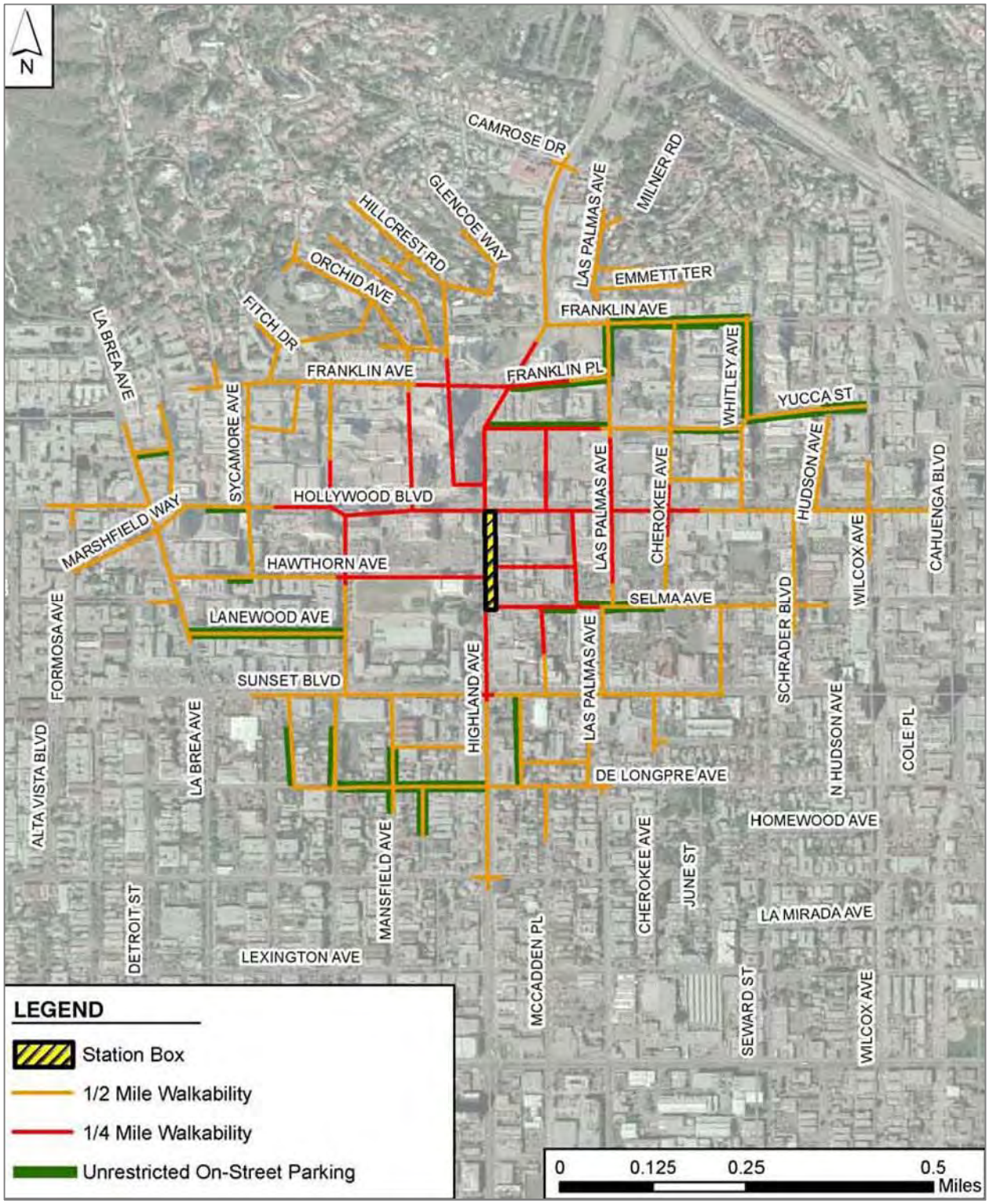


Figure 4-47. Unrestricted On-Street Parking—Hollywood/Highland Station

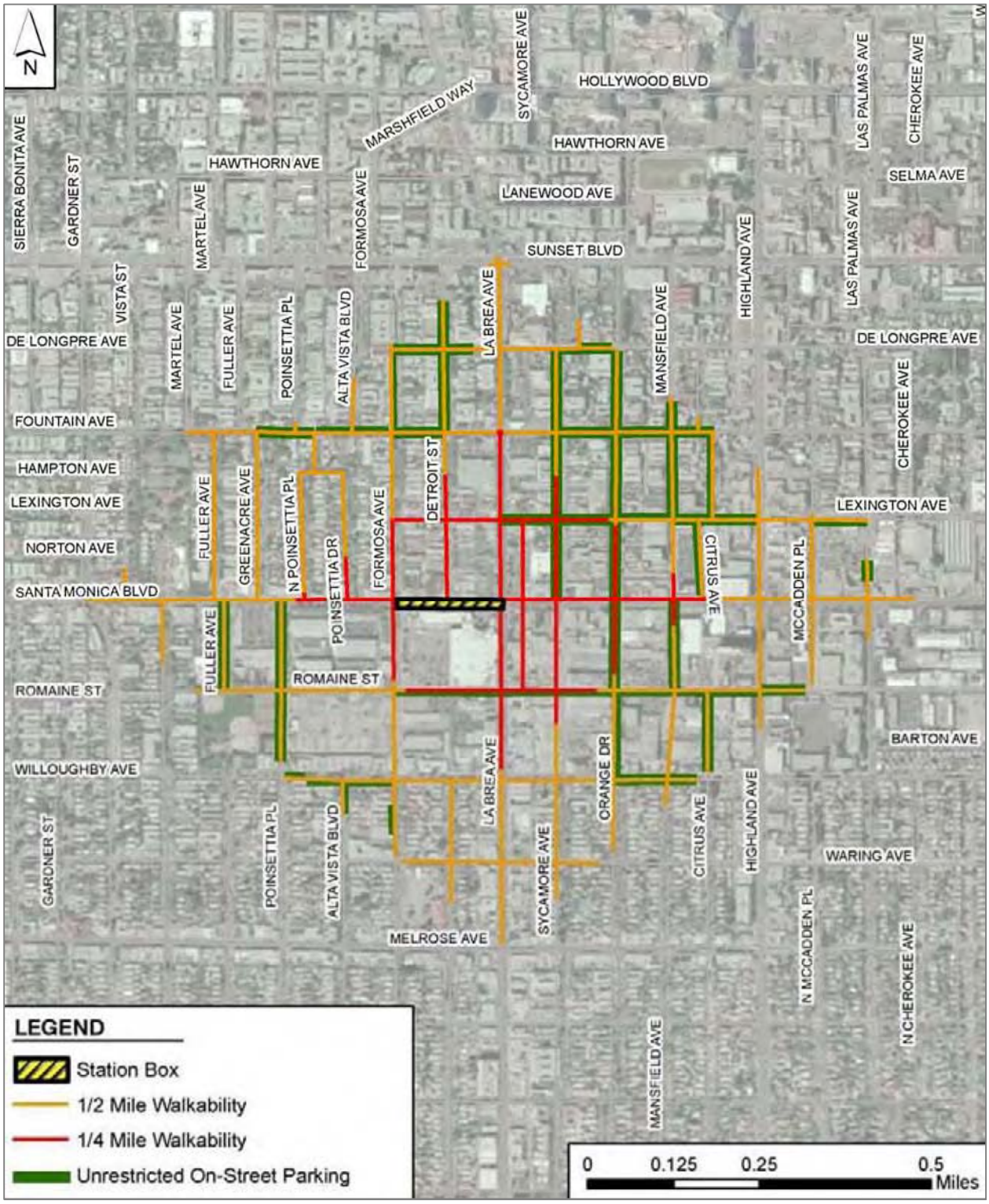


Figure 4-48. Unrestricted On-Street Parking—Santa Monica/La Brea Station

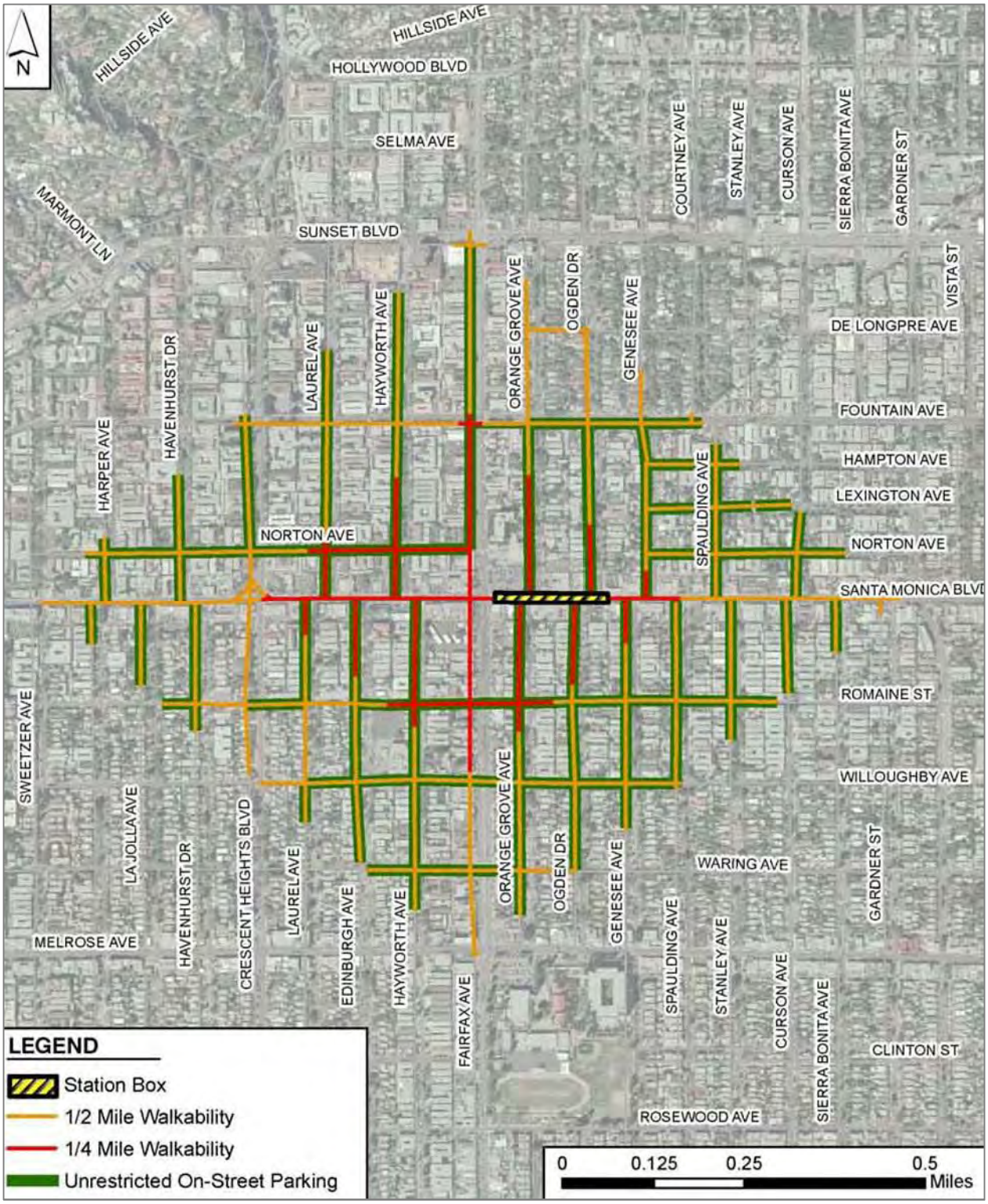


Figure 4-49. Unrestricted On-Street Parking—Santa Monica/Fairfax Station

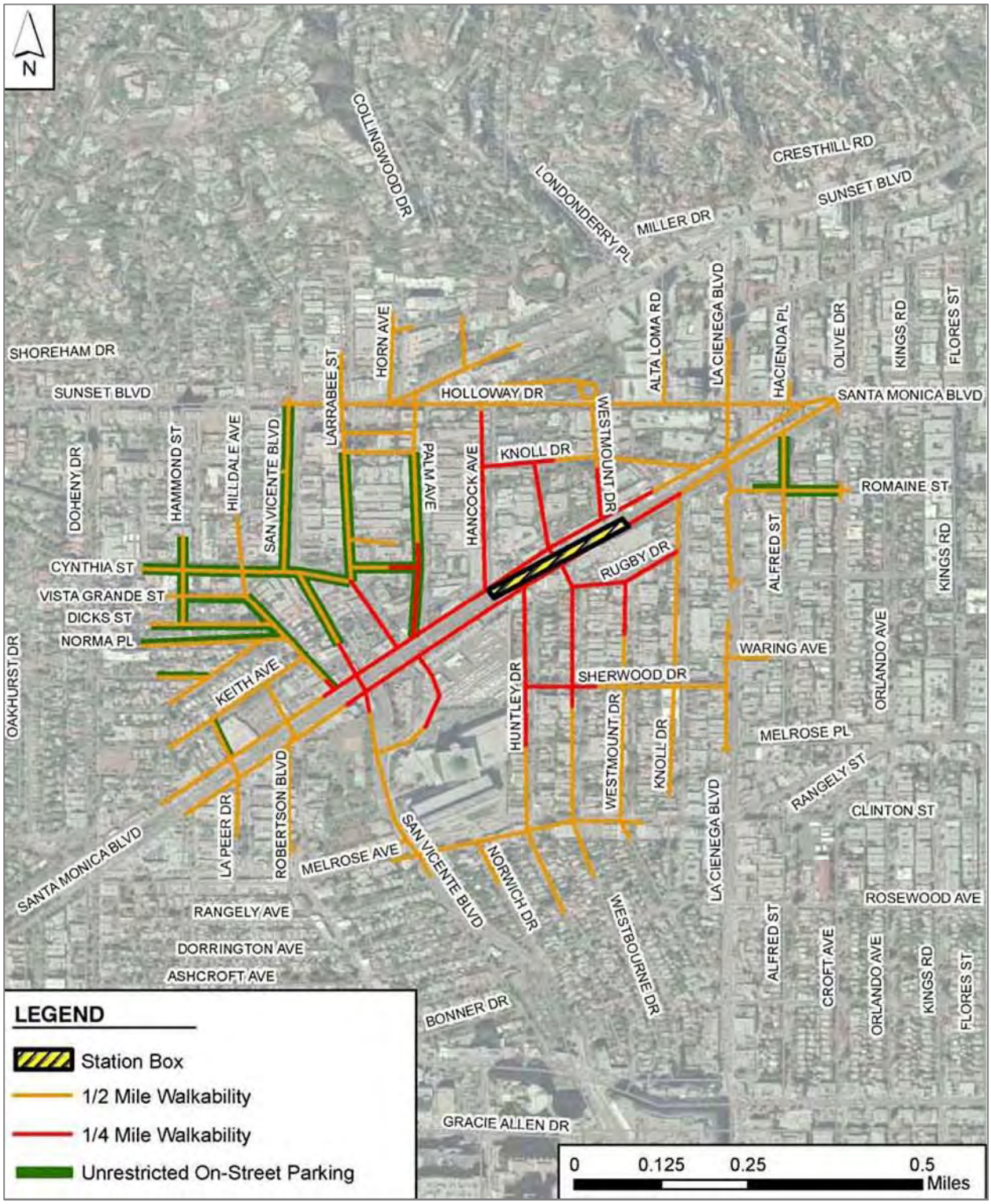


Figure 4-50. Unrestricted On-Street Parking—Santa Monica/San Vicente Station

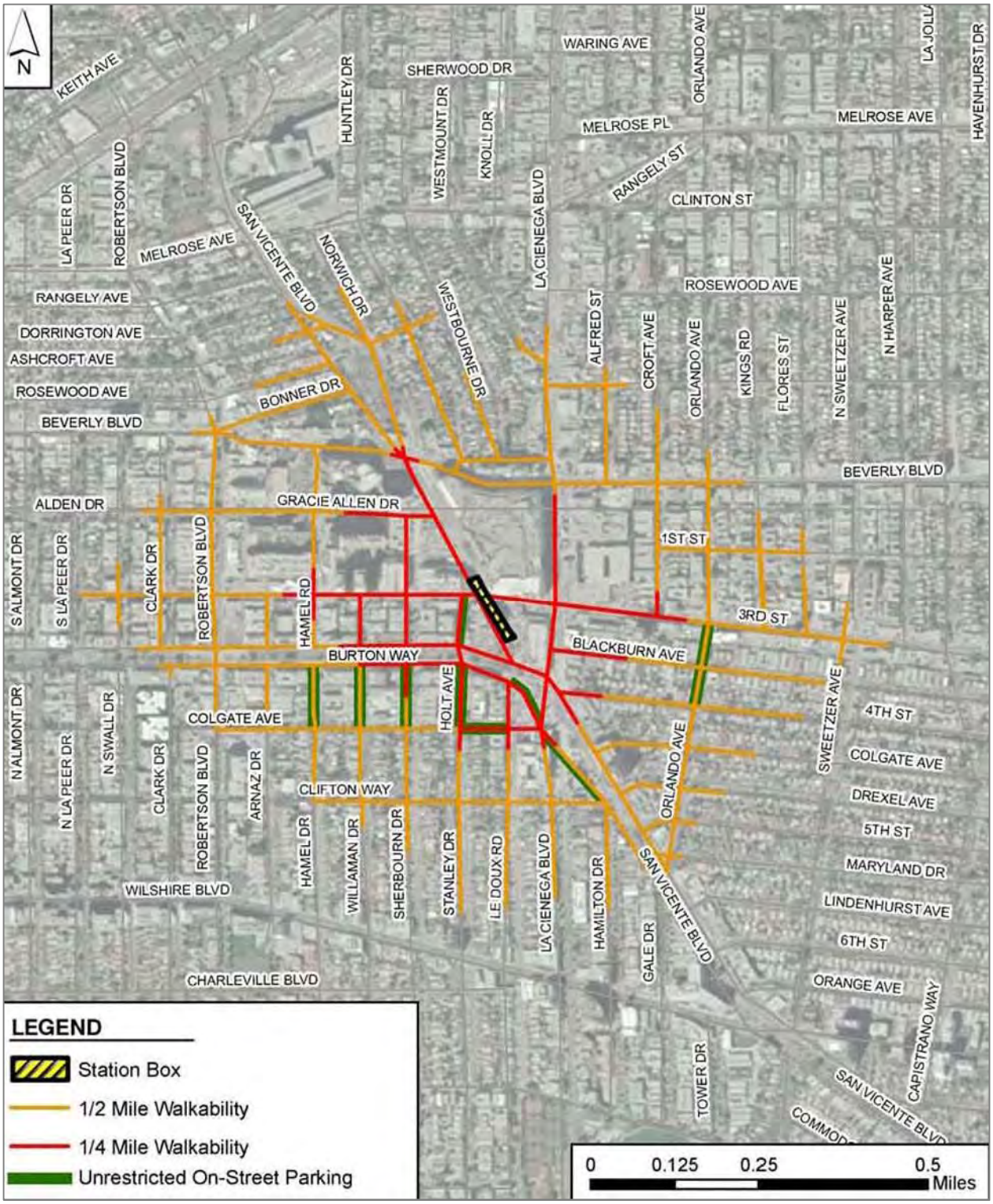


Figure 4-51. Unrestricted On-Street Parking—Beverly Center Area Station

- Century City Station—As illustrated in Figure 4-37, there is minimal unrestricted parking provided at the western edge of the one-half mile walking distance to this station location. Parking at anytime is prohibited on most streets within a one-half mile walking distance of this station, but several streets have residential daily parking restrictions. Parking meters with time-limit restrictions are installed along Santa Monica Boulevard. As illustrated in Figure 4-38, there are no unrestricted spaces provided around the optional station location.

- Westwood/UCLA Station—As illustrated in Figure 4-39 for this station location, and Figure 4-40 for the optional station location, parking is unrestricted on some blocks northwest, southwest, and east of each potential station. A variety of parking restrictions are in place on the remaining streets within a one-half mile walking distance of this station, including time-limit restrictions, peak-period restrictions, and residential permit-restrictions. Parking meters with time-limit restrictions are installed throughout the Westwood Village area north of Wilshire Boulevard, as well as along Westwood Boulevard south of Wilshire Boulevard.

- Westwood/VA Hospital Station—As illustrated in Figure 4-41 for this station location, and Figure 4-42 for the optional station location, minimal unrestricted parking is provided on Federal Avenue and Sepulveda Boulevard south of Wilshire Boulevard. Parking at anytime is prohibited on most of the remaining streets, since they are contained within the campus of the VA. However, a few blocks have time-limit parking restrictions.

- Wilshire/Bundy Station—As illustrated in Figure 4-43, parking is generally unrestricted on most streets within a one-half mile walking distance, with the exception of the neighborhood to the northwest of the potential station location. A variety of parking restrictions are in place to the northwest, including time-limit restrictions, peak-period restrictions, and residential permit restrictions. Parking meters with time-limit restrictions are installed along Wilshire Boulevard.

- Wilshire/26th Station—As illustrated in Figure 4-44, some unrestricted parking is located in the neighborhood north of Washington Avenue. A variety of parking restrictions are in place on the remaining streets within a one-half mile walking distance of this station, including time-limit restrictions, peak-period restrictions, and residential permit restrictions. Parking meters with time-limit restrictions are installed along Wilshire Boulevard, portions of the blocks closest to Wilshire Boulevard on north-south running streets, and certain blocks along Arizona Avenue.

- Wilshire/16th Station—As illustrated in Figure 4-8, unrestricted parking is provided on several blocks north of Wilshire Boulevard and a few blocks to the south. A variety of parking restrictions are in place on the remaining streets within a one-half mile walking distance of this station, including time-limit restrictions, peak-period restrictions, and residential permit restrictions. Parking meters with time-limit restrictions are installed along Wilshire Boulevard, the portions of the blocks closest to Wilshire Boulevard on north-south streets, and certain blocks of Arizona Avenue.

- Wilshire/4th Station—As illustrated in Figure 4-46, unrestricted parking is provided on some residential blocks north of California Avenue. Metered spaces with time-limit restrictions are installed on most of the remaining streets within a one-half mile walking

distance of the potential station location, including Wilshire Boulevard, all blocks south of Wilshire Boulevard, and along Ocean Avenue.

