locally Preferred Alternative

The LPA could either be constructed as a single phase under the Concurrent Construction Scenario or as three consecutive phases under the Phased Construction Scenario. The opening of the LPA as a single phase or in three sequential phases will not result in substantially differing impacts related to transit speeds and reliability during operation of the LPA.

### *America Fast Forward (30/10) Scenario (Concurrent Construction)*

The transit travel times presented above reflect estimated variations in transit speeds for the LPA and No Build Alternatives. As shown in Figure 3-11, transit speeds under the



**Figure 3-11. Transit Operating Speeds**

LPA will increase by over a factor of two versus the No Build Alternative. The LPA transit operating speeds will be same for the two station options in Century City.

Even allowing time spent for accessing subway service (including vertical movement to platforms) under the LPA, the substantial increases in speeds versus the No Build Alternative will result in reduced travel times.

Higher transit speeds under the LPA contrast with reduced speeds under the No Build

Alternative and existing conditions. The degrading conditions under the No Build Alternative would result from a transit service heavily dominated by buses operating in mixed traffic being subject to increasingly poor conditions.



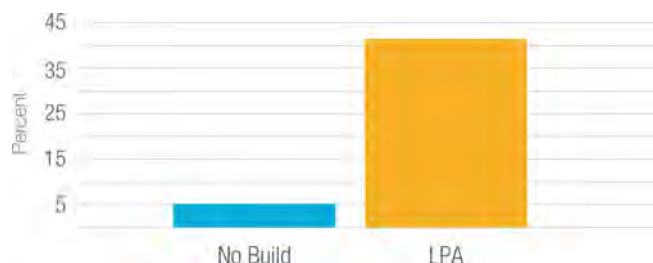
Reduced transit travel times for the LPA directly reflect expected major increases in operating speeds as compared to existing conditions and the No Build Alternative. Transit demand under the LPA also will be influenced by improved service reliability. This will be achieved by an increase in transit operations involving exclusive right-of-way.

In addition to higher transit speeds that result in reduced travel time, transit demand is highly influenced by reliability of service. Service reliability is measured in terms of actual service arrivals and transit travel times as compared to what is published in timetables.

Several factors can affect service reliability, including traffic incidences that can prevent adherence to bus schedules. However, the most dominant factor affecting transit service reliability is the extent of general-purpose traffic congestion on streets that are also used by transit vehicles. As is the case with existing conditions, the No Build Alternative would involve mostly a mix of buses and

general-purpose traffic. Only small segments of the Purple and Red Lines, located in the far eastern portions of the Study Area, provide transit operations in exclusive right-of-way. In addition, there may be a bus lane on Wilshire Boulevard that would improve service reliability as compared to current conditions. However, autos making right turns would still be mixed with buses and there also would be cross-traffic that buses would have to confront.

With the LPA, much higher levels of exclusive fixed guideway service will be available to transit riders. The Metro Travel Demand Model can identify the extent of daily passenger miles that involve exclusive operations. The passenger miles information presented in this section involves service in the Study Area. However, for some routes, the coverage includes Downtown Los Angeles.



**Figure 3-12. Extent of Passenger Miles in Exclusive Guideway Service**

As indicated on Figure 3-12, there would be a relatively small share of passenger miles that involves exclusive fixed guideway operations under the No Build Alternative in 2035. With the LPA, the extent of passenger miles in exclusive operations will be substantially greater as compared to the No Build Alternative. As compared to about 5 percent under the No Build Alternative, the share of passenger miles in exclusive fixed guideway

service under the LPA will be approximately 40 percent. With this much larger share of passenger miles involving exclusive fixed guideway and congestion-free service, transit reliability in the Study Area will be affected in a very positive way.

***Metro Long Range Transportation Plan Scenario (Phased Construction)***

Under the Phased Construction Scenario, the effects to transit speeds and reliability are the same as under the Concurrent Construction Scenario discussed above. The only difference between the two scenarios is the timing of these effects. Under the Phased Construction Scenario, the effects to transit speeds and reliability during Phase 2 and Phase 3 will occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for effects related to transit speeds and



reliability along Phase 1 of the LPA will occur earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020.

***Phase 1 to Wilshire/La Cienega***

Phase 1 will increase the number of passenger miles in exclusive fixed guideway operations compared to the No Build. However, since Phase 1 will terminate at the Wilshire/La Cienega Station, the extent of the exclusive fixed guideway will be less than the full LPA to Westwood/VA Hospital. While the Phase 1 exclusive fixed guideway will result in improved transit reliability and transit speeds, points west of this station will not experience the same improved transit reliability and transit speeds as under the full LPA to Westwood/VA Hospital due to a shorter exclusive fixed guideway.

***Phase 2 to Century City***

Phase 2 will increase the number of passenger miles in exclusive fixed guideway operations compared to the No Build. However, since Phase 2 will terminate at the Century City Station, the extent of the exclusive fixed guideway will be less than the full LPA to Westwood/VA Hospital. While the Phase 2 exclusive fixed guideway will result in improved transit reliability and transit speeds, points west of this station will not experience the same improved transit reliability and transit speeds as under the full LPA to Westwood/VA Hospital due to a shorter exclusive fixed guideway.

***Phase 3 to Westwood/VA Hospital***

Phase 3 will complete the LPA in its entirety to Westwood/VA Hospital and, therefore, will provide the same increase in the number of passenger miles operating in exclusive fixed guideway as the LPA under the Concurrent Construction Scenario. However, since the LPA will be completed later under the Phased Construction Scenario, these benefits will be experienced by transit riders later than under the Concurrent Construction Scenario.

**Transit Ridership**

This section describes ridership under the LPA and No Build Alternatives as well information on mode of access. The section also presents information on estimated net new additional riders that will result from the LPA. Following the description of station ridership, information is presented on changes in transit mode shares as a result of the No Build Alternative and the LPA.

**No Build Alternative**

The No Build Alternative includes all existing highway and transit services and facilities, and the committed highway and transit projects in the 2009 Metro LRTP (Metro 2009a) and the 2008 SCAG RTP (SCAG 2008a). Metro is currently working with SCAG to

update the RTP, which would add the LPAs identified in Metro's LRTP into the RTP. Under the No Build Alternative, no new infrastructure would be built within the Study Area aside from projects currently under construction or funded for construction, environmentally cleared, planned to be in operation by 2035, and identified in the Metro LRTP.

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Ridership for the LPA would be dominated by walk and local bus access. This reflects the lack of park-and-ride facilities at stations and the availability of extensive feeder bus and pedestrian facilities in station areas.

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Ridership increases under the No Build Alternative will involve service dominated by buses. Slower operating speeds and less system reliability will limit potential increases

in demand. In addition, the capacity of the bus system, which is affected in large part by street capacity in the Study Area, will limit potential added ridership demand. Mode of access for the No Build Alternative will be dominated by local bus and walk.

**Locally Preferred Alternative**

The LPA could either be constructed as a single phase under the Concurrent Construction Scenario or as three consecutive phases under the Phased Construction Scenario. The opening of the LPA as a single phase or in three sequential phases will not result in substantially different transit ridership during operation of the LPA.

**America Fast Forward (30/10) Scenario (Concurrent Construction)**

Table 3-5 presents daily station boardings for stations along the LPA. Under the LPA, total boardings will range from approximately 46,000 to 49,300 per day. With the Century City Constellation Station option, higher ridership is estimated to occur as compared to the Century City Santa Monica Station option. This is due to a higher concentration of employment surrounding the Century City Constellation Station option and closer proximity to the Century City Mall. As noted in the transit travel time section, additional time would be needed for trips to the Constellation Station as compared to the Santa Monica Station. However, the more central location of the Constellation Station would contribute to the higher daily ridership. The recommended location for the Century City Station is along Constellation Boulevard, in part due to the proximity to the employment concentration and the resulting higher ridership projections (Chapter 7, Evaluation of Alternatives).

**Table 3-5. LPA Daily Station Boardings**

Station	Concurrent Construction Scenario		Phased Construction Scenario				
	With Constellation Option	With Santa Monica Option	Phase 1	Phase 2 <sup>2</sup>		Phase 3 <sup>3</sup>	
				With Constellation Option	With Santa Monica Option	With Constellation Option	With Santa Monica Option
Wilshire/La Brea	4,047	3,954	3,636	3,774	3,707	4,047	3,954
Wilshire/Fairfax	6,183	6,125	6,025	5,767	5,742	6,183	6,125
Wilshire/La Cienega	6,530	6,425	10,120	6,073	5,942	6,530	6,425
Wilshire/Rodeo	4,241	4,436	N/A	8,057	7,411	4,241	4,436
Century City Constellation	8,566	N/A	N/A	8,021	N/A	8,566	N/A
Century City Santa Monica	N/A	5,492	N/A	N/A	7,157	N/A	5,492
Westwood/UCLA <sup>1</sup>	11,967	11,926	N/A	N/A	N/A	11,967	11,926
Westwood/VA Hospital <sup>1</sup>	7,807	7,631	N/A	N/A	N/A	7,807	7,631
<b>Total Station Boardings</b>	<b>49,340</b>	<b>45,989</b>	<b>19,871</b>	<b>31,692</b>	<b>29,959</b>	<b>49,340</b>	<b>45,989</b>

Source: Metro Travel Demand Model

<sup>1</sup>Station boardings do not differ for the station options at Westwood/UCLA and Westwood/VA Hospital

<sup>2</sup>Station boardings for Phase 2 include Phase 1 stations

<sup>3</sup>Station boardings for Phase 3 include Phase 1 and Phase 2 stations



Mode of access information is shown in Table 3-6. Under either Century City Station option, walking will be the dominant mode of access to the stations. For the LPA, the estimated share involving walking is 65 percent with the Santa Monica Station option; the share increases to 70 percent with the Constellation Station option. Regarding bus access, a higher share (33 percent) is expected under the Santa Monica Station option as compared to the Constellation Station option (27 percent). The higher transit share for the Santa Monica Station option is attributable to the greater concentration of bus service. The share of trips by private auto access will be low under either Century City Station option at between 2 and 3 percent. The Westwood/UCLA Station will generate the highest transit ridership in the system. The station will be in an area that will attract students, workers, residents, and campus visitors.

The travel forecasting model also provides information on net additional transit riders resulting from the LPA. Results of the travel forecasting model indicate that by 2035, approximately 27,200 to 30,100 net additional daily riders will be attracted to public transportation with the LPA. The lower end of the estimated demand range reflects a Century City Santa Monica Station option, and the higher level reflects a Century City Constellation Station option, which is the recommended location.

Some of the new trips will involve shifts from bus service to the rail system. The travel demand model estimates that for the LPA, 46 percent of the new rail trips will be from buses. For station options in Century City, this share applies to each option.

**Table 3-6. Daily Mode of Access Percentages**

Phase	Walk	Bus Transit	Private Vehicle
<b>Concurrent Construction Scenario</b>			
LPA—With Century City Santa Monica Option	65%	33%	2%
LPA—With Century City Constellation Option	70%	27%	3%
<b>Phased Construction Scenario</b>			
Phase 1	57%	41%	2%
Phase 2—With Century City Constellation Option	69%	29%	2%
Phase 2—With Century City Santa Monica Option	59%	39%	2%
Phase 3—With Century City Santa Monica Option	65%	33%	2%
Phase 3—With Century City Constellation Option	70%	27%	3%

Source: Metro Travel Demand Model

The private vehicle mode of access refers specifically to drop-off and pick-up activity because park-and-ride facilities are not planned at the stations. Although not quantified explicitly by the Metro Travel Demand Model, some use of off-site public and private parking capacity is expected on a daily basis.

**Metro Long Range Transportation Plan Scenario (Phased Construction)**

Under the Phased Construction Scenario, potential transit ridership is similar to the Concurrent Construction Scenario. The only difference between the two scenarios is the timing of when the LPA will be fully operational. Under the Phased Construction Scenario, Phase 2 and Phase 3 will be operational later than under the Concurrent

Construction Scenario due to an extended construction timeline. However, Phase 1 will be operational earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020.

The estimated 2035 daily station boardings for the Concurrent Construction Scenario and the Phased Construction Scenario will be similar, approximately 46,000 to 49,300 per day, as shown in Table 3-5. For Phase 1 alone, the 2035 total daily station boardings are estimated to be approximately 19,900. With the addition of Phase 2, the 2035 total daily station boardings are estimated to range from 30,000 to 31,700. In addition, Phase 1 and Phase 2 will generate varying levels of boardings at stations and mode of access patterns during periods when they establish an interim terminus at the Wilshire/La Cienega Station and Century City Station, respectively. The station boardings, mode of access, and additional daily transit ridership under Phases 1 and 2 are further discussed below.

#### ***Phase 1 to Wilshire/La Cienega***

Under Phase 1, the LPA will operate to the Wilshire/La Cienega Station. The total boardings on at new Purple Line stations are estimated to be lower than the full LPA to Westwood/VA Hospital – 19,900 passengers per day. Since the Wilshire/La Cienega Station will serve as an interim terminus station, it is estimated to have higher daily boardings than under the full LPA – 10,100 daily boardings under Phase 1 compared to 6,400 to 6,500 daily boardings under the Concurrent Construction Scenario (reflected in Table 3-5). The share involving walk under Phase 1 will be lower (57 percent) as compared to the share for the LPA under the Concurrent Construction Scenario (between 65 percent and 70 percent). Bus transit access will be higher under Phase 1 as compared to LPA under the Concurrent Construction Scenario. The reduced share involving the walk mode and higher bus transit access share is likely attributable to lower land use densities in station areas within Phase 1. With Phase 1, private vehicle access to stations will be low (2 percent).

With regard to total daily transit ridership, and by 2035, approximately 13,100 net additional daily riders will be attracted to public transportation in Los Angeles County. This ridership represents total rail and bus demand in the county.

#### ***Phase 2 to Century City***

Under Phase 2, the LPA will operate to the Century City Station (either Santa Monica or Constellation option). For Phase 2 of the LPA, the estimated 2035 daily station boardings are generally lower than those for the Concurrent Construction Scenario (reflected in Table 3-5). However, the Wilshire/Rodeo Station is estimated to have 2035 daily boardings of approximately 7,400 to 8,100 compared to 4,200 to 4,400 estimated for the LPA under the Concurrent Construction Scenario. This is due to the proximity of the Wilshire/Rodeo Station to the interim terminus location in Century City and the bus connections provided to the Wilshire/Rodeo Station via Route 720 along Wilshire Boulevard. Similarly, the 2035 daily station boardings estimated for the Century City Santa Monica Station as an interim terminus location in Phase 2 is higher than for the LPA under the Concurrent Construction Scenario (7,200 compared to 5,500). The walk and bus shares for the Century City Constellation option under Phase 2 will approximate those for the LPA under the Concurrent Construction Scenario, 69 percent and



29 percent, respectively. For Phase 2 with the Century City Santa Monica option, the walk shares (59 percent) will be less than under the Century City Constellation option. For each station option, private vehicle access will be low (2 percent).

With regard to total daily transit demand in 2035, there will be between 18,700 and 23,300 net additional daily transit riders as compared to the No-Build Alternative. The lower end of the estimated range demand range reflects a Century City Santa Monica Station option, and the higher level reflects a Century City Constellation Station option, which is the recommended location.

***Phase 3 to Westwood VA/Hospital***

Under Phase 3, the LPA will be opened in its entirety to the Westwood/VA Hospital Station. With Phase 3 of the LPA, 2035 daily station boardings, access mode shares, and total transit demand will be the same as those for the Concurrent Construction Scenario, as described above.

**Impacts on Local Bus Services**

**No Build Alternative**

The No Build Alternative includes all existing highway and transit services and facilities, and the committed highway and transit projects in the 2009 Metro LRTP (Metro 2009a) and the 2008 SCAG RTP (SCAG 2008b). Under the No Build Alternative, no new infrastructure would be built within the Study Area aside from projects currently under construction or funded for construction, environmentally cleared, planned to be in operation by 2035, and identified in the Metro LRTP.

With the No Build Alternative, daily boardings for Westside bus routes in 2035 will be approximately 282,300. However, under this alternative, the average load for Westside buses operating in the peak direction during the peak hour will be 1.01. Therefore, there will be some standing riders for at least some bus trips.

**Locally Preferred Alternative**

The LPA could either be constructed as a single phase under the Concurrent Construction Scenario or as three consecutive phases under the Phased Construction Scenario. The opening of the LPA as a single phase or in three sequential phases will not result in substantially different impacts on local bus service during operation of the LPA.

***America Fast Forward (30/10) Scenario (Concurrent Construction)***

Under the LPA, some changes in bus service levels could occur to support the subway extension to Westwood. Possible service changes could affect Metro Lines 20 and 720. These routes most closely parallel the service that would be provided by a subway extension in the Study Area. However, the travel forecasting estimates for the LPA assumed that transit lines for both rail and bus services, including all station and alignment options still under consideration, will provide the same service as defined under the No Build Alternative.

With the LPA, bus ridership in the Westside is expected to decrease since there will be shifts in some demand to the extended Purple Line rail service. With the No Build Alternative, daily boardings for Westside bus routes in 2035 will be approximately

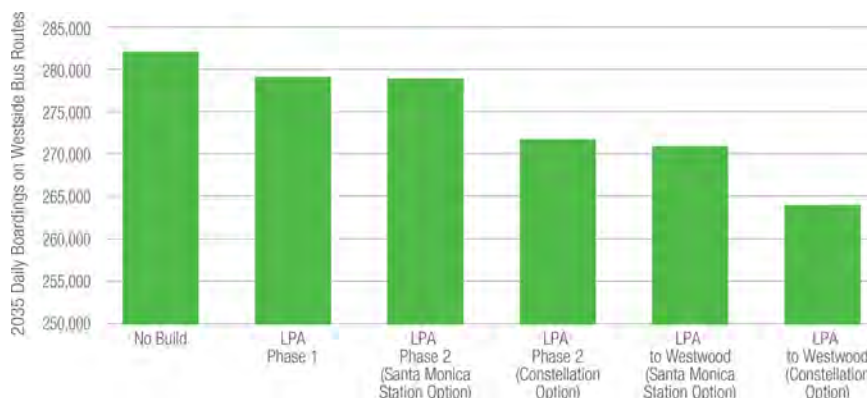
282,300 while, for the LPA/Century City Santa Monica Station option, bus ridership will decline to approximately 271,000 daily boardings. With approximately 265,000 daily boardings, even further declines in Westside bus ridership would occur under the Century City Constellation Station option, which is the recommended location for the Century City Station. As compared to the Century City Santa Monica Station option, this option would increase rail passenger demand which, in turn, would include a higher amount of former bus riders shifting to rail service.

In addition to shifts in demand from rail to bus service, passenger load factors under the LPA will be reduced in relation to capacity. Passenger load factors exceeding 1.0 indicate that some riders would be standing for at least a portion of their trip. Under the No Build Alternative, the average load for Westside buses operating in the peak direction during the peak hour will be 1.01. Therefore, there would be some standing riders for at least some bus trips. For the LPA, under each Century City Station option, the average load factor in the peak direction during the peak hour will be 0.94. This represents an average load factor and some riders could still be required to stand; however, overall demand on Westside bus routes with the LPA will be met with lower passenger load factors as compared to the No Build Alternative. This will occur even though no major service schedule changes will be implemented under the LPA when compared to service under the No Build Alternative.

The extended Purple Line rail service for the LPA is expected to operate seven days per week 365 days per year from 4:30 a.m. to 1:30 a.m. Peak-period headways of 4 minutes will be in effect during weekday non-holidays, from 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 7:00 p.m. Off-peak headways of 10 minutes will be in effect during the remaining weekday hours of operation and on weekends and holidays. Connecting bus service to West Los Angeles and Santa Monica (Metro 20 and 720 and Santa Monica’s Big Blue Bus Line 2 and 3) will continue to travel on Wilshire Boulevard and use enhanced above-grade bus loading areas to load and unload passengers. No additional bus traffic will travel through the VA Hospital campus.

**Metro Long Range Transportation Plan Scenario (Phased Construction)**

The estimated 2035 daily ridership levels for Westside bus routes, as identified in the Metro Travel Demand Model, are shown in Figure 3-13. Bus ridership, expressed in terms of daily boardings, is shown for the No Build Alternative, the LPA under the two



**Figure 3-13. Daily Bus Ridership in Westside, 2035**

Century City Station options: Santa Monica and Constellation, and for the potential phases. Under the Phased Construction Scenario, year 2035 daily bus ridership estimates will be similar for the LPA as described above for the Concurrent Construction Scenario. The only difference between the two



scenarios is the timing of when the shift from bus to rail ridership is anticipated. Under the Phased Construction Scenario, the potential shift from bus to rail ridership associated with Phase 2 and Phase 3 will occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for the potential shift from bus to rail ridership associated with Phase 1 of the LPA will occur earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020. Since the subway expansion will be less extensive under Phases 1 and 2, fewer bus riders will shift to rail transit as compared to the bus-to-rail shifts expected under Phase 3.

***Phase 1 to Wilshire/La Cienega***

Under Phase 1, the LPA will operate to the Wilshire/La Cienega Station. With Phase 1 of the LPA, the extent of ridership shifts from bus to rail will be less extensive as compared to what is expected to occur with the Concurrent Construction Scenario (reflected in Figure 3-13 under the full LPA). Thus, ridership on Westside bus routes will be greater under Phase 1 as compared to the full LPA; however, the ridership under Phase 1 will still be less than under the No Build Alternative. Factors contributing to ridership shifts from buses to rail under Phase 1 include highly frequent service similar to what will be provided in Phase 3 of the LPA: peak-period headways of 4 minutes will be in effect during weekday non-holidays from 6:00 a.m. to 9:00 a.m. and from 3:00 p.m. to 7:00 p.m. Off-peak headways of 10 minutes will be in effect during the remaining weekday hours of operation and on weekends and holidays.

***Phase 2 to Century City***

Under Phase 2, the LPA will operate to the Century City Station (either Santa Monica or Constellation option). With Phase 2 of the LPA, the more extensive subway service will result in less demand for bus service. Since higher subway ridership demand will occur under the Century City Constellation option, bus ridership will be less than under the Century City Santa Monica option. Factors contributing to ridership shifts from buses to rail under Phase 1 include highly frequent service similar to what will be provided in Phase 3: peak-period headways of 4 minutes will be in effect during weekday non-holidays from 6:00 a.m. to 9:00 a.m. and from 3:00 p.m. to 7:00 p.m. Off-peak headways of 10 minutes will be in effect during the remaining weekday hours of operation and on weekends and holidays

***Phase 3 to Westwood/VA Hospital***

Under Phase 3, the LPA will be opened in its entirety to the Westwood/VA Hospital Station. With Phase 3 of the LPA, ridership on Westside bus routes will be less than that for the No Build Alternative, as well as for Phase 1 and Phase 2 of the LPA. This reduced bus rider demand reflects the further extension of subway service beyond Century City to the Westwood/VA Hospital Station.



## **Expandability**

### **No Build Alternative**

Any expansion of transit capacity under the No Build Alternative would primarily involve bus services and facilities. This expansion, through added bus frequencies, extended service coverage, or earlier/later service periods, would occur in mostly mixed traffic conditions.

### **Locally Preferred Alternative**

The LPA could either be constructed as a single phase under the Concurrent Construction Scenario or as three consecutive phases under the Phased Construction Scenario. The opening of the LPA as a single phase or in three sequential phases will not result in substantially different impacts regarding expansion of transit capacity during operation of the LPA.

### ***America Fast Forward (30/10) Scenario (Concurrent Construction)***

With the LPA, expandability will involve added train consists (cars per train) and added frequency of train service. In addition, HRT service could be extended farther west in the study corridor in the future. Any approach to expanded service for the LPA will occur within exclusive fixed guideway operations. External factors, such as roadway conditions of surface streets, will not interfere with the possibility for expansion.

### ***Metro Long Range Transportation Plan Scenario (Phased Construction)***

Under the Phased Construction Scenario, expansion of transit capacity will be similar for the LPA as described above for the Concurrent Construction Scenario. The only difference between the two scenarios is the timing of when the LPA will be fully operational. Under the Phased Construction Scenario, Phase 2 and Phase 3 will be operational later than under the Concurrent Construction Scenario due to an extended construction timeline. Phase 1 of the LPA will be operational earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020.

### ***Phase 1 to Wilshire/La Cienega***

Under Phase 1, the LPA will operate to the Wilshire/La Cienega Station. The expandability of subway service under Phase 1 of the LPA will involve added train consists and increased frequencies using exclusive fixed guideway operations.

### ***Phase 2 to Century City***

Under Phase 2, the LPA will operate to the Century City Station (either Santa Monica or Constellation option). The expandability of subway service under Phase 2 of the LPA will involve added train consists and increased frequencies using exclusive fixed guideway operations.

### ***Phase 3 to Westwood/VA Hospital***

Under Phase 3, the LPA will be opened in its entirety to the Westwood/VA Hospital Station. The expandability of subway service under Phase 3 of the LPA will include added train consists and increased frequencies using exclusive fixed guideway operations. HRT service could be extended farther west beyond the Westwood/VA Hospital Station.



## **Passenger Comfort and Convenience**

### **No Build Alternative**

Under the No Build Alternative, added bus service would be provided on some bus routes. However, because of the dominance of bus service involving mixed operations with general-purpose traffic, passengers would continue to be subject to delays and long travel times to reach destinations in the Study Area. In addition, riders standing on buses would be subject to stop-and-go conditions due to the buses operating in mixed traffic.

Another measure of passenger comfort and convenience is the number of transfers a traveler must take to get from origin to destination. Riders generally consider out-of-vehicle time (i.e., the time spent waiting for a bus or train to arrive) as being more onerous than time moving in a vehicle. Under the No Build Alternative, Purple Line riders destined to locations in the Westside would continue to transfer to local buses at the Wilshire/Western Station.

### **Locally Preferred Alternative**

The LPA could either be constructed as a single phase under the Concurrent Construction Scenario or as three consecutive phases under the Phased Construction Scenario. The opening of the LPA as a single phase or in three sequential phases will not result in substantially different impacts on passenger comfort and convenience during operation of the LPA.

### ***America Fast Forward (30/10) Scenario (Concurrent Construction)***

Under the LPA, subway service will provide frequent and reliable service. This will occur regardless of the traffic conditions on streets in the Study Area. For riders who need to stand, subway service will provide increased safety compared to frequent stop-and-go travel that occurs on buses operating in mixed traffic and on sometimes uneven road surfaces. Because station platforms will be at the same level as subway vehicles, they will accommodate quick and easy boarding for all passengers, especially those in wheelchairs or with strollers.

The LPA, including all station, alignment and station entrance options still under consideration, will lead to a major reduction in transfers. Purple Line service from Downtown Los Angeles and the Wilshire Center areas will offer one-seat service to Westside destinations, thereby avoiding current transfers from Metro Rail to buses.

### ***Metro Long Range Transportation Plan Scenario (Phased Construction)***

Under the Phased Construction Scenario, improvements to passenger comfort and convenience will be similar for the LPA as described above for the Concurrent Construction Scenario. The only difference between the two scenarios is the timing of when potential improvements to passenger comfort and convenience will occur. Under the Phased Construction Scenario, the potential for improvements to passenger comfort and convenience associated with Phase 2 and Phase 3 will occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for potential improvements to passenger comfort and convenience associated with

Phase 1 of the LPA will occur earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020.

***Phase 1 to Wilshire/La Cienega***

Under Phase 1, the LPA will operate to the Wilshire/La Cienega Station. With Phase 1 of the LPA, increased passenger comfort and convenience will occur for the Purple Line extension from Wilshire/Western to Wilshire/La Cienega.

***Phase 2 to Century City***

Under Phase 2, the LPA will operate to the Century City Station (either Santa Monica or Constellation option). With Phase 2 of the LPA, increased passenger comfort and convenience will occur for the Purple Line extension from Wilshire/Western to Century City Constellation or Century City Santa Monica.

***Phase 3 to Westwood/VA Hospital***

Under Phase 3, the LPA will be opened in its entirety to the Westwood/VA Hospital Station. With Phase 3, the increased passenger comfort and convenience will occur for the Purple Line extension from Wilshire/Western to Westwood/VA Hospital North or Westwood/VA Hospital South.