- Hollywood/Highland Station—As illustrated in Figure 4-47, unrestricted parking is available on some blocks located between a ¼ and one-half mile walking distance of this station. A variety of parking restrictions are in place on the remaining streets, including time-limit restrictions and peak-period restrictions. Parking meters with time-limit restrictions are installed along Hollywood Boulevard, Highland Avenue, La Brea Avenue, as well as on blocks of the smaller north-south and east-west streets adjacent to metered parking on the major streets.
- Santa Monica/La Brea Station—As illustrated in Figure 4-48, unrestricted parking is available on some blocks located between a ¼ and one-half mile walking distance of this station. A variety of parking restrictions are in place on the remaining streets within a one-half mile walking distance of this station, including time-limit restrictions, and daily-restrictions. Parking meters with time-limit restrictions are installed along Santa Monica Boulevard and the portions of the blocks closest to Santa Monica Boulevard on north-south streets, and along La Brea Avenue and the portions of the blocks closest to La Brea Avenue Boulevard on east-west streets.
- Santa Monica/Fairfax Station—As illustrated in Figure 4-49, parking is generally unrestricted on most streets within a one-half mile walking distance of this potential station. A variety of parking restrictions are in place on the remaining streets within a one-half mile walking distance of this station, including time-limit restrictions, peak-period restrictions, and residential permit-restrictions. Parking meters with time-limit restrictions are installed along Santa Monica Boulevard and the portions of the blocks closest to Santa Monica Boulevard on north-south running streets, and Fairfax Avenue.
- Santa Monica/San Vicente Station—As illustrated in Figure 4-50, parking is generally unrestricted on most streets in the neighborhood to the northwest of the potential station location. A variety of parking restrictions are in place on the remaining streets within a one-half mile walking distance of this station, including time-limit restrictions, peak-period restrictions, daily restrictions, and residential permit-restrictions. Parking meters with time-limit restrictions are installed along Santa Monica Boulevard and the portions of the blocks closest to Santa Monica Boulevard on north-south running streets.
- Beverly Center Area Station—As illustrated in Figure 4-51, parking is unrestricted on several blocks south of 3rd Street. A variety of parking restrictions are in place on the remaining streets within a one-half mile walking distance of this station, including time-limit restrictions and residential permit-restrictions. Parking meters with time-limit restrictions are installed along San Vicente Boulevard, Beverly Boulevard, 3rd Street, La Cienega Boulevard, Rosewood Avenue, and Curson Avenue.

4.3.1.2 Unrestricted Parking Occupancy Survey

- A parking occupancy survey was conducted at the unrestricted locations described in Section 4.3.1.1. The purpose of the survey was to determine existing parking use at these unrestricted locations during the peak period to identify if there would be sufficient vacant parking spaces to accommodate potential Westside Subway Extension spillover parking. The AM peak period was selected for the survey because the greatest potential for spillover parking would be generated by commuters using the Westside Subway Extension to travel to work. Additionally, during the AM peak period, more station area

residents would be at home and parked on streets than during midday or PM peak periods, when residents would likely be at work, running errands, or participating in social activities. Therefore, a parking occupancy survey conducted during the AM peak period represents the most conservative estimate of existing parking availability at unrestricted locations.

Table 4-6 describes the results of the parking occupancy survey at unrestricted on-street locations. 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. Only the Wilshire/Crenshaw Station (48 percent occupied) and Wilshire/26th Station (55 percent occupied) had lower occupancy rates. Because both station areas have single-family residential land uses around them, existing parking demand is lower than at most other station areas, which have more multifamily residential land uses.

For each station, the amount of unrestricted parking availability is summarized below.

- Wilshire/Crenshaw Station—Approximately 2,115 unrestricted parking spaces are located within a one-half mile walking distance of this station. During the parking survey, 1,009 vehicles were parked in these spaces (48% occupancy rate).
- Wilshire/La Brea Station—Approximately 530 unrestricted parking spaces are located within a one-half mile walking distance of this station. During the parking survey, 408 vehicles were parked in these spaces (77% occupancy rate).
- Wilshire/Fairfax Station—Approximately 190 unrestricted parking spaces are located within a one-half mile walking distance of this station location. During the parking survey, 174 vehicles were parked in these spaces (93% occupancy rate). Approximately 135 spaces are located within a one-half mile walking distance of the optional station location, and 128 vehicles were parked in those spaces (96% occupancy rate).
- Wilshire/La Cienega Station—Approximately 250 unrestricted parking spaces are located within a one-half mile walking distance of this station location. During the parking survey, 215 vehicles were parked in these spaces (86% occupancy rate). Approximately 475 spaces are located within a one-half mile walking distance of the optional station location, and 416 vehicles were parked in those spaces (87% occupancy rate).
- Wilshire/Rodeo Station—There are no unrestricted parking spaces located within a one-half mile walking distance of this station. Therefore, no parking occupancy surveys were conducted.
- Century City Station—Approximately 25 unrestricted parking spaces are located within a one-half mile walking distance of this station location. During the parking survey, 100% of these spaces were occupied. No unrestricted parking spaces are located within a one-half mile walking distance of the optional station location.

Table 4-6. Parking Occupancy—Unrestricted On-Street Spaces within One-half Mile of Stations

Station	Parked Vehicles	Vacant Spaces	Total Unrestricted Supply	Occupancy %
1. Wilshire/Crenshaw Station	1,009	1,091	2,115	48%
2. Wilshire/La Brea Station	408	120	528	77%
3. Wilshire/Fairfax Station	174	26	188	93%
Optional Station	128	18	134	96%
4. Wilshire/La Cienega Station	215	35	250	86%
Optional Station	416	61	477	87%
5. Wilshire/Rodeo Station	[a]	[a]	0	[a]
6. Century City Station	26	0	26	100%
Optional Station	[a]	[a]	0	[a]
7. Westwood/UCLA Station	353	3	356	99%
Optional Station	366	10	376	97%
8. Westwood/VA Hospital Station	16	2	18	89%
Optional Station	128	9	137	93%
9. Wilshire/Bundy Station	1,389	394	1,783	78%
10. Wilshire/26th Station	443	366	809	55%
11. Wilshire/16th Station	741	134	875	85%
12. Wilshire/4th Station	490	58	548	89%
13. Hollywood/Highland Station	469	53	522	90%
14. Santa Monica/La Brea Station	834	176	1,010	83%
15. Santa Monica/Fairfax Station	2,105	497	2,602	81%
16. Santa Monica/San Vicente Station	388	163	551	70%
17. Beverly Center Area Station	158	9	167	95%

Source: Fehr & Peers, January 2010

[a] No unrestricted spaces are located within one-half mile of these station locations.

- Westwood/UCLA Station—Approximately 355 unrestricted parking spaces are located within a one-half mile walking distance of this station location. During the parking survey, 353 vehicles were parked in these spaces (99% occupancy rate). Approximately 375 spaces are located within a one-half mile walking distance of the optional station location, and 366 vehicles were parked in those spaces (97% occupancy rate).
- Westwood/VA Hospital Station—Approximately 20 unrestricted parking spaces are located within a one-half mile walking distance of this station location. During the parking survey, 16 vehicles were parked in these spaces (89% occupancy rate). Approximately 135 spaces are located within a one-half mile walking distance of the optional station location, and 128 vehicles were parked in those spaces (93% occupancy rate).
- Wilshire/Bundy Station—Approximately 1,785 unrestricted parking spaces are located within a one-half mile walking distance of this station. During the parking survey, 1,389 vehicles were parked in these spaces (78% occupancy rate).

- Wilshire/26th Station—Approximately 810 unrestricted parking spaces are located within a one-half mile walking distance of this station. During the parking survey, 443 vehicles were parked in these spaces (55% occupancy rate).
- Wilshire/16th Station—Approximately 875 unrestricted parking spaces are located within a one-half mile walking distance of this station. During the parking survey, 741 vehicles were parked in these spaces (85% occupancy rate).
- Wilshire/4th Station—Approximately 550 unrestricted parking spaces are located within a one-half mile walking distance of this station. During the parking survey, 490 vehicles were parked in these spaces (89% occupancy rate).
- Hollywood/Highland Station—Approximately 520 unrestricted parking spaces are located within a one-half mile walking distance of this station. During the parking survey, 469 vehicles were parked in these spaces (90% occupancy rate).
- Santa Monica/La Brea Station—Approximately 1,010 unrestricted parking spaces are located within a one-half mile walking distance of this station. During the parking survey, 834 vehicles were parked in these spaces (83% occupancy rate).
- Santa Monica/Fairfax Station—Approximately 2,600 unrestricted parking spaces are located within a one-half mile walking distance of this station. During the parking survey, 2,105 vehicles were parked in these spaces (81% occupancy rate).
- Santa Monica/San Vicente Station—Approximately 550 unrestricted parking spaces are located within a one-half mile walking distance of this station. During the parking survey, 388 vehicles were parked in these spaces (70% occupancy rate).
- Beverly Center Area Station—Approximately 165 unrestricted parking spaces are located within a one-half mile walking distance of this station. During the parking survey, 158 vehicles were parked in these spaces (95% occupancy rate).

4.3.2 Off-Street Parking

4.3.2.1 Off-Street Municipal Code Parking Requirements

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 potential for shared parking opportunities, enabling Westside Subway Extension riders to use already built parking facilities.

Because there are hundreds of individual commercial parcels within a one-half mile walking distance of station areas, conducting parking surveys at each parking facility was found to be infeasible. Therefore, parking requirements using municipal code parking ratios were estimated for commercial land uses within a one-half mile walking distance of potential station locations, based on land use parcel data analyzed in Geographic Information System (GIS). Land uses were classified according to the following general categories:

- Retail
- Office (museum, hospital, and other institutional land uses also analyzed as office)
- Hotel

- Food Services

Non-commercial land uses, such as residential uses, were excluded from this analysis because they typically do not provide publicly accessible parking. Table 4-7 presents the commercial square-footage (sf) for each type of land use located within a one-half mile walking distance of potential station locations.

Table 4-7. Commercial Land Uses within one-half Mile of Stations

Station	Retail (sf)	Office (sf)	Hotel (sf)	Food Services (sf)	Total (sf)
1. Wilshire/Crenshaw Station	65,850	1,275,000	74,650	4,650	1,420,150
2. Wilshire/La Brea Station	836,950	2,535,750	13,350	17,600	3,403,650
3. Wilshire/Fairfax Station	311,400	5,403,300	63,900	54,850	5,833,450
Optional Station	265,100	5,219,300	63,900	46,700	5,595,000
4. Wilshire/La Cienega Station	235,000	3,496,300	275,300	94,000	4,100,600
Optional Station	308,450	3,111,700	279,300	94,000	3,793,450
5. Wilshire/Rodeo Station	2,911,550	4,755,000	763,500	51,700	8,481,750
6. Century City Station	1,031,200	13,917,150	1,921,200	25,500	16,895,050
Optional Station	569,100	13,437,200	1,586,650	25,500	15,618,450
7. Westwood/UCLA Station	1,186,600	4,561,950	543,200	95,900	6,387,650
Optional Station	1,203,450	4,172,800	543,200	96,900	6,016,350
8. Westwood/VA Hospital Station	0	2,166,850	0	0	2,166,850
Optional Station	39,600	1,046,750	0	0	1,086,350
9. Wilshire/Bundy Station	559,600	2,797,200	36,300	56,650	3,449,750
10. Wilshire/26th Station	464,150	2,259,500	55,200	93,250	2,872,100
11. Wilshire/16th Station	626,650	577,000	39,450	56,600	1,299,700
12. Wilshire/4th Station	2,386,700	2,740,350	430,550	91,850	5,649,450
13. Hollywood/Highland Station	1,833,250	1,402,000	1,263,100	79,300	4,577,650
14. Santa Monica/La Brea Station	695,350	612,450	49,950	80,250	1,438,000
15. Santa Monica/Fairfax Station	512,100	167,350	3,500	34,950	717,900
16. Santa Monica/San Vicente Station	2,446,600	524,300	883,050	108,500	3,962,450
17. Beverly Center Area Station	4,046,650	1,625,400	608,000	103,500	6,383,550

Source: Terry A. Hayes & Associates, December 2009

4.3.2.2 Calculation of Off-Street Municipal Code Parking Requirements

To estimate off-street parking inventory, municipal code parking requirements for the Cities of Los Angeles, West Hollywood, Beverly Hills, and Santa Monica were applied to the four general commercial land use categories. Table 4-8 details the parking ratios required by each city for retail, office, hotel, and food service land uses. Where parking ratios vary, such as in the City of West Hollywood, which requires 3.5 spaces per 1,000 sf of office space up until the first 25,000 sf, and 3.0 spaces per 1,000 sf for space beyond 25,000 sf, the lower parking ratio was used to produce a more conservative estimate of total parking supply available.

Table 4-8. Municipal Code Parking Requirements

Commercial Land Use Type	City of Los Angeles	City of West Hollywood	City of Beverly Hills	City of Santa Monica
Retail	1 space/250 sf	3.5 spaces/1,000 sf	1 space/350 sf	1 space/300 sf
Office	1 space/500 sf	3 spaces/1,000 sf	1 space/350 sf	1 space/300 sf
Hotel	1 space/2 rooms	1 space/room	1 space/room	1 space/room
Food Service	1 space/100 sf	9 spaces/1,000 sf	1 space/45 sf	1 space/75 sf

Based on the commercial land use parcel data and the municipal code parking requirements, off-street parking that would be required by code was estimated for the one-half mile area around each potential station location. The results of the review, shown in Table 4-9, indicated that total commercial off-street parking supply ranges from approximately 2,250 spaces within one-half mile of the Westwood/VA Hospital Optional Station to 36,060 spaces within one-half mile of the Century City Station/Santa Monica Boulevard.

The parking ratios used are from the current municipal code of each city. However, land uses in the Study Area have been built over time, and may have been parked at ratios from earlier codes. Additionally, the current codes allow for some sharing of parking between land uses, and the payment of in-lieu fees to satisfy code parking requirements. Therefore, the actual off-street supply may vary from these estimates. To verify these estimates, the station area land uses from Table 4-7 were input into the shared parking model.

4.3.3 Calculation of Commercial Land Use Parking Demand Using Shared Parking Model

The shared parking methodology recognizes that parking spaces in commercial districts may often serve two or more individual land uses without conflict because peak parking demand for land uses occurs at different times of day, days of the week, and seasons of the year. Additionally, in commercial districts, people will often visit two or more land uses on a single automobile trip, further reducing required parking.

Because the Westside Subway Extension station areas are mixed-use districts, the shared parking model, developed out of research on mixed-use developments and districts by the Urban Land Institute (ULI) and the International Council of Shopping Centers (ICSC), is an appropriate tool for estimating peak demand of the combined land uses in each station area. The model was calibrated to include a 15% reduction from ULI base parking ratios to account for the high transit ridership currently in the Study Area (specifically the Wilshire and Santa Monica Boulevards Rapid Bus lines). An additional factor was applied to the calibrated model to account for the internalization of parking demand (people visiting two or more land uses on a single automobile trip, or visitors or employees who live close enough to walk, bike, or take public transit). An internalization factor of 20% was applied to customer parking ratios, and a 5% factor for employee parking ratios.

Table 4-9 also presents the results of the shared parking demand estimates. In general, the results of the shared parking analysis are within approximately 25% of the municipal code required parking estimates. The shared parking model, in many station areas, predicts peak parking demand lower than municipal code parking requirements because parking demand for some land uses, such as restaurants, peaks in the evening, whereas parking demand for

other uses, such as office peaks during the day. However, with the exception of station areas with higher proportions of restaurant land uses, the shared parking model results confirm that the municipal code parking estimates are a relatively accurate measure of the potential parking demand in station areas.

Table 4-9. Estimated Off-Street Parking Spaces within One-half Mile of Stations

Station	Municipal Code Estimates (spaces)					Shared Parking Estimates (spaces)
	Retail	Office	Hotel	Food Services	Total	
1. Wilshire/Crenshaw Station	263	2,550	150	47	3,010	3,242
2. Wilshire/La Brea Station	3,348	5,072	28	176	8,624	8,234
3. Wilshire/Fairfax Station	1,246	10,807	128	549	12,730	13,573
Optional Station	1,060	10,439	128	467	12,094	12,972
4. Wilshire/La Cienega Station	671	9,989	1,100	2,089	13,849	9,737
Optional Station	881	8,891	1,115	2,089	12,976	9,045
5. Wilshire/Rodeo Station	8,319	13,586	3,055	1,149	26,109	20,749
6. Century City Station	4,125	27,834	3,843	255	36,057	39,213
Optional Station	2,276	26,874	3,173	255	32,578	36,286
7. Westwood/UCLA Station	4,746	9,124	1,088	959	15,917	15,315
Optional Station	4,814	8,346	1,088	969	15,217	14,492
8. Westwood/VA Hospital Station	0	4,334	0	0	4,334	4,899
Optional Station	158	2,094	0	0	2,252	2,479
9. Wilshire/Bundy Station	2,238	5,594	73	567	8,472	8,342
10. Wilshire/26th Station	1,547	7,532	220	1,243	10,542	7,130
11. Wilshire/16th Station	2,089	1,923	160	755	4,927	3,517
12. Wilshire/4th Station	7,956	9,135	1,720	1,225	20,036	14,342
13. Hollywood/Highland Station	7,333	2,804	2,525	793	13,455	11,245
14. Santa Monica/La Brea Station	2,781	1,225	100	803	4,909	3,964
15. Santa Monica/Fairfax Station	1,792	502	15	315	2,624	2,069
16. Santa Monica/San Vicente Station	8,563	1,573	3,530	977	14,643	10,464
17. Beverly Center Area Station	16,187	3,251	1,215	1,035	21,688	16,915

Source: Fehr & Peers, January 2010

4.4 Pedestrian and Bicycle Facilities

4.4.1 Pedestrian Facilities

The existing pedestrian-oriented infrastructure provides good 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 sidewalks 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.

Pedestrian and bicycle activity was observed as part of the data collection effort for assessing traffic impacts in the Study Area. Peak period pedestrian and bicycle volumes were recorded at the 65 study intersections close to potential station locations.

Intersections with greater than 500 pedestrians crossing during a peak hour were classified as intersections with high pedestrian activity. High pedestrian activity was observed near the following proposed station locations:

- Wilshire/Fairfax
- Wilshire/Rodeo
- Century City
- Westwood/UCLA
- Wilshire/4th
- Santa Monica/La Brea
- Santa Monica/Fairfax
- Santa Monica/San Vicente
- Beverly Center

In some station areas, there are physical barriers that would 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 would not be present between travel generators and subway station entrances.

The highest levels of pedestrian activity were recorded in the Westwood/UCLA station area, followed by Downtown Beverly Hills and Downtown Santa Monica. Westwood/UCLA 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 was also significant 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.

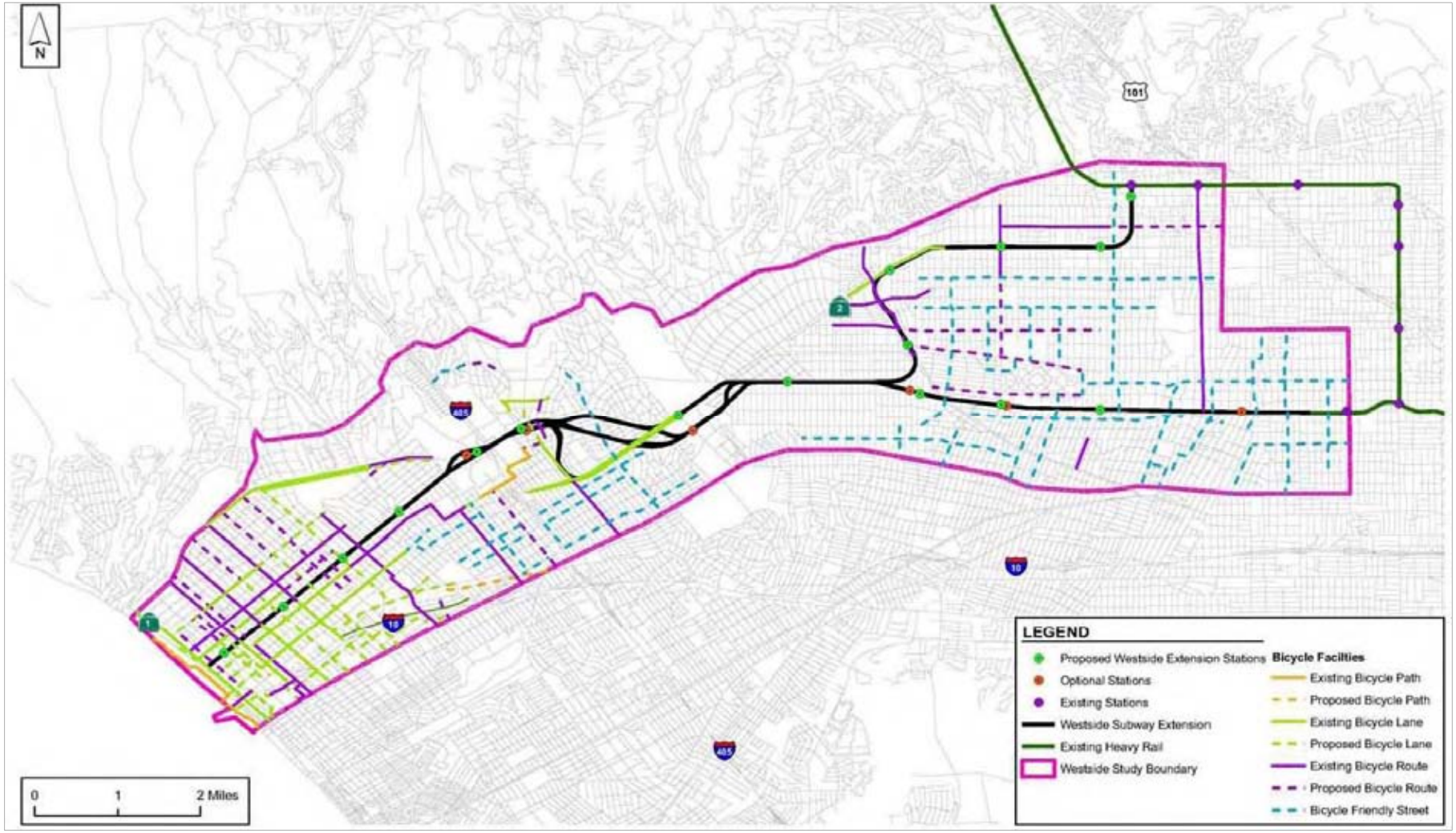
4.4.2 Bicycle Facilities

Bicycle facilities are classified based on a standard typology, described in further detail below.

- Class I Bikeway (Bike Path)—A completely separate right-of-way designated for the exclusive use of bicycles and pedestrians, with vehicle and pedestrian cross-flows minimized.
- Class II Bikeway (Bike Lane)—A restricted right-of-way designated for the use of bicycles, with a striped lane on a street or highway. Bicycle lanes are generally five feet wide. Vehicle parking and vehicle and pedestrian cross-flows are permitted.
- Class III Bikeway (Bike Route)—A right-of-way designated by signs or pavement markings for shared use with pedestrians or motor vehicles.

- Bicycle Friendly Streets—Streets where physical changes have been made to decrease the speed and volume of motor vehicle traffic; also referred to as a bicycle boulevard.

Existing and proposed bicycle facilities in the Study Area, based on bicycle networks in the City of Los Angeles Draft Bicycle Plan Update (2009) and the proposed City of Santa Monica Land Use and Circulation Element (LUCE) (2010), are shown in Figure 4-52. The highest density of existing and proposed bicycle facilities occurs within the City of Santa Monica. While there are few existing bicycle facilities within the City of Los Angeles, many bicycle friendly streets and bicycle routes have been proposed, and several of these proposed bikeways will increase bicycle access to proposed station locations.



Source: Los Angeles Bicycle Plan, Santa Monica LUCE

Figure 4-52. Existing and Proposed Bicycle Facilities in the Study Area

5.0 ENVIRONMENTAL CONSEQUENCES—MITIGATION MEASURES

This section uses defined impact mitigation criteria to assess how the operation of the Westside Subway Extension would affect the transportation system. For each section—5.1 Transit (including non-motorized modes), 5.2 Traffic, and 5.3 Parking—future conditions are reviewed, followed by an analysis of impacts and a discussion of proposed mitigation measures.

5.1 Transit

5.1.1 Future Conditions

This section describes the future transit operating conditions of each Project Alternative, including regional performance as measured by linked trips, a review of ridership estimates, mode of access to subway stations, and travel time comparisons. These measures are used to assess the transportation advantages of each Build Alternative. The Metro Travel Demand Model was used to forecast boardings and mode of access data for Year 2035. This section also compares transit travel times, transit speed, transit reliability, and variations in transit mode share for each of the Build Alternatives.

5.1.1.1 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) and the *2008 Southern California Association of Governments'* (SCAG) *Regional Transportation Plan* (RTP).[5] Under the No Build Alternative, no new 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 Metro LRTP.

5.1.1.2 TSM Alternative

The TSM Alternative emphasizes more frequent bus service than the No Build Alternative to reduce delay and enhance mobility. As such, the TSM meets some aspect of the Purpose and Need to provide enhanced transit service and improved mobility in the Study Area. The TSM Alternative contains all elements of the highway, transit, Metro Rail, and bus service described under the No Build Alternative. For the TSM Alternative, bus service would be increased to meet the rising demand for transit service in the Study Area. The frequency of the following Metro bus lines would be increased: 2, 4, 14, 16, and 720.

5.1.1.3 Build Alternatives

For this analysis, the change between the No Build Alternative and the Build Alternatives occurs for Metro Lines 20, 720, and 920. These Metro lines provide Local (Line 20), Rapid (Line 720), and Rapid Express (Line 920) service along Wilshire Boulevard between Downtown Los Angeles and Santa Monica. In addition, Sunday service on Metro Line 704, which provides service between Downtown Los Angeles and Santa Monica on Santa Monica Boulevard, is expected to be cut. These routes most closely parallel the service

[5] Metro is working with SCAG to update the RTP, which would add the projects identified in Metro's LRTP into the RTP. It is anticipated that the update will be completed in May 2010.

that would be provided by the proposed subway. All other transit lines are assumed to offer equivalent service between existing and future scenarios.

In the future transit network, Line 920 would be eliminated and Line 720 would operate less frequently. In the City of Los Angeles, headways for Line 720 are expected to increase from 3 to 5 minutes under the existing network to 5 to 11.5 minutes under the Build Alternatives. In the City of Santa Monica, headways for Line 720 are expected to remain essentially unchanged. Future headways for Line 20 would remain unchanged within the City of Los Angeles, but in the City of Santa Monica, Line 20 service would be eliminated.

Service Characteristics
Service for all Build Alternatives is expected to operate seven days per week 365 days per year, with hours of operation from 6:00 AM to 3:00 AM. Peak-period headways of 5 minutes would be in effect during weekday non-holidays, from 6:00 AM to 9:00 AM, and 3:00 PM to 7:00 PM. Off-peak headways of 10 minutes would be in effect during the remaining weekday hours of operation, and on weekends and holidays.

5.1.1.4 Regional Performance Measures

Table 5-1 provides a summary of countywide transit performance measures for all scenarios based on linked trips for all modes. Linked trips are a measure of transit trips that assumes transfers between vehicles to reach a single destination as part of the same trip. The data includes all Metro buses and rail activity as well as municipal transit operations (for transit statistics) and trip activity across all travel modes (for daily linked trips). While this section addresses countywide performance measures, further information on ridership, including transit mode share changes, is presented in Section 5.1.1.9—Variations in Transit Mode Shares.

Alternative 5 is forecast to have the highest regional daily transit mode share (2.30% compared with 2.25% under the No Build), and have the fewest auto trips (70,018,121 compared with 70,051,026 under the No Build, a reduction of 32,905 daily auto trips).Overall, there is a net gain of 40,118 daily linked transit trips between the No Build and Alternative 5.

Table 5-1. Regional Performance Measures—Los Angeles County

Countywide Statistics	Daily Fixed-Guideway Trips *	Daily Linked Bus Trips	Total Daily Linked Transit Trips	Auto Trips	Non-Motorized Trips	Daily Linked Trips (Total All Modes)	Total Transit Mode Share
No-Build	536,814	1,244,442	1,781,256	70,051,026	7,386,552	79,218,834	2.25%
TSM	536,992	1,246,383	1,783,375	70,049,499	7,385,962	79,218,836	2.25%
MOS 1	550,049	1,238,930	1,788,979	70,044,911	7,384,937	79,218,827	2.26%
MOS 2	568,170	1,231,494	1,799,664	70,036,297	7,382,861	79,218,822	2.27%
Alt 1	577,925	1,227,466	1,805,391	70,031,220	7,382,217	79,218,828	2.28%
Alt 2	583,728	1,225,139	1,808,867	70,028,522	7,381,448	79,218,837	2.28%
Alt 3	596,539	1,219,943	1,816,482	70,021,634	7,380,711	79,218,827	2.29%
Alt 4	589,844	1,222,628	1,812,472	70,026,076	7,380,284	79,218,832	2.29%
Alt 5	604,530	1,216,844	1,821,374	70,018,121	7,379,336	79,218,831	2.30%

Source: Metro Travel Demand Model

* Inclusive of Orange Line BRT trips and Metrolink Commuter Rail

5.1.1.5 Build Alternatives Ridership Analysis

Project Trips

Table 5-2 compares the project trips for each Build Alternative. Project trips represent the number of trips that can be credited to the Build Alternatives. Project trips are the sum of the following: inbound boardings (eastbound) at project stations, plus outbound boardings (westbound) at project stations, plus outbound boardings at non-project stations, minus outbound alightings at non-project stations. Essentially, the project trips estimate is comprised of riders who either begin or end at project stations. Alternative 5, with nearly 100,000 daily project trips, is forecast to generate the highest number of project trips.

While only one additional station is involved, the substantial transit ridership increase between MOS 2 and Alternative 1 is attributable to the fact that this Alternative includes the Westwood/UCLA Station. This station, under any Build Alternative, would generate the highest transit ridership in the system. The station would be located in an area that would attract to the subway students, workers, residents, and campus visitors.

Table 5-2. Build Alternative Project Trips Comparison

Alternative	Description	Stations	Project Trips
MOS 1	Fairfax Station Terminus	3	30,049
MOS 2	Century City Station Terminus	6	56,713
Alt 1	Westwood/UCLA Extension	7	72,242
Alt 2	Westwood/VA Hospital Extension	8	80,757
Alt 3	Santa Monica Extension	12	105,421
Alt 4	Westwood/VA Hospital Extension + West Hollywood Extension	13	93,009
Alt 5	Santa Monica Extension + West Hollywood Extension	17	120,039

Source: Metro Travel Demand Model

The travel forecasting model also provides information on net additional transit riders resulting from the alternatives. These would be daily trips in 2035 that would be attracted to public transportation with the Build Alternatives and compared to daily transit trips occurring under the TSM Alternative. New daily transit trips generated by the Build Alternatives when compared to the TSM Alternative are as follows:

- Alternative 1: 22,027
- Alternative 2: 25,500
- Alternative 3: 33,120
- Alternative 4: 29,109
- Alternative 5: 38,008
- MOS 1: 5,616
- MOS 2: 16,307

Some of the new trips will involve shifts from bus service to the rail systems. The travel demand model estimates that, for most Build Alternatives and MOSs, 43 percent of the new rail trips would be from buses. The exceptions involve Alternative 4 at 44 percent and MOS 2 at 42 percent. A majority of the new trips would come from autos.

Station Boardings

As a more detailed metric than project trips, station boarding estimates add location-specific information about the origins and destinations of riders. Boardings data can be used to estimate the viability of project stations in terms of ridership. It can also be compared across the multiple scenarios to demonstrate a network effect; as more stations are added to the subway line, a greater number of riders are attracted to existing stations. The number of total daily boardings differs from project trips in that boardings data does not count riders who board at a non-project station and alight at project stations.

Table 5-3 presents daily station boardings for project stations under each Build Alternative, with total boardings varying from 17,500 for MOS 1 to 89,700 for Alternative 5. In general, ridership increases at initial stations as more stations are added. In cases where an added station provides a preferred alternative to a previously identified station, the previously identified station may show a slight decline, but the combined total of the two stations shows a net gain in boardings. Further information on ridership under each project alternative is presented below in Section 5.1.1.9—Variations in Transit Mode Shares.

5.1.1.6 Mode of Access

Table 5-4 details the daily mode of access percentages for all project riders that arrive at or depart stations by foot, bus, private vehicle, or other modes. The private vehicle mode of access refers specifically to drop-off and pick-up activity because no park-and-ride facilities are planned at the station locations. While not quantified explicitly by the Metro Travel Demand Model, some utilization of off-site public and private parking capacity is expected on a daily basis.

All Build Alternatives are forecast to have similar private vehicle usage for mode of access. Bus transit mode of access is expected to progressively decline for MOS 2 and each subsequent Alternative as more subway stations are added to the network. This trend reflects an increase in pedestrian access to stations and will reduce the need for transfers between bus and rail. Alternatives 4 and 5 are forecast to have higher mode of access in the "Other" category, which includes urban rail transfers, because both alternatives provide an additional connection to the existing Metro Red Line through the West Hollywood Branch at the Hollywood/Highland Station.

Alternative 5 has the highest share of other mode of access (16%), suggesting the highest share of rail-to-rail transfers. It also has a high share of walk access (58%) and a low share of bus access (24%). Alternative 3 predicts more people accessing subway stations on foot compared to Alternative 5 (64%), with a slightly greater amount of bus access (26%), and a much lower share of other access (8%). Compared to Alternative 5, Alternative 4 has lower shares of walk access (55%) and other access (15%) and a higher share of bus access (28%).

Table 5-3. Daily Station Boardings

Station	MOS 1	MOS 2	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
1. Wilshire/Crenshaw Station	3,435	3,986	4,215	4,320	4,676	4,025	4,356
2. Wilshire/La Brea Station	3,937	3,569	3,722	3,808	4,064	3,239	3,423
3. Wilshire/Fairfax Station	10,135	5,792	6,071	6,209	6,629	5,031	5,361
4. Wilshire/La Cienega Station	—	6,114	6,433	6,608	7,072	5,088	5,418
5. Wilshire/Rodeo Station	—	7,682	4,642	4,585	4,857	6,386	6,649
6. Century City Station	—	8,333	6,681	6,498	6,568	6,424	6,390
7. Westwood/UCLA Station	—	—	14,313	12,629	11,039	13,894	11,978
8. Westwood/VA Hospital Station	—	—	—	8,010	6,120	8,762	6,662
9. Wilshire/Bundy Station	—	—	—	—	5,120	—	5,759
10. Wilshire/26th Station	—	—	—	—	5,034	—	5,630
11. Wilshire/16th Station	—	—	—	—	3,886	—	4,323
12. Wilshire/4th Station	—	—	—	—	5,872	—	6,639
13. Hollywood/Highland Station	—	—	—	—	—	5,957	7,360
14. Santa Monica/La Brea Station	—	—	—	—	—	2,438	2,628
15. Santa Monica/Fairfax Station	—	—	—	—	—	2,125	2,270
16. Santa Monica/San Vicente Station	—	—	—	—	—	1,829	1,905
17. Beverly Center Area Station	—	—	—	—	—	2,818	2,933
Total Station Boardings	**17,506**	**35,475**	**46,075**	**52,665**	**70,936**	**68,013**	**89,680**

Source: Metro Travel Demand Model

Table 5-4. Daily Mode of Access Percentages

Alternative	Walk	Bus Transit	Private Vehicle	Other
MOS 1	39%	47%	2%	12%
MOS 2	54%	35%	2%	9%
Alternative 1	56%	34%	2%	8%
Alternative 2	60%	30%	2%	8%
Alternative 3	64%	26%	2%	8%
Alternative 4	55%	28%	2%	15%
Alternative 5	58%	24%	2%	16%

Source: Metro Travel Demand Model

5.1.1.7 Study Corridor Travel Time Comparison

Table 5-5 compares estimated corridor-specific travel times during the peak period for MOSs and Build Alternatives. Longer subway extensions increase travel time benefits for transit riders. For example, traveling westbound by bus from Wilshire/Western to Wilshire/4th would take more than an hour under No Build or TSM. Even by car, driving the same distance would be only 15 minutes faster. By comparison, taking the subway from Wilshire/Western to Wilshire/4th under Alternatives 3 or 5 would result in travel time savings over 42 minutes compared to the bus and 28 minutes compared to driving.

Figure 5-6 shows travel time comparisons during the off-peak period. The subway provides a notable improvement over bus service even during the off-peak because bus wait times are greater during the off-peak period than during the peak period. Traveling from

Wilshire/Western to Wilshire/4th under the No Build or TSM Alternatives would take more than an hour by bus but only 25 minutes by subway under Alternatives 3 and 5. Traffic congestion is lower during the off-peak, but even with improved auto times, the subway is still faster than driving for all Build Alternatives.

Transit travel times to the Westside from origins outside the Study Area are presented in Section 5.1.1.8 Transit Travel Times.

Table 5-5. Project Alternative Peak Travel Time Comparison

Alt	From	To	Subway Time (min)	No Build Bus Time (min)	TSM Bus Time (min)	Auto Time (min)
Westbound						
MOS 1	Wilshire/Western	Wilshire/Fairfax	6.6	16.7	15.9	12.6
MOS 2	Wilshire/Western	Wilshire/Century City	11.9	34.4	33.6	25.2
Alt 1	Wilshire/Western	Wilshire/Westwood	14.2	45.7	44.9	33.8
Alt 2	Wilshire/Western	Westwood/VA	15.5	53.5	52.7	39.8
Alt 3	Wilshire/Western	Wilshire/4th	21.1	64.2	63.4	48.8
Alt 4	Wilshire/Western	Westwood/VA	15.5	53.5	52.7	39.8
	Hollywood/Highland	Westwood/VA	19.5	65.1	64.3	40.1
Alt 5	Wilshire/Western	Wilshire/4th	21.1	64.2	63.4	48.8
	Hollywood/Highland	Wilshire/4th	25.1	75.8	75.0	49.0
Eastbound						
MOS 1	Wilshire/Fairfax	Wilshire/Western	6.6	14.0	10.7	7.7
MOS 2	Wilshire/Century City	Wilshire/Western	11.9	24.7	21.4	15.3
Alt 1	Wilshire/Westwood	Wilshire/Western	14.2	31.8	28.5	20.9
Alt 2	Westwood/VA	Wilshire/Western	15.5	40.9	37.6	28.4
Alt 3	Wilshire/4th	Wilshire/Western	21.1	49.6	46.3	35.5
Alt 4	Westwood/VA	Wilshire/Western	15.5	40.9	37.6	28.4
	Westwood/VA	Hollywood/Highland	19.5	47.8	44.5	27.6
Alt 5	Wilshire/4th	Wilshire/Western	21.1	49.6	46.3	35.5
	Wilshire/4th	Hollywood/Highland	25.1	56.5	53.2	34.7

Source: Metro Travel Demand Model; Note: Transit times include wait times equal to half of headways

Table 5-6. Project Alternative Off-Peak Travel Time Comparison

	From	To	Subway Time (min)	No Build Bus Time (min)	TSM Bus Time (min)	Auto Time (min)
Westbound						
MOS 1	Wilshire/Western	Wilshire/Fairfax	9.9	16.2	16.2	7.3
MOS 2	Wilshire/Western	Wilshire/Century City	15.3	29.2	29.2	14.3
Alt 1	Wilshire/Western	Wilshire/Westwood	17.6	38.7	38.7	19.4
Alt 2	Wilshire/Western	Westwood/VA	18.9	50.1	50.1	23.5
Alt 3	Wilshire/Western	Wilshire/4th	24.5	61.9	61.9	30.5
Alt 4	Wilshire/Western	Westwood/VA	18.9	50.1	50.1	23.5
	Hollywood/Highland	Westwood/VA	22.0	64.4	64.4	23.1
Alt 5	Wilshire/Western	Wilshire/4th	24.5	61.9	61.9	30.5
	Hollywood/Highland	Wilshire/4th	27.6	76.2	76.2	30.0
Eastbound						
MOS 1	Wilshire/Fairfax	Wilshire/Western	9.9	16.4	16.4	7.2
MOS 2	Wilshire/Century City	Wilshire/Western	15.3	29.4	29.4	14.3
Alt 1	Wilshire/Westwood	Wilshire/Western	17.6	38.3	38.3	19.1
Alt 2	Westwood/VA	Wilshire/Western	18.9	50.2	50.2	23.5
Alt 3	Wilshire/4th	Wilshire/Western	24.5	61.9	61.9	30.4
Alt 4	Westwood/VA	Wilshire/Western	18.9	50.2	50.2	23.5
	Westwood/VA	Hollywood/Highland	22.0	65.0	65.0	23.3
Alt 5	Wilshire/4th	Wilshire/Western	24.5	61.9	61.9	30.4
	Wilshire/4th	Hollywood/Highland	27.6	76.7	76.7	30.2

Source: Metro Travel Demand Model; Note: Transit times include wait times equal to half of headways

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

5.1.2 Regional Transit Travel Times, Speed, and Reliability

5.1.2.1 Transit Travel Times

Transit travel times are a major factor for determining transit demand. Several zone pairs were selected to show estimated a.m. peak hour travel times in 2035 under each alternative. The origin and destination locations are shown in Figure 5-1. The five destination zones, all located in the Study Area, encompass the four cities in the area: Los Angeles (including Century City and Westwood), West Hollywood, Beverly Hills, and Santa Monica. These zone pairs were selected based on several factors such as:

- 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, Orange, Blue, and Purple lines or Metrolink commuter rail service. Figure 3-1 identifies each station on these rail lines.

Figure 5-1. Origins and Destinations for Transit Travel Times

- In addition to reflecting geographic diversity, the origin locations also involve a demographic mix, including household income levels and a variation of concentrations of minority communities.

The origin zones are:

- Pasadena (Del Mar Station), 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.
- Located in the central part of Downtown Los Angeles, the Pershing Square Station 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 Central Wilshire.
- South Los Angeles at the Florence Station is southeast of the Study Area on the existing LRT Metro Blue Line. Westside access can be provided with one transfer in Downtown Los Angeles.
- Reseda in the central part of the San Fernando Valley at the existing Metro Orange Line Station BRT Station. The station is north of the Westside Study Area
- Covina is located east of Downtown Los Angles 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 potential Westside subway extensions, this would 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 a.m. peak-period transit travel times is presented in the following sections for the above zone pairs. There are very little travel-times differences for the No Build and TSM Alternatives (in most cases less than one minute). Accordingly, a single travel time (for the No Build Alternative) is identified in the following sections. The information presented in this section reflects complete implementation of the alternatives as defined in Chapter 2. Since the MOSs represent potential phasing of subway extensions, they are not included.

The estimated travel time variations among the alternatives reflect the extent of exclusive subway service that would be involved in making the trip. In several cases, such as travel from Pasadena to Century City or Downtown Los Angeles to Westwood, no variations in travel among Build Alternatives would occur. Similar travel times for these zone pairs would occur since the subway would be serving these destinations under each Build Alternative. In addition to the relative length of subway service under each alternative, variations in transit travel time would occur due to alignment options and number of station locations. However, most variations in travel time would be attributable to the extent of subway service for each alternative.

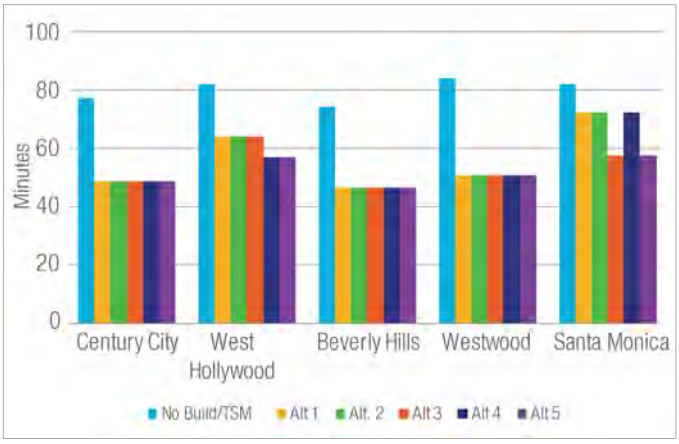


Figure 5-2. Transit Travel Times—Pasadena to Westside

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

Figure 5-4. Transit Travel Times—South Central 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 5-2. Under any alternative, a transfer would be necessary to complete the trip to the Westside. In the case of the Build Alternatives, the transfer would be at Union Station.

The travel times with the Build Alternatives would be generally much lower than the No Build/TSM Alternatives. Particularly major reductions in times would occur for travel to Century City, Beverly Hills, and Westwood. For trips to Santa Monica under Alternatives 1, 2, and 4, travel time would include a bus transfer to complete the trip.

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 5-3. Under all alternatives, direct/no transfer transit access to the Westside would be available. However, even with direct bus access, the No Build/TSM Alternatives would have twice the travel time than the Build Alternatives 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 5-4. Under the Build Alternatives, transfers between the Blue and extended Purple Lines would be required in Downtown Los Angeles to complete the trip to Westside locations. Travel times to Santa Monica under the No Build/TSM Alternatives would be somewhat competitive with Alternatives 1 and 2, since riders could use the planned Exposition LRT line that would provide quick transit access between South Los Angeles and the Westside.

Figure 5-5. Transit Travel Times—Reseda to Westside

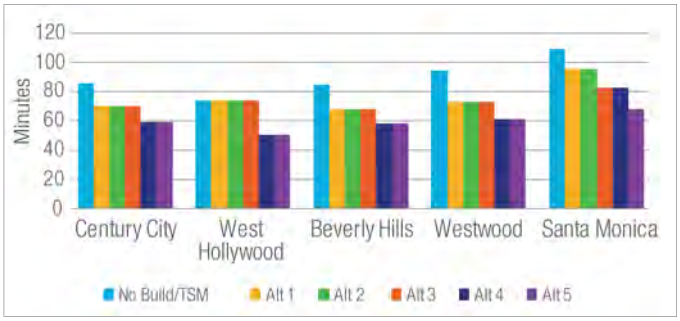


Figure 5-6. Transit Travel Times—Covina to Westside

Figure 5-7. Transit Travel Times—Wilshire Western 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 5-5. Under Alternatives 1 through 3, transfers at Wilshire/Vermont would be required to complete the trips. Under Alternatives 4 and 5, a potential subway extension to West Hollywood from the Hollywood/Highland Station would result in substantial travel time savings versus the No Build/TSM Alternatives. This would be particularly applicable to trips between Reseda and Westwood, West Hollywood, and Santa Monica. Under Alternatives 1, 2, and 4, transfers would occur at Wilshire and Vermont.