**3.4.3 Mitigation Measures**

No mitigation measures will be required since impacts of the subway extension will provide transit benefits. Characteristics of the LPA, including all station, alignment, and station entrance options still under consideration for both the Concurrent Construction Scenario and the Phased Construction Scenario, will increase transit mode shares, thus reducing auto demand on the transportation system.

**3.4.4 California Environmental Quality Act Determination**

Under either the Concurrent Construction Scenario or the Phased Construction Scenario there will be a positive impact on transit; therefore no significant impacts are expected. Compared to existing and No Build conditions, either scenario will provide additional transit capacity, shorter travel times, improved reliability, and better connectivity, indicating an improved experience for all Study Area transit patrons.

**Impacts Remaining after Mitigation**

No impacts are expected for either the Concurrent Construction Scenario or the Phased Construction Scenario.

**3.5 Streets and Highways**

**3.5.1 Affected Environment/Existing Conditions**

The existing roadway system and traffic conditions in the Study Area are discussed and summarized in the following sections.

**Freeways and Arterials**

The Study Area is generally served by a mature roadway network of arterial streets and freeways, which provide options for north/south and east/west travel. Two freeways

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The Study Area includes freeways and arterials that have some of the highest traffic volumes in the Los Angeles area. Other than an added HOV Lane on I-405, no major roadway system capacity expansion is anticipated.

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traverse the Study Area. The San Diego Freeway (I-405) is just west of Westwood and UCLA and provides access to and from the north and south in the Study Area. The Santa Monica Freeway (I-10) is just outside the Study Area until it reaches the Santa Monica city limits, but it parallels major east-west arterials while providing regional freeway access from locations to the east, such as Downtown Los Angeles. Both freeways are widely recognized as some of the most congested in both the Los Angeles region and the nation, and experience high traffic volumes throughout the day, well beyond the traditional peak travel hours.

The freeway network in the Study Area is further described below.

- **I-10 Freeway (Santa Monica Freeway)**—The Santa Monica Freeway is a major east/west freeway that traverses the southern portion of the Study Area. Near the LPA alignment, the Santa Monica Freeway provides four lanes of travel in each direction, including auxiliary lanes. The ramps that lie in the Study Area include the Cloverfield Boulevard, 20th Street, Lincoln Boulevard and Centinela Avenue on- and off-ramps, the 4th/5th Street off-ramps, and the 4th Street on-ramps. Peak-hour conditions along the Santa Monica Freeway within or adjacent to the Study Area are generally congested in both directions, with a higher volume of traffic traveling west in the AM peak hours and east in the PM peak hours. In the Study Area, the average daily (weekday) traffic on the Santa Monica Freeway varies between 148,000 vehicles at the Lincoln Boulevard interchange, 192,000 vehicles at the Cloverfield Boulevard interchange, and 244,000 vehicles at the Bundy Drive interchange. At key interchanges south of the Study Area, average daily traffic varies between 260,000 vehicles at the Overland Avenue interchange, 267,000 vehicles at the Robertson Boulevard interchange, 277,000 vehicles at the La Brea Avenue interchange, and 291,000 vehicles at the Crenshaw Boulevard interchange.
- **I-405 Freeway (San Diego Freeway)**—The San Diego Freeway is a major north/south freeway that connects the San Fernando Valley to West Los Angeles, the South Bay area, and Orange County. In the Study Area, the San Diego Freeway provides five to six lanes of travel in each direction, including a southbound carpool lane and auxiliary lanes. The ramps within the Study Area include the Sunset Boulevard, Wilshire Boulevard, Santa Monica Boulevard, and Olympic/Pico Boulevard on- and off-ramps and the Montana Avenue off-ramp. Peak hour conditions along the San Diego Freeway are generally congested in both directions. Because the Study Area is jobs rich, the directional flow in the AM peak heavily favors the southbound direction north of the Study Area and the northbound direction south of the Study Area. In the Study Area, the average daily (weekday) traffic on the San Diego Freeway varies between 319,000 vehicles at the Olympic Boulevard interchange, 302,000 vehicles at the Santa Monica Boulevard interchange, 289,000 vehicles at the Wilshire Boulevard interchange, 281,000 vehicles at the Montana Avenue off-ramp, and 283,000 vehicles at the Sunset Boulevard interchange.

The Study Area contains some of the most congested streets in Los Angeles County. High population and employment densities in the Study Area have resulted in eastbound and westbound directional travel being congested during both the AM and PM peak periods. Study Area arterials serve major employment centers as well as

local and regional travel. In addition, the arterials are used as alternatives to the I-10 and I-405 freeways during non-recurrent delays resulting from accidents, breakdowns, lane closures, and other events that are outside of more typical traffic conditions for freeways.

Key east/west arterials include Hollywood, Sunset, Santa Monica (and South Santa Monica in Beverly Hills), Beverly, Wilshire, Olympic, and Pico Boulevards and Melrose Avenue. Key north/south arterials include Crenshaw, La Cienega, San Vicente, Robertson, Beverly Glen, Westwood, Sepulveda, and Lincoln Boulevards; Western, La Brea, and Fairfax Avenues; and Bundy Drive. These key arterials can be classified as one of two street types: a Major Class II Highway or a Secondary Highway. A Major Class II Highway is defined as a 104-foot right-of-way, 12-foot sidewalks, 13-foot curb lanes (off-peak parking, peak through), four full-time through lanes, and one dedicated left-turn lane/median. A Secondary Highway is defined as a 90-foot right-of-way that include 10-foot sidewalks, 19-foot curb lanes (all day parking), four full-time through lanes, and one dedicated left-turn lane/median.

### **Programmed Roadway Improvements**

The only planned roadway improvement in the Study Area is the I-405 Northbound high occupancy vehicle (HOV) lane in the Sepulveda Pass. This project will consist of a 10-mile northbound HOV lane on I-405 through Sepulveda Pass from I-10 (Santa Monica Freeway) to US 101 (Ventura Freeway). A southbound HOV lane between US 101 and Sunset Boulevard opened for service in 2002. In 2009, a southbound lane was opened south of Sunset Boulevard.

Local jurisdictions are not planning any major roadway expansion projects through 2035. Because of the level of buildout and density in the Study Area, local jurisdictions have generally determined through their policies that congestion relief improvements should focus on travel demand management along with increased ride sharing and transit usage rather than highway/arterial physical improvements, such as road widening or new roadways. In a number of cases, local communities that desire to eliminate cut-through and neighborhood traffic to support more livable downtown or commercial areas are supporting initiatives to limit roadway capacity or to slow traffic flow, leaving transit improvements as the only viable alternative to reduce traffic volumes and congestion-related delays.

In the cities on the Westside, policy-makers have taken strong positions against the wholesale widening of streets and narrowing of sidewalks to accommodate more travel lanes. Localized TSM improvements, such as additional turn lanes or signal phasing changes have been supported, but the arterial network in the Westside is essentially built out. In this highly urbanized area, the types of transportation improvements that have the support of the policy makers include intelligent transportation systems projects and livable communities programs. Future increases in travel demand will have to be accommodated by making the existing highway network work better where possible in conjunction with increased usage of transit and other (i.e., non-motorized) modes of transportation.



### Daily Traffic Volumes

Daily traffic volumes along the Study Area arterials vary by segment. The highest daily traffic volumes for the major east/west and north/south arterials are presented in Table 3-7. Among east-west arterials, Wilshire Boulevard heavily dominates with almost twice the traffic volumes of the next highest street, Santa Monica Boulevard. Sepulveda and Bundy Drive, with about 59,000 daily trips, are the major north/south streets in terms of traffic volumes.

**Table 3-7. Traffic Volumes for Key Arterial Segments in the Study Area**

Street Name	Count Location	Total Daily Volume
<b>East/West Arterials</b>		
Wilshire Boulevard	west of Veteran Avenue	122,618
Santa Monica Boulevard	east of Cotner Avenue	68,277
Sunset Boulevard	east of La Cienega Boulevard	66,043
Olympic Boulevard	west of Cotner Avenue	59,388
Pico Boulevard	west of Cotner Avenue	46,152
Hollywood Boulevard	at Laurel Canyon Boulevard	35,618 <sup>2</sup>
<b>North/South Arterials</b>		
Sepulveda Boulevard	at Pico Boulevard	59,081 <sup>1</sup>
Bundy Drive	south of Pico Boulevard	59,022
La Cienega Boulevard	south of Beverly Boulevard	48,774
La Brea Avenue	south of Beverly Boulevard	47,440
San Vicente Boulevard	east of La Cienega Boulevard	38,611
Western Avenue	south of Beverly Boulevard	38,245
Fairfax Avenue	south of Beverly Boulevard	36,724
Crenshaw Boulevard	at Olympic Boulevard	31,804 <sup>1</sup>
Beverly Glen Boulevard	at Wilshire Boulevard	20,429
Westwood Boulevard	at Holman Avenue	27,448

Source: LADOT 2009 traffic count database, unless noted.

<sup>1</sup>2007 count      <sup>2</sup>2008 count

### Study Intersections and Existing Levels-of-service

#### Location of Study Intersections

This section describes existing conditions at Study Area intersections as well as the methodology used to conduct the impact analysis. In order to represent existing conditions from a traffic operations perspective, 192 key intersections in the Study Area—at locations in close proximity to stations as well as at the convergence of congested major arterials—were identified for analysis. The intersection locations are shown on Figure 3-14. Jurisdictions affected by the Project include the Cities of Los Angeles and Beverly Hills, and the County of Los Angeles. Each jurisdiction was consulted throughout the scoping process and assisted in the selection of study intersections.

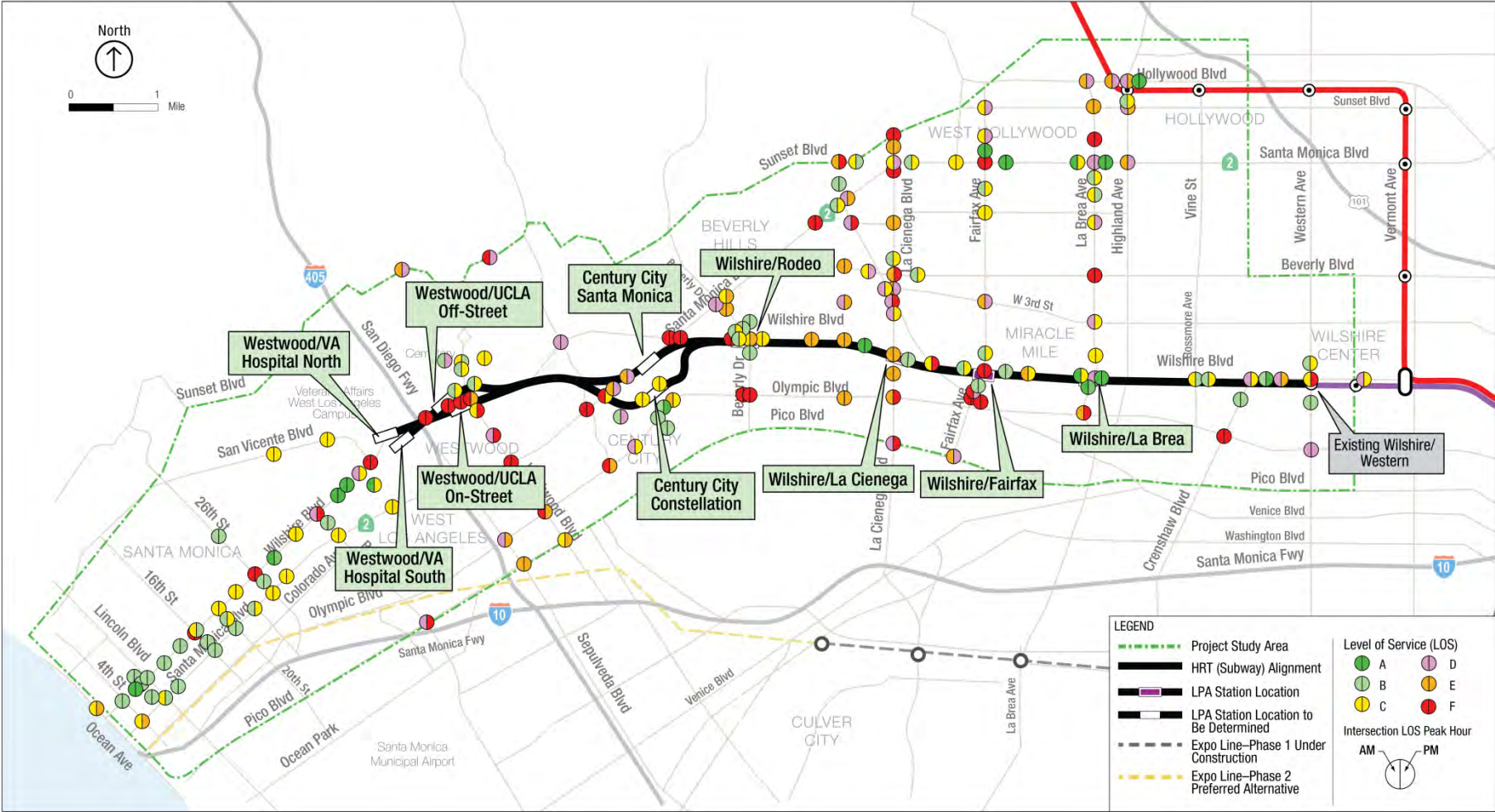


Figure 3-14. Existing Intersection Levels-of-service in Study Area



Detailed AM and PM peak-period intersection turning movement counts were conducted in April and May 2009 and February 2010 to represent existing traffic volumes on a typical weekday throughout the Study Area. For specific intersections, fall 2008 counts were obtained from the *Final Environmental Impact Report/ Environmental Assessment for the Wilshire Bus Rapid Transit Project* (Metro 2010aa). In addition to the collection of traffic data, pedestrian and bicycle activity was observed at study intersections in close proximity to station locations. Peak-period pedestrian and bicycle volumes were recorded at study intersections adjacent to and up to approximately one-quarter mile walking distance from each station location. Appendix A of the *Westside Subway Extension Transportation Impacts Technical Report* (Metro 2010a), with the *Addendum to the Westside Subway Extension Transportation Impacts Technical Report* (Metro 2011a), contains pedestrian and bicycle counts taken at the 65 study intersections that are in close proximity to station locations.

### Level-of-service at Study Intersections

The commonly accepted operational analysis methodology from the 2000 HCM (TRB 2000) was used to estimate delay and corresponding LOS at each study intersection. Using the operations analysis methodology, conditions of intersections can be graded based on average delay, measured in seconds, experienced by drivers.

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LOS D serves as the minimum acceptable standard for the Westside Subway Extension LPA. Under current conditions, most major intersections in the Study Area are operating at deficient levels of service during peak hours—LOS E and F.

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LOS is a qualitative measure used to describe the condition of traffic flow, ranging from LOS A (free flow conditions) to LOS F (congested conditions), with LOS E representing the theoretical maximum capacity of a link or intersection before gridlock occurs. Table 3-8 provides LOS definitions for signalized intersections using the HCM methodology. Weekday AM and PM peak hours were selected for analysis because they represent the most critical periods of traffic congestion in the Study Area, compared to other periods such as

weekday or weekend midday. The LOS definitions and ranges of delay shown in Table 3-8 represent average conditions for all vehicles at an intersection across an entire hour. However, during certain times within the peak hour and for certain vehicle movements, even longer delays are experienced by motorists.

Generally, the minimum acceptable LOS for any intersection in an urbanized area is LOS D. The affected Study Area jurisdictions all consider LOS D the minimum acceptable LOS. Therefore, LOS D serves as the minimum acceptable standard for the Study Area.

The analysis results of existing weekday morning and afternoon peak-hour conditions at the 192 study intersections are illustrated in Figure 3-14 and summarized in Appendix B-1 of the *Westside Subway Extension Transportation Impacts Technical Report* (Metro 2010a), with the *Addendum to the Westside Subway Extension Transportation Impacts Technical Report* (Metro 2011a). LOS calculations are provided in Appendix C-1 of the *Westside Subway Extension Traffic Impacts Analysis Report* (Metro 2010ab). Of the 192 analyzed intersections, 112 (58 percent) operate at an acceptable LOS D or better in the morning and afternoon peak hours. The remaining 80 intersections operate at



LOS E or F (deficient level-of-service) during one or both analyzed peak hours. Under current conditions, most major intersections in the Study Area operate at deficient LOS during peak hours.

**Table 3-8. Level-of-service Definitions for Signalized Intersections**

Level of Service	Control Delay (seconds/vehicle)	Interpretation <sup>1</sup>
A	≤10.0	This level-of-service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop. Short cycle lengths may also contribute to low density.
B	>10.0 and ≤20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	>20.0 and ≤35.0	These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many vehicles still pass through the intersection without stopping.
D	>35.0 and ≤55.0	At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	>55.0 and ≤80.0	These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.
F	>80.0	This level, considered unacceptable by most drivers, often occurs with oversaturation; that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume-to-capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: *Highway Capacity Manual, Transportation Research Board (TRB 2000)*.

<sup>1</sup>Level-of-service interpretation was derived from *Highway Capacity Manual 1994*, Transportation Research Board, 1994.

### 3.5.2 Environmental Impacts/Environmental Consequences

#### Regional Traffic

This section discusses impacts of the No Build Alternative and the LPA in terms of the regional transportation system. This system includes the countywide network of freeways and arterials.

The assessment of impacts also examined adverse impacts on the regional transportation system.

The LPA will reduce regional traffic volumes, including vehicle miles traveled and auto trips, as compared to the No Build Alternative.

Performance measures that were compared among the alternatives and existing conditions include both countywide and Study Area information as follows:

- Countywide—VMT, VHT, average vehicle speed (mph), AM peak vehicle trips, and PM peak vehicle trips
- Study Area—VMT, VHT, average speed (mph), AM peak VMT, AM peak VHT, AM peak average speed (mph), AM peak vehicle trips, PM peak VMT, PM peak VHT, PM peak average speed (mph), and PM peak vehicle trips

#### No Build Alternative

By 2035, the population and employment density in the Study Area will increase by 10 and 12 percent, respectively. According to the transportation demand model, this will



increase the overall delay of motorists attempting to travel within and through the Westside. Intersections currently operating at deficient levels-of-service will worsen as a result of increased vehicular traffic, few planned transportation improvements, and the lack of grade-separated transit alternatives throughout the Study Area. Table 3-9 summarizes the regional travel conditions for the 2035 No Build Alternative from the Metro Travel Demand Model.

**Locally Preferred Alternative**

The LPA could either be constructed as a single phase under the Concurrent Construction Scenario or as three consecutive phases under the Phased Construction Scenario. The opening of the LPA as a single phase or in three sequential phases will not result in substantially different impacts to regional and study area transportation performance, reduction in peak-period auto trips, and transit mode share changes as discussed below.

***Regional and Study Area Transportation Performance***

Projected changes to future conditions as a result of the LPA are shown in Table 3-9. Information presented in this table includes results for the Concurrent Construction Scenario and the Phased Construction Scenario. Further information on impacts under each scenario is discussed in the following sections.

***America Fast Forward (30/10) Scenario (Concurrent Construction)***

Under the Concurrent Construction Scenario, the LPA will be operational in its entirety to Westwood/VA Hospital in 2022. Information for existing regional travel conditions, existing plus LPA conditions, future conditions, and projected changes to future conditions resulting from the LPA are summarized in Table 3-9. This information is from the Metro Travel Demand Model and addresses Los Angeles County and the Study Area. Compared to the existing and 2035 No Build Alternative, the LPA will not result in major changes in countywide or Study Area performance measures. The data suggest that the LPA will have a beneficial effect on the regional transportation network by reducing VMT, VHT, and peak-hour trips. These benefits would occur in comparing existing plus LPA conditions to existing conditions without the LPA, as well as 2035 with LPA conditions to 2035 No Build conditions. The information that is presented includes the Santa Monica and Constellation options in Century City. In comparing the station location options in Century City, the Constellation option would result in additional beneficial effects as compared to the station on Santa Monica option (e.g., reduced VMT).

The relative changes in performance measures resulting from the LPA reflect travel information at the county level. However, the characteristics under the LPA will affect only one corridor in a large multi-corridor, county-wide system. Accordingly, relative variations in performance measures will not be extensive among the alternatives. As discussed in the following section, absolute changes involving key measures such as auto trips are more significant.

**Table 3-9. Performance Measures for Existing Conditions and Alternatives**

Measure	Existing Conditions	Existing Conditions with LPA	2035 No Build	Concurrent Construction Scenario		Phased Construction Scenario				
				2035 LPA		2035 with LPA Phase 1	2035 with LPA Phase 2		2035 with LPA Phase 3	
				Santa Monica	Constellation		Santa Monica	Constellation	Santa Monica	Constellation
<b>Regional</b>										
Daily VMT	354,994,812	354,718,551	532,661,000	532,343,000	532,080,000	532,447,000	532,514,000	532,267,000	532,343,000	532,080,000
Daily VHT	12,019,676	11,987,202	33,806,400	33,779,100	33,731,900	33,791,300	33,801,500	33,753,000	33,779,100	33,731,900
Average vehicle speed (mph)	29.5	29.6	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
<b>Study Area</b>										
Daily VMT	4,347,858	4,310,748	5,185,000	5,156,000	5,152,000	5,178,000	5,172,000	5,166,000	5,156,000	5,152,000
Daily VHT	199,187	195,920	264,400	260,500	259,300	263,100	262,500	261,000	260,500	259,300
Average Speed (mph)	21.8	22.0	19.6	19.8	19.9	19.7	19.7	19.8	19.8	19.9
AM Peak VMT	998,434	988,574	1,186,000	1,178,000	1,178,000	1,185,000	1,183,000	1,180,000	1,178,000	1,178,000
AM Peak VHT	53,817	52,482	71,300	70,000	69,600	71,100	70,600	70,200	70,000	69,600
AM Peak Average Speed (mph)	18.6	18.8	16.6	16.8	16.9	16.7	16.8	16.8	16.8	16.9
AM Peak Vehicle Trips	262,589	259,409	281,800	278,900	278,600	280,500	279,800	279,700	278,900	278,600
PM Peak VMT	1,445,516	1,435,407	1,753,000	1,743,000	1,740,000	1,749,000	1,749,000	1,745,000	1,743,000	1,740,000
PM Peak VHT	81,788	80,630	117,800	115,600	115,000	117,100	117,000	116,100	115,600	115,000
PM Peak Average Speed (mph)	17.7	17.8	14.9	15.1	15.1	14.9	14.9	15.0	15.1	15.1
PM Peak Vehicle Trips	446,760	443,115	480,400	477,157	476,700	478,900	478,100	477,900	477,157	476,700

VMT = vehicle miles traveled      VHT = vehicle hours traveled      mph = miles per hour



By 2035, significant increases in travel are expected and no major new highways or arterial widenings are planned. Without the subway extension, traffic congestion will be worse in the future. The LPA will provide significant new capacity to accommodate increases in travel demand but it will not, by itself, be sufficient to significantly reduce surface traffic congestion on the Westside.

**Metro Long Range Transportation Plan Scenario (Phased Construction)**

Under the Phased Construction Scenario, the LPA will be constructed in three sequential phases with each individual phase operational upon completion of construction. This will result in variations in regional and study area travel, including reductions in VMT, VHT, and vehicle trips as compared to the 2035 No Build Alternative.

**Phase 1 to La Cienega**

Under Phase 1, the LPA will operate to the Wilshire/La Cienega Station. Phase 1 of the LPA, as shown in Table 3-9, will have benefits regionwide and in the Study Area. As compared to the 2035 No Build Alternative, reductions in VMT, VHT, and vehicles trips will occur during the AM and PM peak periods.

**Phase 2 to Century City**

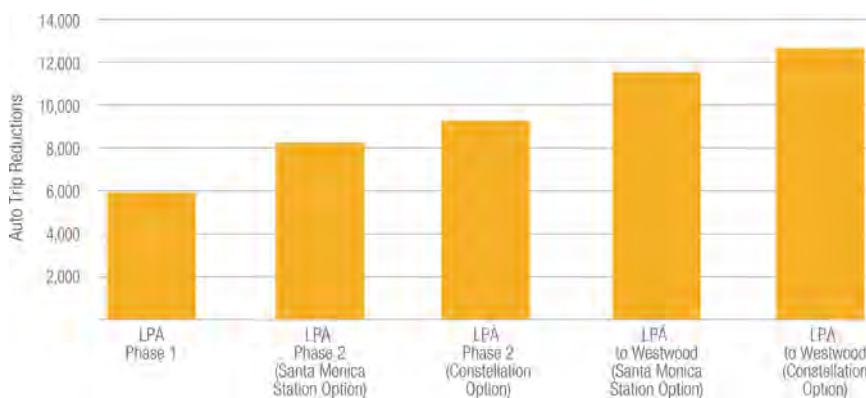
Under Phase 2, the LPA will operate to the Century City Station (either Santa Monica or Constellation option). Phase 2 of the LPA, as shown in Table 3-9, will have benefits regionwide and in the Study Area. As compared to the 2035 No Build Alternative, reductions in VMT, VHT, and vehicle trips will occur during the AM and PM peak periods. The performance information also indicates that Phase 2 with the Century City Constellation option will result in greater benefits as compared to the Century City Santa Monica option.

**Phase 3 to Westwood/VA Hospital**

Under Phase 3, the LPA will be opened in its entirety to the Westwood/VA Hospital Station. Phase 3 of the LPA, as shown in Table 3-9, will have similar regional and subarea transportation performance as the LPA under the Concurrent Construction Scenario, but at a later date.

**Reduction in Peak Period Auto Trips**

**America Fast Forward (30/10) Scenario (Concurrent Construction)**



**Figure 3-15. Reduction in Auto Trips under LPA during Seven-hour Peak Period**

Under the Concurrent Construction Scenario, the LPA will be operational in its entirety to Westwood/VA Hospital in 2022. The following sections describe peak-period auto travel under the Concurrent Construction Scenario. With the LPA, some reductions in county-wide traffic will occur as reflected in VMT, VHT, and AM/PM vehicle trips. A more detailed

examination of model results for 2035 provides further insight relating to impacts of the LPA, specifically in terms of reduced auto trips during the seven-hour peak period. The amount of reduced auto trips under the LPA for the seven-hour peak period is shown in Figure 3-15. With the LPA, approximately 12,000 auto trips occurring in the seven-hour peak period will be reduced. These represent trips that would have taken place under the No Build Alternative but will instead be shifted to transit under the LPA. For the Century City Station, there will be a higher reduction in auto trips under the Constellation option as compared to the Santa Monica option. The Constellation option is the recommended location for the Century City Station, in part due to this higher reduction in auto trips (Chapter 7, Evaluation of Alternatives).

The effects of the LPA can also be shown by changes in the estimated transit mode share affecting the Study Area as compared to No Build Alternative. The Metro Travel Demand Model provides information on 2035 transit mode shares during peak periods for travel pairs within Los Angeles County. These travel pairs involve origins located in the vicinity of existing rail stations in the region while the destinations are in the Study Area. In comparison to the changes in county-wide performance measures, the transit mode share information presented below reflects characteristics of the alternatives (for example, travel time) that will more directly affect regional transit connections to the Study Area.

### ***Metro Long Range Transportation Plan Scenario (Phased Construction)***

Under the Phased Construction Scenario, reductions in peak-period auto trips will be similar for the LPA as under the Concurrent Construction Scenario. The only difference between the two scenarios is the timing of when potential reductions in peak-period auto trips would occur. Under the Phased Construction Scenario, the potential for reductions in peak-period auto trips associated with Phase 2 and Phase 3 will occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for potential reductions in peak-period auto trips associated with Phase 1 of the LPA will occur earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020.

#### *Phase 1 to La Cienga*

Under Phase 1, the LPA will operate to the Wilshire/La Cienega Station. Phase 1 of the LPA will have benefits region-wide and in the Study Area, as shown in Figure 3-15. As compared to the 2035 No Build Alternative, approximately 6,000 auto trips will be reduced during the seven-hour peak period.

#### *Phase 2 to Century City*

Under Phase 2, the LPA will operate to the Century City Station (either Santa Monica or Constellation option). Phase 2 of the LPA will have benefits in terms of reduced auto trips in the peak period as shown in Figure 3-15. Approximately 8,000 trips will be reduced as compared to the No Build Alternative. In comparing the two options for the Century City Station, greater reductions in auto trips will occur under the Century City Constellation option.