From Covina (Metrolink Station)
The estimated transit travel times from the Covina Metrolink Station to various Westside destinations are shown in Figure 5-6. Under all alternatives, transfers in Downtown Los Angeles at Union Station would be required to complete the trip to Westside locations. However, even with direct bus access from Downtown Los Angeles, the No Build/TSM Alternatives would have higher transit travel times than the Build Alternatives for all locations except West Hollywood under Alternatives 1, 2, and 3.

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 5-7. Major variations can be seen between the No Build/TSM Alternatives travel times and each of the Build Alternatives. Particularly, major variations can be seen for trips to Century City, Beverly Hills, Westwood, and Santa Monica. For example, transit travel time to Westwood would be 12 minutes as compared to 46 minutes under the No Build/TSM Alternative.

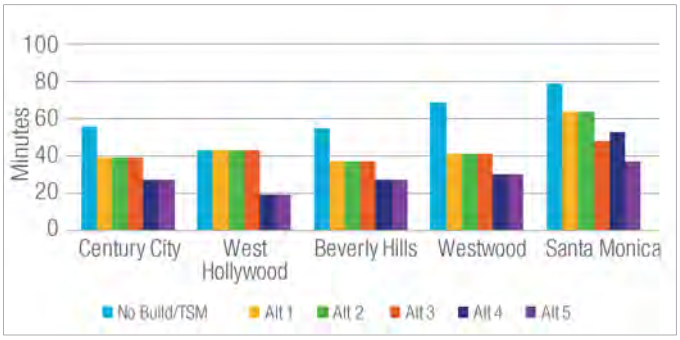


Figure 5-8. Transit Travel Times—North Hollywood to Westside

From North Hollywood (Red Line Station)
Estimated transit travel times from the existing Red Line North Hollywood Station represent an extension of an existing HRT service. Estimated peak-hour transit travel times from North Hollywood to selected Westside destinations are shown in Figure 5-8.

Under all alternatives, transfers at Wilshire/Vermont or Hollywood/Highland would be required to complete the trip to Westside locations. Substantial travel time reductions would occur under Alternatives 4 and 5 as compared to the No Build/TSM Alternatives. These alternatives would include direct subway service from North Hollywood to the Westside.

Figure 5-9. Transit Operating Speeds

5.1.2.2 Transit Speed and Reliability

The transit travel times presented above reflect estimated variations in transit speeds for the alternatives. As shown in Figure 5-9 transit speeds under the Build Alternatives would increase by over a factor of two versus the No Build/ TSM Alternatives and existing conditions. Even allowing time spent for accessing subway service (including vertical movement to platforms) under the Build Alternatives, the substantial increases in speeds versus the No Build and TSM Alternatives conditions would result in reduced travel times. Transit speeds under the Build Alternatives contrast with reduced speeds under the No Build/TSM Alternatives compared to existing conditions. The degrading conditions under the No Build/TSM Alternatives would result from transit service, heavily dominated by buses operating in mixed traffic conditions, being subject to increasingly poor conditions.

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

In addition to higher transit speeds which 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. While some deviations could occur due to special conditions such as a traffic accident, close adherence between published and actual transit schedules and travel times should be expected.

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 buses. As is the case with existing conditions, the No Build and TSM Alternatives would involve mostly a mix of buses and general-purpose traffic. Only small segments of the Purple and Red HRT 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 Build Alternatives, much higher levels of exclusive right-of-way service would be available to transit riders. As potential subway extensions proceed farther west, this level of exclusive transit operations versus exclusive-plus-mixed operations would gradually increase. The travel forecasting 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. But, for some routes, the coverage includes Downtown Los Angeles.

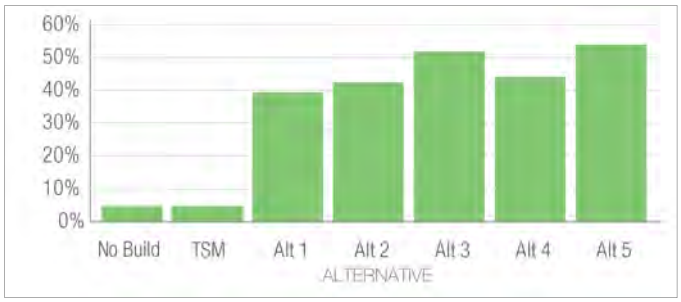


Figure 5-10. Extent of Passenger Miles in Exclusive Guideway Service

As indicated by Figure 5-10, there would be a relatively small share of passenger miles that involves exclusive operations under the No Build/ TSM Alternatives in 2035. With the Build Alternatives, the extent of passenger miles in exclusive operations would be substantially greater as compared to both the No Build and TSM Alternatives. As compared to about 5 percent under the No Build and TSM Alternatives, the shares under the Build Alternatives would range between 40 percent to over 50 percent. With these much larger shares of passenger miles involving exclusive right-of-way and congestion-free service, transit reliability in the Study Area would greatly improve.

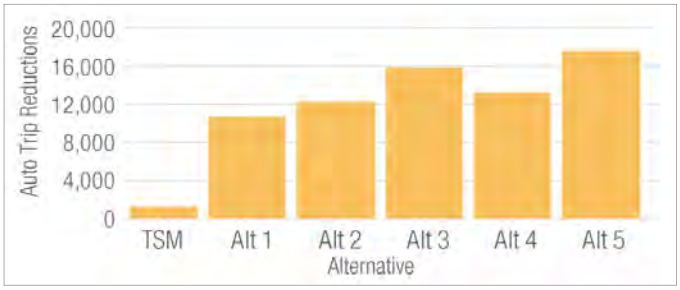


Figure 5-11. Reduction in Auto Trips by Alternative during Seven-hour Peak Period

5.1.2.3 Reduction in Auto Trips

With the Build Alternatives, some reductions in county-wide traffic would occur as reflected in VMT, VHT, and AM/PM auto trips. A more detailed examination of model results for 2035 can provide further insight relating to potential impacts of the TSM and Build Alternatives, specifically in terms of reduced auto trips during the seven-hour peak period. The amount of reduced auto trips under the TSM and Build Alternatives for the seven-hour peak period is shown in Figure 5-11. Under the TSM Alternative, a relatively small number of auto trips, about 1,400, would be eliminated in comparison with the Build Alternative. With the Build Alternatives, at least 10,000 auto trips occurring in the seven-hour peak period would be reduced. At approximately 18,000 reduced peak-period auto trips, Alternative 5 would have the greatest impact.

The effects of the Build Alternatives can also be shown by the estimated transit mode share changes within the Study Area as compared to the No Build and TSM Alternatives. The 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 while the destinations are located in the Study Area. In comparison to the county-wide performance measure changes, the transit mode share information presented below reflects characteristics of the alternatives (for example, travel time) that would more directly affect the Study Area.

The following summarize estimated changes in transit mode shares during AM and PM peak periods for selected travel pairs between the No Build/TSM and Build Alternatives:

- Pasadena (Del Mar Gold Line Station) to Century City
  - No Build/TSM: 18 percent
  - Build Alternatives: 22 percent
- South-Central Los Angeles (Florence Blue Line Station) to Westwood/UCLA
  - No Build/TSM: 19 percent
  - Build Alternatives: 24 percent
- Wilshire District (Wilshire/Western Purple Line Station) to Santa Monica (Wilshire Boulevard /4th Street)
  - No Build/TSM: 21 percent
  - Build Alternatives: 29 percent
- North Hollywood (Orange-Red Line Stations) to West Hollywood (Santa Monica Boulevard/San Vicente Boulevard)
  - No Build/TSM: 13 percent
  - Build Alternatives: 19 percent

5.1.3 Impact Assessment

5.1.3.1 No Build Alternative

By definition, the No-Build Alternative would not result in adverse transit impacts.

5.1.3.2 TSM Alternative

Impacts from the TSM Alternative would be beneficial as increased levels of transit service would be provided.

5.1.3.3 MOS and Build Alternatives

Impacts from MOS and Build Alternatives would be beneficial as levels of transit service would increase, and transit speed and reliability would improve.

5.1.4 Mitigation Measures

No Build Alternative

No mitigation measures are required since no adverse impacts are expected under the No-Build Alternative.

TSM Alternative
No mitigation measures are required since no adverse impacts are expected under the TSM Alternative.

MOS and Build Alternatives
No mitigation measures would be required since impacts of subway extensions would provide transit benefits. Characteristics of the Build Alternatives will increase transit mode shares resulting in reduced auto demand on the transportation system.

5.1.5 CEQA Determination

The proposed MOS and Build alternatives would have a positive impact on transit.

5.1.5.1 Impacts Remaining After Mitigation

No impacts are expected under any alternative.

5.1.6 Station Area Assessment—Pedestrian/Bicycle/Bus to Rail Interface

The purpose of this section is to describe the connections between Westside Subway Extension stations and the other transportation modes that interface with these stations. The interface between the Westside Subway Extension and 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/dropped off in private vehicles to continue or complete their trips. Providing efficient and safe connections between the Westside Subway Extension and the transportation modes that interface with it will ensure the best possible service for subway riders.

In some station areas, there are physical barriers that would 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 would not be present between travel generators and subway station entrances.

The interfacing transportation modes evaluated in this section include bus transit (specifically the location of bus stops), and pedestrian and bicycle facilities (pedestrian crossings and bicycle lanes). The possibility of pedestrian constriction at station locations was carefully reviewed, but the width of station area sidewalks is sufficient to dismiss this concern.

5.1.6.1 Wilshire/Crenshaw Station

The following MOSs and Build Alternatives include this station:

- MOS 1
- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed MOSs and Build Alternatives.

Pedestrian and Bicycle Interface

This optional station is located between Bronson Avenue and Lorraine Boulevard, with a potential station entrance on the south side of Wilshire Boulevard on the Metro-owned property between Crenshaw and Lorraine Boulevards (see Figure 5-12).

The intersection of Crenshaw and Wilshire Boulevards is signalized with protected/permissive left-turn phasing on westbound Wilshire Boulevard. Marked crosswalks are currently provided on the south leg and the east leg of the intersection. There is no crosswalk across Wilshire Boulevard on the west leg of the intersection where the potential entrance is located. The intersection of Lorraine and Wilshire Boulevards is unsignalized. No marked crosswalks are provided at this intersection.

Arden Boulevard north of Wilshire Boulevard is designated as a bicycle route. 4th Street, Lucerne Boulevard, Norton Avenue and Saint Andrews Place are designated as bicycle friendly streets. No bicycle facilities are located on either Crenshaw or Wilshire Boulevards.

Bus Interface

Figure 5-12 also illustrates bus stop locations. Bus stops for Metro Rapid Line 720 are on the north side of Wilshire Boulevard, just east of Lorraine Boulevard (westbound buses) and on the south side of Wilshire Boulevard east of Crenshaw Boulevard (eastbound buses). Bus stops for Metro Rapid Line 710 are on the west side of Crenshaw Boulevard, just south of Wilshire Boulevard (southbound buses) and at the eastbound Rapid Line 720 bus stop on the south side of Wilshire Boulevard east of Crenshaw Boulevard (northbound buses). Bus stops for Metro Line 20 are on the north side of Wilshire Boulevard, west of Lorraine Boulevard (westbound bus), and on the south side of Wilshire Boulevard, west of Crenshaw Boulevard and directly in front of the potential station entrance (eastbound bus). Bus stops for Metro Line 210 are at the Rapid Line 710 bus stop on the west side of Crenshaw Boulevard, just south of Wilshire Boulevard (southbound buses) and on the east side of Crenshaw Boulevard just south of Wilshire Boulevard (northbound buses).

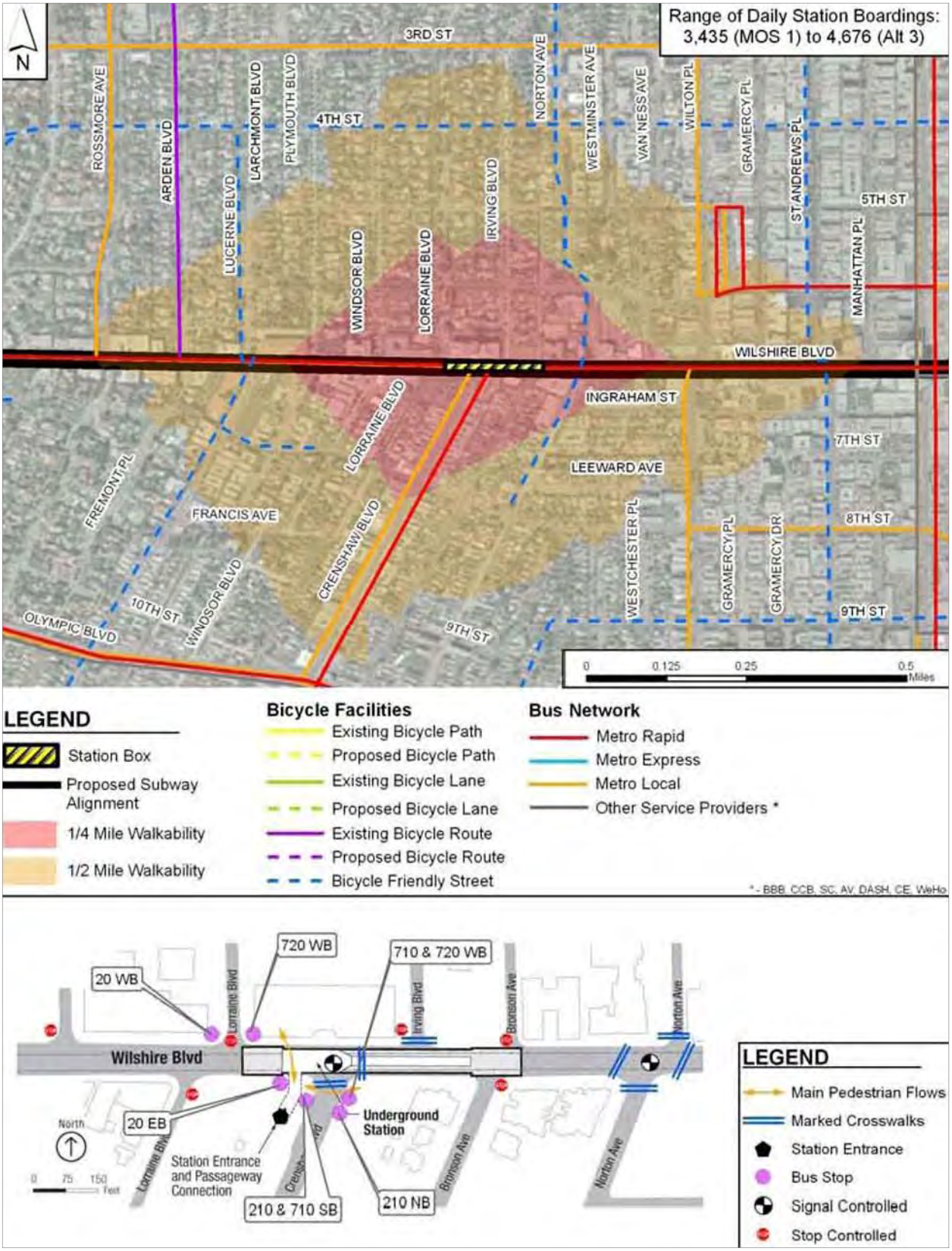


Figure 5-12. Wilshire/Crenshaw Station

5.1.6.2 Wilshire/La Brea Station

The following MOSs and Build Alternatives include this station:

- MOS 1
- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed MOSs and Build Alternatives.

Pedestrian and Bicycle Interface

This station is between La Brea and Cloverdale Avenues with three potential station entrances: on the northwest, southwest, and southeast corners of the intersection of La Brea Avenue and Wilshire Boulevard (see Figure 5-13).

The intersection of La Brea Avenue and Wilshire Boulevard is signalized with protected/ permissive phasing on Wilshire Boulevard and northbound on La Brea Boulevard and with protected left-turn phasing southbound on La Brea Boulevard. Marked crosswalks are provided on all legs of the intersection. The intersection of Detroit Street and Wilshire Boulevard is signalized with permissive phasing in all four directions. Marked crosswalks are currently provided on all legs of the intersection. Raised medians are provided on Wilshire Boulevard both east and west of Detroit Street.

4th Street, 8th Street, Sierra Bonita Avenue, Cochran Avenue, and Mansfield Avenue are designated as bicycle friendly streets. In the Draft Los Angeles Bicycle Plan Update, bicycle routes are proposed for 3rd Street and 6th Street west of Cochran Avenue. No bicycle facilities are located on either La Brea Avenue or Wilshire Boulevard.

Bus Interface

Figure 5-13 also illustrates bus stop locations. Bus stops for Metro Rapid Line 720 are on the north side of Wilshire Boulevard, just west of La Brea Avenue (westbound bus) and on the south side of Wilshire Boulevard east of La Brea Avenue (eastbound buses). Bus stops for Metro Line 20 are on the north side of Wilshire Boulevard, west of La Brea Avenue immediately adjacent to the Rapid stop, (westbound bus), and on the south side of Wilshire Boulevard, west of La Brea Avenue (eastbound buses). Bus stops for Metro Lines 212 and 312 are on the west side of La Brea Avenue just north of Wilshire Boulevard (southbound buses) and on the east side of La Brea Avenue just south of Wilshire Boulevard (northbound buses). The bus stop for the DASH Fairfax Line (clockwise buses) is located at the southbound Metro Lines 212/312 stop.

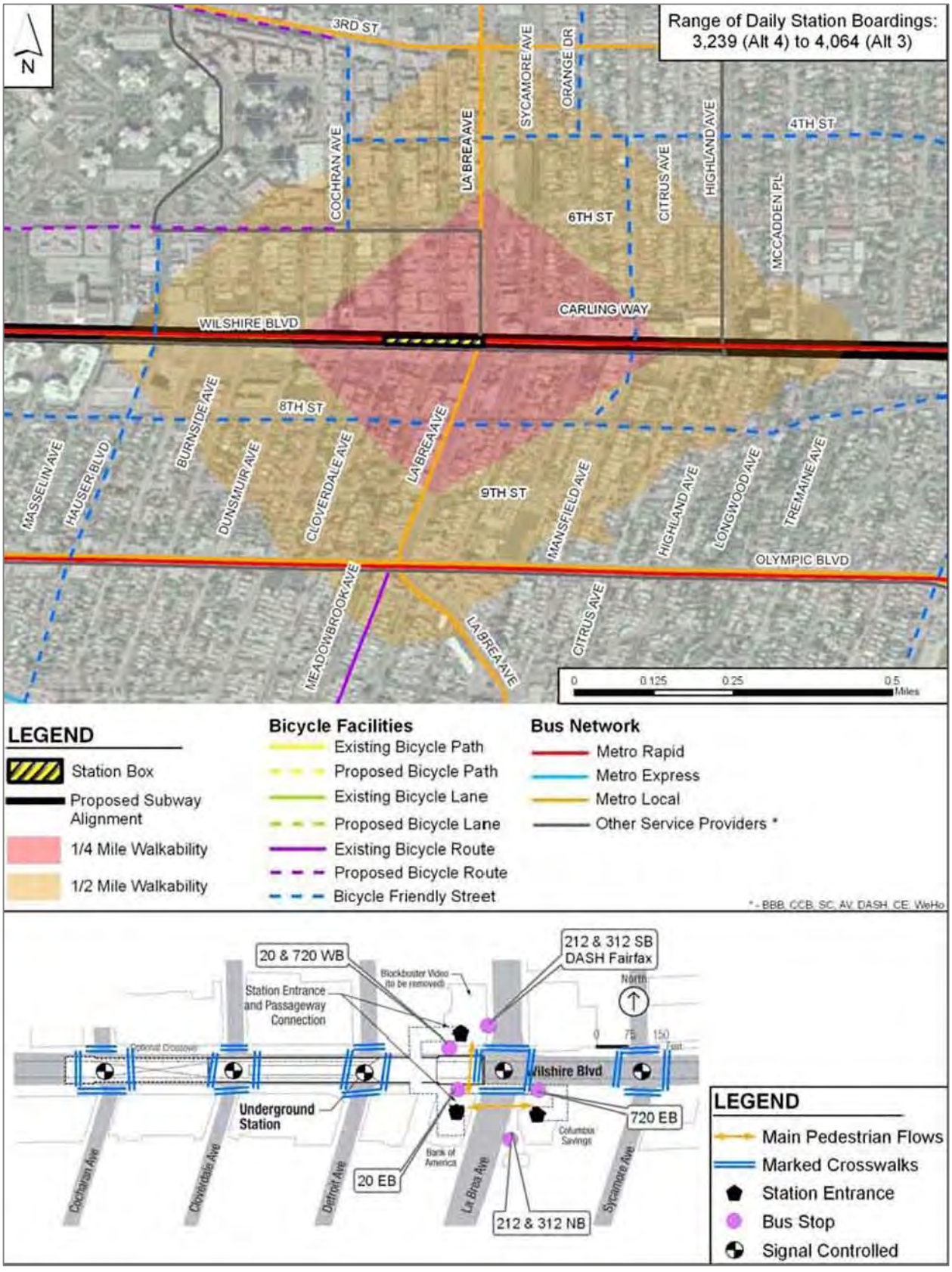


Figure 5-13. Wilshire/La Brea Station

5.1.6.3 Wilshire/Fairfax Station

Pedestrian and Bicycle Interface

This station is under the center of Wilshire Boulevard, immediately west of Fairfax Avenue, extending almost to the intersection with Crescent Heights (see Figure 5-14). There are two potential station entrances: on the northwest and north east corner of the intersection of Wilshire Boulevard and Fairfax Avenue The intersection of Fairfax Avenue and Wilshire Boulevard is signalized with protected/permissive phasing on Wilshire Boulevard and northbound on Fairfax Avenue and with protected left-turn phasing southbound on Fairfax Avenue. Marked crosswalks are currently provided on all legs of the intersection. A raised median is provided on Wilshire Boulevard east of Fairfax Avenue.

Del Valle Drive, Curson Avenue, Sierra Bonita Avenue, 4th Street, 8th Street, and Mansfield Avenue are designated as bicycle friendly streets. In the Draft Los Angeles Bicycle Plan Update, bicycle routes are proposed for 3rd Street and 6th Street west of Cochran Avenue. No bicycle facilities are located on either La Brea Avenue or Wilshire Boulevard.

Bus Interface

Figure 5-14 also illustrates bus stop locations. Bus stops for Metro Rapid Lines 720 and 920 are on the north side of Wilshire Boulevard, east of Fairfax Avenue (westbound buses) and on the south side of Wilshire Boulevard east of Fairfax Avenue (eastbound buses). Bus stops for Metro Rapid Line 780 and Line 217 are located on the west side of Fairfax Avenue, south of Wilshire Boulevard (southbound buses) and on the east side of Fairfax Avenue, north of Wilshire Boulevard (northbound buses). Bus stops for Metro Line 20 are on the north side of Wilshire Boulevard, west of Fairfax Avenue (westbound buses), and on the south side of Wilshire Boulevard, west of Fairfax Avenue (eastbound buses). The bus stop for the DASH Fairfax Line (clockwise buses), is located at the westbound Metro Rapid 720/920 bus stop. Commuter service provided by Antelope Valley Transit Line 786 also serves this station area. Interface between the Westside Subway Extension and commuter transit services is expected to be minimal, because commuter services typically serve the end destination for riders.

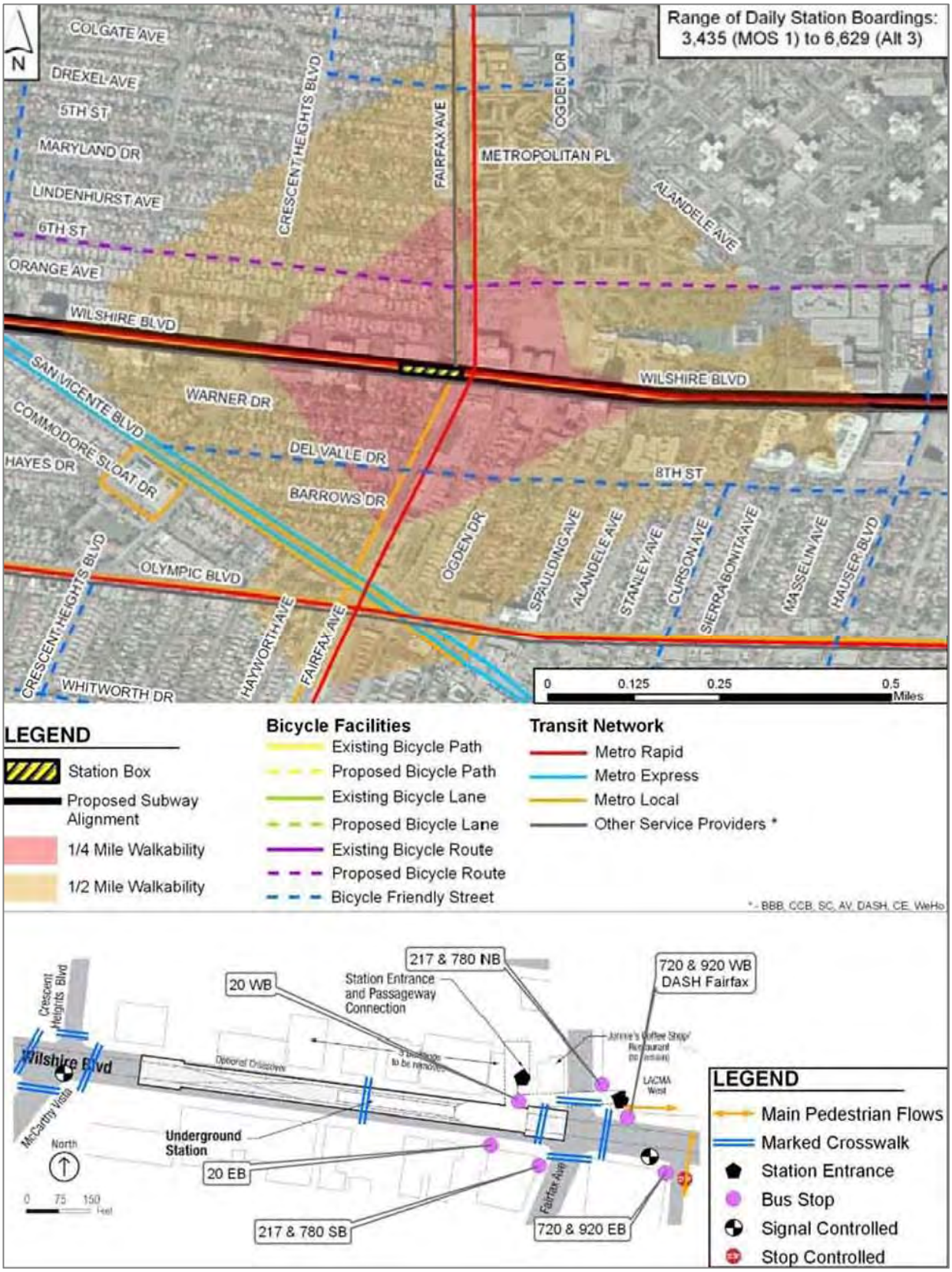


Figure 5-14. Wilshire/Fairfax Station

5.1.6.4 Wilshire/Fairfax Optional Station (Option B)

The following MOSs and Build Alternatives include this station:

- MOS 1
- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed MOSs and Build Alternatives.

Pedestrian and Bicycle Interface

The Wilshire/Fairfax Optional Station would be located east of the base Wilshire/Fairfax Station, underneath the intersection of Wilshire Boulevard and Fairfax Avenue (see Figure 5-15). There are three potential station entrances: on the northwest corner of the intersection of Wilshire Boulevard and Fairfax Avenue; on the northeast corner of the intersection of Wilshire Boulevard and Fairfax Avenue on the LACMA property; and on the southeast corner of the intersection of Orange Grove Avenue and Wilshire Boulevard, across from LACMA.

The signal controls and crosswalk facilities of the intersection of Fairfax Avenue and Wilshire Boulevard have been described above for the Wilshire/Fairfax Station location. The intersection of Orange Grove Avenue and Wilshire Boulevard is unsignalized, with stop controls on the south leg of the intersection. No marked crosswalks are currently provided on any legs of the intersection.

The bicycle facilities have been described above for the Wilshire/Fairfax Station location.

Bus Interface

Bus stop locations have been described above for the Wilshire/Fairfax Station location.

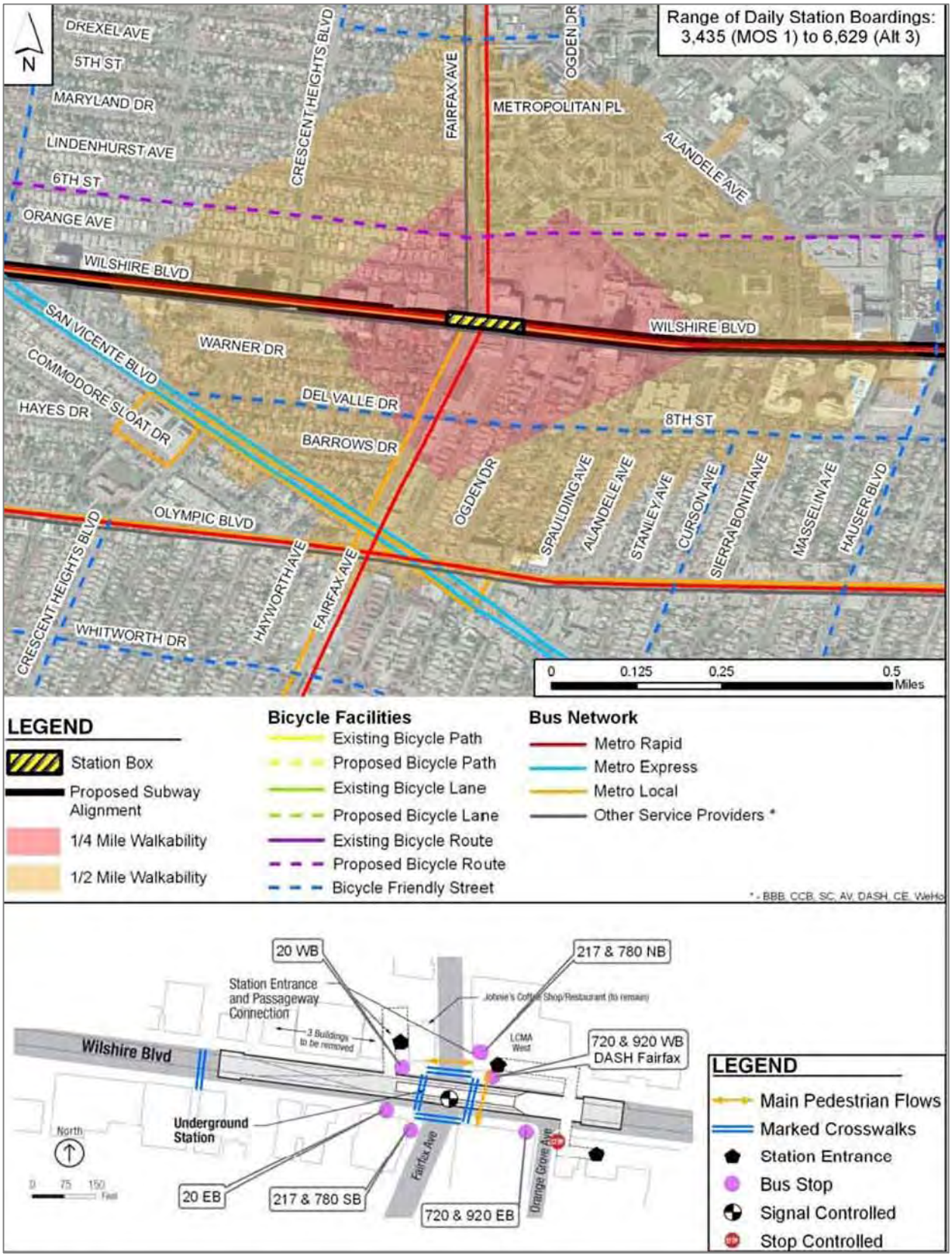


Figure 5-15. Wilshire/Fairfax Optional Station

5.1.6.5 Wilshire/La Cienega Station

The following MOSs and Build Alternatives include this station:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed MOSs and Build Alternatives.

Pedestrian and Bicycle Interface

This station is under the center of Wilshire Boulevard, immediately east of La Cienega Boulevard (see Figure 5-16). There are two potential station entrances: on the northeast corner of the intersection of La Cienega and Wilshire Boulevards and on the southwest corner of the intersection of Hamilton Drive and Wilshire Boulevard, in front of the Flynt building. A transfer to the West Hollywood alignment is not provided with this station; a track connection to West Hollywood is provided via a separate connection structure at Robertson Boulevard.

The intersection of La Cienega and Wilshire Boulevard is signalized with protected/ permissive phasing in all four directions. Marked crosswalks are provided on all legs of the intersection. The intersection of Hamilton Drive and Wilshire Boulevard is unsignalized, with stop controls on the north and south legs of the intersection. No marked crosswalks are currently provided on any legs of the intersection.

Sweetzer Avenue is designated as a bicycle friendly street. In the Draft Los Angeles Bicycle Plan Update, bicycle routes are proposed for 3rd Street and 6th Street. No bicycle facilities are located on either La Cienega or Wilshire Boulevards.

Bus Interface

Figure 5-16 also illustrates bus stop locations. The bus stops for Metro Rapid Line 720 and Metro Line 20 are located on the north side of Wilshire Boulevard, west of La Cienega Boulevard (westbound buses) and on the south side of Wilshire Boulevard east of La Cienega Boulevard (eastbound buses). Bus stops for Metro Rapid Line 705 are on the west side of La Cienega Boulevard, just south of Wilshire Boulevard (southbound buses) and on the east side of La Cienega Boulevard, north of Wilshire Boulevard (northbound bus). Bus stops for Metro Line 105 are on the west side of La Cienega Boulevard, north of Wilshire Boulevard (southbound buses) and on the east side of La Cienega Boulevard, south of Wilshire Boulevard (northbound buses). Commuter service provided by Antelope Valley Transit Line 786 also serves this station area. Interface between the Westside Subway Extension and commuter transit services is expected to be minimal, because commuter services typically serve the end destination for riders.

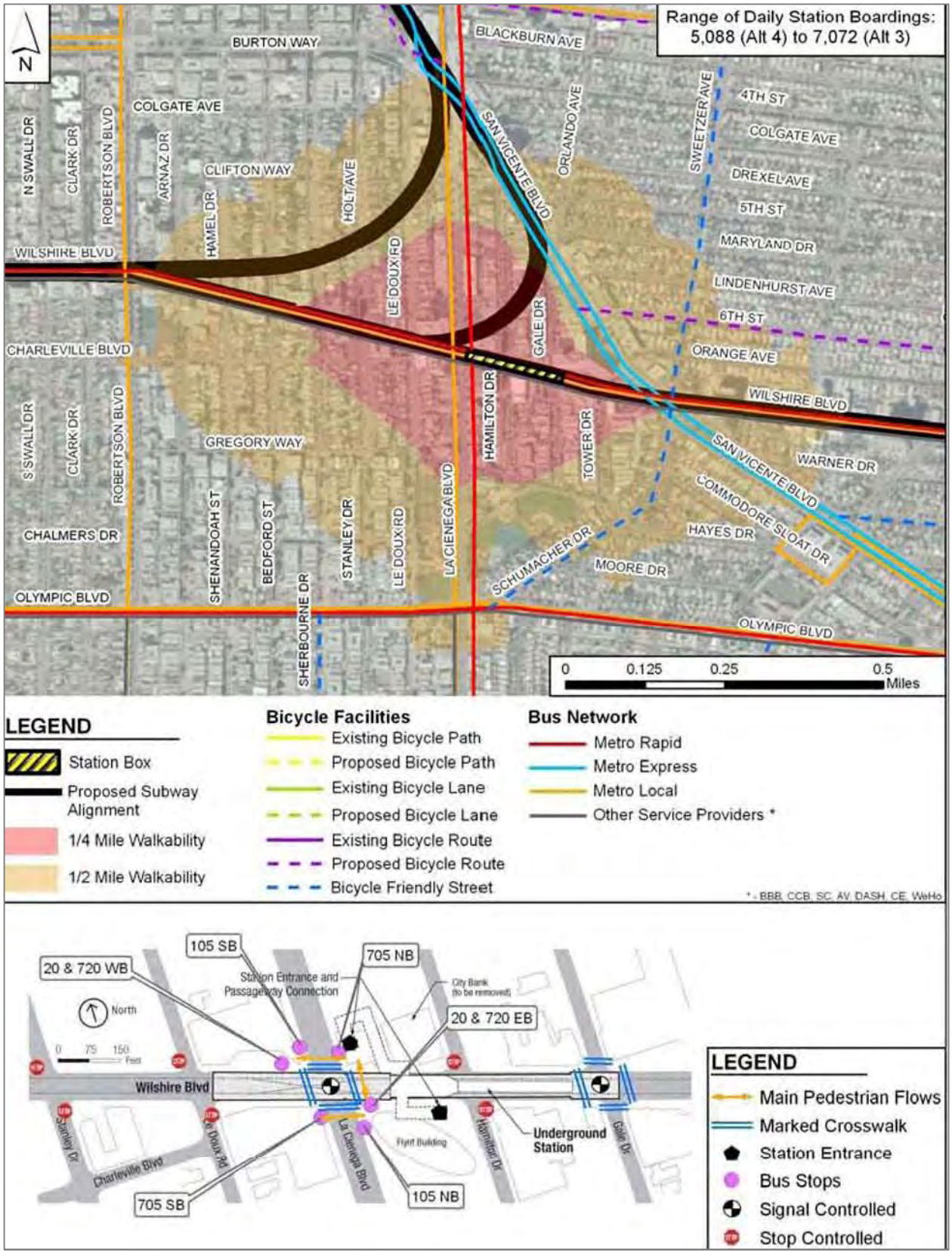


Figure 5-16. Wilshire/La Cienega Station

5.1.6.6 Wilshire/La Cienega Optional Station (Option C)

The following MOSs and Build Alternatives include this station:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed MOS and Build Alternatives.

Pedestrian and Bicycle Interface

The station box extends from the intersection of Le Doux Road and Wilshire Boulevard on the east to just west of the intersection of Carson Road and Wilshire Boulevard on the west (see Figure 5-17). There are two potential station entrances: on the northwest corner of the intersection of Le Doux Road and Wilshire Boulevard, and on the northwest corner of the intersection of La Cienega and Wilshire Boulevards in front of Cedars-Sinai Medical Group. The location of this station farther west of the Wilshire/La Cienega intersection allows it to be a transfer station with the West Hollywood alignment.

The signal controls and crosswalk facilities of the intersection of La Cienega and Wilshire Boulevards have been described above for the preferred station location.

The intersection of Le Doux Road and Wilshire Boulevard is unsignalized with stop controls on the south leg of the intersection. No marked crosswalks are currently provided on any legs of the intersection. Further to the west, the intersection of Stanley Drive and Wilshire Boulevard is unsignalized with stop controls on the south leg of the intersection. No marked crosswalks are currently provided on any legs of the intersection.

No marked bicycle lanes or other bicycle facilities are provided in the vicinity of this optional station location.

Bus Interface

Bus stops at the intersection of La Cienega and Wilshire Boulevards are described above under the Wilshire/La Cienega Station location. Additional bus stops (illustrated in Figure 5-17) for Metro Line 20 are on the north side of Wilshire Boulevard, west of Stanley Drive (westbound buses) and on the south side of Wilshire Boulevard west of Stanley Drive (eastbound buses).

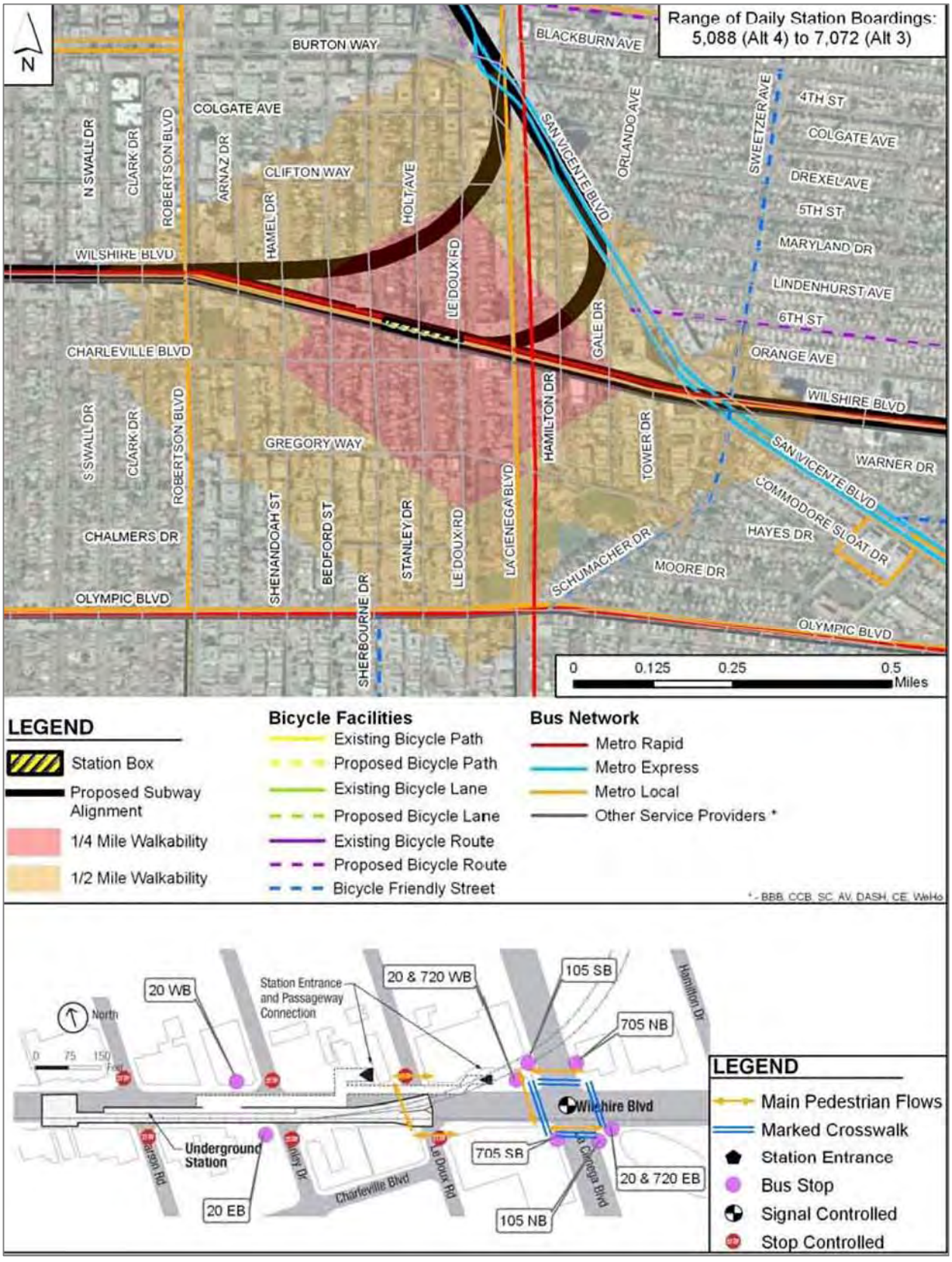


Figure 5-17. Wilshire/La Cienega Optional Station

5.1.6.7 Wilshire/Rodeo Station

The following MOSs and Build Alternatives include this station:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed MOS and Build Alternatives.

Pedestrian and Bicycle Interface

This station is under the center of Wilshire Boulevard, beginning just west of North Canon Drive and extending to El Camino Drive (see Figure 5-18). There are five potential station entrances: on the northwest corner of the intersection of Beverly Drive and Wilshire Boulevard; on the northeast corner of the intersection of Beverly Drive and Wilshire Boulevard; on the northwest corner of the intersection of Canon Drive and Wilshire Boulevard; on the southeast corner of the intersection of El Camino Drive and Wilshire Boulevard; and on the southwest corner of the intersection of Reeves Drive and Wilshire Boulevard.

The intersection of Beverly Drive and Wilshire Boulevards is signalized with protected left-turn phasing along Wilshire Boulevard and permissive left-turn phasing along Beverly Drive. Marked crosswalks are provided on all legs of the intersection. The intersection of Canon Drive and Wilshire Boulevards is signalized with protected left-turn phasing along Wilshire Boulevard and permissive left-turn phasing along Canon Drive. Marked crosswalks are currently provided on the north and west legs of the intersection and on the east leg after a sizable setback. The intersection of El Camino Drive and Wilshire Boulevard is signalized with a protected-permitted right-turn only phasing on El Camino Drive. Marked crosswalks are provided on the south and west legs of the intersection. The intersection of Reeves Drive and Wilshire Boulevard is unsignalized and stop-controlled in the northbound direction of Reeves Drive. There are no marked crosswalks at this intersection.

No marked bicycle lanes or other bicycle facilities are provided in the vicinity of this station location.