*Phase 3 to Westwood/VA Hospital*

Under Phase 3, the LPA will be opened in its entirety to the Westwood/VA Hospital Station. Phase 3 of the LPA, as shown in Figure 3-15, will have similar peak-period trip reductions as the LPA under the Concurrent Construction Scenario, but at a later date.

**Transit Mode Share Changes**

***America Fast Forward (30/10) Scenario (Concurrent Construction)***

The following sections summarize estimated changes in transit mode shares during AM and PM peak periods for selected travel pairs between the No Build Alternative and the LPA. The increases in transit mode shares under each travel pair represent a beneficial effect since a higher share for transit indicates less general traffic that is impacting the regional transportation system.

*Pasadena (Del Mar Gold Line Station) to Century City*

- No Build Alternative: 18 percent
- LPA: 22 percent

*South Los Angeles (Florence Blue Line Station) to Westwood/UCLA*

- No Build Alternative: 19 percent
- LPA: 23 percent

*Wilshire Center (Wilshire/Western Purple Line Station) to Westwood/UCLA*

- No Build Alternative: 26 percent
- LPA: 34 percent

***Metro Long Range Transportation Plan Scenario (Phased Construction)***

Under the Phased Construction Scenario, increases in transit mode shares as compared to the No Build Alternative will be similar for the LPA as under the Concurrent Construction Scenario. The only difference between the two scenarios is the timing of when potential increases in transit mode shares would occur. Under the Phased Construction Scenario, the potential for increases in transit mode shares associated with Phase 2 and Phase 3 will occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for potential increases in transit mode shares associated with Phase 1 of the LPA will occur earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020.

*Phase 1 to Wilshire/La Cienega*

Under Phase 1, the LPA will operate to the Wilshire/La Cienega Station. Phase 1 of the LPA will involve adding three stations to the Purple Line: Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega. This extension will likely increase transit mode shares between key origins in Los Angeles County and these Westside locations.

*Phase 2 to Century City*

Under Phase 2, the LPA will operate to the Century City Station (either Santa Monica or Constellation option). With Phase 2 of the LPA, mode share changes will occur consistent with what was identified for the Concurrent Construction Scenario above. For travel from Pasadena to Century City, transit mode shares will increase from 18 percent to 22 percent. Given higher levels of auto trip reductions under the Century City Constellation option as compared to the Century City Santa Monica option, transit mode shares will likely be higher with the Century City Constellation option.

*Phase 3 to Westwood/VA Hospital*

Under Phase 3, the LPA will be opened in its entirety to the Westwood/VA Hospital Station. With Phase 3 of the LPA, increases in transit mode share will be similar to the LPA under the Concurrent Construction Scenario, but will occur at a later date.

**Intersection Analysis**

A modified LPA study area was developed for intersection analysis for 126 study intersections within one mile of LPA station locations. Intersections in the Study Area have been analyzed by applying the operational analysis methodology from the HCM (TRB 2000). For existing (year 2010) and future (year 2035) conditions, level-of-service at each study intersection was developed with the Westside Subway Extension in place.

For each existing and future conditions scenario (existing, existing with LPA, 2035 No Build, 2035 with LPA, and the two implementation phases), Table 3-10 details level-of-service by category for the 126 study intersections. The instances of level-of-service conditions are shown for each scenario for AM and PM peak hours.

**Table 3-10. Intersection Level-of-service Analysis—Number of Locations at Specified LOS Conditions**

Intersection Level-of-service	Existing		Existing with LPA		2035 No Build		Concurrent Construction Scenario		Phased Construction Scenario <sup>1</sup>					
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	2035 with LPA		2035 with LPA/Phase 1		2035 with LPA/Phase 2		2035 with LPA/Phase 3	
							AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
F	25	28	25	26	82	87	75	81	24	27	48	49	75	81
E	18	18	12	18	7	8	14	12	8	5	11	10	14	12
A-D	83	80	89	82	37	31	37	33	21	21	24	24	37	33

<sup>1</sup>The number of intersections at specific LOS conditions will be the same under the Phased Construction Scenario and the Concurrent Construction Scenario.

**No Build Alternative**

Under the No Build Alternative, 37 of the 126 analyzed intersections (29 percent) will operate at an acceptable LOS D or better in the AM peak hour. The remaining 89 intersections (71 percent) will operate at LOS E or F (deficient LOS) during the AM peak hour. Thirty-one of the 126 analyzed intersections (25 percent) will operate at an acceptable LOS D or better in the PM peak hour. The remaining 95 intersections (75 percent) will operate at LOS E or F (deficient LOS) during the PM peak hour.

**Locally Preferred Alternative**

The LPA could either be constructed as a single phase under the Concurrent Construction Scenario or as three consecutive phases under the Phased Construction Scenario. For 2035 with LPA conditions under both the Concurrent Construction Scenario and the Phased Construction Scenario, benefits will occur in the form of reduced auto trips and resulting LOS improvements, as shown in Table 3-10.

**America Fast Forward (30/10) Scenario (Concurrent Construction)**

This section discusses intersection impacts resulting from the LPA under the Concurrent Construction Scenario for the LPA with 2035 conditions and LOS improvements. Following these sections, information is presented on impacts under the Phased Construction Scenario for the LPA with 2035 conditions and LOS improvements.

**2035 with LPA Level-of-service Analysis**

Under 2035 with LPA conditions, 37 of the 126 analyzed intersections (29 percent) will operate at an acceptable LOS D or better in the AM peak hour. The remaining 89 intersections (71 percent) will operate at LOS E or F (deficient LOS) during the AM peak hour. Thirty three of the 126 analyzed intersections (26 percent) will operate at an acceptable LOS D or better in the PM peak hour. The remaining 93 intersections (74 percent) will operate at LOS E or F (deficient LOS) during the PM peak hour. By 2035, the majority of study intersections will operate under congested conditions (LOS F) during peak hours both with and without the LPA. In Section 3.7, LOS information for 2035 with the LPA is shown in figures describing station area access characteristics.

**LPA Level-of-service Improvements**

Table 3-11 summarizes estimated changes in peak-hour intersection level-of-service (e.g., LOS E to LOS D) associated with the LPA compared to existing and future conditions. In the future (year 2035), the LPA is expected to improve level-of-service at 12 locations in the AM peak hour and at 8 locations in the PM peak hour. This is the result of the LPA producing a reduction in Study Area traffic as choice riders shift modes from automobile to transit.

**Table 3-11. Number of Locations with Intersection Level-of-service Improvement—with LPA**

Level-of-Service Improvement	Existing with LPA		Concurrent Construction Scenario		Phased Construction Scenario					
			2035 with LPA		2035 with LPA/Phase 1		2035 with LPA/Phase 2		2035 with LPA/Phase 3	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
F to E	1	2	7	4	3	1	6	4	7	4
E to D	6	4	0	2	1	1	0	1	0	2
D to C	1	3	4	1	1	4	4	1	4	1
C to B	0	4	1	0	1	0	0	0	1	0
B to A	1	0	0	1	0	0	0	1	0	1
<b>Total</b>	<b>9</b>	<b>13</b>	<b>12</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>10</b>	<b>7</b>	<b>12</b>	<b>8</b>

**Metro Long Range Transportation Plan Scenario (Phased Construction)**

Under the Phased Construction Scenario, benefits will occur in the form of reduced auto trips and resulting LOS improvements similar for the LPA under the Concurrent Construction Scenario. The only difference between the two scenarios is the timing of when potential LOS improvements would occur. Under the Phased Construction Scenario, the potential for LOS improvements associated with Phase 2 and Phase 3 will



occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for potential LOS improvements associated with Phase 1 of the LPA will occur earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020.

**2035 with LPA Level-of-Service Analysis**

*Phase 1 to La Cienega*

Under 2035 with Phase 1 LPA conditions, 21 of the 53 analyzed intersections (40 percent) will operate at an acceptable LOS D or better in the AM peak hour. The remaining 32 intersections (60 percent) will operate at LOS E or F (deficient LOS) during the AM peak hour. Twenty-one of the 53 Phase 1 analyzed intersections (40 percent) will operate at an acceptable LOS D or better in the PM peak hour. The remaining 32 intersections (60 percent) will operate at LOS E or F (deficient LOS) during the PM peak hour. By 2035, the majority of study intersections will operate under congested conditions (LOS F) during peak hours both with and without the LPA.

*Phase 2 to Century City*

Under 2035 with Phase 2 LPA conditions, 24 of the 83 analyzed intersections (29 percent) will operate at an acceptable LOS D or better in the AM peak hour. The remaining 59 intersections (71 percent) will operate at LOS E or F (deficient LOS) during the AM peak hour. Twenty-four of the 83 Phase 2 analyzed intersections (29 percent) will operate at an acceptable LOS D or better in the PM peak hour. The remaining 59 intersections (71 percent) will operate at LOS E or F (deficient LOS) during the PM peak hour. By 2035, the majority of study intersections will operate under congested conditions (LOS F) during peak hours both with and without the LPA.

*Phase 3 to Westwood/VA Hospital*

Under 2035 with Phase 3 LPA conditions, 37 of the 126 analyzed intersections (29 percent) will operate at an acceptable LOS D or better in the AM peak hour. The remaining 89 intersections (71 percent) will operate at LOS E or F (deficient LOS) during the AM peak hour. Thirty-three of the 126 analyzed Phase 3 intersections (26 percent) will operate at an acceptable LOS D or better in the PM peak hour. The remaining 93 intersections (74 percent) will operate at LOS E or F (deficient LOS) during the PM peak hour. By 2035, the majority of study intersections will operate under congested conditions (LOS F) during peak hours both with and without the LPA.

**LPA Level-of-service Improvements**

*Phase 1 to La Cienega*

Under Phase 1, the LPA will operate to the Wilshire/La Cienega Station. With Phase 1, six locations will undergo some LOS improvement in both the AM and PM peak periods.

*Phase 2 to Century City*

Under Phase 2, the LPA will operate to the Century City Station (either Santa Monica or Constellation option). With Phase 2, reductions in auto trips and resulting LOS improvements will result in several locations undergoing improved conditions as compared to the No Build Alternative. Conditions will be improved at 10 locations in the AM peak period and at 7 locations in the PM peak period.



For the Santa Monica and Constellation options at Century City, the extent of LOS-related improvements is expected to be similar for both the Concurrent Construction Scenario and the Phased Construction Scenario. Since the options are relatively close to each other, turning movement volumes and other traffic conditions affecting LOS at intersections are not expected to vary in a major way.

*Phase 3 to Westwood VA/Hospital*

Under Phase 3, the LPA will be opened in its entirety to the Westwood/VA Hospital Station. With Phase 3, improved LOS conditions will occur at 12 locations in the AM peak period and 8 locations in the PM peak period.

**Traffic Impacts due to Parking Spillover**

***America Fast Forward (30/10) Scenario (Concurrent Construction)***

The parking impact assessment for the LPA considered the potential for parking spillover to occur in residential neighborhoods surrounding station locations (Section 3.6.2). Without park-and-ride facilities, parking demand will be reduced, as more riders are picked-up or dropped-off, walk, bike, or take a bus to access the subway. However, some riders with access to automobiles could still seek available unrestricted parking on neighborhood streets within one-half mile of stations. The number of riders who elect to park in station areas that contain unrestricted parking could be significant given the travel time, convenience, and reliability of grade-separated rail service to major employment areas. This contrasts with less reliable and congested traffic conditions in the Study Area along with parking charges at the destination end of the commute trip.

As identified in Section 3.6, the parking assessment evaluated impacts related to spillover and recommended feasible mitigation measures. These measures include the creation of residential permit parking districts to prevent parking spillover and reduce impacts to below significant levels.

With parking mitigation measures in place, LPA-related peak-hour traffic entering neighborhoods will be nominal and no impacts are expected to occur.

***Metro Long Range Transportation Plan Scenario (Phased Construction)***

Under the Phased Construction Scenario, the potential for traffic impacts due to parking spillover will be similar for the LPA as under the Concurrent Construction Scenario. The only difference between the two scenarios is the timing of when the potential for these impacts would occur. Under the Phased Construction Scenario, the potential for traffic impacts due to spillover parking associated with Phase 2 and Phase 3 will occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for potential traffic impacts due to spillover parking associated with Phase 1 of the LPA will occur earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020.

***Phase 1 to Wilshire/La Cienega***

Under Phase 1, the LPA will operate to the Wilshire/La Cienega Station. Spillover parking impacts associated with Phase 1 are discussed in below in Section 3.6. With parking mitigation measures in place, Phase 1-related peak-hour traffic entering neighborhoods will be nominal and no impacts are expected to occur.

***Phase 2 to Century City***

Under Phase 2, the LPA will operate to the Century City Station (either Santa Monica or Constellation option). Spillover parking impacts associated with Phase 2 are discussed in below in Section 3.6. With parking mitigation measures in place, Phase 2-related peak-hour traffic entering neighborhoods will be nominal and no impacts are expected to occur.

***Phase 3 to Westwood/VA Hospital***

Under Phase 3, the LPA will be opened in its entirety to the Westwood/VA Hospital Station. Spillover parking impacts associated with Phase 3 are discussed in below in Section 3.6. With parking mitigation measures in place, Phase 3-related peak-hour traffic entering neighborhoods will be nominal and no impacts are expected to occur.

**3.5.3 Mitigation Measures**

The LPA, including all station, alignment, and station entrance options still under consideration for both the Concurrent Construction Scenario and the Phased Construction Scenario, is expected to produce a minor reduction in Study Area traffic as choice riders shift modes from automobile to transit when compared to existing or No Build conditions. Therefore, for all station entrance options of the LPA that will not affect public right-of-way nor have features that will affect traffic operations, mitigation measures are not required. However, this is not the case for a station entrance option at the Wilshire/Rodeo Station.

No feasible mitigation measure was identified for the impact at Wilshire Boulevard and Beverly Drive with the Bank of America station entrance option. The intersection is fully built-out indicating that physical mitigation would not be possible without taking public property or public right-of-way. The left-turn approaches on Wilshire Boulevard are currently phased as protected-permitted and no left turns are permitted from southbound Beverly Drive indicating that signal phasing modifications would not mitigate the impact. At this location, only maintaining the existing southbound lane configuration would avoid the impact.

The impact at Wilshire Boulevard and Beverly Drive with the Bank of America station entrance option would be significant and unavoidable.

**3.5.4 California Environmental Quality Act Determination**

Intersection levels-of-service was analyzed to determine baseline operating conditions in the Study Area under existing conditions. These existing level-of-service conditions were compared to the existing conditions with the LPA, under either the Concurrent Construction Scenario or the Phased Construction Scenario, to evaluate significance under CEQA on the surrounding street system. The net change in delay at intersections in the Study Area is compared to thresholds of significance for determination of impacts. The criteria used to measure a significant impact are defined in Table 3-12.

Table 3-10 details level-of-service by category for the 126 study intersections for each existing conditions scenario (two implementation phases). The instances of level-of-service conditions are shown for each scenario for AM and PM peak hours.



**Table 3-12. Westside Subway Extension Traffic Impact Criteria**

Definition	Criteria
The intersection level-of-service analysis assumes that an intersection would be significantly impacted (CEQA)/adversely affected (NEPA) by traffic volume changes if a Project alternative causes an increase in average vehicle delay according to the criteria thresholds.	Final LOS C—a significant/adverse impact has occurred if the delay is increased by 10 or more seconds
	Final LOS D—a significant/adverse impact has occurred if the delay is increased by 7.5 or more seconds
	Final LOS E/F—a significant/adverse impact has occurred if the delay is increased by 5 or more seconds

Under existing with LPA conditions, 89 of the 126 analyzed intersections (71 percent) will operate at an acceptable LOS D or better in the AM peak hour. The remaining 37 intersections (29 percent) will operate at LOS E or F (deficient LOS) during the AM peak hour. Eighty-two of the 126 analyzed intersections (65 percent) will operate at an acceptable LOS D or better in the PM peak hour. The remaining 44 intersections (35 percent) will operate at LOS E or F (deficient LOS) during the PM peak hour.

Table 3-11 summarizes estimated changes in peak-hour intersection level-of-service (e.g., LOS E to LOS D) associated with the LPA compared to existing conditions. The LPA is expected to improve the existing traffic conditions; it will improve level-of-service at 9 locations in the AM peak hour and 13 locations in the PM peak hour.

Using the criteria in Table 3-12, the intersection level-of-service results indicate that the LPA, under either the Concurrent Construction Scenario or the Phased Construction Scenario, will not impact any analyzed location in the Study Area as compared to existing No Build Alternative conditions for any station entrance option that would not occur on public right-of-way nor have features that would affect traffic operations.

A supplemental impact assessment was conducted at localized intersections for station entrance options that would occur on public right-of-way or have features that would affect traffic operations, which could result in significant impacts on traffic. One station entrance option (at the Wilshire/Rodeo Station) meets these criteria.

Three station entrance options are under consideration for the Wilshire/Rodeo Station:

- The southwest corner of Wilshire Boulevard and Reeves Drive at the current Ace Gallery
- The southeast corner of Wilshire Boulevard and El Camino Drive at the Union Bank Building
- The northwest corner of Wilshire Boulevard and Beverly Drive at the Bank of America Building

The Bank of America station entrance option would place two half portals, meaning up and down escalators with separated access points, end-to-end along Beverly Drive at the northwest corner of Wilshire Boulevard and Beverly Drive. This station entrance option would require the following modifications to Beverly Drive between Dayton Way and Wilshire Boulevard:

- Widening of the sidewalk on the western side to 15 feet
- Removal of the southbound right-turn lane

- Removal of three metered parking spaces and one loading zone space on the western (southbound travel direction) side
- Removal of up to 13 metered parking spaces on the eastern side (northbound travel direction) side
- Removal of the mid-block curb extension on the eastern side
- Removal of the mid-block northbound and southbound left-turn pockets that serve commercial development

A supplementary traffic impact analysis, *Westside Subway Extension Wilshire/Rodeo Station Bank of America Portal Traffic Impact Analysis Report* (Metro 2011ak), was conducted to assess the localized impacts resulting from reduced southbound capacity of Beverly Drive. In addition to Wilshire Boulevard and Beverly Drive being assessed for impacts, 16 intersections (comprising of those within the Wilshire/Rodeo Station area) were assessed for impacts due to the potential for a traffic shift to occur when lane capacity is reduced. Table 3-13 summarizes the estimated traffic-related impacts using the aforementioned criteria. The information is presented for the LPA under the Concurrent Construction Scenario and only applies to Phase 2 of the LPA under the Phased Construction Scenario.

**Table 3-13. LPA Impact Assessment with Bank of America Station Entrance at Wilshire/Rodeo Station**

Traffic Scenario	AM Peak Hour Impacts	PM Peak Hour Impacts
Existing with LPA	None	None
Future (2035) with LPA	Yes Wilshire Boulevard and Beverly Drive	Yes Wilshire Boulevard and Beverly Drive

The results indicate that the LPA, under either the Concurrent Construction Scenario or the Phased Construction Scenario with the Bank of America station entrance option at the Wilshire/Rodeo Station, would result in a significant impact at the intersection of Wilshire Boulevard and Beverly Drive under future conditions. Average intersection delay would increase 25 seconds in the AM peak hour and 50 seconds in the PM peak hour. Approach delay in the southbound direction would increase by 147 seconds in the AM peak hour and 281 seconds in the PM peak hour. The analysis found that no other Study Area intersections would be impacted. The recommended location for the Wilshire/Rodeo Station entrance is on the southwest corner of Wilshire Boulevard and Reeves Drive, which would not result in any traffic impacts and would avoid all traffic impacts associated with the Bank of America Station entrance.

For other LPA stations, under either the Concurrent Construction Scenario or the Phased Construction Scenario, no entrance options will be constructed on public right-of-way or will have features that affect traffic operations. Accordingly, no further localized traffic impact analysis is required beyond what was carried out for the Wilshire/Rodeo Station.

### 3.6 Parking

#### 3.6.1 Affected Environment/Existing Conditions

A parking inventory in areas with potential future rail stations indicated available capacity for accommodating some spillover parking that could be generated by the LPA.

While none of the stations will have dedicated park-and-ride facilities, there could still be demand for park-and-ride spaces at some stations. Accordingly, a parking occupancy survey was conducted for on-street locations with unrestricted parking. Unrestricted on-street parking spaces are those that are not metered nor have restrictions on use by time of day or day of week (with the exception of street sweeping). The purpose of the survey was to determine existing parking use at these unrestricted locations during the peak period and to identify whether sufficient vacant parking spaces are available to accommodate spillover parking. The review of parking availability also included off-street commercial area parking. The results of this review are presented in the following sections.

#### On-street Parking

Table 3-14 describes the results of the parking occupancy survey at unrestricted on-street locations. Also shown are the affected station areas for each phase of the LPA under the Phased Construction Scenario. In general, the majority of unrestricted spaces within one-half mile of each station were occupied, with most station locations exhibiting occupancy rates in the range of 70 to 100 percent as a result of multifamily residential land uses. The one-half mile radius represents a distance threshold for riders walking to rail stations. Research has shown a willingness to walk up to one-half mile to rail stations (TRB 2003). For walking beyond this distance, the propensity to use transit declines in a major way.

**Table 3-14. Parking Occupancy—Unrestricted On-street Spaces within One-half Mile of Stations**

Phase	Station	Parked Vehicles <sup>1</sup>	Vacant Spaces	Total Unrestricted Supply	Occupancy %
Phase 1	Wilshire/La Brea	408	120	528	77%
	Wilshire/Fairfax	128	18	134	96%
	Wilshire/La Cienega	215	35	250	86%
Phase 2	Wilshire/Rodeo <sup>2</sup>	0	0	0	0
	Century City Constellation <sup>2</sup>	0	0	0	0
	Century City Santa Monica <sup>2</sup>	0	0	0	0
Phase 3	Westwood/UCLA Off-Street	353	3	356	99%
	Westwood/UCLA On-Street	366	10	376	97%
	Westwood/VA Hospital South	16	2	18	89%
	Westwood/VA Hospital North	128	9	137	93%

Source: Fehr & Peers, February 2010

<sup>1</sup>Data derived from weekday morning peak period (7:00 to 10:00 AM) occupancy surveys conducted within one-half mile walking distance of LPA stations. Results represent highest occupancy during the surveyed period.

<sup>2</sup>No unrestricted spaces are located within one-half mile of these station locations.

### Off-street Parking

For station areas included in the LPA under either the Concurrent Construction Scenario or the Phased Construction Scenario, an inventory and analysis of land use and associated parking capacity was conducted. Results are included in the *Westside Subway Extension Updated Off-Street Parking Analysis Memorandum* (Metro 2011ah). For this analysis, a data source for land use and supply of off-street parking was obtained. The database maintains the rentable building area and the number of off-street parking spaces provided at each property.

While parking is available on streets within a one-half mile walking distance of most station areas, a substantial amount of off-street parking is also provided at the commercial land uses within walking distance to each station. Parking facilities provided for these land uses may or may not be accessible to the public, and may or may not operate at or near capacity under existing conditions. However, because of the extensive supply of parking within these land uses, there is the possibility for shared parking opportunities, enabling Westside Subway Extension riders to use already-built parking facilities.

The Final EIS/EIR updates the off-street parking analysis conducted in the Draft EIS/EIR and uses an improved data source for station-area land use and supply of off-street parking. Grubb & Ellis maintains a detailed real estate database, Grubb & Ellis/Costar, for nearly every office and retail property in Los Angeles. The database maintains the rentable building area and the number of off-street parking spaces provided at each property. These data more accurately account for the actual active land use in the station areas (whereas the parcel data previously used include non-active uses of properties such as parking garages, storage areas, etc.), as well as the actual number of off-street parking spaces provided at properties. These data were not available at the time the Draft EIS/EIR was prepared, so the off-street parking supply needed to be estimated based on parcel data and parking code requirements.

While most developments provide off-street spaces, some of the older or smaller ones do not. They may have been constructed before off-street parking requirements were added to municipal codes or developers have paid in-lieu fees to a shared parking district rather than provide off-street parking at the development site.

Because they are not included in the Grubb & Ellis/Costar data, the number of parking spaces at hotels and institutions, such as the VA Hospital, the Los Angeles County Museum of Art, and the Federal Building, were counted either with aerial photographs or by contacting parking facility operators. Operators of municipal parking facilities, and private garages open to the public, were also contacted to determine the number of parking spaces in those facilities.

The combination of parking supply data for commercial buildings, hotels, specialized institutions, municipal parking facilities, and private garages provides a refined representation of all non-residential off-street parking within a one-half mile walking distance of station entrances. As shown in Table 3-15, the Century City Station options, followed by the Wilshire/Rodeo Station, have the most off-street spaces within a one-half mile walking distance of the station. The fewest spaces are available within one-

half mile of the Wilshire/La Brea Station since it has less development and much of the development that does exist is older with fewer or no off-street parking spaces provided. Table 3-15 also shows the affected station areas for each phase of the LPA under the Phased Construction Scenario.

In total, within a one-half mile walking distance of the stations, there are approximately 103,430 to 106,170 off-street spaces, depending on which station options for Century City and Westwood/UCLA are selected.

**Table 3-15. Station Area Off-street Parking Supply within One-half Mile of Primary Station Entrance**

Phase	Station	Retail (spaces)	Office (spaces)	Hotel (spaces)	Food Services (spaces)	Publicly Accessible Parking Facilities (spaces)	Total (spaces)
Phase 1	Wilshire/La Brea	1,530	3,460	40	30	250	5,310
	Wilshire/Fairfax	700	11,290	0	0	1,260	13,250
	Wilshire/La Cienega	760	8,380	500	320	400	10,360
Phase 2	Wilshire/Rodeo	4,420	10,410	1,320	30	6,770	22,950
	Century City Constellation	2,600	23,710	250	260	0	26,820
	Century City Santa Monica	2,490	22,430	710	260	0	25,890
Phase 3	Westwood/UCLA - Off Street	3,920	11,630	480	20	2,220	18,270
	Westwood/UCLA - On Street	3,860	11,630	480	20	2,360	18,350
	Westwood/VA Hospital - South	90	7,310	0	0	0	7,400
	Westwood/VA Hospital - North	90	7,310	0	0	0	7,400

Source: Grubb & Ellis/Costar, Fehr & Peers, 2011

### 3.6.2 Environmental Impacts/Environmental Consequences

This section assesses parking-related issues resulting from the No Build Alternative and the LPA. This analysis assumes that parking conditions, as identified in the existing conditions section of this chapter, will still be maintained in 2035. To determine issue areas, the assessment determined whether there will be potential permanent loss of existing parking supply as a result of the LPA. The assessment also examined effects on existing on-street and off-street parking that could occur as a result of some subway riders who, despite the lack of park-and-ride facilities at rail stations, will try to park in station areas.

#### Parking Loss

##### No Build Alternative

Under the No Build Alternative, no new major transportation infrastructure would be built within the Study Area, aside from projects currently under construction or projects funded for construction, environmentally cleared, planned to be in operation by 2035, and identified in the RTP (SCAG 2008a) and LRTP (Metro 2008a). Therefore, the No Build Alternative is not expected to result in parking loss in the Study Area.



**Locally Preferred Alternative**

The LPA could either be constructed as a single phase under the Concurrent Construction Scenario or as three consecutive phases under the Phased Construction Scenario. The opening of the LPA as a single phase or in three sequential phases will not result in substantially different long-term impacts to parking loss in the Study Area.

***America Fast Forward (30/10) Scenario (Concurrent Construction)***

The LPA will be constructed below grade and will not result in permanent parking loss at most stations. Potential exceptions include loss of off-street parking associated with the Wilshire/Rodeo Station entrance options at the Bank of America and Union Bank Buildings. In addition, selection of the Wilshire/Rodeo Station entrance option at the Bank of America Building would result in the removal of three metered on-street parking spaces and one on-street loading space from the west side of Beverly Drive and up to 13 on-street spaces from the east side of Beverly Drive. However, the recommended location for the Wilshire/Rodeo Station entrance is on the southwest corner of Wilshire Boulevard and Reeves Drive, which will not result in permanent parking loss and would avoid any parking loss associated with the entrance options at Bank of America and Union Bank.

At the station entrance for the Century City Santa Monica Station, there would be some displaced parking in the nearby underground garage at the southwest corner of Santa Monica Boulevard and Century Park East. However, the recommended location for the Century City Station is along Constellation Boulevard, which will not result in permanent parking loss and would avoid any parking loss associated with the Century City Santa Monica Station. At the station entrances for the Westwood/UCLA On- and Off-Street Stations there could be loss of existing off-street parking at UCLA Lot 36.