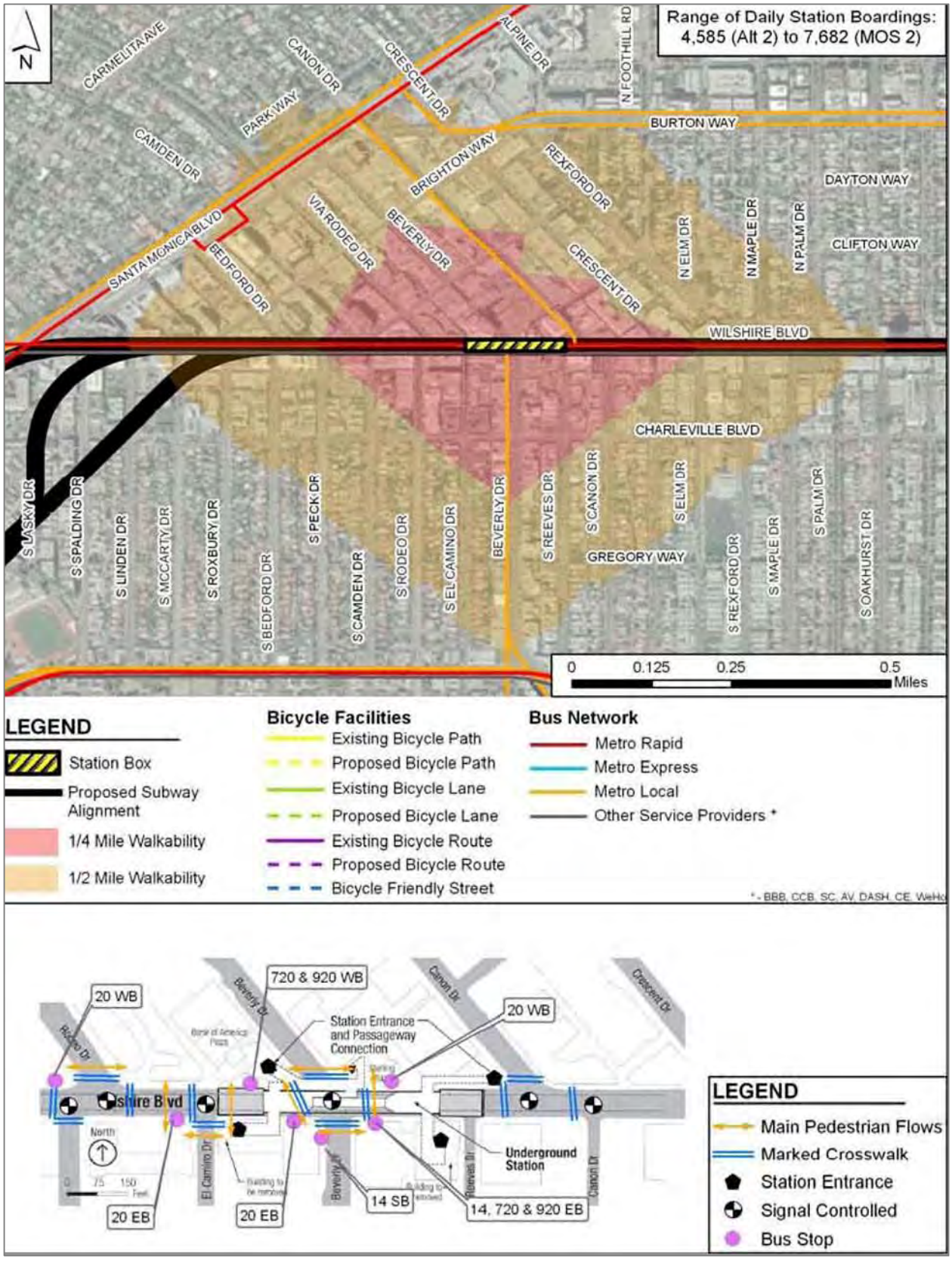


Figure 5-18. Wilshire/Rodeo Station

Bus Interface

Figure 5-18 also illustrates bus stop locations. Bus stops for Metro Rapid Lines 720 and 920 are located on the north side of Wilshire Boulevard west of Beverly Drive (westbound buses), and on the south side of Wilshire Boulevard east of Beverly Drive (eastbound buses). Bus stops for Metro Line 20 are located on the north side of Wilshire Boulevard, east of Beverly Drive with an additional stop west of Rodeo Drive (westbound buses) and on the south side of Wilshire Boulevard west of Beverly Drive with an additional stop west of El Camino Drive (eastbound buses). Bus stops for Metro Line 14 are on the west side of Beverly Drive, south of Wilshire Boulevard (southbound buses) and on the side of Wilshire Boulevard east of Beverly Drive shared with the Rapid bus stop (northbound buses). Commuter service provided by Antelope Valley Transit Line 786 also serves this station area. Interface between the Westside Subway Extension and commuter transit services is expected to be minimal, because commuter services typically serve the end destination for riders.

5.1.6.8 Century City Station

The following MOSs and Build Alternatives include this station:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed MOS and Build Alternatives.

Pedestrian and Bicycle Interface

This station is centered under Santa Monica Boulevard, with the station box centered on Avenue of the Stars and the western end extending to Club View Drive (see Figure 5-19). There are three potential station entrances: on the southeast corner of the intersection of Santa Monica Boulevard and Avenue of the Stars; on the southwest corner of the intersection of Santa Monica Boulevard and Avenue of the Stars; and at the Westfield Mall entrance mid-block south of Santa Monica Boulevard and west of Avenue of the Stars.

The intersection of Avenue of the Stars and Santa Monica Boulevard is signalized with protected left-turn phasing in all directions and right-turn overlaps eastbound on Santa Monica Boulevard and northbound on Avenue of the Stars. Marked crosswalks are currently provided on the south and east legs of the intersection.

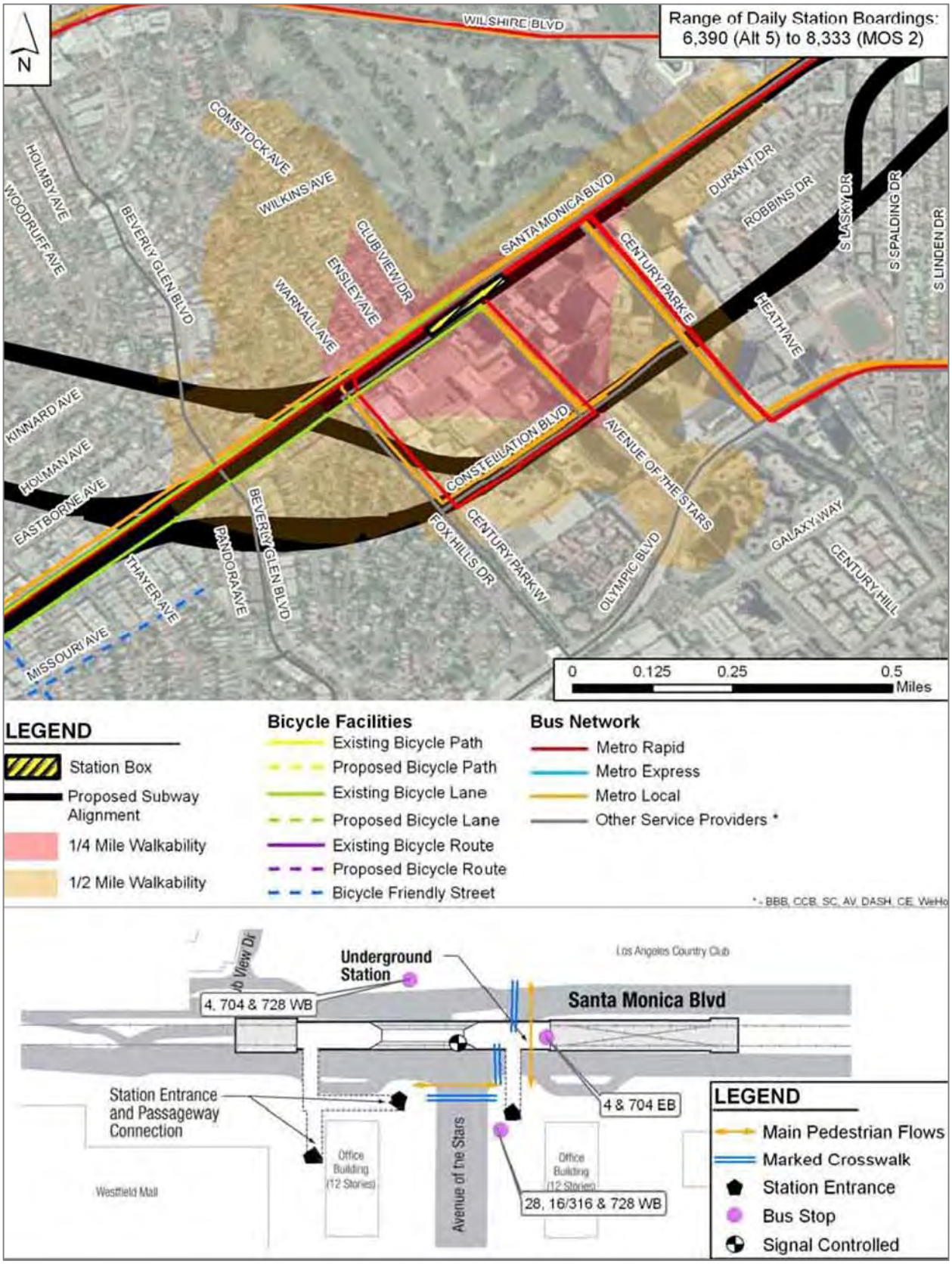


Figure 5-19. Century City Station

Bicycle lanes are provided on Santa Monica Boulevard. Missouri Avenue and Prosser Avenue are designated as bicycle friendly streets.

Bus Interface
Figure 5-19 also illustrates bus stop locations. Bus stops for Metro Rapid Line 704 and Line 4 are on the north side of Santa Monica Boulevard, just west of Avenue of the Stars (westbound buses) and in the center median of Santa Monica Boulevard just east of Avenue of the Stars Beverly Drive (eastbound buses). Bus stops for Metro Rapid Line 728, and Metro Lines 16/316 and 28 are on the north side of Santa Monica Boulevard, just west of Avenue of the Stars (eastbound buses) and on the east side of Avenue of the Stars south of Santa Monica Boulevard (westbound buses). Commuter service provided by Antelope Valley Transit Line 786, Commuter Express Lines 534 and 573, and Santa Clarita Transit Lines 792 and 797 also serve this station area. Interface between the Westside Subway Extension and commuter transit services is expected to be minimal, because commuter services typically serve the end destination for riders.

5.1.6.9 Century City Optional Station
The following MOSs and Build Alternatives include this station:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed MOS and Build Alternatives.

Pedestrian and Bicycle Interface
This station is under Constellation Boulevard, straddling Avenue of the Stars and extending westward toward MGM Drive (see Figure 5-20). There are four potential station entrances: on the northeast, southeast, and southwest corners of the intersection of Constellation Boulevard and Avenue of the Stars; and on the north side of Constellation Boulevard at MGM Drive.

The intersection of Avenue of the Stars and Constellation Boulevard is signalized with protected/permissive left-turn phasing along Constellation Boulevard, protected left-turn phasing along Avenue of the Stars, and right-turn overlap phasing eastbound on Constellation Boulevard. Marked crosswalks are currently provided on all legs of the intersection. Bicycle facilities are described above for the Century City Station.

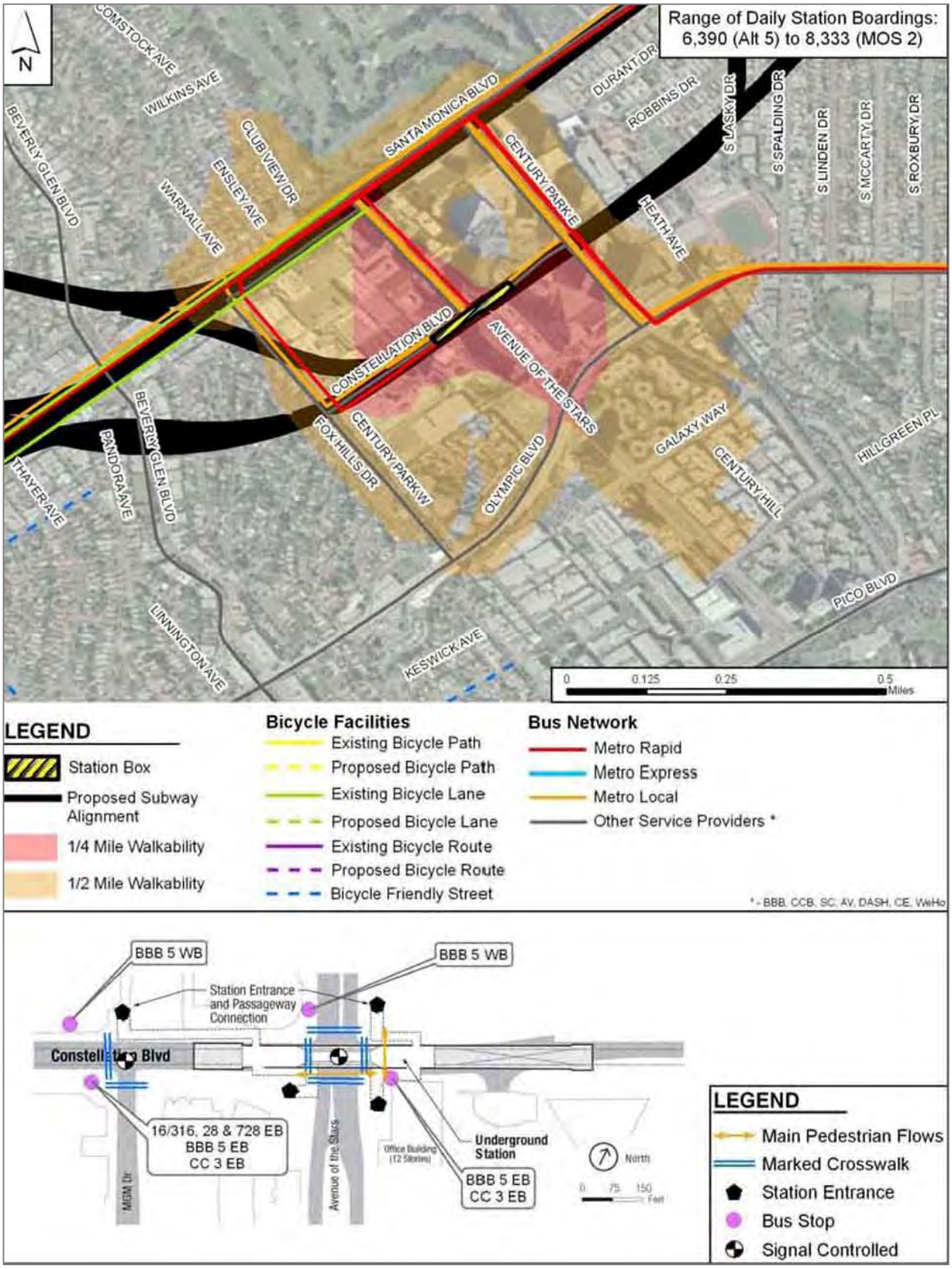


Figure 5-20. Century City Optional Station

Bus Interface

Figure 5-20 also illustrates bus stop locations. Bus stops for Metro Lines 16/316, 28, and 728, Big Blue Bus Line 5, and Culver City Line 3, are located on the west side of MGM Drive, south of Constellation Boulevard. Big Blue Bus Line 5 and Culver City Line 3 also have stops east of Avenue of the Stars south of Constellation Boulevard. Only Big Blue Bus Line 5 has westbound stops in the station area, north of Constellation Boulevard west of MGM Drive and north of Constellation Boulevard west of Avenue of the Stars. Commuter service provided by Commuter Express Lines 534 and 573, and Santa Clarita Transit Lines 792 and 797 also serve this station area. Interface between the Westside Subway Extension and commuter transit services is expected to be minimal, because commuter services typically serve the end destination for riders.

5.1.6.10 Westwood/UCLA Station

The following Build Alternatives include this station:

- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface

This station is located under the UCLA Lot 36 on the north side of Wilshire Boulevard between Gayley and Veteran Avenues (see Figure 5-21). There are four potential station entrances: on the northwest corner of the intersection of Gayley/Midvale Avenues and Wilshire Boulevard; on the southeast corner of the intersection of Veterans Avenue and Wilshire Boulevard; on the north end of Lot 36 near Kinross Avenue; and on the eastern end of Lot 36 near Lindbrook Drive.

The intersection of Gayley/Midvale Avenues and Wilshire Boulevard is signalized with protected left-turn phasing eastbound on Wilshire Boulevard, protected/permissive left-turn phasing northbound on Midvale Avenue, permissive phasing westbound on Wilshire Boulevard and southbound on Gayley Avenue, and right-turn overlap phasing southbound on Gayley Avenue. Marked crosswalks are provided on all legs of the intersection.

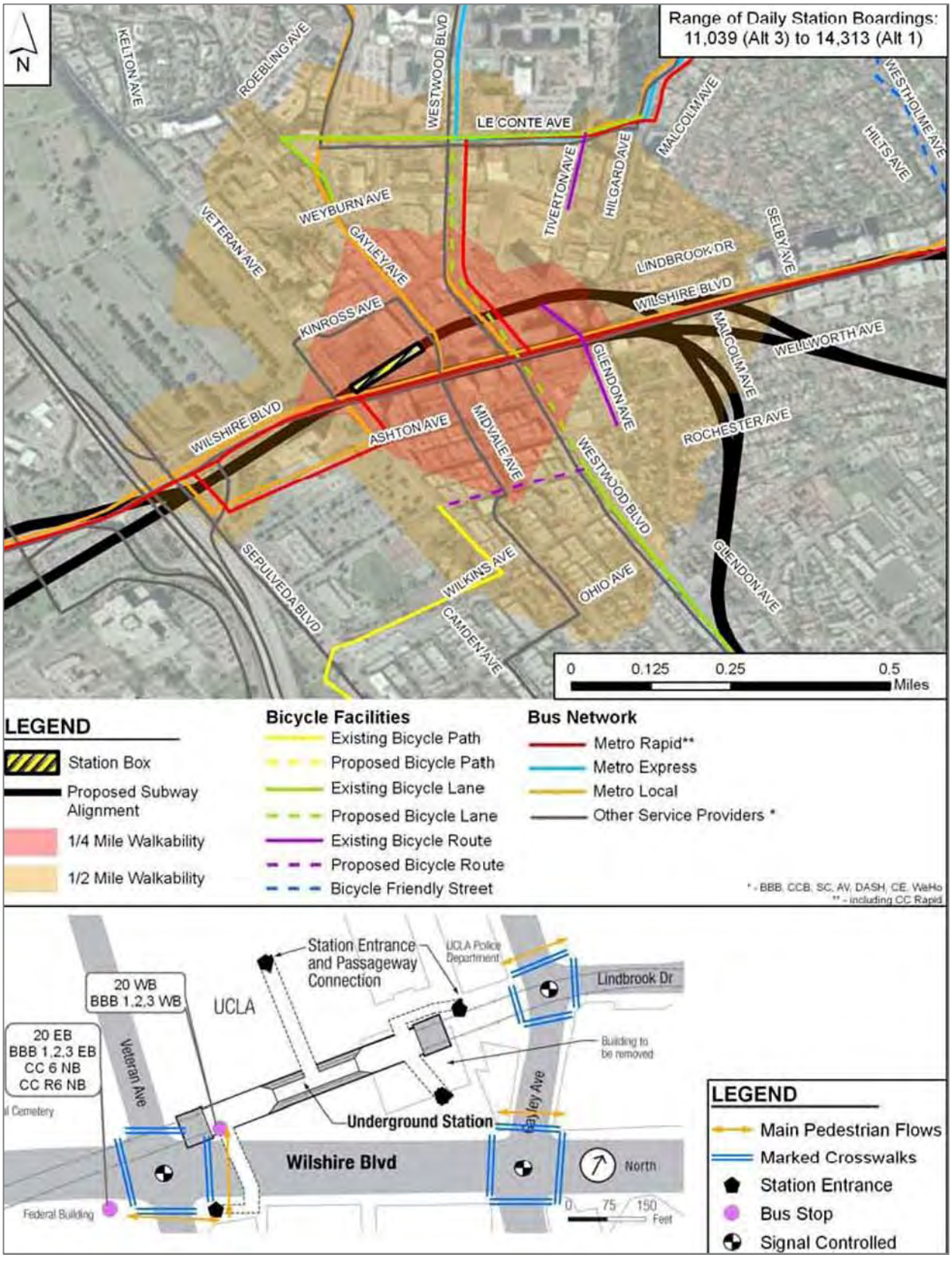


Figure 5-21. Westwood/UCLA Station—Off-Street

A bicycle path is located south of Rochester Avenue and west of Veteran Avenue. Bicycle lanes are provided on Le Conte Avenue, a short portion of Gayley Avenue, and Westwood Boulevard south of Rochester Avenue. A short portion of Tiverton and Glendon Avenues are designated as bicycle routes. In the Draft Los Angeles Bicycle Plan Update, a bicycle route is designated on Rochester Avenue between the existing bicycle path and Westwood Boulevard.

Bus Interface

Figure 5-21 also illustrates bus stop locations. Bus stops for Metro Rapid Lines 720 and 920 are at Westwood Boulevard, and are described below for the optional station location. The bus stops for Metro Line 20 and Big Blue Bus Lines 1, 2 and 3 are on the north side of Wilshire Boulevard, east of Veteran Avenue (westbound buses) and on the south side of Wilshire Boulevard west of Veteran Avenue (eastbound buses). The bus stop for Culver City Bus Rapid Line 6 is on the south side of Wilshire Boulevard west of Veteran Avenue (northbound buses). Southbound Culver City Bus Rapid Line 6 and Line 6 buses travel south on Westwood Boulevard. Commuter service provided by Antelope Valley Transit Line 786, Commuter Express Lines 431, 534 and 573, and Santa Clarita Transit Lines 792 and 797 also serve this station area. Interface between the Westside Subway Extension and commuter transit services is expected to be minimal, because commuter services typically serve the end destination for riders.

5.1.6.11 Westwood/UCLA Optional Station (Option E)

The following Build Alternatives include this station:

- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface

This station would be located under the center of Wilshire Boulevard, immediately west of Westwood Boulevard (see Figure 5-22). There are five potential station entrances: on the northwest corner of the intersection of Gayley Avenue and Wilshire Boulevard intersection near Lot 36 and the proposed hotel development; on the sidewalks on the northwest, southwest, and southeast corners of the intersection of Westwood and Wilshire Boulevards; and on the southeast corner of the intersection of Midvale Avenue and Wilshire Boulevard.

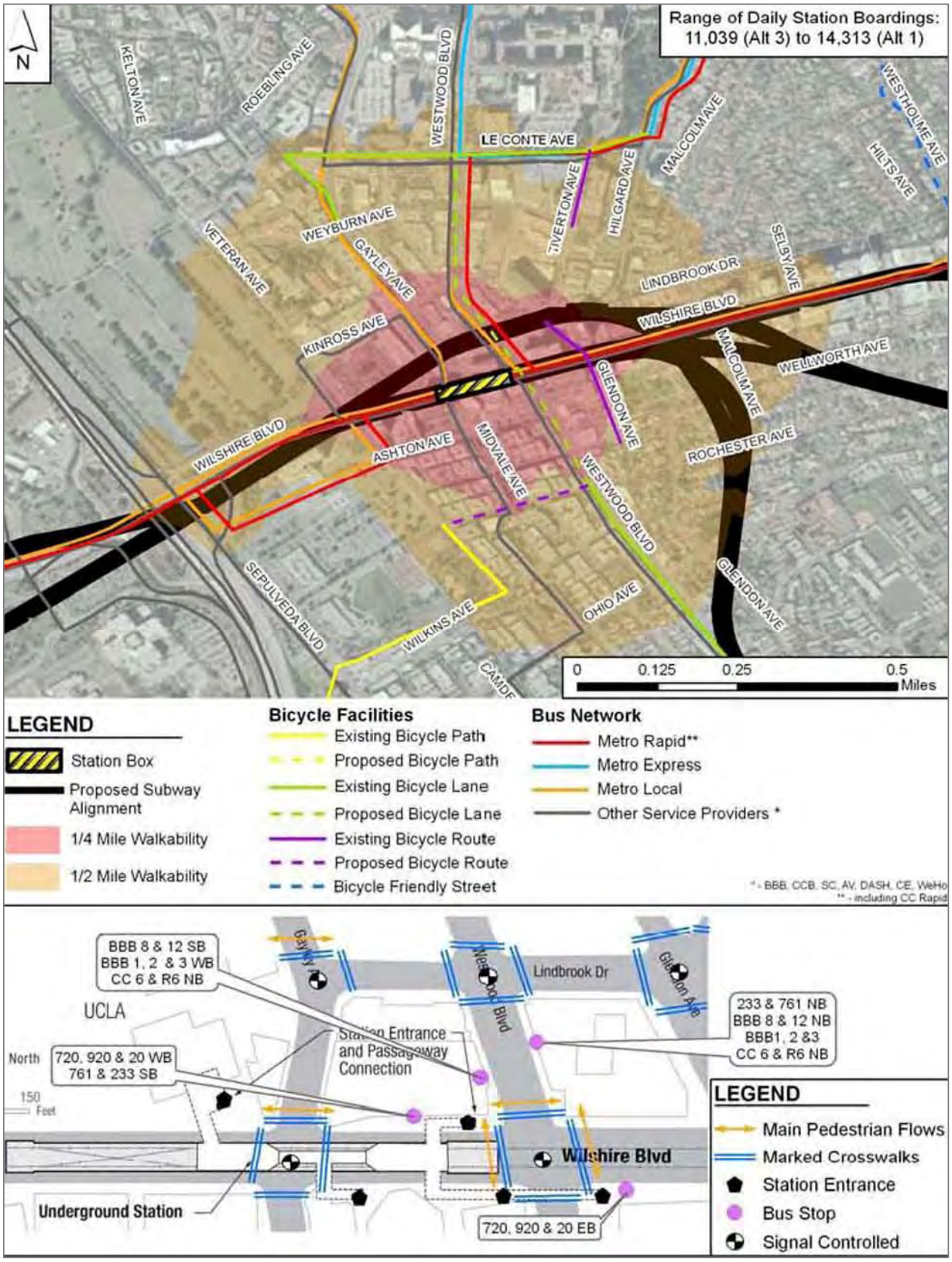


Figure 5-22. Westwood/UCLA Optional Station

The intersection of Westwood and Wilshire Boulevards is signalized with protected left-turn phasing along Wilshire Boulevard, protected/permissive phasing northbound on Westwood Boulevard, permissive phasing southbound on Westwood Boulevard, and right-turn overlap phasing southbound on Westwood Boulevard. Marked crosswalks are provided on all legs of the intersection. The intersection of Gayley/Midvale Avenues and Wilshire Boulevard is signalized with protected left-turn phasing eastbound on Wilshire Boulevard, protected/permissive left-turn phasing northbound on Midvale Avenue, permissive phasing westbound on Wilshire Boulevard and southbound on Gayley Avenue, and right-turn overlap phasing southbound on Gayley Avenue. Marked crosswalks are provided on all legs of the intersection.

Bicycle facilities have been described above for the Westwood/UCLA Station.

Bus Interface
Figure 5-22 also illustrates bus stop locations. Bus stops for Metro Rapid Lines 720 and 920, as well as Metro Line 20, are on the north side of Wilshire Boulevard, west of Westwood Boulevard (westbound buses) and on the south side of Wilshire Boulevard east of Westwood Boulevard (eastbound buses). Bus stops for Metro Rapid Line 761 are on the north side of Wilshire Boulevard, west of Westwood Boulevard at the 720/920 Rapid stop (southbound buses) and on the east side of Westwood Boulevard south of Lindbrook Drive (northbound buses).

Bus stops for Metro Line 233 are located on the north side of Wilshire Boulevard, west of Westwood Boulevard at the 720/920 Rapid stop (southbound buses) and on the east side of Westwood Boulevard south of Lindbrook Drive (northbound buses). Bus stops for Big Blue Bus Lines 1, 2 and 3 are on the west side of Westwood Boulevard (westbound buses) north of Wilshire Boulevard, and on the east side of Westwood Boulevard (eastbound buses) south of Lindbrook Drive (westbound buses). Bus stops for Big Blue Bus Lines 8 and 12 are on the west side of Westwood Boulevard (southbound buses) north of Wilshire Boulevard, and on the east side of Westwood Boulevard (northbound buses) south of Lindbrook Drive.

Bus stops for Culver City Bus Rapid Line 6 and Line 6 are on Westwood Boulevard north of Wilshire Boulevard (southbound buses), and on the west side of Westwood Boulevard south of Lindbrook Drive (northbound buses). Commuter service provided by Antelope Valley Transit Line 786, Commuter Express Lines 431, 534 and 573, and Santa Clarita Transit Lines 792 and 797 also serve this station area. Interface between the Westside Subway Extension and commuter transit services is expected to be minimal, because commuter services typically serve the end destination for riders.

5.1.6.12 Westwood/VA Hospital Station

The following Build Alternatives include this station:

- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface

This station is below the VA Hospital parking lot in between the I-405 exit ramp and Bonsall Avenue (see Figure 5-23) on the south side of Wilshire Boulevard. The station would have an at-grade entrance plaza with a fare collection area and pedestrian connections to VA buildings and Bonsall Avenue.

The intersection of Bonsall Avenue and Wilshire Boulevard is grade-separated, with Wilshire Boulevard passing over Bonsall Avenue. Access ramps from Wilshire Boulevard provide one-way vehicular access to Bonsall Avenue, both to the north and south of Wilshire Boulevard. The intersections of Bonsall Avenue and the Wilshire Boulevard access ramps are unsignalized, with stop controls on the Wilshire Boulevard access roads. Marked crosswalks are currently provided on the west and south legs of the intersection of Bonsall Avenue and the eastbound Wilshire Boulevard access ramp and on the west and north legs of the intersection of Bonsall Avenue and the westbound Wilshire Boulevard access ramp. A sidewalk is provided through the Bonsall Avenue underpass that provides pedestrian links between these intersections.

The bicycle path described above continues on Ohio Avenue to Purdue Avenue. San Vicente Boulevard (westbound) designated as a bicycle route west of Federal Avenue. In the Draft Los Angeles Bicycle Plan Update, a bicycle path is proposed on San Vicente Boulevard (eastbound).

The intersection of Federal Avenue and Wilshire Boulevard is signalized with protected left-turn phasing westbound on Wilshire Boulevard, permissive phasing eastbound on Wilshire Boulevard, northbound/southbound split phasing on San Vicente/Federal Avenues, and right-turn overlap phasing northbound on Federal Avenue. Marked crosswalks are provided on all legs of the intersection.

Bus Interface

The westbound bus stops for Metro Rapid Line 720, Metro Line 20 and Big Blue Bus Line 3 are on the north side of Wilshire Boulevard, in a bus-only turn out on the Wilshire Boulevard overpass of Bonsall Avenue. The eastbound bus stop is on a similar bus-only turnout on the south side of Wilshire Boulevard. The eastbound and westbound bus stops for Big Blue Bus Line 2 are located at the intersection of Bonsall Avenue and the Wilshire Boulevard access ramps. Northbound and southbound stops for Big Blue Bus Line 4 are located on Bonsall Avenue, north and south of the Wilshire Boulevard access ramps.

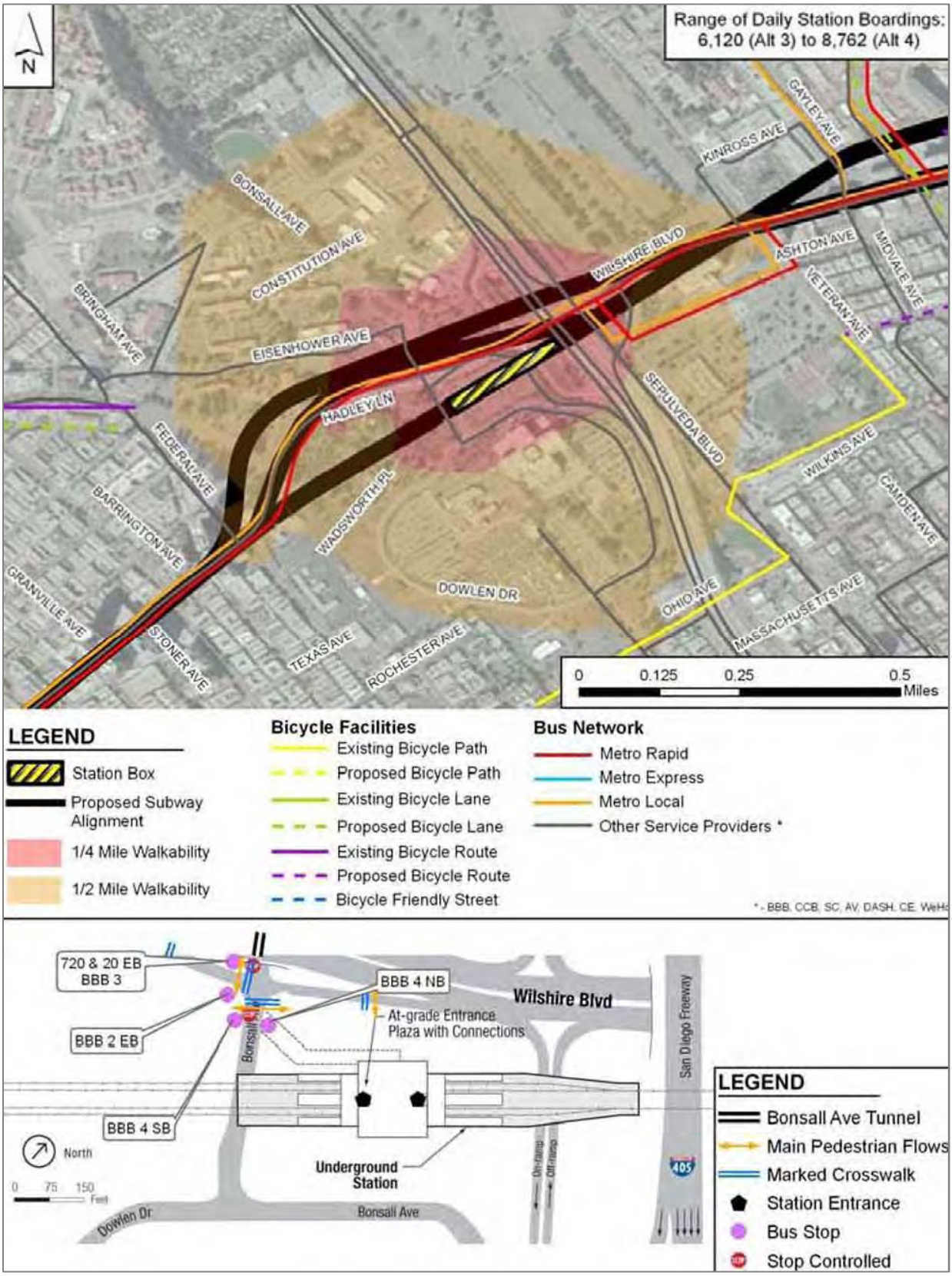


Figure 5-23. Westwood/VA Hospital Station

5.1.6.13 Westwood/VA Hospital Optional Station

The following Build Alternatives include this station:

- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface

This station would be on the north side of Wilshire Boulevard west of Bonsall Avenue (see Figure 5-24). The station would have an at-grade entrance plaza with a fare collection area and pedestrian connections to VA buildings and Bonsall Avenue.

The signal controls and crosswalk facilities of the grade-separated intersection of Bonsall Avenue and Wilshire Boulevard have been described above for the preferred station location.

The bicycle path described above under the Westwood/UCLA Station continues on Ohio Avenue to Purdue Avenue. San Vicente Boulevard (westbound) designated as a bicycle route west of Federal Avenue. In the Draft Los Angeles Bicycle Plan Update, a bicycle path is proposed on San Vicente Boulevard (eastbound).

Bus Interface

Bus stop locations have been described above for the Westwood/VA Hospital Station location.

5.1.6.14 Wilshire/Bundy Station

The following Build Alternatives include this station:

- Alternative 3
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface

The station is under Wilshire Boulevard, east of Bundy Drive, extending just east of Saltair Avenue (see Figure 5-25). There are two potential station entrances: on the northeast and southeast corners of the intersection of Bundy Drive and Wilshire Boulevard.

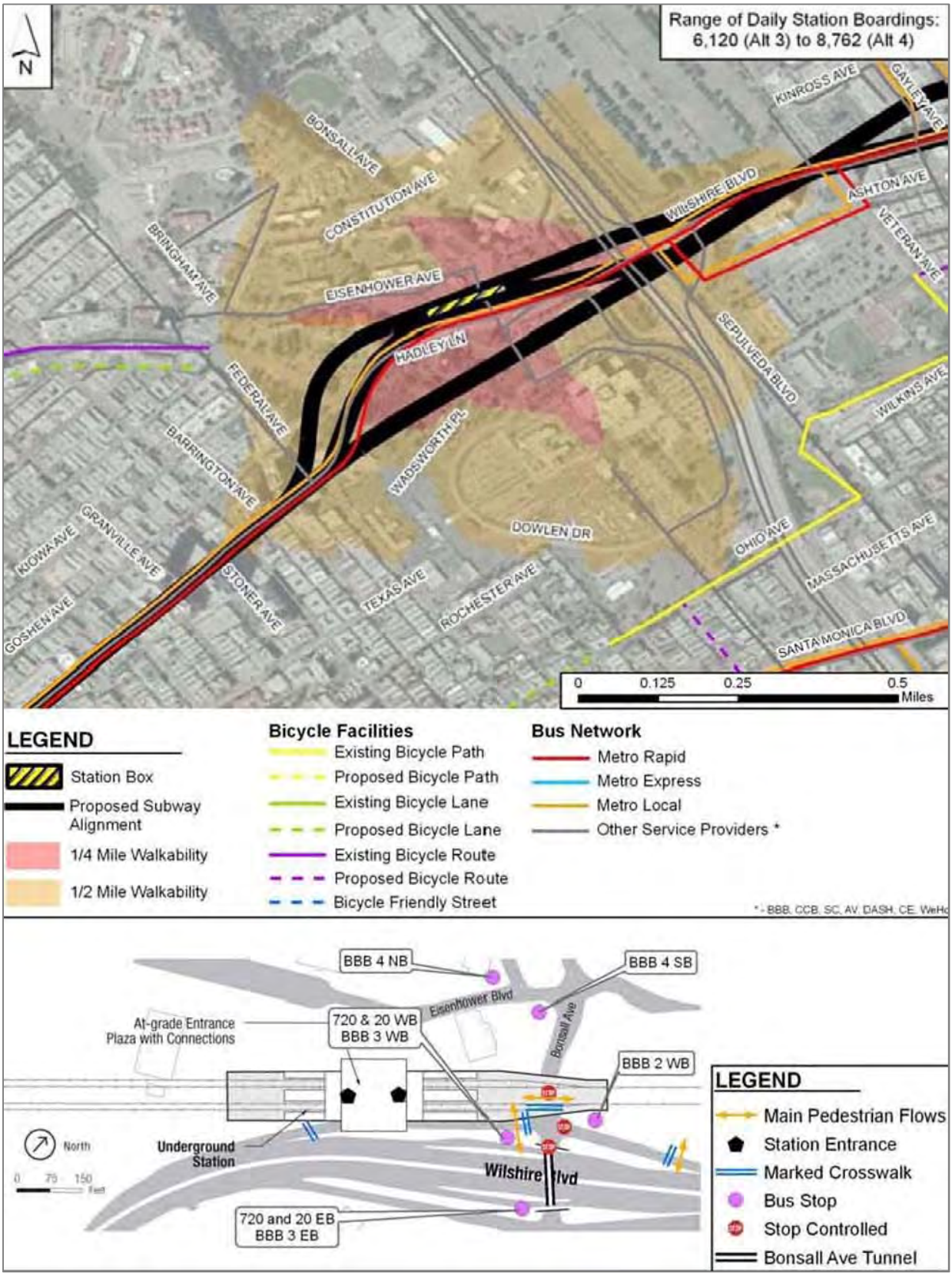


Figure 5-24. Westwood/VA Hospital Optional Station

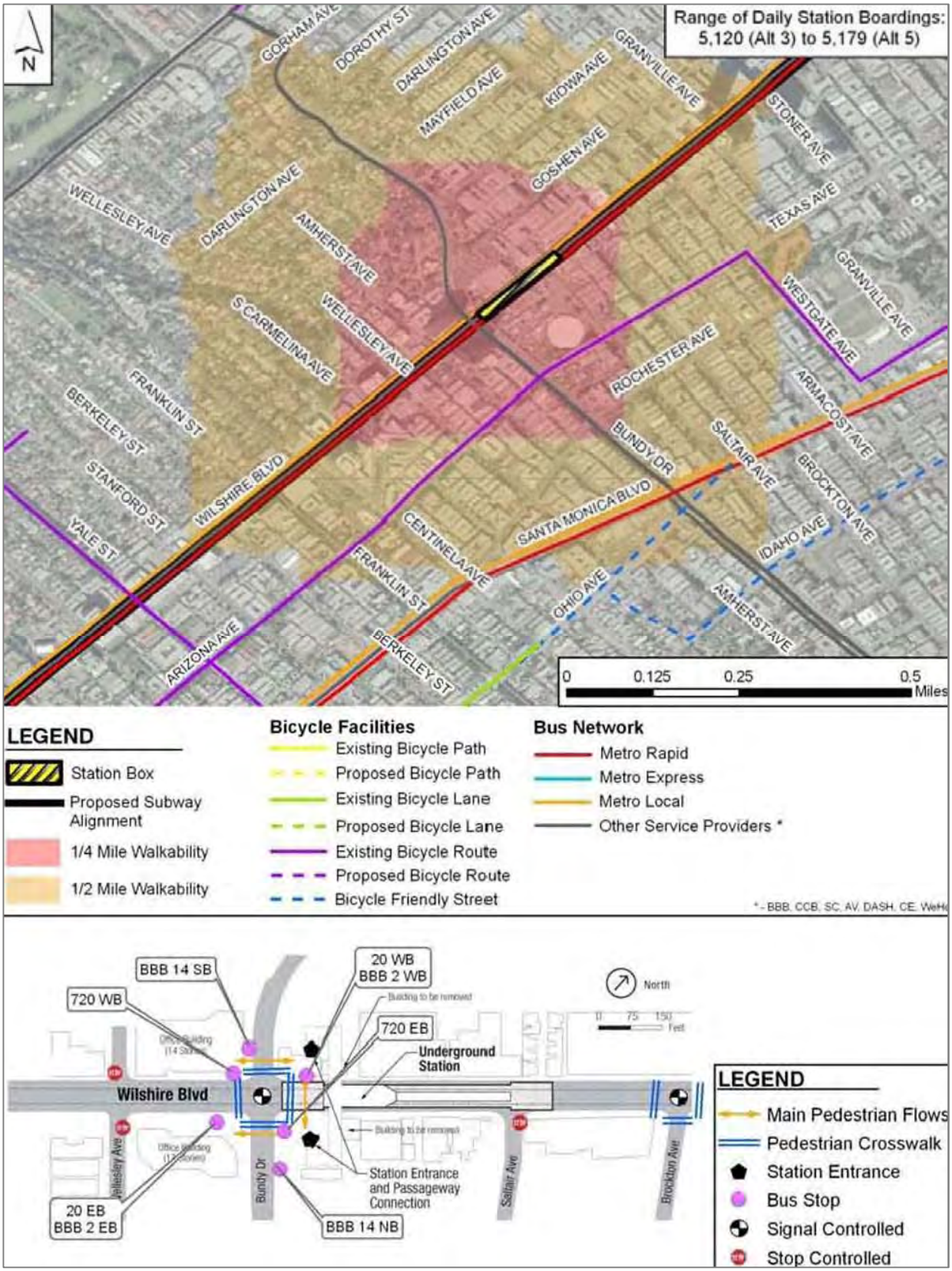


Figure 5-25. Wilshire/Bundy Station

The intersection of Bundy Drive and Wilshire Boulevard is signalized with protected/permissive phasing in all four directions. Marked crosswalks are provided on all legs of the intersection.

Bicycle lanes are provided on Ohio Avenue west of Centinela Avenue. Portions of Ohio Avenue, Texas Avenue, Arizona Avenue, Westgate Avenue, and Yale Street, are designated as bicycle routes. Portions of Ohio, Idaho, and Carmelina Avenues are designated as bicycle friendly streets.

Bus Interface
Figure 5-25 also illustrates bus stop locations. Bus stops for Metro Rapid Line 720 are located on the north side of Wilshire Boulevard, west of Bundy Drive (westbound buses) and on the south side of Wilshire Boulevard east of Bundy Drive (eastbound buses). Bus stops for Metro Line 20 and Big Blue Bus Line 2 are on the north side of Wilshire Boulevard, east of Bundy Drive (westbound buses) and on the south side of Wilshire Boulevard west of Beverly Drive (eastbound buses). Bus stops for Big Blue Bus Line 14 are on the east side of Bundy Drive south of Wilshire Boulevard (northbound buses), and on the west side of Bundy drive north of Wilshire Boulevard (southbound buses).

5.1.6.15 Wilshire/26th Station

The following Build Alternatives include this station:

- Alternative 3
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface
This station is under Wilshire Boulevard, with the eastern end east of 26th Street and the western end west of 25th Street, midway between 25th Street and Chelsea Avenue (see Figure 5-26). There are two potential station entrances: on the northeast and northwest corners of the intersection of 26th Street and Wilshire Boulevard.

The intersection of 26th Street and Wilshire Boulevard is signalized with protected/permissive phasing in all directions. Marked crosswalks are provided on all legs of the intersection.