***Metro Long Range Transportation Plan Scenario (Phased Construction)***

Under the Phased Construction Scenario, the effects associated with parking loss are the same as under the Concurrent Construction Scenario. The only difference between the two scenarios is the timing of potential for parking loss. Under the Phased Construction Scenario, the potential for impacts related to parking loss during Phase 2 and Phase 3 will occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for potential impacts related to parking loss along Phase 1 of the LPA will occur earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020.

***Phase 1 to La Cienega***

Under Phase 1, the LPA will operate to the Wilshire/La Cienega Station. No parking losses are expected for Phase 1 of the LPA.

***Phase 2 to Century City***

Under Phase 2, the LPA will operate to the Century City Station (either Santa Monica or Constellation option). Phase 2 of the LPA includes new stations in Beverly Hills and Century City. At the Wilshire/Rodeo Station, selection of the entrance option at the Bank of America Building will result in the removal of three metered on-street parking spaces and one on-street loading space from the west side of Beverly Drive and up to 13 on-street spaces from the east side of Beverly Drive. However, the recommended location



for the Wilshire/Rodeo Station entrance is on the southwest corner of Wilshire Boulevard and Reeves Drive, which would not result in permanent parking loss and would avoid any parking loss associated with the entrance options at Bank of America and Union Bank. At the station entrance for the Century City Santa Monica Station, there would be some displaced parking in the nearby underground garage at the southwest corner of Santa Monica Boulevard and Century Park East. However, the recommended location for the Century City Station is along Constellation Boulevard, which would not result in permanent parking loss and would avoid any parking loss associated with the Century City Santa Monica option.

***Phase 3 to Westwood/VA Hospital***

Under Phase 3, the LPA will be opened in its entirety to the Westwood/VA Hospital Station. Phase 3 of the LPA will include a station at Westwood/UCLA. At the station entrances for the Westwood/UCLA On- and Off-Street Stations, there could be a loss of existing off-street parking at UCLA Lot 36.

**Neighborhood Spillover Parking**

**No Build Alternative**

Under the No Build Alternative, no new major transportation infrastructure would be built within the Study Area, aside from projects currently under construction or projects funded for construction, environmentally cleared, planned to be in operation by 2035, and identified in the RTP (SCAG 2008a) and LRTP (Metro 2008a). Therefore, the No Build Alternative is not expected to result in neighborhood spillover parking in the Study Area.

**Locally Preferred Alternative**

The LPA could either be constructed as a single phase under the Concurrent Construction Scenario or as three consecutive phases under the Phased Construction Scenario. The opening of the LPA as a single phase or in three sequential phases will not result in substantially different long-term impacts to neighborhood spillover parking in the Study Area.

***America Fast Forward (30/10) Scenario (Concurrent Construction)***

No park-and-ride facilities will be provided at any LPA station. As a result, the transportation demand model does not predict any park-and-ride access. However, even without park-and-ride facilities, neighborhood spillover by subway riders seeking free, unrestricted parking is still an issue area. To estimate parking demand for the spillover impact analysis, the transportation demand model was run without parking demand being constrained.

Since the parking demand estimates involve theoretical maximums, they will not be affected by demand variations under the LPA. Table 3-16 describes estimated theoretical maximum daily parking demand for each station location under the unconstrained parking scenario and compares this demand with vacant parking supply as identified in existing occupancy surveys. Using the unconstrained parking estimate to approximate the demand for free parking, demand will exceed available vacant unrestricted parking

supply at all stations. The inventory of vacant spaces was identified as part of the existing conditions analysis in the Study Area, with results presented in Table 3-14.

**Table 3-16. Estimated On-street Parking Demand by Station**

Phase	Station	Maximum Daily Parking Demand	Existing Vacant Unrestricted On-street Supply	Demand Exceeds Vacant Unrestricted On-street Supply?
Phase 1	Wilshire/La Brea	277	120	Yes
	Wilshire/Fairfax	238	18	Yes
	Wilshire/La Cienega	223	35	Yes
Phase 2	Wilshire/Rodeo <sup>1</sup>	155	0	Yes
	Century City Constellation <sup>1</sup>	164	0	Yes
	Century City Santa Monica <sup>1</sup>	164	0	Yes
Phase 3	Westwood/UCLA Off-Street	266	3	Yes
	Westwood/UCLA On-Street	266	10	Yes
	Westwood/VA Hospital South	394	2	Yes
	Westwood/VA Hospital North	394	9	Yes

Source: Fehr & Peers, February 2010

<sup>1</sup>No unrestricted spaces are located within one-half mile of these station locations.

A one-half mile distance is typically the farthest transit riders are willing to walk to access a rail station. Therefore, the potential for spillover parking impacts are assessed at this distance from each LPA station according to the following criteria:

- Criterion 1—Is there unrestricted parking within a one-half mile walking distance of stations?
- Criterion 2—Would maximum daily parking demand exceed available supply?
- Criterion 3—Is unrestricted parking located on streets that are primarily residential?

To be considered an impact that requires mitigation, a station area will need to meet Criterion 1 and either Criterion 2 or Criterion 3. A station area that does not meet Criterion 1 will not be adversely affected by spillover. The parking impact determination is very conservative. Available parking supply was determined based on the AM peak period only, yet demand is based on maximum daily demand. Parking supply may increase throughout the day and evening versus what is available in the AM peak period.

Using the spillover parking impact criteria, the LPA’s potential, under either the Concurrent Construction Scenario or the Phased Construction Scenario, to generate spillover has been assessed for areas within a one-half mile walking distance of station locations. The estimated parking spillover impacts are shown in Table 3-17.

As noted below under Mitigation Measures, considerations can be given to developing a shared parking program with operators of off-street parking facilities. This program will be one approach to satisfy potential latent demand by those riders who elect to drive to rail stations.



**Table 3-17. Parking Spillover Impact Summary**

Phase	Station	Spillover
Phase 1	Wilshire/La Brea	Yes
	Wilshire/Fairfax	Yes
	Wilshire/La Cienega	Yes
Phase 2	Wilshire/Rodeo	No
	Century City (Constellation Boulevard)	No
	Century City (Santa Monica Boulevard)	No
Phase 3	Westwood/UCLA Off-Street	Yes
	Westwood/UCLA On-Street	Yes
	Westwood/VA Hospital (South)	Yes
	Westwood/VA Hospital (North)	Yes

Source: Fehr & Peers, February 2010

**Metro Long Range Transportation Plan Scenario (Phased Construction)**

Under the Phased Construction Scenario, the potential for impacts to neighborhood spillover parking is the same as under the Concurrent Construction Scenario. The only difference between the two scenarios is the timing of the potential for these impacts. Under the Phased Construction Scenario, the potential for impacts related to neighborhood spillover parking along Phase 2 and Phase 3 will occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for potential impacts related to neighborhood spillover parking along Phase 1 of the LPA will be earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020. The analysis of these impacts is provided in the Concurrent Construction Scenario discussion above.

**Phase 1 to Wilshire/La Cienega**

Parking spillover impacts will occur at the Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega Stations. Similar to the LPA under the Concurrent Construction Scenario, the maximum daily LPA parking demand under Phase 1 exceeds available supply at all three stations. As shown in Table 3-4, the estimated 2035 daily boardings at the Wilshire/La Cienega Station as an interim terminus under Phase 1 are higher than those estimated for the Concurrent Construction Scenario; however, no new unidentified parking spillover impacts will occur under Phase 1 as compared to the LPA under the Concurrent Construction Scenario.

**Phase 2 to Century City**

No parking spillover impacts will occur at the stations along Phase 2 of the Phased Construction Scenario, including both the Constellation and Santa Monica options. While estimated 2035 daily boardings at the Wilshire/Rodeo Station and the Century City Santa Monica Station under Phase 2 are higher than those estimated for the LPA under the Concurrent Construction Scenario, no new unidentified parking spillover impacts will occur at the Wilshire/Rodeo Station and Century City Station (either Constellation or Santa Monica option) under Phase 2 as compared to the LPA under the Concurrent Construction Scenario.

***Phase 3 to Westwood/ VA Hospital***

Parking spillover impacts will occur at each station located along Phase 3 of the Phased Construction Scenario, including both station options at Westwood/UCLA and Westwood/VA Hospital.

**3.6.3 Mitigation Measures**

The following measures will be incorporated into the Project under the Concurrent Construction Scenario or the Phased Construction Scenario, whichever is implemented.

**T-1—Coordination with Property Owners**

Metro will coordinate with the appropriate property owners and other relevant parties regarding permanent parking losses. All property owners will be compensated under the Uniform Relocation Assistance and Real Property Acquisition Act as described in mitigation measure CN-1 and will receive compensation for easements as described in mitigation measure CN-3.

If the LPA is constructed under the Phased Construction Scenario, mitigation measure T-1 will be required under Phase 2 and Phase 3 as parking losses are expected. Mitigation measure T-1 will not be required under Phase 1.

**T-2—Parking Monitoring and Community Outreach**

In the one-half mile area surrounding each station where unrestricted parking is located, a program will be established to monitor on-street parking activity in the area prior to the opening of service and monitor the availability of parking monthly for six months following the opening of service. Based on the available supply in each station area before the opening of service, Metro will set a performance standard that will identify a demand exceeding 100 percent of supply after opening as an impact due to the parking activity of LPA patrons. If the performance standard is met, Metro will work with the appropriate local jurisdiction (City of Los Angeles and City of Beverly Hills) and affected communities to assess the need for specific elements of a residential permit parking (RPP) program for the affected neighborhoods.

For station areas at high risk of spillover Metro will conduct outreach meetings for the affected communities to gauge the interest of residents participating in an RPP program (prior to the opening of the subway), regardless of whether parking shortages have been identified.

For the Westwood/VA Hospital Station, the majority of station-area parking supply is for the exclusive use of VA patients, visitors, doctors, and staff. Development of an RPP program for the VA is not applicable. At this station, Metro will monitor spillover parking at VA lots controlled only by decals and/or signage (i.e., no gates or other controlled access). Once the subway has opened, an assessment of the spillover parking magnitude will be made, and if the spillover parking is determined to be unmanageable by VA security, a parking management plan for the VA campus will be developed and implemented.

If the LPA is constructed under the Phased Construction Scenario, mitigation measure T-2 will be required under Phase 1, Phase 2, and Phase 3 of the LPA. Additionally, Phase 3 will include items relating to parking at the Westwood/VA Hospital Station. For



the Westwood/VA Hospital Station, the majority of station-area parking supply is for the exclusive use of VA patients, visitors, doctors, and staff. Development of an RPP program for the VA is not applicable. At this station, Metro will monitor spillover parking at VA lots controlled only by decals and/or signage (i.e., no gates or other controlled access). Once the subway has opened, the magnitude of spillover parking will be assessed, and if the spillover parking is determined to be unmanageable by VA security, a parking management plan for the VA campus will be developed and implemented.

### **T-3—Residential Permit Parking Districts**

In general, RPP districts are created to ensure that neighborhood residents have access to on-street parking. These districts are in effect across the United States, including Los Angeles County. They are commonly used to address spillover parking concerns, such as those that arise when residential neighborhoods are in close proximity to commercial districts that do not provide sufficient parking. Patrons of the commercial districts, who are non-residents, tend to spill over into adjacent residential neighborhoods to find parking. The impact that spillover parking causes is adverse, and restricting parking to residents only, or limiting the time non-residents can park, is one way to mitigate these adverse impacts.

If the need for an RPP district has been determined through Mitigation Measure T-2, RPP programs will be implemented according to guidelines established by each local jurisdiction. Metro will reimburse local jurisdictions for costs associated with developing both the RPP programs and installing parking restriction signs in neighborhoods within a one-half mile walking distance of each affected station. Metro will not be responsible for the costs of permits for residents desiring to park on streets in RPP districts. For locations where station spillover parking cannot be addressed through a RPP program, alternative mitigation options will include the implementation of parking time restrictions for non-residents. Metro will work with local jurisdictions to determine which option(s) will be preferable.

If the LPA is constructed under the Phased Construction Scenario, mitigation measure T-3 will be required under Phase 1, Phase 2, and Phase 3 of the LPA.

### **T-4—Consideration of Shared Parking Program**

Metro will consider developing a shared parking program with operators of off-street parking facilities to accommodate the LPA's parking demand, thereby allowing subway riders to use excess capacity in these facilities. The revised off-street parking analysis conducted for the Final EIS/EIR determined that more than 100,000 off-street parking spaces serve commercial land uses within a one-half mile walking distance of the seven LPA station locations. As part of the analysis, a sampling of parking facility operators for each station location was contacted to determine availability of public parking in their facility on weekdays and weekends, daily parking rate, facility occupancy, and interest in partnering with Metro to make parking available to riders of the Westside Subway Extension. Based on a sample of operators at each station area, some shared parking potential for subway riders exists. However, this potential may be limited at individual facilities because many are near their capacity during weekdays.

For six months following the opening of service, Metro will monitor off-street parking activity in station areas through communication with parking operators by quantitatively assessing through surveys the effects on parking demand as a result of the LPA and revisit their interest in participating in a shared parking program. It is anticipated that the LPA will reduce parking demand in station areas, as some employees will use the subway to commute to work rather than driving. Because the development of a shared parking program will be contingent on the willingness of parking facility operators to participate, as well as the availability of parking supply at their facilities, it may be infeasible to implement this measure at some or all station areas where spillover parking impacts have been identified.

If the LPA is constructed under the Phased Construction Scenario, mitigation measure T-4 will be required under Phase 1, Phase 2, and Phase 3 of the LPA.

### 3.6.4 California Environmental Quality Act Determination

While loss of parking or spillover may affect certain groups, this is not considered a significant impact under CEQA. However, parking mitigation measures are included as a further means to reduce impacts under either the Concurrent Construction Scenario or the Phased Construction Scenario associated with neighborhood spillover parking.

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Impacts in station areas are expected involving interface between bus riders, bicyclists, pedestrians, and riders who access the subway. For each impact, mitigation has been identified, including alternative approaches.

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## 3.7 Pedestrian, Bicycle, and Bus Transit

This section describes the existing conditions and identifies impacts to interfacing transportation networks, including bus transit (specifically, the location of bus stops), and pedestrian and bicycle facilities (pedestrian crossings and bicycle lanes). The interface between the LPA and these other modes is important because no trip begins or ends

directly at a station. Subway riders will walk, bicycle, take a bus, or be picked up or dropped off in private vehicles to continue or complete their trips. The LPA will affect pedestrians (including bus riders transferring to/from the subway) and bicyclists in station areas in a variety of ways, including increasing pedestrian demand on sidewalks and at intersection crossings that access station entrances or connecting bus lines, and increasing demand for bicycle parking in each station area. Providing efficient and safe connections between stations and other transportation modes will ensure the best possible service for subway riders. Comparing the effectiveness of this interface provides an understanding of how the LPA will best meet the transportation goals established in the Purpose and Need for the LPA.

### 3.7.1 Affected Environment/Existing Conditions

The following sections describe the affected environment and existing conditions for pedestrian facilities and bicycle networks. The affected environment and existing conditions are the same whether the LPA is constructed under the Concurrent Construction Scenario or the Phased Construction Scenario.

#### Pedestrian Facilities

There are high levels of pedestrian accessibility within the Study Area. The entire street network, excluding urban freeways, is generally considered open to pedestrian traffic. A

continuous network of facilities connects every neighborhood and destination within the Cities of Los Angeles, West Hollywood, Beverly Hills, and Santa Monica. Pedestrian network variations, such as sidewalk widths, landscaping, and sidewalk amenities, vary by location, depending on the density and mix of land uses within the built environment and the circulation patterns of the vehicular transportation system.

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The Westside has a comprehensive network of pedestrian facilities connecting neighborhoods. Bicycle plans for Beverly Hills, Los Angeles, Santa Monica, and West Hollywood have been completed in draft or final form or are currently under development.

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In some station areas, there are physical barriers that will affect overall access to subway service. One example is I-405 and associated ramps in the vicinity of the Westwood/VA Hospital Station. However, for the subway stations, sidewalk access is available and major barriers will not be present between travel generators and subway station entrances.

High volumes of existing pedestrian activity (established as 500 or more pedestrians crossing at a study intersection during a peak hour) are shown in Figure 3-16 and were observed at the following station locations:

- Wilshire/Fairfax (Phase 1)
- Wilshire/Rodeo (Phase 2)
- Century City Constellation (Phase 2)
- Westwood/UCLA Off-Street and On-Street (Phase 3)

The highest levels of pedestrian activity were recorded in the Westwood/UCLA Station area, followed by Downtown Beverly Hills. The Westwood/UCLA Station area is a major employment center. Students, faculty, staff, and campus visitors frequent the station area, resulting in the highest pedestrian activity in the Study Area. Pedestrian activity is also very high in Downtown Beverly Hills, Downtown Santa Monica, and along the Santa Monica Boulevard corridor in West Hollywood. Currently, pedestrians experience little difficulty crossing arterials in these areas, as all major intersections are signalized with pedestrian walk phases and crosswalks. A number of intersections have treatments that further enhance the pedestrian experience.

### **Bicycle Facilities**

Existing and proposed bicycle facilities in the Study Area are identified in the *City of Los Angeles Draft Bicycle Plan Update* (LADOT 2009b), the *City of West Hollywood Bicycle and Pedestrian Mobility Plan* (WH 2003), and the proposed *City of Santa Monica Land Use and Circulation Element Environmental Impact Report* (SM 2010). Except for West Hollywood, the facilities are shown in Figure 3-17. In West Hollywood, bicycle facilities are located on Santa Monica, Beverly, and San Vicente Boulevards and Fountain, Melrose, and Fairfax Avenues. In addition, the City of Beverly Hills is in the process of developing a bike plan.

There are few existing bicycle facilities within the City of Los Angeles; however, per the City's Bicycle Plan Update (LADOT 2009b), many bicycle-friendly streets and bicycle routes have been proposed and several proposed bikeways will increase bicycle access in the Study Area.



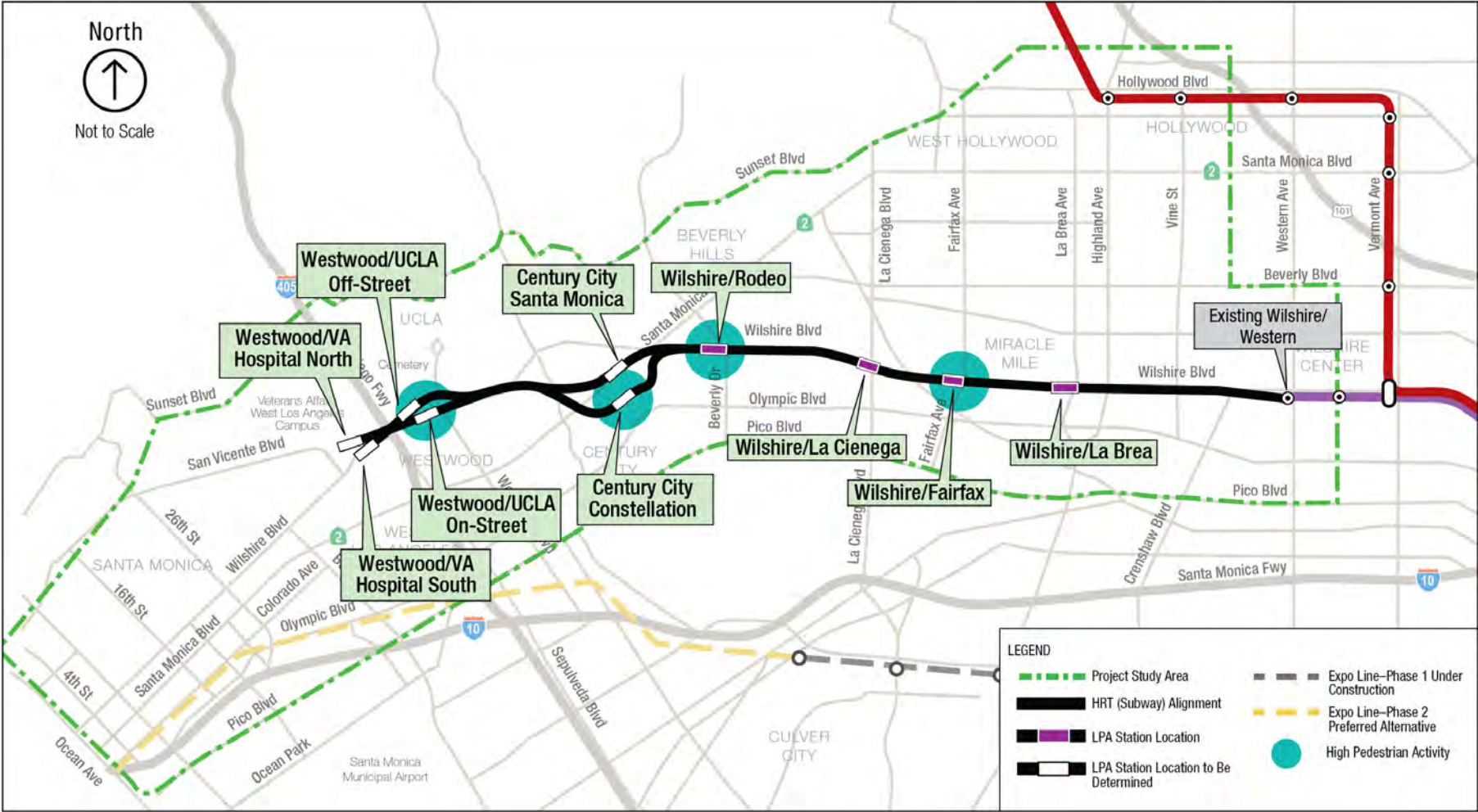


Figure 3-16. Station Locations with High Volumes of Pedestrian Activity

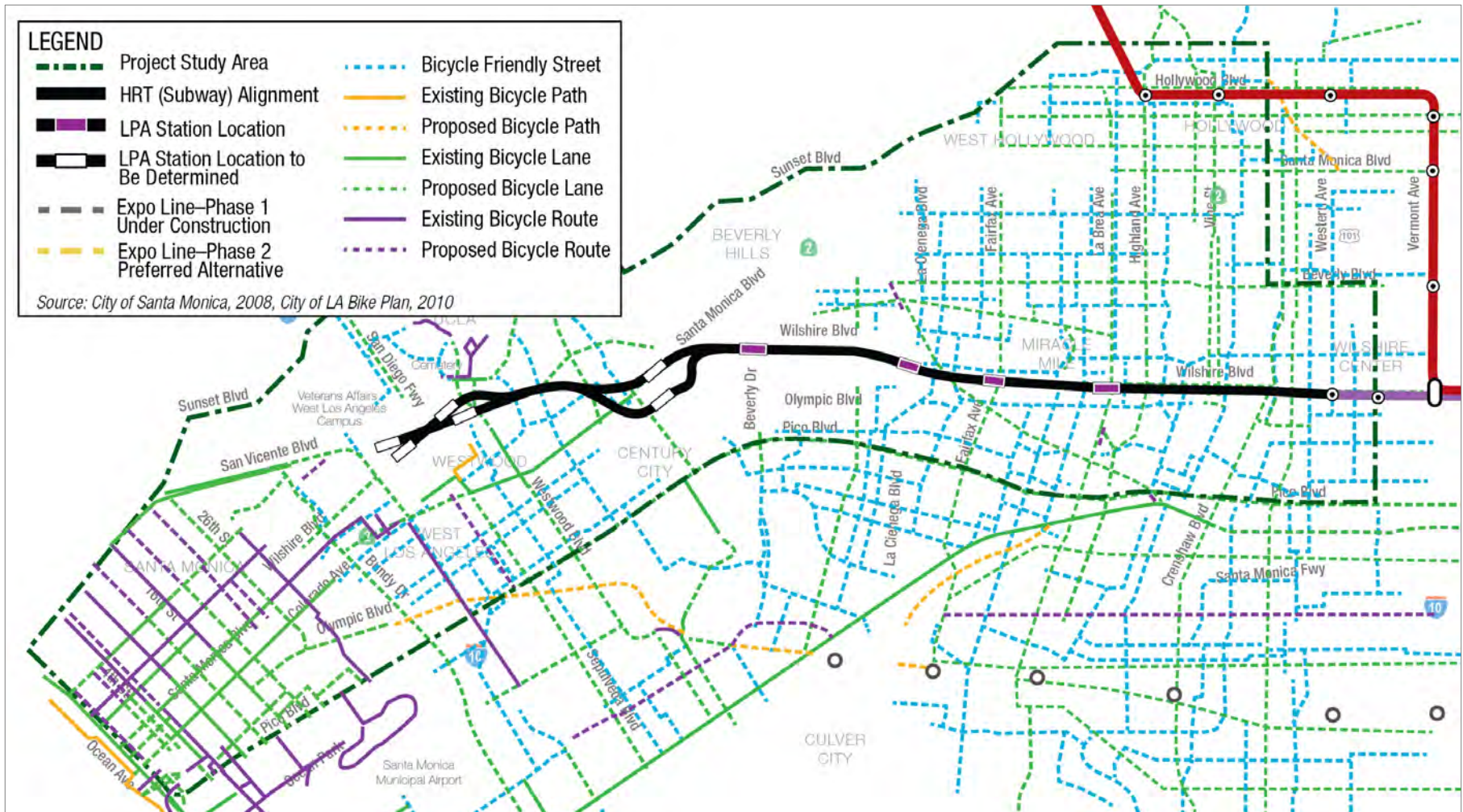


Figure 3-17. Existing and Proposed Bicycle Facilities in the Study Area

## Bus Stops

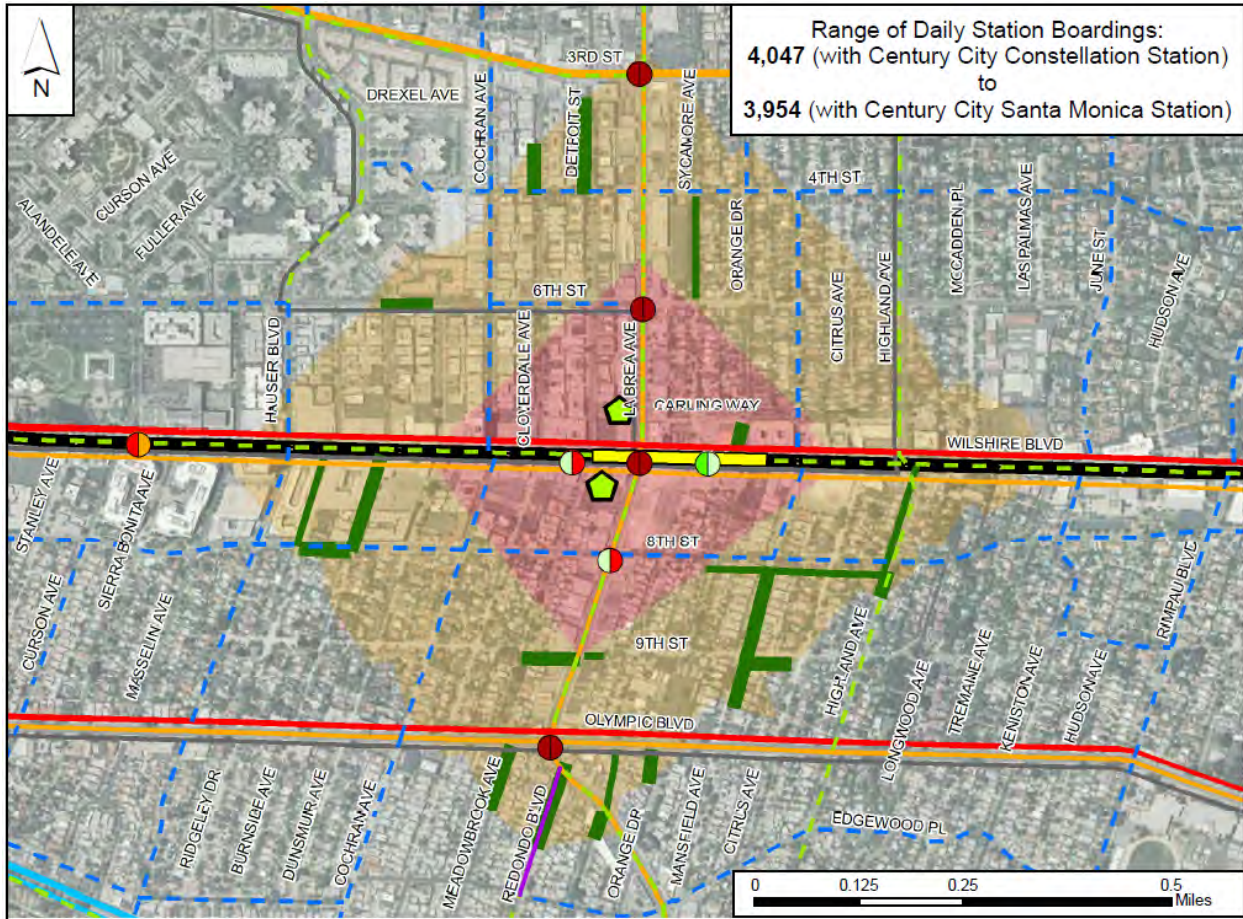
In the Study Area, bus stops are located at and between key intersections and enable access to a variety of services provided by Metro and other public transportation operators. Near-side stops are located before the bus approaches an intersection; far-side stops are located after buses cross an intersection; and mid-block stops are located between intersections. The location of bus stops in the Study Area depends on a variety of factors, such as proximity to major generators and pedestrian facilities as well as avoidance of potential conflicts with other pedestrian activities.

### 3.7.2 Environmental Impacts/Environmental Consequences

The pedestrian, bicycle, and bus transit (stop location) impact analysis was conducted at the station-area level where the potential for localized impacts to other modes of transportation could occur. Figure 3-18 through Figure 3-27 identify transportation interfaces involving station access, bus stops, bicycle lanes/paths, and pedestrian flows. In addition, key information items, such as marked crosswalks, existing bus stops, and station entrances, are identified for each station. These figures also include LOS for intersections in the station area and daily subway boardings at each station. The LOS and ridership information in these figures is for the LPA that extends to the Westwood/VA Hospital Station. For Phase 1 and Phase 2 under the Phased Construction Scenario, some variations in LOS will occur, as discussed under “Intersection Analysis” in Section 3.5. In addition, variations in subway station boardings will occur under Phase 1 and Phase 2 for the Phased Construction Scenario. Information on variations in station boardings is discussed under “Transit Ridership—No Build Alternative and LPA” in Section 3.4.

In some station areas, there are physical barriers that will affect overall access to subway service. One example is the I-405 Freeway and associated ramps in the vicinity of the Westwood/VA Hospital Station. However, for all stations, sidewalk access is available and major barriers will not be present between travel generators and subway station entrances. The potential barriers do not affect the approach for evaluation of impacts presented below.

The *Westside Subway Extension Transportation Impacts Technical Report* (Metro 2010a) and the *Addendum to the Westside Subway Extension Transportation Impacts Technical Report* (Metro 2011a) identified estimated impacts on the pedestrian and bicycle networks and bus stops in the Study Area. The impacts are summarized here for the No Build and LPA and are based on the impact criteria identified below. Details regarding mitigation measures for each impact are also presented. Detailed assessment of pedestrian, bicycle, and bus access for each station entrance option can be found in the *Westside Subway Extension Station Circulation Report* (Metro 2011am).



**LEGEND**

Station Box	Metro Rapid	Existing Bicycle Path	<b>Intersection LOS Peak Hour</b> AM → ⊕ ← PM Level of Service (LOS) ● A ● D ● B ● E ● C ● F ⬠ Station Entrance Option
Proposed Subway Alignment	Metro Local	Proposed Bicycle Path	
1/4 Mile Walkability	Metro Express	Existing Bicycle Lane	* - BBB, CCB, SC, AV, DASH, CE ** - Proposed Facilities from 2010 LA Bike Plan
1/2 Mile Walkability	Other Service Providers*	Proposed Bicycle Lane	
Unrestricted On-Street Parking (One Side)	Existing Bicycle Route	Proposed Bicycle Route	
Unrestricted On-Street Parking (Both Sides)	Bicycle Friendly Street		

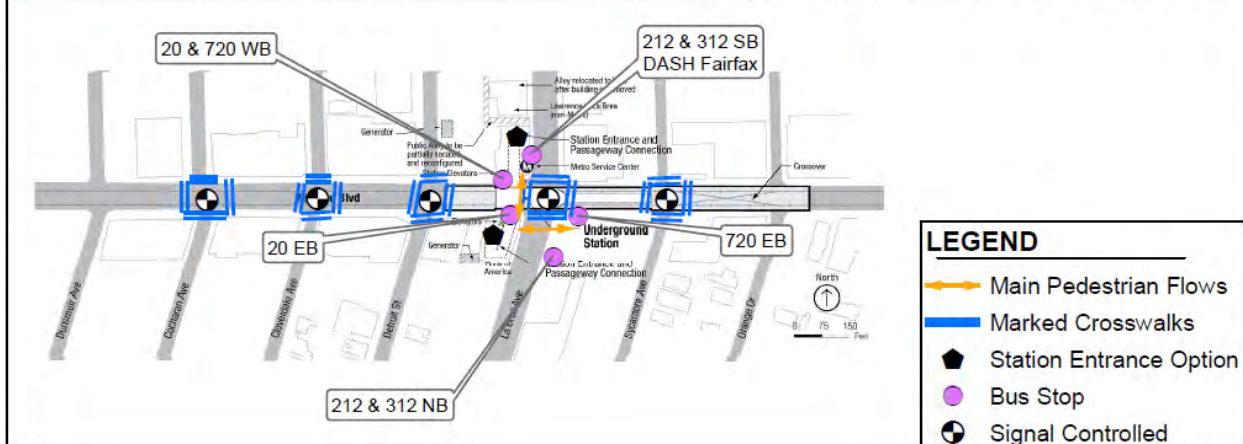


Figure 3-18. Station/Bus/Pedestrian-Bicycle Impact Analysis—Wilshire/La Brea Station

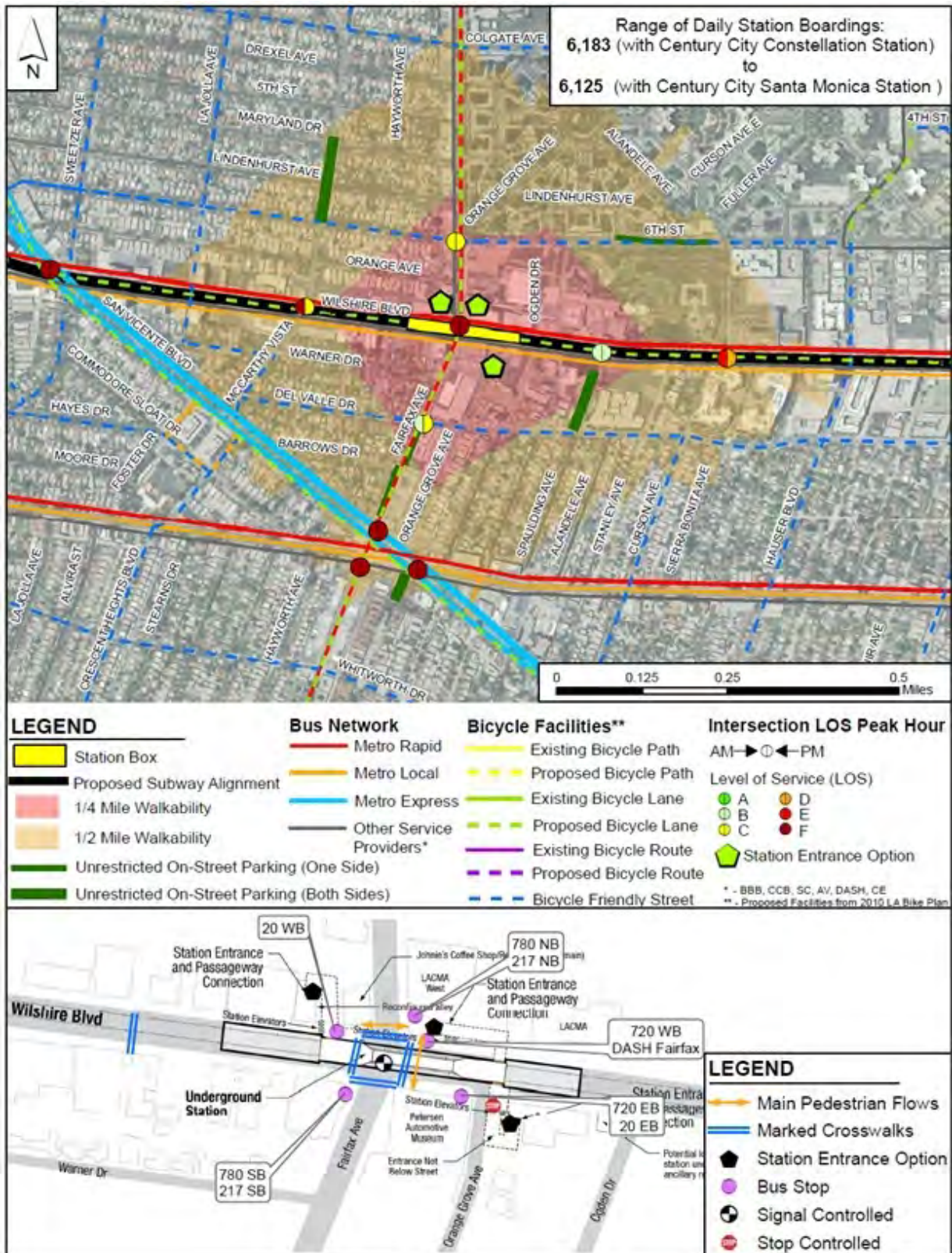


Figure 3-19. Station/Bus/Pedestrian-Bicycle Impact Analysis—Wilshire/Fairfax Station

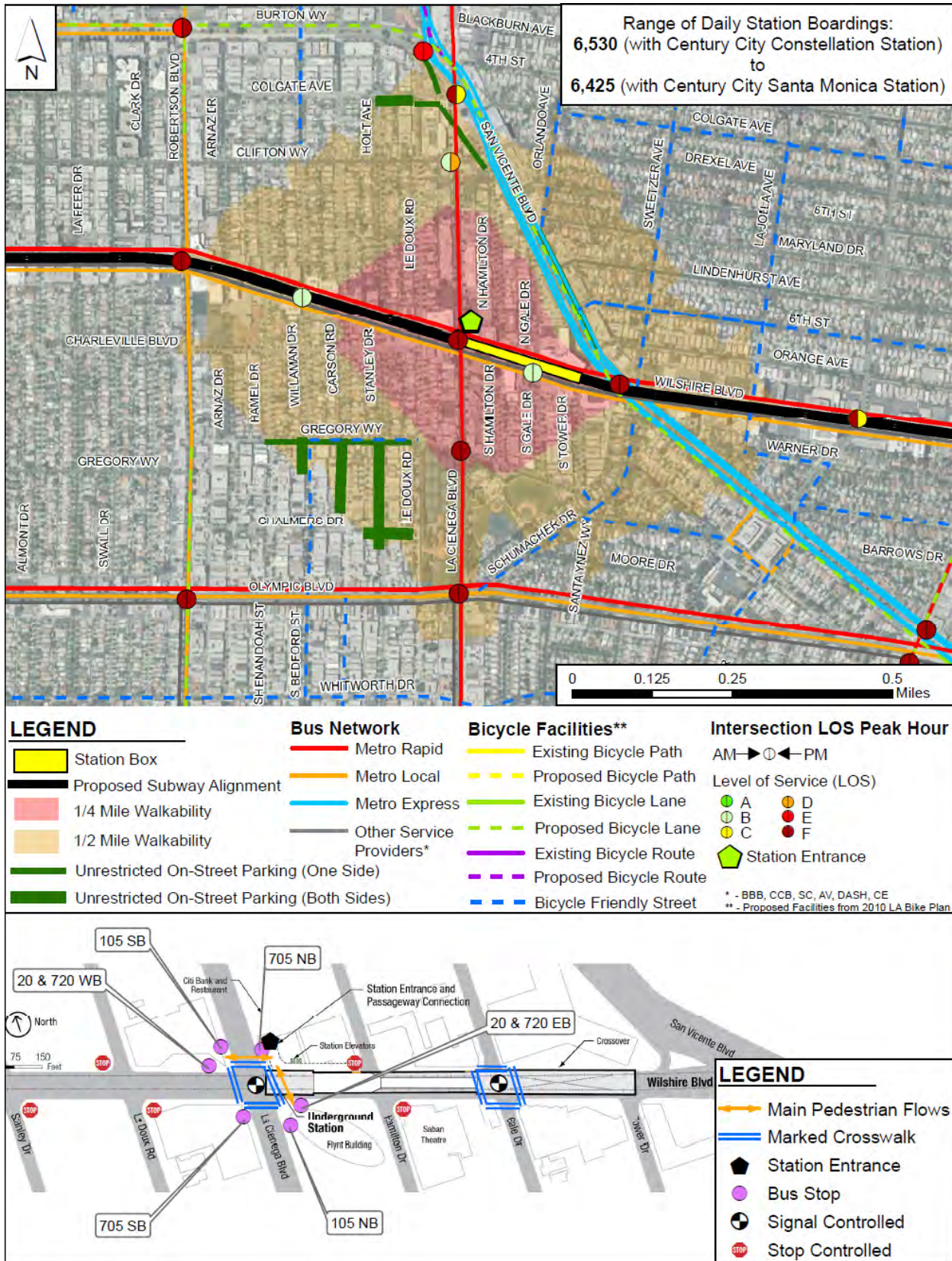


Figure 3-20. Station/Bus/Pedestrian-Bicycle Impact Analysis—Wilshire/La Cienega Station

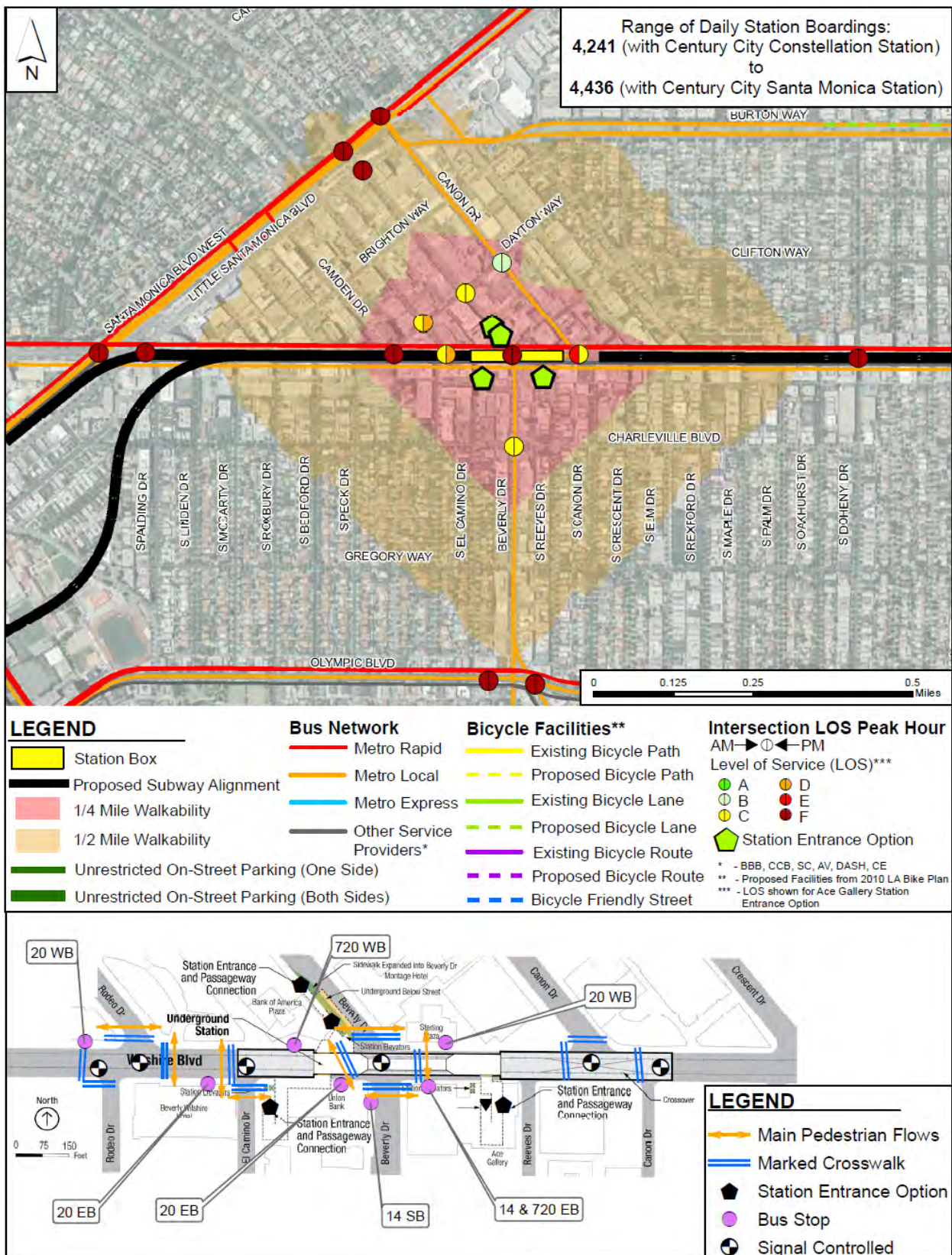


Figure 3-21. Station/Bus/Pedestrian-Bicycle Impact Analysis—Wilshire/Rodeo Station

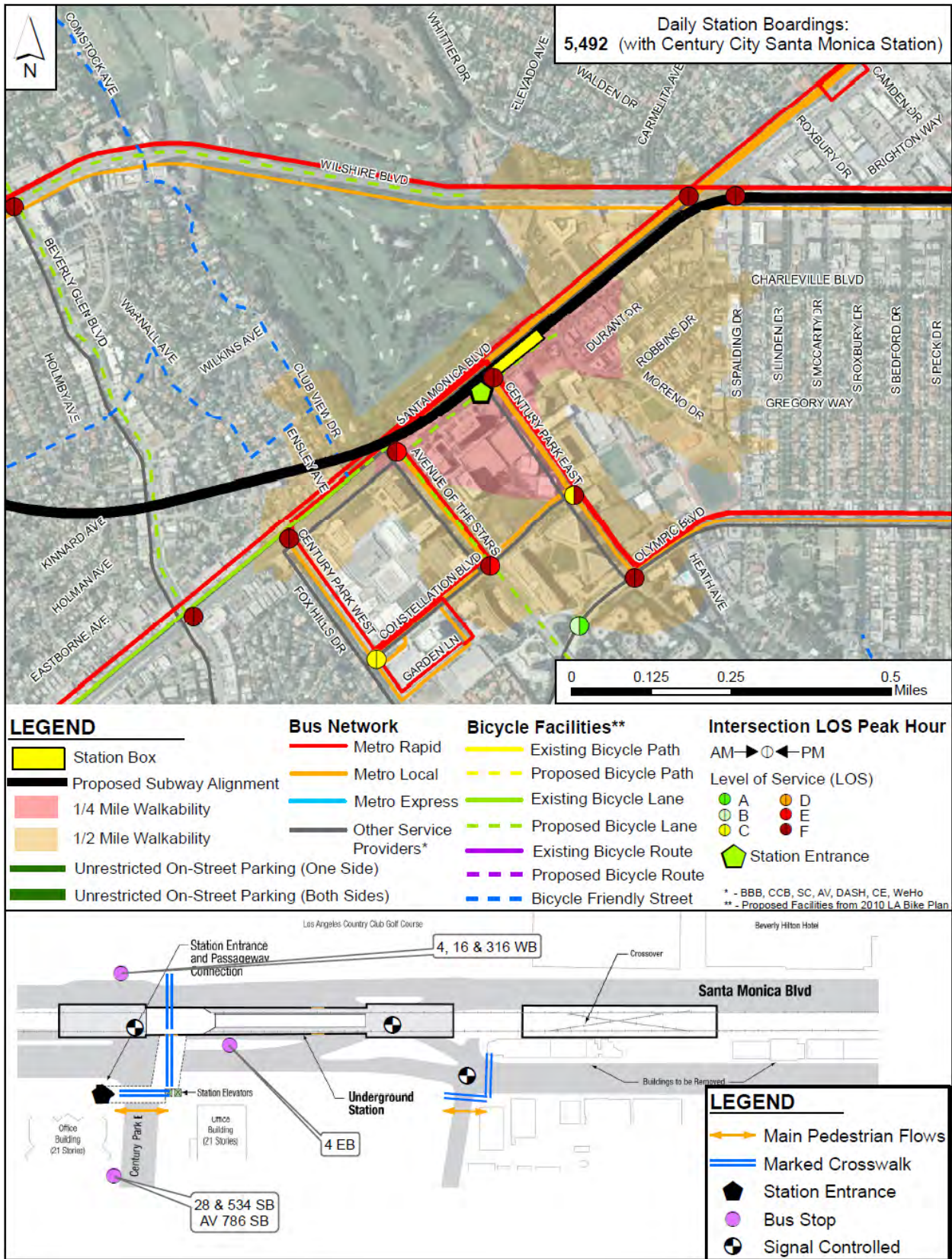


Figure 3-22. Station/Bus/Pedestrian-Bicycle Impact Analysis—Century City Santa Monica Station



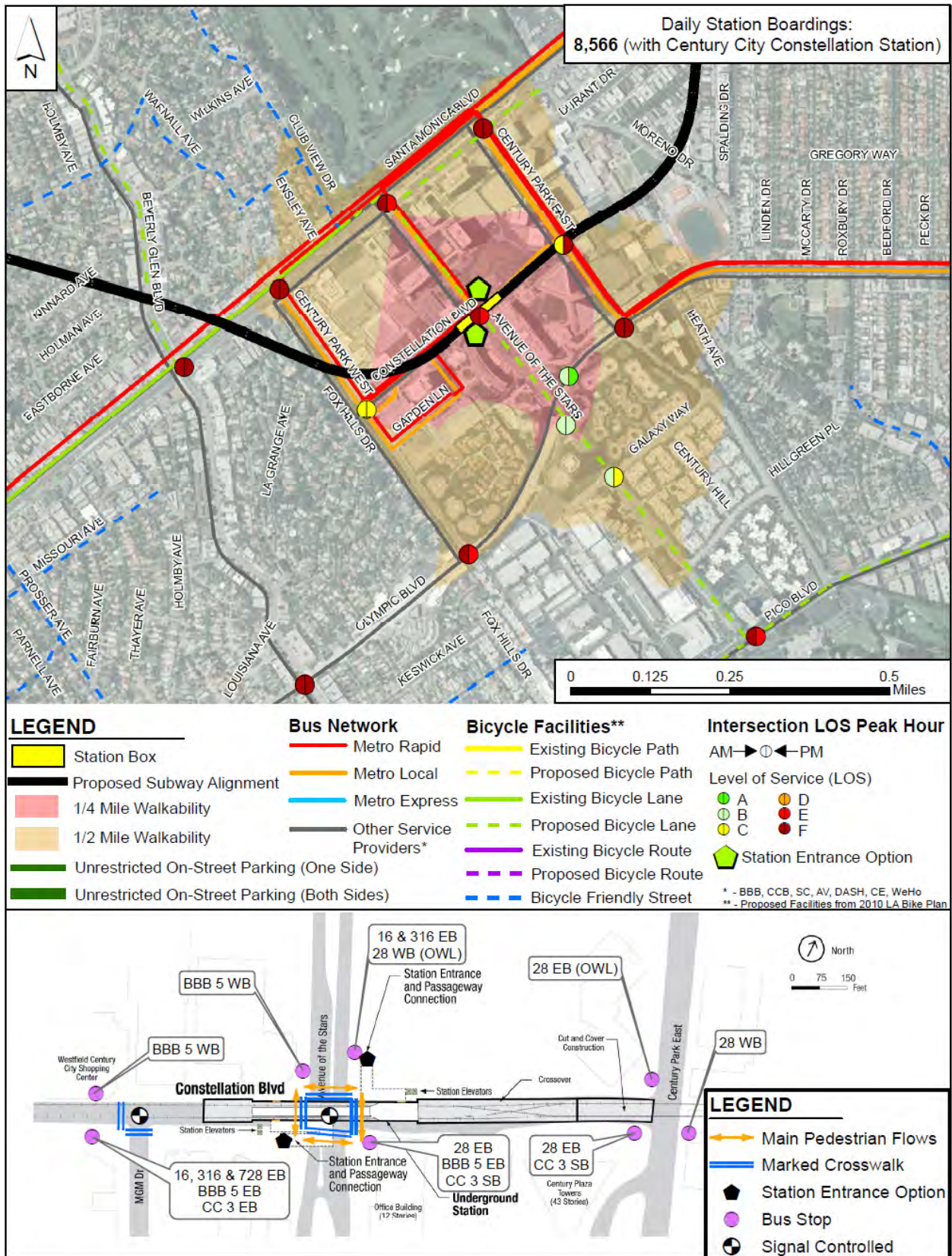
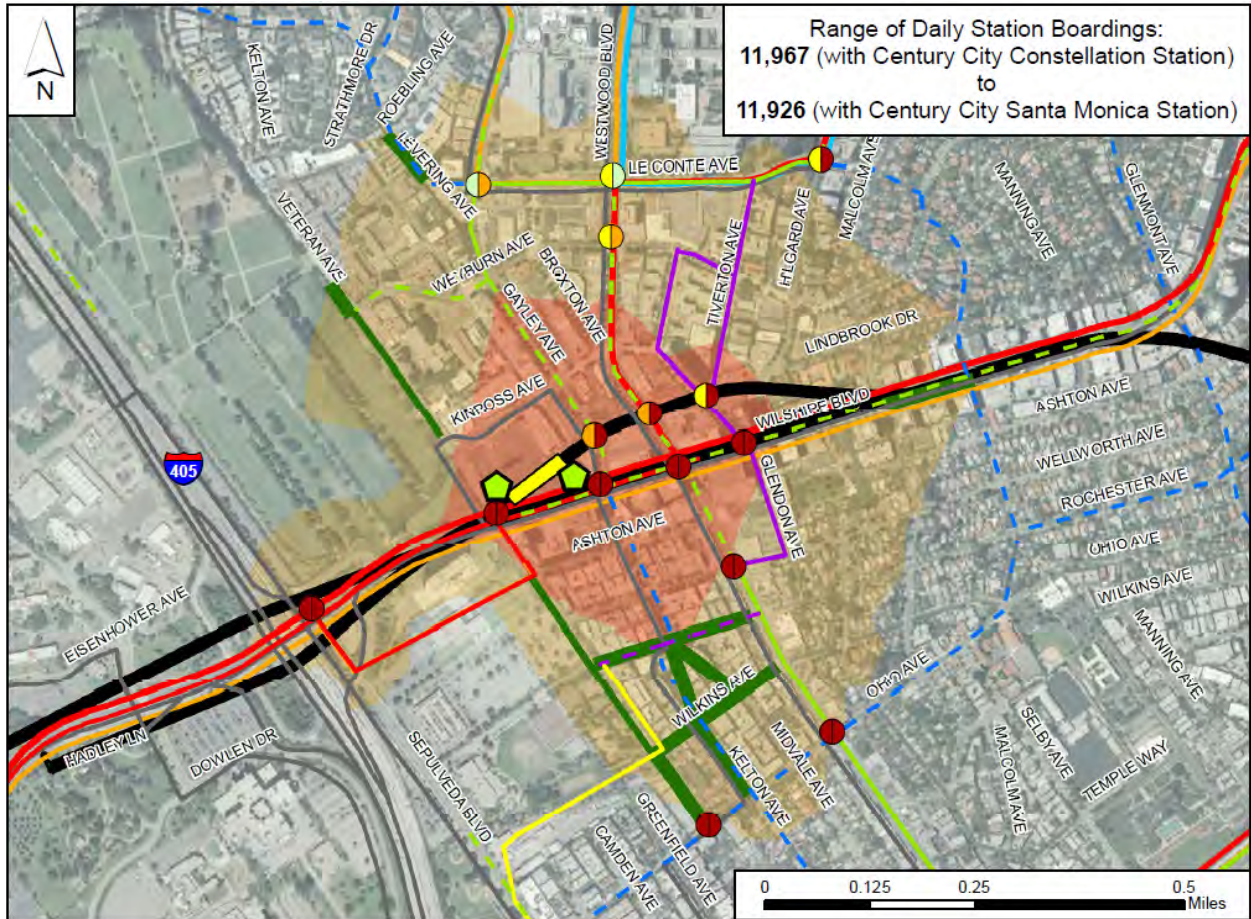


Figure 3-23. Station/Bus/Pedestrian-Bicycle Impact Analysis—Century City Constellation Station



**LEGEND**

Station Box	Metro Rapid	Existing Bicycle Path	<b>Intersection LOS Peak Hour</b> AM → ⊙ ← PM Level of Service (LOS) ● A ● D ● B ● E ● C ● F ⬠ Station Entrance Option
Proposed Subway Alignment	Metro Local	Proposed Bicycle Path	
1/4 Mile Walkability	Metro Express	Existing Bicycle Lane	<small>* - BBB, CCB, SC, AV, DASH, CE</small>
1/2 Mile Walkability	Other Service Providers*	Proposed Bicycle Lane	<small>** - Proposed Facilities from 2010 LA Bike Plan</small>
Unrestricted On-Street Parking (One Side)		Existing Bicycle Route	
Unrestricted On-Street Parking (Both Sides)		Proposed Bicycle Route	
		Bicycle Friendly Street	

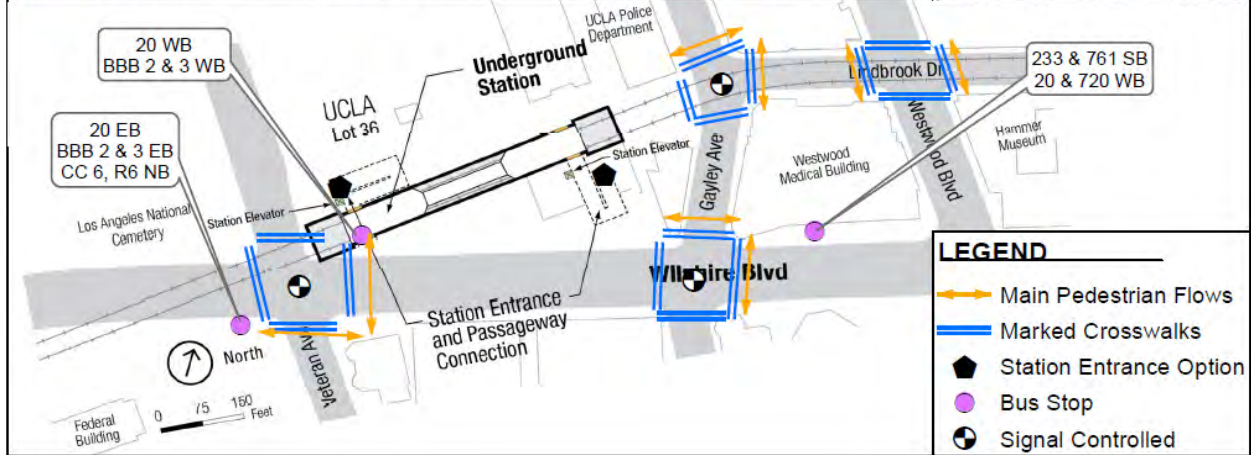
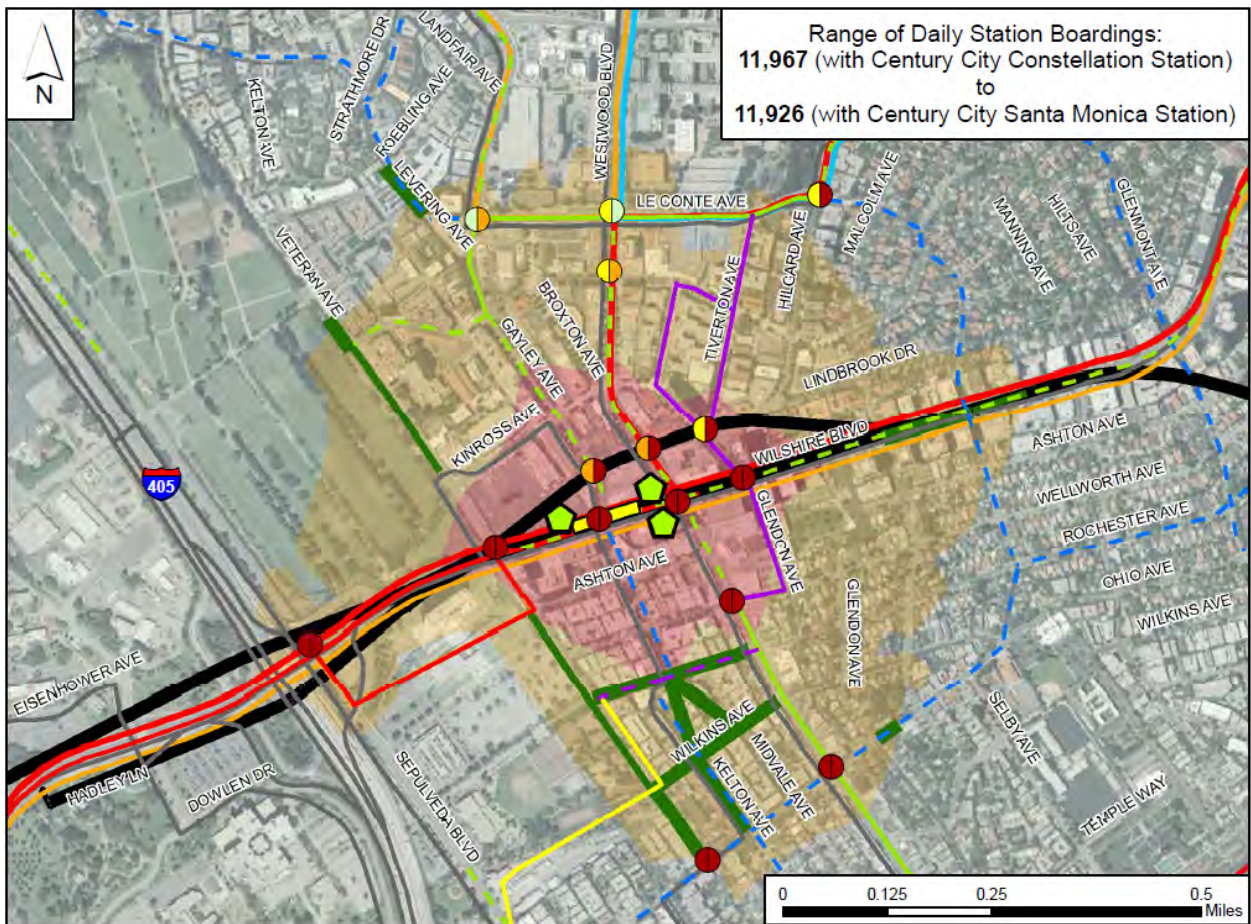


Figure 3-24. Station/Bus/Pedestrian-Bicycle Impact Analysis—Westwood/UCLA Off-Street Station



LEGEND		Bus Network	Bicycle Facilities**	Intersection LOS Peak Hour
	Station Box			AM → ⊙ ← PM
	Proposed Subway Alignment			Level of Service (LOS)
	1/4 Mile Walkability			A
	1/2 Mile Walkability			B
	Unrestricted On-Street Parking (One Side)			C
	Unrestricted On-Street Parking (Both Sides)			D
				E
				F
				* - BBB, CCB, SC, AV, DASH, CE
				** - Proposed Facilities from 2010 LA Bike Plan

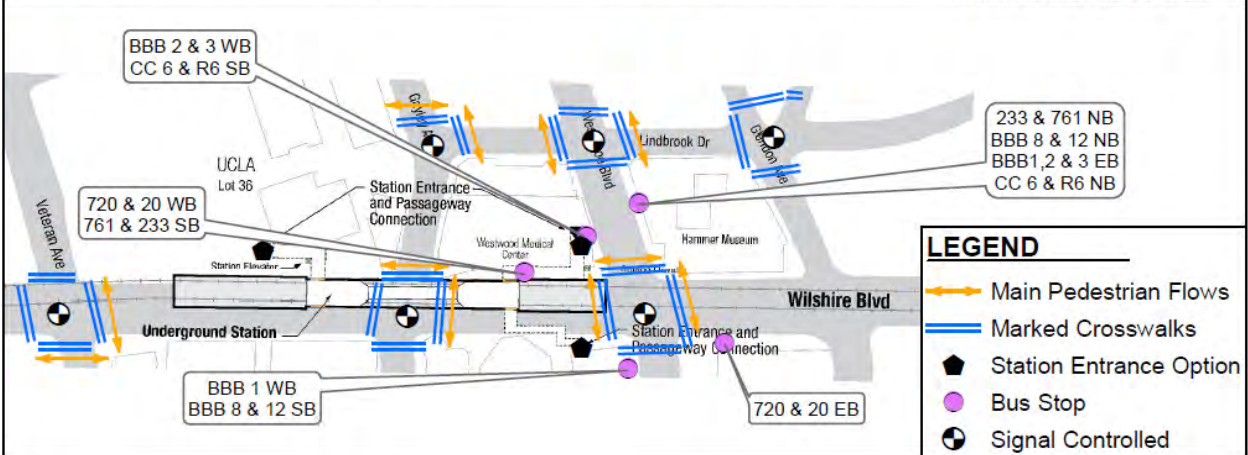


Figure 3-25. Station/Bus/Pedestrian-Bicycle Impact Analysis—Westwood/UCLA On-Street Station

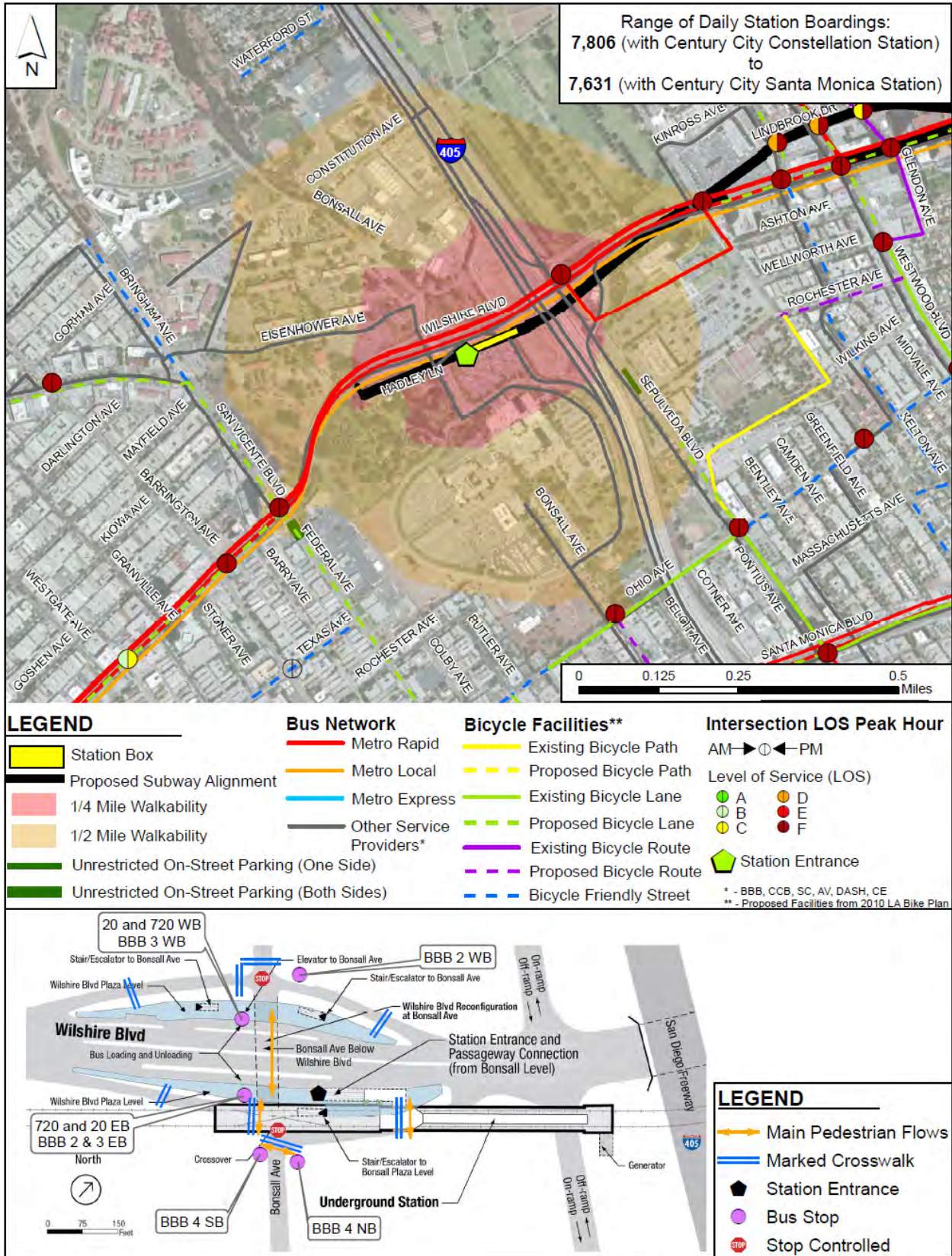


Figure 3-26. Station/Bus/Pedestrian-Bicycle Impact Analysis—Westwood/VA Hospital South Station

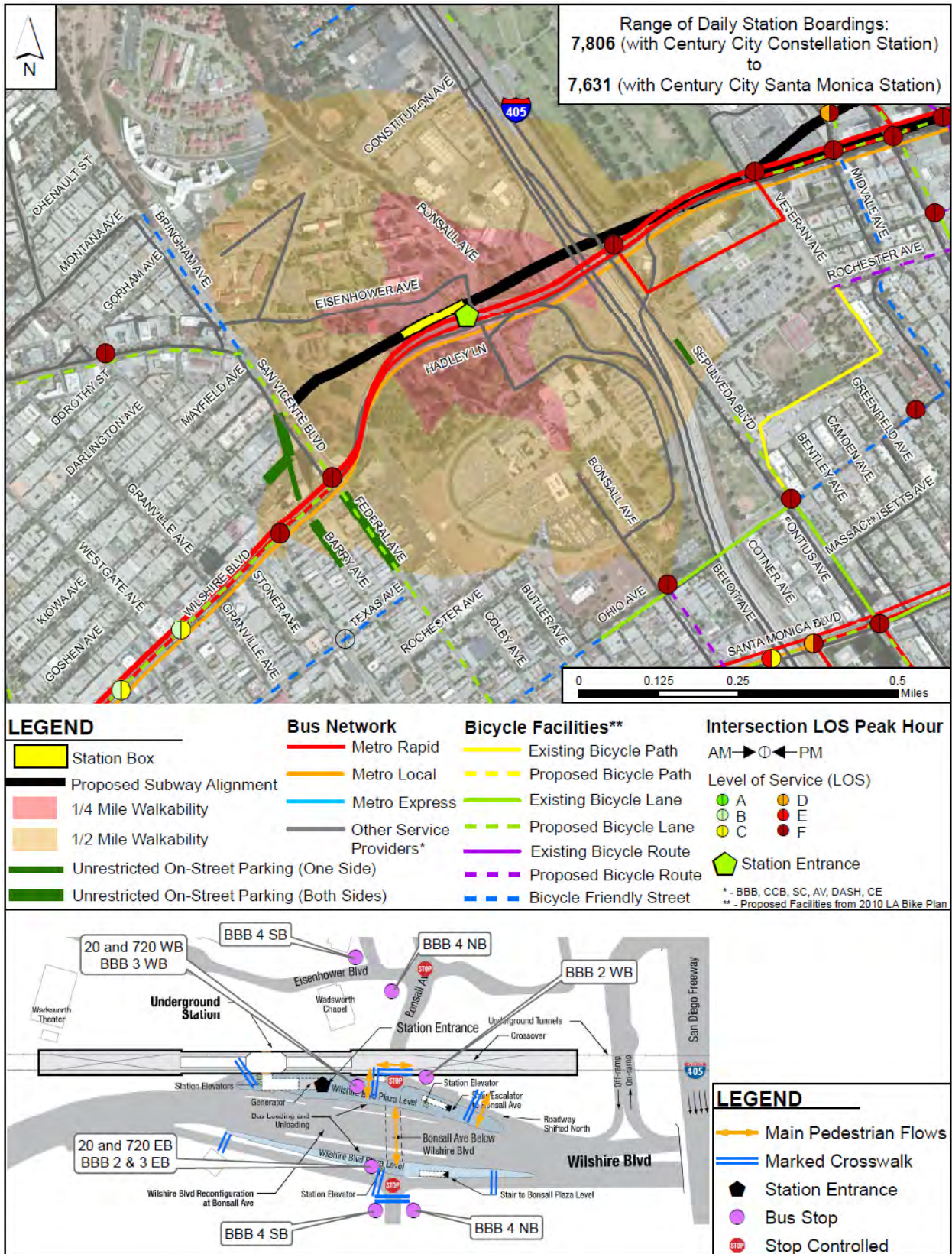


Figure 3-27. Station/Bus/Pedestrian-Bicycle Impact Analysis—Westwood/VA Hospital North Station

The following thresholds of significance from the CEQA Guidelines Appendix G Checklist have been used to assess the potential for adverse effects under NEPA and significant impacts under CEQA to the pedestrian and bicycle networks and bus stops in the Study Area.

- **Criterion 1**—Would the Project substantially increase hazards due to a design feature or incompatible uses (CEQA Guidelines Appendix G Checklist item XVI.d)?
- **Criterion 2**—Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (CEQA Guidelines Appendix G Checklist item XVI.f)?

Adopted plans and policies relevant to the pedestrian, bicycle, and bus interface include the following:

- Americans with Disabilities Act (ADA)
- California Manual of Uniform Traffic Control Devices (MUTCD)
- Street Designations and Standards of the Transportation Element of the City of Los Angeles General Plan related to sidewalk width
- Metro Rail Design Criteria

#### **No Build Alternative**

Under the No Build Alternative, no new major transportation infrastructure would be built within the Study Area, aside from projects currently under construction or projects funded for construction, environmentally cleared, planned to be in operation by 2035, and identified in the RTP (SCAG 2008a) and LRTP (Metro 2008a). Therefore, the No Build Alternative is not expected to result in adverse effects to the pedestrian and bicycle networks and bus stops in the Study Area.

#### **Locally Preferred Alternative**

The opening of the LPA as a single phase or in three sequential phases will not result in substantially differing long-term impacts to the pedestrian and bicycle networks and bus stops in the Study Area.

#### ***America Fast Forward (30/10) Scenario (Concurrent Construction)***

Table 3-18 summarizes the effects of the LPA on the pedestrian and bicycle networks and bus stops in the Study Area based on the criteria outlined above. The following five LPA station entrance options are expected to have a Criterion 1 impact (i.e., increased hazards due to a design feature or incompatible uses) that will require mitigation:

- Wilshire/Fairfax Station—South entrance option
- Wilshire/Rodeo Station—Union Bank entrance option
- Wilshire/Rodeo Station—Ace Gallery entrance option
- Westwood/VA Hospital—South
- Westwood/VA Hospital—North

However, of these five entrances with an impact under Criterion 1, only two (Westwood/VA Hospital South entrance and Wilshire/Rodeo Station—Ace Gallery entrance option) are recommended entrance locations. The remaining three entrances identified are not the recommended entrance location for their respective stations. Therefore, if the

recommendations are implemented, only two station entrances would result in an impact under Criterion 1 that will require mitigation.

No other LPA stations or station entrance options are expected to have a Criterion 1 impact that will require mitigation.

All LPA stations require mitigation to reduce a Criterion 2 impact (i.e., conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities).

**Table 3-18. Effects to the Pedestrian, Bicycle, and Bus Networks**

Phase	Station	Criterion 1 Safety Impacts Prior to Mitigation	Criterion 2 Conflicts with Adopted Plans and Policies Impacts Prior to Mitigation	
Phase 1	Wilshire/La Brea	No Impact	Impact before mitigation	
	Wilshire/Fairfax	Impact before mitigation with south entrance option	Impact before mitigation	
	Wilshire/La Cienega	No Impact	Impact before mitigation	
Phase 2	Wilshire/Rodeo	Impact before mitigation with Union Bank, Ace Gallery station entrance options	Impact before mitigation	
	Century City	Constellation	No Impact	
		Santa Monica	No Impact	Impact before mitigation
Phase 3	Westwood/UCLA	On-Street	No Impact	
		Off-Street	No Impact	
	Westwood/VA Hospital	South	Impact before mitigation	Impact before mitigation
		North	Impact before mitigation	Impact before mitigation
Total Station Areas with Impacts		3	7	

Source: Fehr & Peers, June 2011

**Metro Long Range Transportation Plan Scenario (Phased Construction)**

Under the Phased Construction Scenario, the potential for impacts to the bicycle and pedestrian networks and bus stops is the same as under the Concurrent Construction Scenario. The only difference between the two scenarios is the timing of the potential for these impacts. Under the Phased Construction Scenario, the potential for impacts related to the bicycle and pedestrian networks and bus stops along Phase 2 and Phase 3 will occur later than under the Concurrent Construction Scenario due to an extended construction timeline. The timing for potential impacts related to the bicycle and pedestrian networks and bus stops to occur along Phase 1 of the LPA will be earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020. The analysis of these impacts is provided in the Concurrent Construction Scenario discussion above.

**Phase 1 to Wilshire/La Cienega**

Under Phase 1, impacts related to the safety of the pedestrian and bicycle networks and bus stops based on Criterion 1 are expected to occur at the Wilshire/Fairfax Station—South entrance option prior to mitigation. Impacts related to consistency with plans and



policies based on Criterion 2 are expected to occur at the Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega Stations.

**Phase 2 to Century City**

Under Phase 2, impacts related to the safety of the pedestrian and bicycle networks and bus stops based on Criterion 1 are expected to occur at the Wilshire/Rodeo Station—Ace Gallery entrance. Impacts related to consistency with plans and policies under Criterion 2 are expected to occur at the Wilshire/Rodeo and Century City Station areas.

**Phase 3 to Westwood/VA Hospital**

Under Phase 3, impacts related to the safety of the pedestrian and bicycle networks and bus stops based on Criterion 1 are expected to occur at the Westwood/VA Hospital North and Westwood/VA Hospital South Station areas. Impacts related to consistency with plans and policies under Criterion 2 are expected to occur at the Westwood/UCLA and Westwood/VA Hospital Station areas.

**3.7.3 Mitigation Measures**

This section presents information on measures to mitigate pedestrian, bicycle, and bus stop impacts. Under the Concurrent Construction Scenario, these measures will apply to the LPA; under the Phased Construction Scenario, the measures will apply to the respective phases.

**Mitigation Measures—Criterion 1**

The following mitigation measures have been developed to mitigate Criterion 1 impacts at the following station entrance options where Criterion 1 impacts are expected. For the station areas with impacts, the related phase is presented.

- Wilshire/Fairfax Station—South entrance option (Phase 1)
- Wilshire/Rodeo Station—Union Bank entrance option (Phase 2)
- Wilshire/Rodeo Station—Ace Gallery entrance option (Phase 2)
- Westwood/VA Hospital—South (Phase 3)
- Westwood/VA Hospital—North (Phase 3)

**T-5—Install Crossing Deterrents**

Install appropriate signage and deterrents to prohibit crossing Wilshire Boulevard at Orange Grove Avenue. This mitigation measure would be implemented for the following LPA station entrance option:

- Wilshire/Fairfax Station—South entrance option

**T-6—Install High-Visibility Crosswalk/Crossing Deterrents**

Stripe a high-visibility crosswalk on the east leg of the intersection of El Camino Drive and Wilshire Boulevard. If a crosswalk is not feasible, install appropriate signage and deterrents to prohibit crossing Wilshire Boulevard on the east side of El Camino Drive. This mitigation measure would be implemented for the following LPA station entrance option:

- Wilshire/Rodeo Station—Union Bank entrance option



**T-7—Install High-Visibility Crosswalk**

Stripe a high-visibility crosswalk treatment appropriate for unsignalized intersections on the south leg of the intersection of Reeves Drive and Wilshire Boulevard. This mitigation measure would be implemented for the following LPA station entrance option:

- Wilshire/Rodeo Station—Ace Gallery entrance option

**T-8—Install High-Visibility Crosswalk**

Stripe a high-visibility crosswalk treatment appropriate for unsignalized intersections on all four legs of Bonsall Avenue where it intersects with both the eastbound and westbound Wilshire Boulevard access ramps. Curb ramps fully compliant with ADA should be installed on all four corners. This mitigation measure would be implemented for the following LPA station entrance options:

- Westwood/VA Hospital—South
- Westwood/VA Hospital—North

**Mitigation Measures—Criterion 2**

In addition to ADA, the CA MUTCD, and other measures required for compliance with Federal, State, and local requirements, the following mitigation measures will be implemented to further ensure that there will be no Criterion 2 impacts to the pedestrian, bicycle, and bus network at LPA stations.

**T-9—Provide Consistency with General Plan Designation Sidewalk Width Adjacent to Metro-Controlled Parcels**

The LPA will be designed to ensure a minimum sidewalk/parkway width is provided on the portions of streets fronting parcels controlled by Metro, as required by General Plan street classification designation for each jurisdiction where an LPA station is located. For example, the Street Designations and Standards of the Transportation Element of the City of Los Angeles General Plan require a 12-foot-wide sidewalk/parkway on a Major Highway Class II, and a 10-foot-wide sidewalk/parkway on a Secondary. Thus, sidewalks on the portions of streets designated as Major Highway Class II that front parcels controlled by Metro will need a 12-foot-wide sidewalk/parkway. This mitigation measure will be implemented for all LPA station entrance options and will apply to all phases of implementation.

**T-10—Provide Consistency with General Plan Designation Sidewalk Width Coordination with Jurisdictions**

Metro will coordinate with local jurisdictions to identify sidewalks in station areas that do not meet this minimum and will encourage local agencies to widen them. Sidewalks adjacent to parcels not controlled by Metro may be less than the required minimum per General Plan designation. Because sidewalks are the responsibility of local jurisdictions, Metro does not have the authority to widen them directly but will encourage local jurisdictions to do so. This mitigation measure will be implemented for all LPA station entrance options and all phases of implementation.



**T-11—Provide High Visibility Crosswalk Treatments**

Metro will provide highly visible crosswalk treatments at intersections affected by LPA construction, following the Metro Rail Design Criteria. This mitigation measure will be implemented for all LPA station entrance options and all phases of implementation.

**T-12—Meet Federal, State, and Local Standards for Crossing**

Metro will coordinate with local jurisdictions to identify crossings that do not meet current ADA, CA MUTCD, and other relevant Federal, State, and local standards and will encourage local jurisdictions to upgrade them accordingly. Beyond those directly affected by LPA construction activities, which Metro is responsible for upgrading on restoration of all streets and crossings affected by LPA construction activities, crossings that do not meet standards are the responsibility of local jurisdictions. Metro does not have the authority to upgrade them directly but will encourage local jurisdictions to do so. This mitigation measure will be implemented for all LPA station entrance options and all phases of implementation.

**T-13—Meet Metro Rail Design Criteria Minimums for Bicycle Parking**

The LPA will provide bicycle parking to meet the minimum required number of bicycle parking spaces per the Metro Rail Design Criteria. This mitigation measure will occur at all LPA station entrance options where it is feasible to implement, which is expected to be the following stations:

- Wilshire/La Brea (all entrance options)
- Wilshire/Fairfax (all entrance options except the LACMA entrance option)
- Wilshire/La Cienega
- Wilshire/Rodeo—Ace Gallery entrance option
- Westwood/UCLA Off-Street
- Westwood/UCLA On-Street (Lot 36 entrance)
- Westwood/VA Hospital—South
- Westwood/VA Hospital—North

At the LPA station entrance options where this mitigation measure is not feasible to implement, an alternative mitigation measure, T-15, is proposed below.

**T-14—Study Bicycle Parking Demand and Footprint Configuration**

Metro will continue to assess bicycle parking demand as the project progresses through the design and construction process and size the bicycle facilities at each station accordingly. Bicycle parking demand can vary station-to-station, and the footprint required to meet that demand will vary. For example, bicycle lockers are more space intensive, while secured bicycle rooms can accommodate bicycle parking in a more compact footprint. The appropriate configuration and ultimate footprint reserved for bicycle parking at each station will vary by demand levels and space constraints. The *Westside Subway Extension Station Circulation Report* (Metro 2011am) details footprint ranges for each station area based on configuration of bicycle parking. This mitigation measure will be implemented for all LPA station entrance options and will apply to all phases of implementation.

**T-15—Determine Alternative Sites for Bicycle Parking**

At LPA station entrance options that are physically constrained, Metro shall look for space for bicycle parking at an alternative site, which could include provision of secured bicycle parking in an adjacent storefront or other development, install signage to direct subway riders to bicycle parking already provided at buildings or on streets near station entrances, or provide enhanced bicycle parking facilities at an adjacent station on the LPA to meet any unsatisfied demand from this station. This mitigation measure will be implemented for the following LPA station entrance options:

- Wilshire/Fairfax Station—LACMA entrance option
- Wilshire/Rodeo Station—Union Bank entrance option
- Wilshire/Rodeo Station—Bank of America entrance option
- Century City Constellation Station
- Century City Santa Monica Station
- Westwood/UCLA On-Street Station—Wilshire/Westwood North and South station entrance options

**T-16—Study Bus-Rail Interface**

Metro will continue to assess bus-rail interface. As a result of further study Metro, working with affected jurisdictions, will relocate bus stops at some LPA stations to minimize the number of streets riders must cross to transfer between the LPA and interfacing bus lines. This mitigation measure will be implemented for all LPA station entrance options and will apply to all phases of implementation.

**3.7.4 California Environmental Quality Act Determination**

The CEQA determination compares the effects of the LPA, under the Concurrent Construction Scenario and the Phased Construction Scenario, with the existing conditions described in the affected environment/existing conditions section. As outlined in Section 3.7.2, the following CEQA guidelines were used to determine whether the LPA would result in a significant impact to the bicycle and pedestrian networks or bus stops:

- **Criterion 1**—Would the Project substantially increase hazards due to a design feature or incompatible uses (CEQA Guidelines Appendix G Checklist item XVI.d)?
- **Criterion 2**—Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (CEQA Guidelines Appendix G Checklist item XVI.f)?

As discussed in Section 3.7.2, the No Build Alternative is not expected to result in adverse effects to the bicycle and pedestrian networks or bus stops in the Study Area.

The operation of the LPA will result in impacts related to the safety of the pedestrian and bicycle networks and bus stops under Criterion 1 at five locations identified in Section 3.7.2 that will require mitigation, as identified in Section 3.7.3. Operation of the LPA will also result in impacts related to consistency with policies or plans under Criterion 2 at all seven LPA stations, as identified in Section 3.7.2, and will require mitigation to reduce a Criterion 2 impact to a level below significant as identified in Section 3.7.3.

The opening of the LPA as a single phase under the Concurrent Construction Scenario or in three sequential phases under the Phased Construction Scenario will not result in different impacts to pedestrian and bicycle networks and bus stops during operation of the LPA. After implementation of the mitigation measures detailed above, impacts to the interfacing pedestrian and bicycle networks and bus stops will be mitigated to less than significant levels for the LPA.

### 3.8 Construction-related Transportation Impacts

This section focuses on construction-related transportation impacts of the LPA under both the Concurrent Construction Scenario and the Phased Construction Scenario. This section identifies possible road closures and other construction-related impacts on transportation. These impacts could involve construction detours as well as construction-related obstacles to existing transit, parking, bicycle facilities, and pedestrians. The construction staging scenarios for the LPA, including both the Concurrent Construction Scenario and the Phased Construction Scenario, will determine construction-related transportation impacts. The existing conditions are the same as those described in Section 3.4 through Section 3.7.

The No Build Alternative does not have a construction component and would not result in construction-related impacts on transportation.

Further information on construction-related transportation impacts is presented in the *Westside Subway Extension Construction Traffic Analysis Report* (Metro 2011ai). Refer to Section 4.15 for construction impacts related to other environmental areas.

#### 3.8.1 Construction Activities and Methodologies

The following sections describe the construction activities related to station and tunnel construction as well as haul routes, all of which have the potential to impact transportation networks. The duration of individual construction activities for each element are approximately the same under both the Concurrent Construction Scenario and the Phased Construction Scenario. Under either construction scenario, portions of certain activities will be conducted at the same time as other activities. For example, relocation and support of underground utilities, station excavation, and station construction could be concurrent at any individual station location. With the Concurrent Construction Scenario, a greater overlap of construction activities will occur since all three segments will be constructed concurrently.

For detailed information on construction activities, refer to Section 4.15 and Appendix E, Construction Methods.

#### Station and Tunnel Construction

The traffic-control activities associated with station areas under each construction stage are shown in Table 3-19. The table also shows an estimate of the duration where temporary full and partial street closures are in effect. If the LPA is constructed under the Phased Construction Scenario, the traffic-control activities and durations in Table 3-19 will be the same as under the Concurrent Construction Scenario. The only difference is the number of stations under construction at a given time. Under the

Concurrent Construction Scenario, more stations will be constructed concurrently than under the Phased Construction Scenario.

Construction duration depends on the method of construction to be used. The specific street closure locations will be identified in close coordination with local agencies during the final design phase. Further information on traffic-control activities is presented in Section 2 of the *Westside Subway Extension Construction Traffic Analysis Report* (Metro 2011ai).

**Table 3-19. Traffic-control Activities during Station Construction**

Construction Staging	Station Construction Activity	Traffic Control Activities	Duration
Stage 0	Utility relocation Street improvements Removal of existing raised medians	Provide traffic control per local agency requirements (some utility companies will develop their own traffic control plans)	24 months
Stage 1	Temporary shoring installation (north or west half of the street) for the sides and ends of the station box	Close two to three roadway lanes Shift traffic to south or east side of roadway and maintain two-way traffic circulation	20 to 70 days
Stage 2	Temporary shoring installation (south or east half of the street) for the sides and ends of the station box	Close two to three roadway lanes Shift traffic to north or west side of roadway and maintain two-way traffic circulation	20 to 70 days
Stage 3	Decking installation (half or full length of the station)	Close all roadway lanes and provide a detour route <sup>1</sup>	85 to 140 days
Stage 4	Decking installation (the other half length of the station)	Close all roadway lanes and provide a detour route <sup>1</sup>	85 to 140 days
Stage 5	Removal of the decking and street restoration	Close all roadway lanes and provide a detour route <sup>1</sup>	85 to 140 days
Stage 6	Completion of station appendages	Close parking lane	80-140 days

<sup>1</sup>For Westwood/UCLA (On-Street) and Century City Santa Monica Stations, at least two lanes of Wilshire Boulevard and Santa Monica Boulevard will remain open at all times (due to sufficient roadway widths at these locations)

**Station Construction**

**Station Construction Stage 0**

Relocation of utilities will occur before excavation for stations and may require closure of traffic lanes. In some instances, block-long sections of streets might be closed temporarily. The extent of the time duration for relocation of utilities and/or road closures will depend on designs and work schedules on the part of the contractor and utility company. The durations could range between days and months depending on the design and schedules. Pedestrian access (sidewalks) will generally remain open, and vehicular traffic will be re-routed. Special facilities, such as handrails, fences, and walkways, will be provided for pedestrian safety. Temporary night sidewalk closures may be necessary in some locations for the delivery of oversized materials. Minor cross streets and alleyways may also be temporarily closed, but access to adjacent properties will be maintained. Major cross streets will require partial closure while relocating utilities.



***Station Construction Stage 1 and Stage 2***

The primary traffic impact related to construction of a station is usually associated with the time it takes to install temporary shoring prior to station excavation and to install the decking over the station box using methods similar to the construction of stations on the Metro Gold Line Eastside Extension. For stations built under existing streets, temporary shoring will be installed along the perimeter of the station box at the edge of the roadway for half the street. During this period, two-way traffic circulation is maintained but shifted away from the side of the street where the work is taking place and with reduced number of traffic lanes. Once this operation is completed for the full length of the station box or station box and crossover tracks (as is the case at the Wilshire/La Brea, Wilshire/La Cienega, Wilshire/Rodeo, Century City, and Westwood/VA Hospital Stations), traffic is shifted to the opposite half of the street. The temporary shoring is then constructed along the perimeter of the other half of the station box.

***Station Construction Stage 3, Stage 4, and Stage 5***

Once the shoring is sufficiently advanced, installation of decking can commence. Decking will be generally flush with the existing street to allow traffic to operate at posted speeds, although raised decking is also being considered at the Wilshire/Fairfax Station. The top 6 to 10 feet of soil below the existing roadway will be excavated as the decking is installed to create space for the beams and decking panels. Decking will be installed over an approximate two to three month period. Once decking has been installed, construction of the station will continue while traffic travels on the decking. Decking installation and removal will require temporary off-peak, nighttime, and/or weekend street/lane closures for the durations shown in Table 3-19. As these street/lane closure requirements are identified, traffic will be diverted to nearby intersections and arterials with detours clearly signed and marked.

***Station Construction Stage 6***

Station appendages (including emergency exits, maintenance hatches, air intakes and air exhausts, and entrances for maintenance staff) will be constructed below the street decking to the extent possible. Where they terminate in the sidewalk, the sections outside the street decking will be constructed after the street decking has been removed and the street restored. At this time, temporary shoring will be installed, and the sidewalk excavated to complete the appendage. Depending on the location of the street decking relative to the sidewalk, there may also be a section of the appendage between the station box and the sidewalk that will have to be completed at this time. Extended parking lane closures will be required for appendage construction.

If temporary easements can be obtained from building owners to divert pedestrian traffic between the building line and the right-of-way around the appendage construction, the lane closure will be used for the operation of construction equipment and to construct that section of appendage beneath the street. Where there is not room between the property line and the building line to divert pedestrians, or where temporary easements cannot be obtained from the property owner, the pedestrians will have to be diverted around the street side of the appendage by using a portion of the parking lane as a walkway. There may be short periods when the sidewalk may have to be completely

closed to pedestrian traffic. Such closures would be scheduled outside of normal business hours and pedestrians would be diverted to the opposite side of the street during the closure. Extended lane closures for appendage construction are anticipated to be from two to four months. As each station has multiple appendages, it will be important to construct all the appendages on one side of the street concurrently to avoid multiple closings of the same parking lane. It is anticipated that appendages on both sides of the street can be constructed concurrently.

### **Tunnel Construction**

Temporary drop pipes (holes drilled from the surface down into the tunnel) may be used to improve logistics within the tunnels. They generally will be located in the street away from station locations above the tunnel structure and will be used for delivering concrete and grout for tunnel lining. These temporary drop pipes are also anticipated in residential areas. Drop pipes are normally used to reduce the distance that concrete and grout need to be transported from the station box to the location where needed. Long drives (section of tunnel to be bored by a particular TBM) occur between the Westwood/UCLA and Century City Stations and also between the Wilshire/La Brea Station and Wilshire/Western access shaft. These drives, which pass through residential areas, are good candidates for the use of drop shafts. However, drop shafts could be used at other locations within the LPA area to solve particular logistical issues within the tunnels or to support the construction of cross passages that occur at 800-foot intervals throughout the LPA area. Drop pipes to cross passages could occur anywhere within the LPA limits. In general, access activities to the drop pipe will be scheduled in a manner to allow work taking place within a single work shift. The holes will basically be located away from intersections and likely near the middle of a block face or side of a block between two intersections. While use of drop pipes will likely be short term, perhaps no greater than two weeks to a month, a traffic control plan will be implemented using the City of Los Angeles and City of Beverly Hills guidelines, including the Work Area Traffic Control Handbook (WATCH Manual).

Grouting to improve the ground at cross passages would be done from street level and from within the tunnels. Where grouting does have to be done from street level, it would be done from the street above the tunnel (mainly Wilshire Boulevard) with grouting operations likely to be set up in the parking lanes or the center median. Grouting operations would be continuous and extend 24 hours per day for a short period (up to approximately two weeks).

For work in the street, the operation will typically be sequenced so that existing traffic controls for station work can be extended. When this extended area affects an intersection, the work in the intersection area will need to be staged so that traffic controls within the intersection are limited to off-peak periods. Often these additional surface openings affect sidewalks, which require temporary diversion of pedestrians. Typically, this work can be done such that a minimum sidewalk width is still provided during the daytime. Full sidewalk closures, where necessary, will be limited to nights and weekends or as permitted by local jurisdictions.

TBM components will be shipped to the tunnel construction site by truck. Several oversize deliveries will be required, some during nights and weekends. However, these large component deliveries are limited to the initial setup period for the TBM, as well as during the removal period. If a TBM is to be re-used to excavate a subsequent tunnel (which is the case once the Wilshire/La Brea to Wilshire/La Cienega tunneling is complete), the entire machine and support equipment would be transported by road from one site to the next. This would require full or partial road closures, typically at night or on weekends. Oversize loads may also be required to transport beams for station decking and for deliveries of rail, trackwork sections, and large mechanical equipment.

Figure 3-28 shows for a typical location (Wilshire/La Brea) the work required to excavate and construct the station separately from the work associated with tunnel boring. The major work components and associated time durations will apply to a typical station location under the Concurrent Construction Scenario. For those stations that are non-TBM support locations (Westwood/UCLA, Wilshire/Rodeo, Wilshire/La Cienega, and Wilshire/Fairfax Stations), the overall duration of work will be similar to that shown for the Wilshire/La Brea Station, but there will be little activity at the station location during the period of TBM tunnel excavation.

Work will be underway at several station sites concurrently. Stations are planned to be excavated ahead of the arrival of TBMs to that location, and the TBMs will be pulled through the excavated station. This reduces the time needed to complete the station once tunneling has been completed. The general sequence of events will be to commence the excavation at the stations where the TBMs will be launched, namely Westwood/VA Hospital, Century City, and Wilshire/La Brea. The work at other stations will be scheduled such that the excavation of the station will be completed before TBMs arrive. Stations close to the end of a particular tunnel drive, therefore, have some flexibility in the excavation schedule, and street work that disrupts traffic, such as shoring and decking, can be scheduled to a certain extent to reduce disruption to traffic along Wilshire Boulevard and on major north-south arterials. However, as station excavation and removal of tunnel spoil extend well beyond the time needed for the installation of shoring and street decking, trucking activity from multiple stations will proceed concurrently.

If the LPA is constructed under the Phased Construction Scenario, construction activities will generally be the same; however, the level of concurrent construction activity would depend on the phase(s) of the subway extension under construction. Some overlap in construction activities may occur between the end of one phase and start of the next phase, depending on the construction schedule. Section 4.15 provides information on the construction schedule for the Concurrent Construction Scenario and the Phased Construction Scenario.



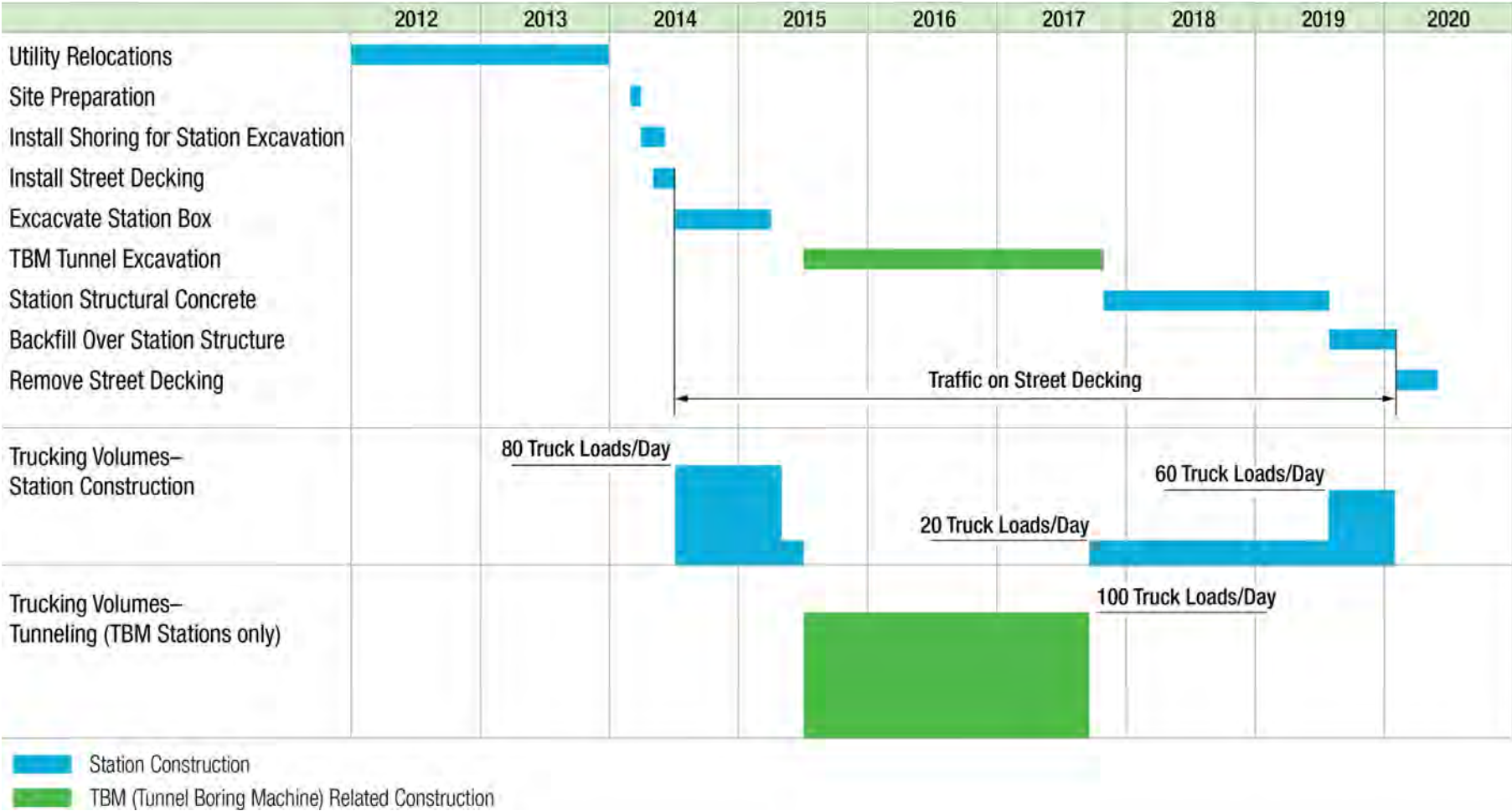


Figure 3-28. Proposed Construction Sequencing—Wilshire/La Brea Station

### 3.8.2 Traffic and Circulation Construction-Related Environmental Impacts/Environmental Consequences

Estimated traffic- and circulation-related impacts resulting from construction are presented below. These impacts are associated with contractor work and storage areas, stations, crossovers, mining entry/exit locations, tunnel boring machine (TBM) operations and support activities, truck haul routes, transportation of oversized construction materials, station entrances, station appendages, grout injection, and drop holes for the LPA.

Under the Concurrent Construction Scenario and the Phased Construction Scenario, overall construction impacts resulting from construction of the LPA will be very similar because the construction activities will generally be the same. The major difference between the two scenarios is the timing of construction activities and, therefore, the duration of the construction impacts. Under the Phased Construction Scenario, construction activities will be spaced over a longer period of time—from 2013 to 2036, which will result in a longer overall duration for any construction impacts. Under the Concurrent Construction Scenario, all construction activities will occur between the 2013 and 2022. For some resource areas, such as traffic impacts, the phased construction approach could reduce the intensity of impacts at a given point in time as construction activities will not occur concurrently. However, most resource areas discussed in the following sections will not see a substantial difference in overall impacts during construction of the LPA, whether or not it is constructed in phases.

#### **America Fast Forward (30/10) Scenario (Concurrent Construction)**

##### **Truck Haul Routes**

Anticipated truck haul routes consist of the major city arterial streets that trucks will use to transport spoils, muck, material, and equipment between the construction laydown site locations, station entrance locations, and the off-site disposal location using the nearest freeway interchange. Haul routes were selected where feasible to avoid residential areas. To minimize peak-period traffic disruptions, haul truck activity is anticipated to take place during off-peak and nighttime periods. The proposed routes identified in the following sections are conceptual and may be updated and revised once additional information, such as construction sequencing, is finalized. In addition, the proposed routes will be subject to the approval of Metro and appropriate departments at Federal, State, and local agencies. An overall summary of the truck haul routes is provided below.

##### **Location**

Portions of all identified haul routes are located within the City of Los Angeles. Haul routes for the Wilshire/La Cienega Station and Wilshire/Rodeo Station construction locations are also within the City of Beverly Hills. Haul routes for the Westwood/UCLA Station (both options), Westwood/VA Hospital Station (both options), and the GSA double crossover are partially within the unincorporated area of the County of Los Angeles.

**Length**

The shortest haul route length is 0.2 mile (Westwood/VA Hospital Station—South option) and the longest haul route length is 6.2 miles (Wilshire/Rodeo Station).

**Overlaps**

Table 3-20 provides an overview of the relationships between roadways proposed as haul routes and locations of construction activities. The overlapping haul route information assumes that the LPA will be constructed concurrently under the Concurrent Construction Scenario. Under the Phased Construction Scenario, it is unlikely that the haul routes from Phase 1, Phase 2, and Phase 3 will overlap due to the phased construction schedule.

**Table 3-20. Haul Routes for Construction Activities**

Phase	Construction Location	Overlapping Haul Routes <sup>1</sup>						
		Western Avenue	La Brea Avenue	La Cienega Boulevard	Santa Monica Boulevard	Wilshire Boulevard	Westwood Boulevard	Sepulveda Boulevard
Phase 1	Wilshire/Western	✓				✓		
	Wilshire/Crenshaw	✓				✓		
	Wilshire/La Brea		✓			✓		
	Wilshire/Fairfax		✓	✓		✓		
	Wilshire/La Cienega		✓	✓		✓		
Phase 2	Wilshire/Rodeo				✓	✓	✓	
	Century City Santa Monica				✓			
	Century City Constellation				✓			
Phase 3	Westwood/UCLA Off-Street					✓	✓	
	Westwood/UCLA On-Street					✓	✓	
	Westwood/VA Hospital South				✓	✓		✓
	Westwood/VA Hospital North					✓		
	Westwood/VA Hospital GSA Double Crossover				✓	✓	✓	✓

<sup>1</sup>If the LPA is constructed under the Phased Construction Scenario, it is unlikely that haul routes for Phase 1, Phase 2, and Phase 3 will overlap.

**Land Uses**

Land use is mostly commercial along arterial streets used for haul routes. However, clusters of residential units are located along the following streets:

- St. Andrews Place (between West 6th Street and Wilshire Boulevard), multi-dwelling units, for Wilshire/Western TBM Retrieval Shaft
- La Brea Avenue (between Venice Boulevard and Washington Boulevard), multi-dwelling units, for Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega Stations
- La Brea Avenue (between Washington Boulevard and I-10 Freeway), single-dwelling units, for Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega Stations

- 3rd Street (between La Cienega and Robertson Boulevards), multi-dwelling units for Wilshire/La Cienega Station(although all parcels in this section of 3rd Street are zoned for commercial uses)
- Robertson Boulevard at Burton Way, clusters of multi-dwelling units for Wilshire/La Cienega Station
- Pico Boulevard (between Beverwil Drive and Roxbury Drive), multi-dwelling residential and a high-rise apartment building on the south side for Wilshire/Rodeo Station
- Sepulveda Boulevard (between Santa Monica and Wilshire Boulevards), a low-income housing unit on the west side for GSA double crossover
- Barrington Avenue (between Santa Monica and Wilshire Boulevards), multi-dwelling units for Westwood/VA Hospital South option

Haul truck activity is anticipated to take place during off-peak and nighttime periods to minimize peak-period traffic disruptions. The estimated daily haul truck trips at each construction site location are presented in Table 3-21. This information includes the extent of affected station areas under each phase if the LPA is constructed under the Phased Construction Scenario.

The number of trips differs depending on the type of construction activity. The estimated daily haul truck trips shown depend on the method of construction to be used and the truck hauling capacity.

**Table 3-21: Estimated Daily Haul Truck Trips**

Phase	Location	Station Box Construction	Tunnel Boring Machine Activity	Station and Other Related Construction
Phase 1	Wilshire/Western TBM removal location	25–50	n/a	25–50
	Wilshire/Crenshaw construction staging site location	40–60	n/a	25
	Wilshire/La Brea Station and TBM launch location <sup>1</sup>	60–100	80–120	40–60
	Wilshire/Fairfax Station <sup>1</sup>	40–80	n/a	40–60
	Wilshire/La Cienega Station <sup>1</sup>	40–80	n/a	40–60
Phase 2	Wilshire/Rodeo Station <sup>2</sup>	60–100	n/a	40–60
	Century City Station and TBM launch location <sup>1</sup>	80–120	90–130	80–120
Phase 3	Westwood/UCLA Station <sup>1</sup>	60–100	n/a	40–60
	GSA double crossover <sup>1</sup>	60–100	n/a	40–60
	Westwood/VA Hospital Station and TBM launch location <sup>1</sup>	40–60	100–140	40–60
	Emergency exit shaft—Westwood/VA Hospital	25	n/a	25

The estimated daily haul truck trips assume a swell of 30 percent. Swell is the increase in soil volume from its natural compacted state to its loose state after it has been excavated.

<sup>1</sup>Highway doubles to be used at Westwood/VA Hospital, GSA double crossover, Westwood/UCLA, Century City, Wilshire/La Cienega, Wilshire/Fairfax, and Wilshire/La Brea—the truck capacity is 15 cubic yards/load.

<sup>2</sup>Highway end dumps to be used at Wilshire/Rodeo Station—the truck capacity is 10 cubic yards/load.

**Traffic Handling**

The following sections present the traffic handling approach and specific requirements and guidelines to be followed during construction to maintain a safe environment and minimize disruptions.

Traffic control guidelines and standards provide direction for the reasonably safe and efficient movement of road users, including pedestrians and bicyclists, through or around permanent or temporary construction work areas. The design, application, installation, maintenance, and removal of all types of traffic control devices will have to conform to the Federal, State, and local standards and guidelines (e.g., MUTCD, WATCH Manual).

To help address potential traffic impacts associated with LPA construction, traffic control zones will be established. A traffic control zone is a roadway where user conditions (for vehicles, buses, pedestrians, and bicyclists) will be changed due to a construction activity or by direction of uniformed law enforcement officers. Most traffic control zones are divided into four areas:

- Advance warning area
- Transition area
- Construction activity area
- Termination area

The traffic control zone also includes streets identified as detour routes on the approved traffic control plans. To better facilitate traffic flow and avoid major disruptions and bottlenecks due to construction, traffic control zones (in particular Advance Warning Areas) will extend beyond one arterial street on each side of station construction sites. This will better disperse heavy traffic flows on the major arterials and help the roadway network better absorb the traffic impacts from construction.

Table 3-22 provides an overview of the traffic control zone limits at each station area of the LPA. For each station, the type of LPA-related construction is presented along with the limits of the traffic control zones.

***Traffic Lane Requirements***

Traffic lane maintenance during construction will follow local agency requirements and standards with respect to lane widths, number of lanes, and duration of temporary lane closures. During non-working hours, existing traffic lanes including turn lanes and two-way left-turn lanes will be restored to the pre-construction/original condition unless otherwise authorized by the local jurisdiction. Worksite traffic control and construction will be planned to be staged to satisfy traffic lane requirements within the traffic control zone.

**Table 3-22. Traffic Control Zones**

Phase	Location	Type of Construction Activity	Limits of Traffic Control Zone
Phase 1	Wilshire/Western	TBM removal	Wilshire Boulevard between Vermont Avenue and Crenshaw Boulevard Western Avenue between Beverly Boulevard and Pico Boulevard
	Wilshire/La Brea	Station, crossovers and TBM launch site	Wilshire Boulevard between Rossmore Avenue and San Vicente Boulevard La Brea Avenue between Beverly Boulevard and Pico Boulevard
	Wilshire/Fairfax	Station	Wilshire Boulevard between Highland Avenue and La Cienega Boulevard Fairfax Avenue between Beverly Boulevard and Pico Boulevard
	Wilshire / La Cienega	Station, crossovers, and TBM removal	Wilshire Boulevard between Fairfax Avenue and Beverly Drive La Cienega Boulevard between Beverly Boulevard and Pico Boulevard
Phase 2	Wilshire/Rodeo	Station and crossovers	Wilshire Boulevard between La Cienega Boulevard and Beverly Glen Boulevard Beverly Drive between Sunset Boulevard and Pico Boulevard Rodeo Drive between Sunset Boulevard and Wilshire Boulevard Canon Drive between Sunset Boulevard and Pico Boulevard
	Century City Santa Monica	Station, crossovers and TBM launch site	Santa Monica Boulevard between Beverly Drive and Overland Avenue Century Park East between Santa Monica Boulevard and Pico Boulevard
	Century City Constellation	Station, crossovers, and TBM launch site	Avenue of the Stars between Santa Monica Boulevard and Pico Boulevard Constellation Boulevard between Century Park West and Century Park East Century Park West and Century Park East between Santa Monica Boulevard and Olympic Boulevard
Phase 3	Westwood/UCLA On-Street	Station	Wilshire Boulevard between Barrington Avenue and Beverly Glen Boulevard Veteran Avenue between Santa Monica Boulevard and Sunset Boulevard Gayley Avenue between Le Conte Avenue and Wilshire Boulevard Midvale Avenue between Rochester Avenue and Wilshire Boulevard
	Westwood/UCLA Off-Street	Station	Wilshire Boulevard between Gayley Avenue and Veteran Avenue
	GSA property (with Westwood/VA Hospital South Station Option only)	Crossovers	I-405 northbound ramps to/from eastbound Wilshire Boulevard between the freeway mainline and the ramp terminal intersection
	Westwood/VA Hospital (South or North Station Options)	Station, crossovers, and TBM launch site	I-405 southbound ramps to/from eastbound Wilshire Boulevard between the freeway mainline and the ramp terminal intersection (for the South Option only) Bonsall Avenue otherwise off-street site (no traffic control zone necessary)

### ***Temporary Street Closures and Detour Routes***

During construction, full street closures will generally be limited to nighttime and weekend closures. Partial street closures will be limited to nighttime, weekend, and off-peak periods, except during installation of temporary shoring where the closure will be continuous throughout the day. Partial street closures along Wilshire Boulevard will be temporary, for short-term durations, and minimized during peak travel periods. Full street closures are not expected at the Westwood/UCLA or Century City Santa Monica Boulevard Stations. Potential street closure locations will be selected based on the

proposed station and station entrance construction methods, duration, and sequencing. These locations will be identified in close coordination with the local agencies having jurisdiction.

As construction details are further defined by the contractors, additional traffic projections will be conducted to provide updated information on expected traffic volumes at the intersections to be evaluated. These projections will be developed in cooperation with Metro, the State, and local jurisdictions. Based on these traffic projections, the proposed construction staging areas, the number of haul trucks, and the proposed construction sequencing at adjacent sites, appropriate detour routes to bypass the area and to haul muck will be developed in greater detail in conjunction with local agencies.

If a street is expected to require partial or full closure, the traffic will be detoured to other streets in the vicinity of the construction area. The potential impacts of the additional traffic will be evaluated for preliminary peak-hour traffic evaluation for key intersections to see if additional mitigation is necessary. In addition, diversion of traffic is anticipated due to full street closures during off-peak and nighttime periods.

Temporary traffic signal plans will be prepared by the construction contractor as part of the worksite traffic control plans. These temporary traffic signal plans must conform to the California MUTCD and applicable local agency standards and guidelines. Within the City of Los Angeles, reference will be made to the City of Los Angeles Special Provisions and Standard Drawings for Installation and Modification of Traffic Signals. Plans shall be reviewed and approved by each responsible agency prior to implementation.

### ***Construction-Related Effects on Emergency Vehicle Access***

As a result of construction, emergency vehicle access (e.g. police, fire, rescue, and ambulance) in and around individual construction work sites may be affected by lane closures and/or temporary street closures.

### ***Access and Impacts on Commercial Driveways***

During construction, driveway entrances and exits will be maintained during essential hours. When construction activity affects existing business driveways, maintenance of traffic plans will be prepared by the construction contractor showing how vehicular access will be maintained to businesses. If acceptable, alternate access points (approved by the applicable agency) will be provided. The construction activity must be coordinated with each affected property representative and the plans approved by the agency having jurisdiction. The local agency may restrict the left-turn and/or right-turn vehicular movements entering and/or exiting driveways during construction.

### ***Metro Long Range Transportation Plan Scenario (Phased Construction)***

The construction-related traffic impacts for the LPA under the Concurrent Construction Scenario and the Phased Construction Scenario will be similar; however, phasing of the LPA construction under the Phased Construction Scenario will affect the timing and degree of overlap of construction-related transportation impacts. Phases 2 and 3 of the Phased Construction Scenario will occur later than under the Concurrent Construction Scenario. The impacts by phases are presented below.



## Phase 1 to Wilshire/La Cienega

Similar types of traffic-control activities identified for the Concurrent Construction Scenario will also occur under Phase 1 of the Phased Construction Scenario. However, the timing for traffic lane requirements along Phase 1 of the LPA will occur earlier than under the Concurrent Construction Scenario since Phase 1 will open for operation in 2020. These activities will occur at the Wilshire/Western, Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega Station areas. Haul routes in this phase will include Western Avenue, La Brea Avenue, La Cienega Boulevard, and Wilshire Boulevard.

Clusters of affected residential units near haul routes along this phase are located along the following streets:

- St. Andrews Place (between West 6th Street and Wilshire Boulevard), multi-dwelling units for Wilshire/Western Station
- La Brea Avenue (between Venice Boulevard and Washington Boulevard), multi-dwelling units for Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega Stations
- La Brea Avenue (between Washington Boulevard and I-10 Freeway), single-dwelling units for Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega Stations
- 3rd Street (between La Cienega and Robertson Boulevards), multi-dwelling units for Wilshire/La Cienega Station (although all parcels in this section of 3rd Street are zoned for commercial uses)
- Robertson Boulevard at Burton Way, clusters of multi-dwelling units for Wilshire/La Cienega Station

The location and activity for truck hauling along this phase is as follows:

- Wilshire/Western: TBM removal location
- Wilshire/Crenshaw: construction staging site location
- Wilshire/La Brea: station and TBM launch location
- Wilshire/Fairfax: station, crossovers, and TBM launch location
- Wilshire/La Cienega: station and crossovers

With the Phased Construction Scenario, interim impacts associated with traffic handling will occur under each phase. For Phase 1, traffic control zones will be established for Wilshire/Western, Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega Station areas. At these locations, temporary street closures and detour routes will occur along with impacts on emergency vehicle access and commercial driveways.

## Phase 2 to Century City

Traffic control activities will occur at the Wilshire/Rodeo and the Century City Santa Monica or Century City Constellation Station areas. Haul routes in this phase will include Santa Monica, Wilshire, and Westwood Boulevards, Century Park West, Avenue of the Stars, Century Park East and/or Constellation Boulevard. Clusters of residential units near haul routes are located along Pico Boulevard (between Beverwil and Roxbury Drives), multi-dwelling residential and a high-rise apartment building on the south side for the Wilshire/Rodeo Station.



The location and activity for truck hauling along this phase is as follows:

- Wilshire/Rodeo—station and crossovers
- Century City Santa Monica—station, crossovers and TBM launch site
- Century City Constellation—station, crossovers and TBM launch site

For Phase 2, traffic control zones will be established for the Wilshire/Rodeo, Century City Santa Monica, and Century City Constellation Station areas. At these locations, temporary street closures and detour routes will occur along with impacts on emergency vehicle access and commercial driveways.

### **Phase 3 to Westwood/VA Hospital**

Traffic-control activities will occur at Westwood/UCLA On-Street, Westwood/UCLA Off-Street, Westwood/VA Hospital (South or North), and GSA Property (Westwood/VA Hospital South Station option only). Haul routes in this phase will include Santa Monica, Wilshire, Westwood, and Sepulveda Boulevards as well as Barrington Avenue. For the GSA double crossover, clusters of residential units near haul routes are located along Sepulveda Boulevard (between Santa Monica and Wilshire Boulevards). Clusters are also located along Barrington Avenue (between Santa Monica and Wilshire Boulevards), multi-dwelling units for Westwood/VA Hospital South.

The location and activity for truck hauling along this phase is as follows:

- Westwood/UCLA On-Street—station
- Westwood/UCLA Off-Street—station
- GSA property (with Westwood/VA Hospital South Station only)—crossovers
- Westwood/VA Hospital South and North options—station, crossovers, and TBM launch site

For Phase 3, traffic-control zones will be established for Westwood/UCLA On-Street, Westwood/UCLA Off-Street, Westwood/VA Hospital (South or North options), and GSA Property (Westwood/VA Hospital South Station option only). At these locations, temporary street closures and detour routes will occur along with impacts on emergency vehicle access and commercial driveways.

### **3.8.3 Public Transit Construction-Related Environmental Impacts/Environmental Consequences**

#### **America Fast Forward (30/10) Scenario (Concurrent Construction)**

Temporary street closures will require temporary rerouting of bus lines and additional bus stop locations. The rerouting of bus lines will add transit travel time for bus riders. Prior to implementation of any temporary street closures or any changes affecting bus stop locations and operations, the transit providers listed below will be contacted at least 100 days in advance. Emergency bus stop relocations will require a contractor employee to contact the office of the affected bus agency to negotiate the needed change, and in no event shall less than 14 days notice be provided:

- Metro
- LADOT DASH
- LADOT Commuter Express
- UCLA Campus Shuttle



- LAX FlyAway
- Santa Clarita Transit
- Culver City Bus
- Santa Monica Big Blue Bus
- Antelope Valley Transportation Authority

### **Metro Long Range Transportation Plan Scenario (Phased Construction)**

The analysis of the potential for construction-related impacts related to public transit is provided in the Concurrent Construction Scenario discussion above. The construction-related traffic impacts for the LPA under the Concurrent Construction Scenario and the Phased Construction Scenario will be similar; however, phasing of the LPA construction under the Phased Construction Scenario will affect the timing and degree of overlap of construction-related parking impacts. Phases 2 and 3 of the Phased Construction Scenario will occur later than under the Concurrent Construction Scenario.

### **3.8.4 Parking Construction-Related Environmental Impacts/Environmental Consequences**

#### **America Fast Forward (30/10) Scenario (Concurrent Construction)**

During construction, it may be necessary to prohibit on-street curb parking when traffic lanes are closed or eliminated temporarily. Existing on-street parking and loading zones will be temporarily removed for the duration of construction. Parking meters within traffic control zones and affected by construction will be removed or covered as directed by the agency having jurisdiction. Contractors will be required to have all employees park off-street at Metro-approved locations to minimize the loss of crucial commercial parking.

In addition to these construction period on-street impacts, a number of off-street spaces will be removed to accommodate construction. The removal of off-street parking spaces during construction of the Wilshire/La Cienega, Wilshire/Rodeo, Century City (Santa Monica option), Westwood/UCLA, and Westwood/VA Hospital Stations will incur temporary but adverse impacts. In some cases, the LPA design addresses potential impacts, but in others, mitigation measures will be required.

For the Westwood/VA Hospital South Station option, a parking structure providing both permanent and temporary replacement parking would be located in the existing physician's parking lot, east of the VA Hospital. As part of the LPA, temporary replacement parking would also be located in a new lot south of the VA Hospital and east of Bonsall Avenue. In addition, existing parking for persons with disabilities in the parking lot north of the VA Hospital would not be displaced during construction.

For the Westwood/VA Hospital North Station option a number of parking spaces would be removed to accommodate the construction laydown area north of Wilshire Boulevard. However, the recommended location for the Westwood/VA Hospital Station is on the south side of Wilshire Boulevard, which would avoid the removal of spaces on the north side of Wilshire Boulevard during construction. Existing parking for persons with disabilities in the parking lot north of the VA Hospital would not be displaced during construction.

In addition, a number of off-street parking spaces in Lot 36 at the Westwood/UCLA Station site, for either the On-Street or Off-Street option, would be removed to accommodate construction activities. For construction of the Century City Station—Santa Monica entrance, parking would be temporarily displaced in the underground garage located at the southwest corner of Santa Monica Boulevard and Century Park East. However, the recommended location for the Century City Station is along Constellation Boulevard, which would avoid the off-street construction-related parking impacts associated with the construction of the Century City Santa Monica Station option.

Depending on the location of the Wilshire/Rodeo Station entrance, off-street parking spaces would be temporarily displaced at the Union Bank Building underground garage for construction of the station entrance located on the southeast corner of the Wilshire Boulevard and El Camino Drive intersection and at the Bank of America Building underground garage for construction of the station entrance at the northwest corner of the Wilshire Boulevard and Beverly Drive intersection. However, only one station entrance site will be selected at this station location. The recommended location for the Wilshire/Rodeo Station entrance is on the southwest corner of Wilshire Boulevard and Reeves Drive, which would avoid all construction-related off-street parking impacts associated with the Bank of America and Union Bank station entrances.

At the Wilshire/La Cienega Station, off-street parking spaces would be temporarily displaced in the underground garage located at the office building on the northeast corner of Wilshire Boulevard and Hamilton Drive.

When construction activity affects the curb-side passenger loading or commercial loading zones, loading zone circulation plans will be prepared as part of the LPA by the construction contractor in association with Metro and approved by the local agency having jurisdiction. The loading zone plan must be coordinated with each affected property representative. When the construction activity affects existing newspaper stands, mail boxes, or bus shelters, an arrangement should be made with each affected owner for relocation or removal.

### **Metro Long Range Transportation Plan Scenario (Phased Construction)**

The analysis of the potential for construction-related impacts related to parking is provided in the Concurrent Construction Scenario discussion above. The construction-related traffic impacts for the LPA under the Concurrent Construction Scenario and the Phased Construction Scenario will be similar; however, phasing of the LPA construction under the Phased Construction Scenario will affect the timing and degree of overlap of construction-related parking impacts. Phases 2 and 3 of the Phased Construction Scenario will occur later than under the Concurrent Construction Scenario. The specific impacts by phases are presented below.

#### **Phase 1 to Wilshire/La Cienega**

During construction of Phase 1, it may be necessary to prohibit on-street curb parking when traffic lanes are closed or eliminated temporarily in the vicinity of the Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega Stations as described above. At the Wilshire/La Cienega Station, off-street parking spaces would be temporarily displaced in



the underground garage located at the office building on the northeast corner of Wilshire Boulevard and Hamilton Drive.

### **Phase 2 to Century City**

During construction of Phase 2, it may be necessary to prohibit on-street curb parking when traffic lanes are closed or eliminated temporarily in the vicinity of the Wilshire/Rodeo and Century City Stations as described above.

For construction of the Century City Station—Santa Monica entrance, parking would be temporarily displaced in the underground garage located at the southwest corner of Santa Monica Boulevard and Century Park East. However, the recommended location for the Century City Station is along Constellation Boulevard, which would avoid the off-street construction-related parking impacts associated with construction of the Century City Station—Santa Monica.

Depending on the location of the Wilshire/Rodeo Station entrance, off-street parking spaces would be temporarily displaced at the Union Bank Building underground garage for construction of the station entrance located on the southeast corner of the Wilshire Boulevard and El Camino Drive intersection and at the Bank of America Building underground garage for construction of the station entrance at the northwest corner of the Wilshire Boulevard and Beverly Drive intersection. However, the recommended location for the Wilshire/Rodeo Station entrance is on the southwest corner of Wilshire Boulevard and Reeves Drive, which would avoid all construction-related off-street parking impacts associated with the Bank of America and Union Bank station entrances.

### **Phase 3 to Westwood/VA Hospital**

During construction of Phase 3, it may be necessary to prohibit on-street curb parking when traffic lanes are closed or eliminated temporarily in the vicinity of the Westwood/UCLA and Westwood/VA Hospital Stations as described above.

For the Westwood/VA Hospital South Station option, a parking structure providing both permanent and temporary replacement parking would be located in the existing physicians' parking lot, east of the VA Hospital. As part of the LPA, temporary replacement parking would also be located in a new lot south of the VA Hospital and east of Bonsall Avenue. In addition, at the Westwood/VA Hospital Station in the parking lot north of the VA Hospital, existing parking for persons with disabilities would not be displaced during construction.

For the Westwood/VA Hospital North Station option, existing parking for persons with disabilities would not be displaced during construction. However, a number of spaces would be removed to accommodate the construction laydown area north of Wilshire Boulevard. In addition, the recommended location for the Westwood/VA Hospital Station is on the south side of Wilshire Boulevard, which would avoid the removal of spaces on the north side of Wilshire Boulevard during construction.

In addition, a number of off-street parking spaces in Lot 36 at the Westwood/UCLA Station site would be removed to accommodate construction activities. This will occur for either the On-Street or Off-Street station options.

### 3.8.5 Pedestrian and Bicycle Access Construction-Related Environmental Impacts/Environmental Consequences

#### **America Fast Forward (30/10) Scenario (Concurrent Construction)**

In general, sidewalk access will be maintained on both sides of the street at Metro construction sites throughout the construction period. Pedestrian access to all businesses will be maintained during essential business operating hours without any requirement for the business owners to make such a request. All temporary sidewalk designs shall be submitted to Metro and agencies having jurisdiction for approval prior to installation. Temporary sidewalks must be well built of approved material (wood or other), be ADA compliant, and have a well built cover. No rough edges or damaged wood will be allowed.

When pedestrians are diverted into the street or adjacent to an open trench, K-rail type concrete barriers or other approved barrier types will be used to separate pedestrians and vehicular traffic. During certain circumstances, sidewalk closures may be necessary for limited periods. At these specific locations, limited closures will be implemented after acceptance and approval by the affected agency having jurisdiction. In addition, only one side of the street will be closed at a time.

During construction, bike routes will be maintained past all construction sites, whether via widened sidewalks or signed or striped bike detour routes.

#### **Metro Long Range Transportation Plan Scenario (Phased Construction)**

The analysis of the potential for construction-related impacts related to pedestrian and bicycle access is provided in the Concurrent Construction Scenario discussion above. The construction-related pedestrian and bicycle access impacts for the LPA under the Concurrent Construction Scenario and the Phased Construction Scenario will be similar; however, phasing of the LPA construction under the Phased Construction Scenario will affect the timing and degree of overlap of construction-related transportation impacts. Phases 2 and 3 of the Phased Construction Scenario will occur later than under the Concurrent Construction Scenario.

### 3.8.6 Mitigation Measures

The following sections describe mitigation measures to address potential construction-related impacts on transportation.

#### **Traffic and Circulation Mitigation Measures**

The following mitigation measures will be implemented to address potential construction-related impacts to traffic and circulation. Under the Concurrent Construction Scenario, the mitigation measures will be implemented for the entire LPA. If the LPA is constructed under the Phased Construction Scenario, TCON-1, TCON-2, TCON-3, TCON-4, and TCON-5 will be implemented during the specific phase under construction.

#### **TCON-1—Traffic Control Plans**

Site-specific traffic-control plans will be developed to minimize construction impacts to the degree possible for each work zone location. These locations will include, but not be



limited to, utility relocations, stations, crossovers, laydown areas, TBM launch and removal locations, emergency exit shafts, station entrances, drop pipes, and grout injection. Traffic-control plans will follow State and local jurisdiction guidelines and standards. Traffic-control plans will be developed for Wilshire, Santa Monica, and Constellation Boulevards and north-south streets, including, but not limited to, La Brea Avenue, Fairfax Avenue, La Cienega Boulevard, Rodeo Drive, Beverly Drive, Canon Drive, Century Park East, Avenue of the Stars, Westwood Boulevard, Veteran Avenue, Sepulveda Boulevard, I-405 ramps to/from eastbound Wilshire Boulevard, and Bonsall Avenue. Traffic-control plans will encompass the following:

- Minimum lane widths
- Number of available travel lanes (two lanes minimum in each direction during peak periods)
- Number, length, and location of temporary right and left-turn lanes
- Temporary street closures and detour routes
- Traffic-control devices (signing and striping)
- Temporary traffic signals and street lighting
- Temporary pedestrian access and routes
- Temporary bicycle routes
- Temporary driveway access
- Temporary business access
- Construction site phasing

To facilitate traffic flow and mitigate major disruption and bottlenecks due to construction, advanced traffic control will extend beyond one arterial street on each side of each station construction location. This will help disperse peak-hour traffic flows onto the adjacent arterial street network. Business owners will be interviewed to identify the type of business, delivery and shipping schedules, and critical days/times of years for the business. Traffic-control plans will incorporate this information. Specific street closures will be developed in close coordination with the local jurisdictions during the final design phase.

### **TCO-2—Designated Haul Routes**

Designated truck haul routes using arterial streets are intended to minimize noise, vibration, and other possible impacts to adjacent businesses, schools, major commercial developments, and residential neighborhoods. Metro will incorporate the following objectives into its truck haul route plans:

- Establish nighttime truck haul operations times/days for each route. Truck haul operations will not be allowed during AM and PM peak hours, in residential neighborhoods (where feasible), during noise restriction hours and special events, during holiday season restrictions, and as restricted by State and local jurisdictional mandates.
- Establish truck haul headways to avoid platoons of trucks upon local arterial streets and freeways. Establish a vehicle dispatching system at construction laydown areas and off-site locations to monitor and address truck headway issues as they arise.
- Develop truck haul routes for each site in coordination with and approved by State and local jurisdictions.

- Incorporate comments and issues from State and local jurisdictions into the final approved truck haul routes and truck haul operation schedules.

### **TCON-3—Emergency Vehicle Access**

Emergency vehicle access will be maintained at all times to the construction work site, adjacent businesses, and residential neighborhoods. In addition, emergency vehicle access will be maintained at all times to and from fire stations, hospitals, and medical facilities near the construction sites and along the haul routes. LPA construction activities and haul route operations will be coordinated with local law enforcement representatives and fire department officials during the final design phase.

### **TCON-4—Transportation Management Plan**

Once subway construction sequencing/phasing and the truck haul routes have been concurred upon by Metro and reviewed by local jurisdictions and Caltrans, an overall LPA Transportation Management Plan (TMP) will be developed with and approved by Metro and other appropriate agencies. The TMP will include the following:

- Public information (e.g., media alerts, website)
- Traveler information (e.g., traffic advisory radio, changeable message signs (CMS))
- Incident management (e.g., TMP coordination, tow truck services)
- Construction (e.g., detour routes, haul routes, mitigation, construction times)
- Demand management (e.g., carpooling, express bus service, variable work hours, parking management)
- Coordination with concurrent LPAs

The TMP will also address individual and overlapping haul route impacts and will address impacts resulting from concurrent and overlapping station(s) and tunnel excavation work.

### **TCON-5—Coordination with Planned Roadway Improvements**

Construction of the subway and new station locations will be coordinated with local jurisdictions for future programmed projects, such as the Wilshire Bus Rapid Transit Project.

### **Public Transit Mitigation Measures**

The following mitigation measures will be implemented to address potential construction-related impacts to public transit. Under the Concurrent Construction Scenario, the mitigation measures will be implemented for the entire LPA. If the LPA is constructed under the Phased Construction Scenario, TCON-6 will be implemented during construction of Phase 1, Phase 2, and Phase 3.

### **TCON-6—Temporary Bus Stops and Route Diversions**

Construction impacts to local and regional transit operations (e.g., Metro Bus, Santa Monica Big Blue Bus, Culver City Bus, LAX Flyaway, DASH, and UCLA Campus Shuttle) will be mitigated to minimize impacts to the degree possible at each station construction location. Impacts to local and regional transit will be mitigated through, but not be limited to, the use of temporary relocated bus stops and temporary route diversions. Impacts to local and regional transit operations will be coordinated with each transit agency and/or provider. In addition, the Final Design-level mitigation proposals



will be approved by the transit agency and/or provider and the local jurisdictions and incorporated into the TMP.

### **Parking Mitigation Measures**

The following mitigation measures will be implemented to address potential construction-related impacts to parking. Under the Concurrent Construction Scenario, the mitigation measures will be implemented for the entire LPA. If the LPA is constructed under the Phased Construction Scenario, TCON-7, TCON-8, and TCON-9 will be implemented during construction of Phase 1, Phase 2, and Phase 3.

#### **TCON-7—Parking Management**

A parking management program will be developed to minimize impacts due to temporary removal of on- and off-street parking within the construction work. The program will incorporate appropriate parking-control measures, replacement parking within a reasonable distance from the affected parking locations, if available, or other transportation demand management (TDM) strategies. Development of the parking management program will be coordinated with the appropriate local jurisdictions and affected communities or property owners and be incorporated into the TMP.

#### **TCON-8—Parking Monitoring and Community Outreach**

In addition, a parking monitoring and community outreach program will be established during the construction phase of the LPA to monitor on-street parking activity. If a parking shortage is identified during construction, Metro will work with the appropriate local jurisdiction and affected communities or property owners to assess the shortage level and implement potential solutions as part of the parking management program.

#### **TCON-9—Construction Worker Parking**

Metro will require that all construction contractors identify adequate off-street parking for construction workers at Metro-approved locations. This will occur for each construction site to minimize additional loss of parking. Metro will work with construction contractors on implementation of adequate off-street parking for construction workers.

### **Pedestrians and Bicyclists Mitigation Measures**

The following mitigation measures will be implemented to address potential construction-related impacts to pedestrians and bicyclists. Under the Concurrent Construction Scenario, the mitigation measures will be implemented for the entire LPA. If the LPA is constructed under the Phased Construction Scenario, TCON-10 and TCON-11 will be implemented during construction of Phase 1, Phase 2, and Phase 3.



### **TCON-10—Pedestrian Routes and Access**

Safe pedestrian routes and access will be provided through and/or adjacent to construction work areas. Pedestrian routes and access, including temporary pedestrian facilities, will comply with the requirements of the ADA and must be properly signed and lighted. Special facilities, such as handrails, fences, and walkways, will be provided for pedestrian safety. Temporary pedestrian routes and access concerns will be addressed with, but not limited to, local residents, the VA Hospital, schools, and businesses and approved by the local jurisdiction. Pedestrian routes and access will be monitored and maintained throughout construction.

### **TCON-11—Bicycle Paths and Access**

Bicycle traffic (e.g., paths, lanes, and routes) will be maintained safely through and adjacent to construction work areas. If bicycle traffic cannot be maintained, then alternative temporary bicycle routes will be identified, signed, and lighted. These alternative routes should be on adjacent streets that can safely accommodate bicycle traffic. Development of these routes will be coordinated with bicycle groups and local jurisdictions. Temporary routes will require approval by the local jurisdiction. Bicycle access will be monitored and maintained throughout construction.

### **3.8.7 California Environmental Quality Act Determination**

Transportation impacts due to construction of the LPA will be significant and unavoidable where they result in a substantial increase in traffic delay or degradation in level-of-service for traffic operations or alternative modes. Construction-period transportation impacts for the LPA include the following:

- Temporary lane closures, street closures, and detour routes will increase traffic delays and affect traffic circulation. At major intersections, traffic-related impacts such as split phases of signals and loss of turn lanes will result in significant impacts.
- Emergency vehicles may be affected by traffic delays associated with lane closures and/or temporary street closures.
- Temporary street closures will require temporary rerouting of bus lines and additional bus stop locations. The rerouting of bus lines will require added transit travel time for bus riders.
- Temporary sidewalk closures and bike detours will affect pedestrian and bicycle flow and circulation.

Mitigation for construction-related transportation impacts include traffic control plans, designated truck haul routes, and a TMP that incorporates a public awareness campaign, traveler information, incident management, construction strategies, demand management, and coordination with concurrent projects. In addition, mitigation will include a parking management program, parking monitoring and community outreach, and construction worker parking at Metro-approved locations to further minimize construction-period impacts due to temporary removal of on- and off-street parking within the construction zone.



Construction of the LPA as a single phase under the Concurrent Construction Scenario or in three sequential phases under the Phased Construction Scenario will not result in significantly different construction impacts as compared to existing conditions. The only major difference between the two scenarios is the timing of construction activities and, therefore, the duration of construction impacts. Under the Phased Construction Scenario, construction activities will be spaced over a longer period of time, which will result in a longer overall duration for any construction impacts. Under the Concurrent Construction Scenario, all construction activities will be concurrent.

**Impacts Remaining after Mitigation**

With implementation of the mitigation included in this section, construction-related adverse effects on transportation in the Study Area will be reduced for adjacent commercial areas and residential neighborhoods. Although the majority of the construction impacts on traffic circulation, transit, and other modes (pedestrians and bicycles) identified will be temporary, impacts and/or residual impacts after mitigation will remain significant and unavoidable during the construction period under both the Concurrent Construction Scenario and the Phased Construction Scenario.