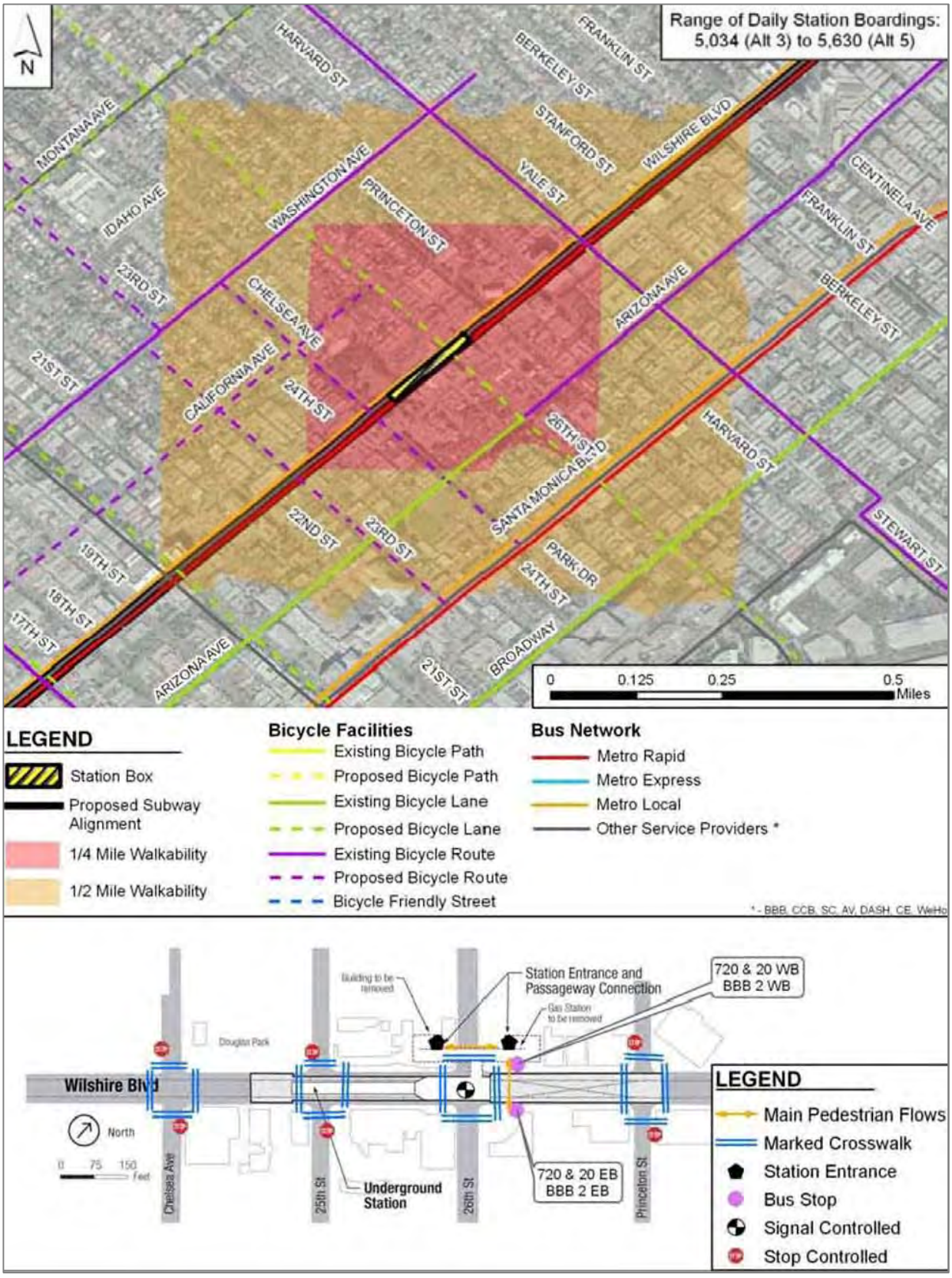


Figure 5-26. Wilshire/26th Station

Bicycle lanes are provided on Arizona Avenue west of 26th Street and on Broadway Street. In the City of Santa Monica's Land Use and Circulation Element (LUCE) bicycle lanes are proposed on 20th and 26th Street. Washington Avenue west of Stanford Street, Arizona Avenue east of 26th Street, and Yale Street are designated as bicycle routes. In the LUCE, additional bicycle routes are proposed for California Avenue west of 26th Street, and on 23rd Street and Chelsea Avenue.

Bus Interface
Figure 5-26 also illustrates bus stop locations. Bus stops for Metro Rapid Line 720, Metro Line 20, and Big Blue Bus Line 2 are located on the north side of Wilshire Boulevard, east of 26th Street (westbound buses) and on the south side of Wilshire Boulevard east of 26th Street (eastbound buses).

5.1.6.16 Wilshire/16th Station

The following Build Alternatives include this station:

- Alternative 3
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface
This station would be under Wilshire Boulevard with the eastern end just west of 16th Street and the western end west of 15th Street (see Figure 5-27). There are three potential station entrances: on the northwest and northeast corners of the intersection of 15th Street and Wilshire Boulevard, and on the south side of Wilshire Boulevard, mid-block between 15th and 16th Streets.

The intersection of 16th Street and Wilshire Boulevard is unsignalized with stop controls on northbound and southbound 16th Street. Marked crosswalks are provided on all legs of the intersection. A raised median with mid-block pedestrian refuge is provided on Wilshire Boulevard both east and west of 16th Street. The intersection of 15th Street and Wilshire Boulevard is signalized with permissive phasing in all directions. Marked crosswalks are provided on all legs of the intersection. The intersection of 14th Street and Wilshire Boulevard is signalized with permissive phasing in all directions. Marked crosswalks are provided on all legs of the intersection.

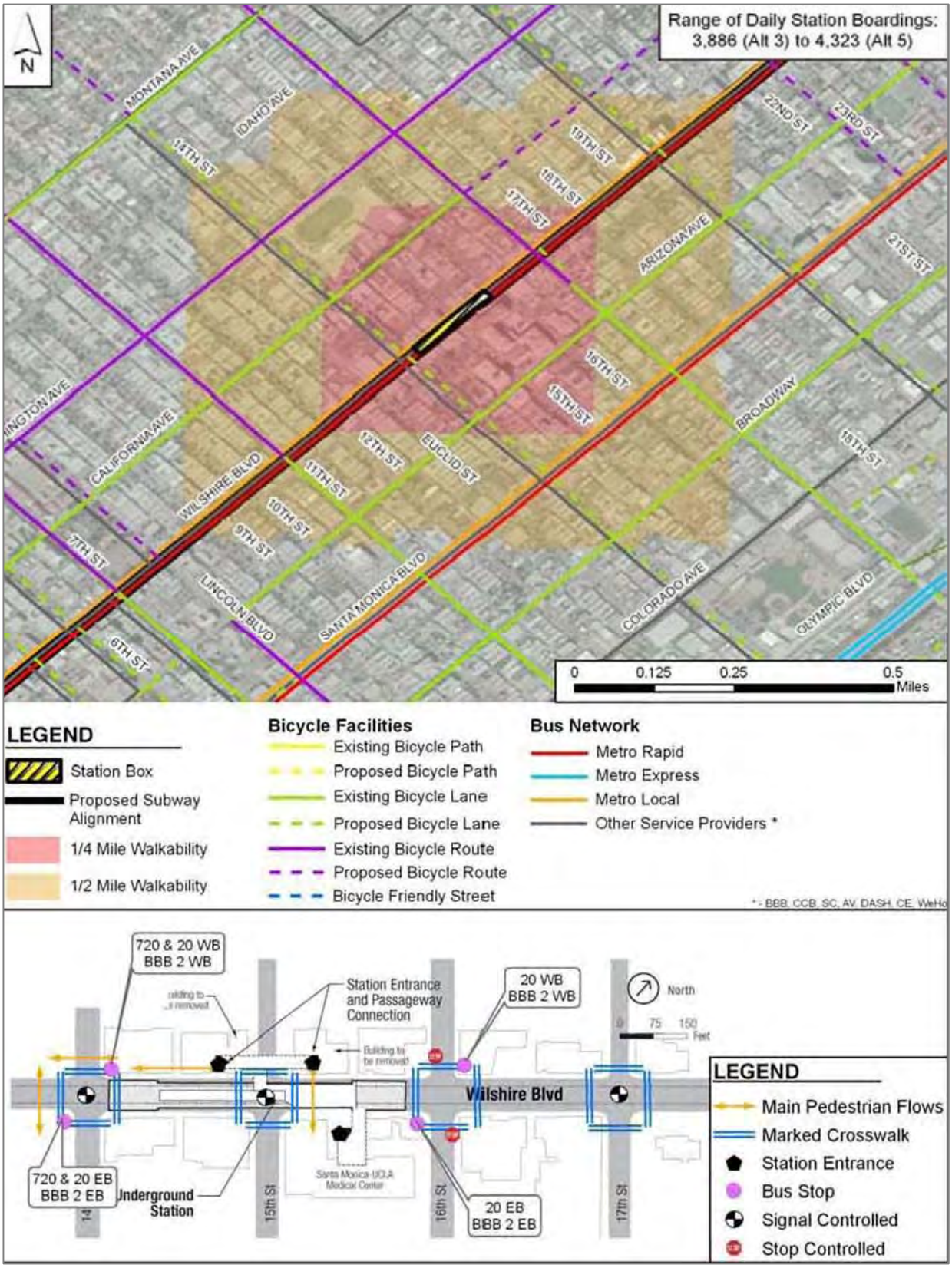


Figure 5-27. Wilshire/16th Station

Bicycle lanes are provided on Montana and California Avenues west of 17th Street, on Arizona Avenue, Broadway Street, and 7th and 17th Street south of Wilshire Boulevard. Bicycle routes are designated on Washington Avenue, 7th Street, and portions of Lincoln Boulevard. In the LUCE, bicycle lanes are proposed on 5th and 6th Street, and bicycle routes are proposed on California Avenue, Lincoln Boulevard north of Wilshire Boulevard, and 23rd Street.

Bus Interface
Figure 5-27 also illustrates bus stop locations. Bus stops for Metro Rapid Line 720 are on the north side of Wilshire Boulevard, east of 14th Street (westbound buses) and on the south side of Wilshire Boulevard west of 14th Street (eastbound buses). Bus stops for Metro Line 20 and Big Blue Bus Line 2 are on the north side of Wilshire Boulevard, east of 14th Street, with an additional stop east of 16th Street (westbound buses) and on the south side of Wilshire Boulevard west of 14th Street, with an additional stop west of 16th Street (eastbound buses).

5.1.6.17 Wilshire/4th Station

The following Build Alternatives include this station:

- Alternative 3
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface
This station is under Wilshire Boulevard and is a long station box that extends from just west of 6th Street on the east to just east of Ocean Avenue on the west (see Figure 5-28). There are two potential station entrances: on the northeast and southeast corners of the intersection of 4th Street and Wilshire Boulevard.

The intersection of 4th Street and Wilshire Boulevard is signalized with protected/permissive phasing westbound on Wilshire Boulevard and permissive phasing in all other directions. Marked crosswalks are provided on all legs of the intersection.

A bicycle path is provided on the beach. Bicycle lanes are provided on California Avenue, portions of Arizona Avenue, portions of Broadway Street, Ocean Avenue, 7th Street, and 11th Street. Bicycle routes are designated on Washington Avenue, and portions of 7th Street and Lincoln Boulevard. In the LUCE, bicycle lanes are proposed on portions of 5th and 6th Street, and bicycle routes are proposed on portions of 2nd and 5th Streets, and Lincoln Boulevard.

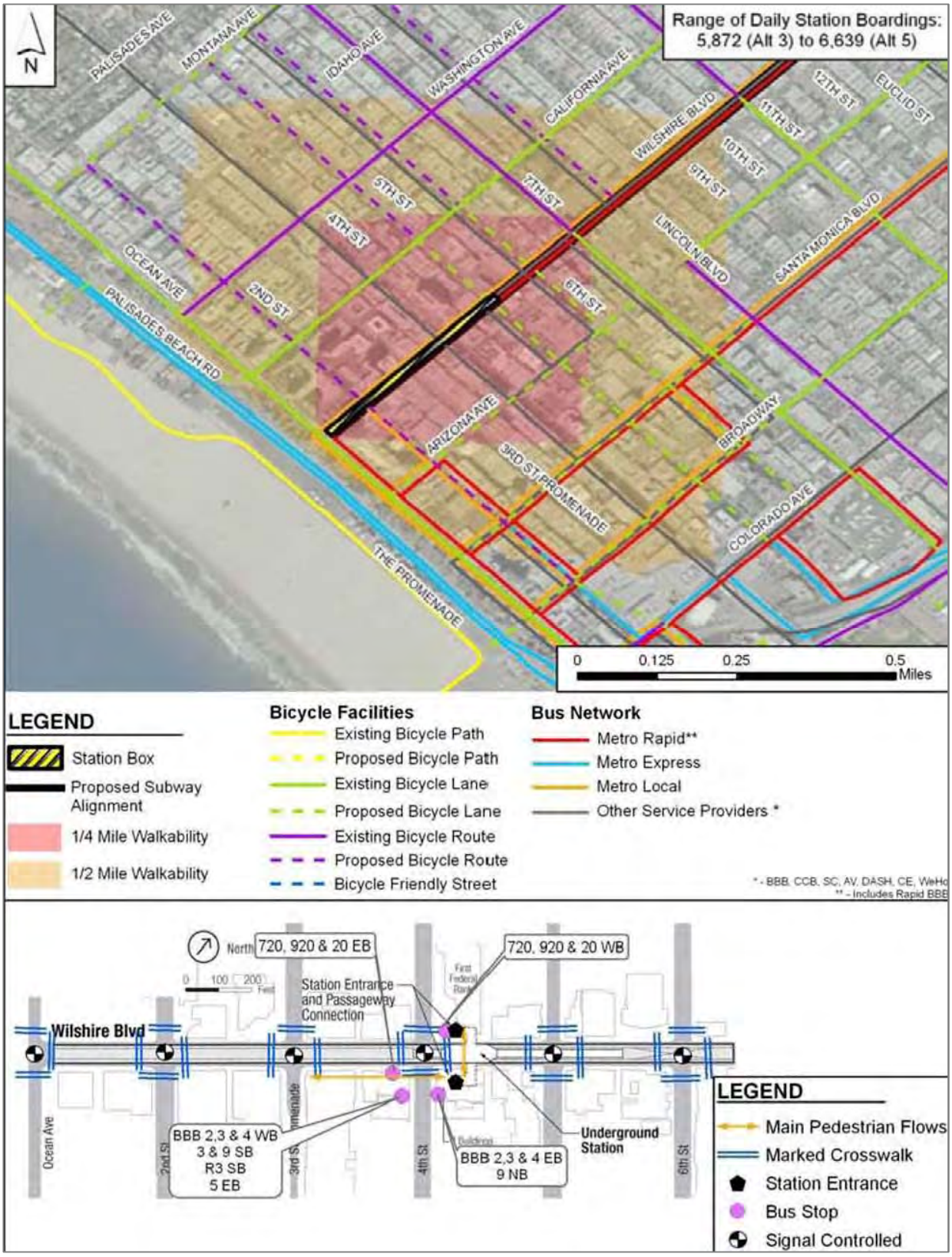


Figure 5-28. Wilshire/4th Station

Bus Interface

Figure 5-28 also illustrates bus stop locations. Bus stops for Metro Rapid Lines 720/920 and Metro Line 20 are on the north side of Wilshire Boulevard, east of 4th Street (westbound buses) and on the south side of Wilshire Boulevard west of 4th Street (eastbound buses). The bus stop for eastbound Big Blue Bus Lines 2, 3, and 4, and northbound Big Blue Bus Line 9 is on the east side of 4th Street south of Wilshire Boulevard. The bus stop for westbound Big Blue Bus Lines 2, 3, and 4, and southbound Big Blue Bus Lines Rapid 3, Line 3 and Line 9 are on the west side of 4th Street south of Wilshire Boulevard

5.1.6.18 Hollywood/Highland Station

The following Build Alternatives include this station:

- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface

This station is under Highland Avenue (see Figure 5-29). The station would provide a transfer option to the existing Hollywood/Highland station under Hollywood Boulevard. In addition to the existing Metro entrance on the north side of Hollywood Boulevard west of Highland Avenue, three potential station entrances are under consideration: on the northeast corner of the intersection of Highland Avenue and Selma Avenue, on the south side of Hollywood Boulevard east of Highland Avenue, and on the northwest corner of Highland Avenue and Hawthorne Avenue.

The intersection of Highland Avenue and Hollywood Boulevard is signalized with protected/permissive left-turn phasing in all directions and right-turn overlap phasing along Wilshire Boulevard. Marked crosswalks are provided on all legs of the intersection. The intersection of Highland Avenue and Hawthorn Avenue is unsignalized with stop controls on the eastbound and westbound approaches. Marked crosswalks are currently not provided on any legs of the intersection. The intersection of Highland Avenue and Selma Avenue is signalized with permissive phasing in all directions. Marked crosswalks are provided on the southern and eastern legs of the intersection.

A bicycle route is designated on Fountain Avenue west of La Brea Avenue, and Orange Drive is designated as a bicycle friendly street. In the Draft Los Angeles Bicycle Plan Update, Fountain Avenue is proposed to be designated as a bicycle route east of La Brea Avenue.

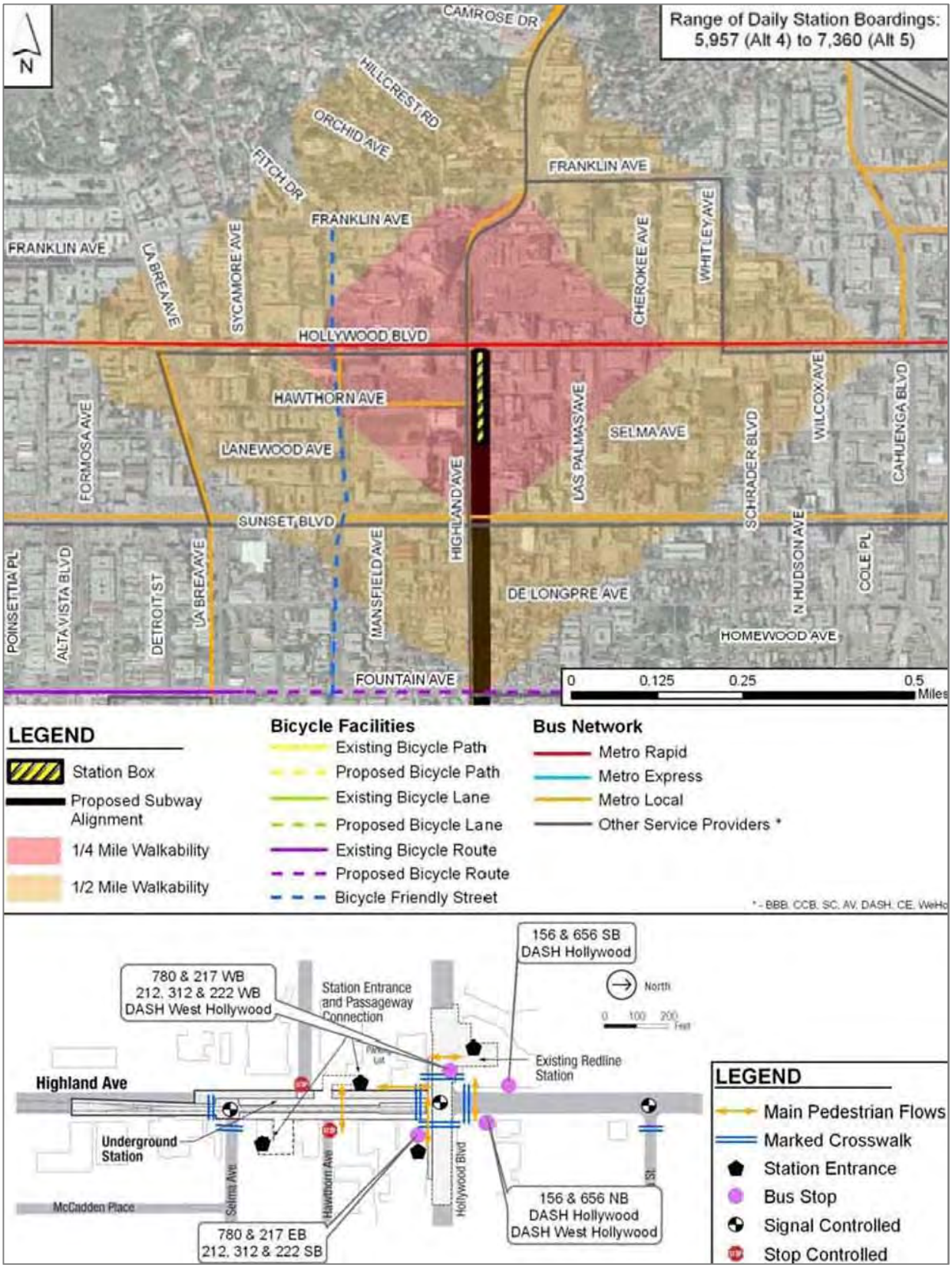


Figure 5-29. Hollywood/Highland Station

Bus Interface

Figure 5-29 also illustrates bus stop locations. Bus stops for Metro Rapid Line 780 and Metro Line 217 (westbound buses), Metro Lines 212/312 and 222 (southbound buses), and the DASH West Hollywood Line (westbound buses) are on the north side of Hollywood Boulevard, west of Highland Avenue.

Bus stops for Metro Rapid Line 780 and Metro Line 217 (eastbound buses) and Metro Lines 212/312 and 222 (northbound buses) are on the south side of Hollywood Boulevard east of Highland Avenue. Bus stops for Metro Lines 156/656 and the DASH Hollywood Line are on the east side of Highland Avenue north of Hollywood Boulevard (northbound buses) and on the west side of Highland Avenue (southbound buses). The bus stop for the DASH West Hollywood Line (eastbound) is also on the east side of Highland Avenue north of Hollywood Boulevard.

5.1.6.19 Santa Monica/La Brea Station

The following Build Alternatives include this station:

- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface

This station is under Santa Monica Boulevard, just west of La Brea Avenue, and extends westward to the center of the Santa Monica Boulevard/Formosa Avenue intersection (see Figure 5-30). There are four potential station entrances: on the northwest, northeast, southeast and southeast corners of the intersection of La Brea Avenue and Santa Monica Boulevard.

The intersection of La Brea Avenue and Santa Monica Boulevard is signalized with protected/permissive left-turn phasing in all directions. Marked crosswalks are provided on all legs of the intersection.

A bicycle route is designated on Fountain Avenue west of La Brea Avenue, and Waring Avenue and Orange Drive are designated as bicycle friendly streets. In the Draft Los Angeles Bicycle Plan Update, Fountain Avenue is proposed to be designated as a bicycle route east of La Brea Avenue.

Bus Interface

Figure 5-30 also illustrates bus stop locations. Bus stops for Metro Rapid Line 704 and Metro Line 4, are on the north side of Santa Monica Boulevard, west of La Brea Avenue (westbound buses) and on the south side of Santa Monica Boulevard west of La Brea Avenue (eastbound buses). Bus stops for local Metro Lines 212/312 are on the east side of La Brea Avenue south of Santa Monica Boulevard (northbound buses) and on the west side of La Brea Avenue north of Santa Monica Boulevard (southbound buses). The bus stop for the West Hollywood CityLine Routes A and B are located at the bus stop in the southwest corner of the intersection. Commuter service provided by Antelope Valley Transit Line 786 also serves this station area. Interface between the Westside Subway Extension and commuter transit services is expected to be minimal, because commuter services typically serve the end destination for riders.

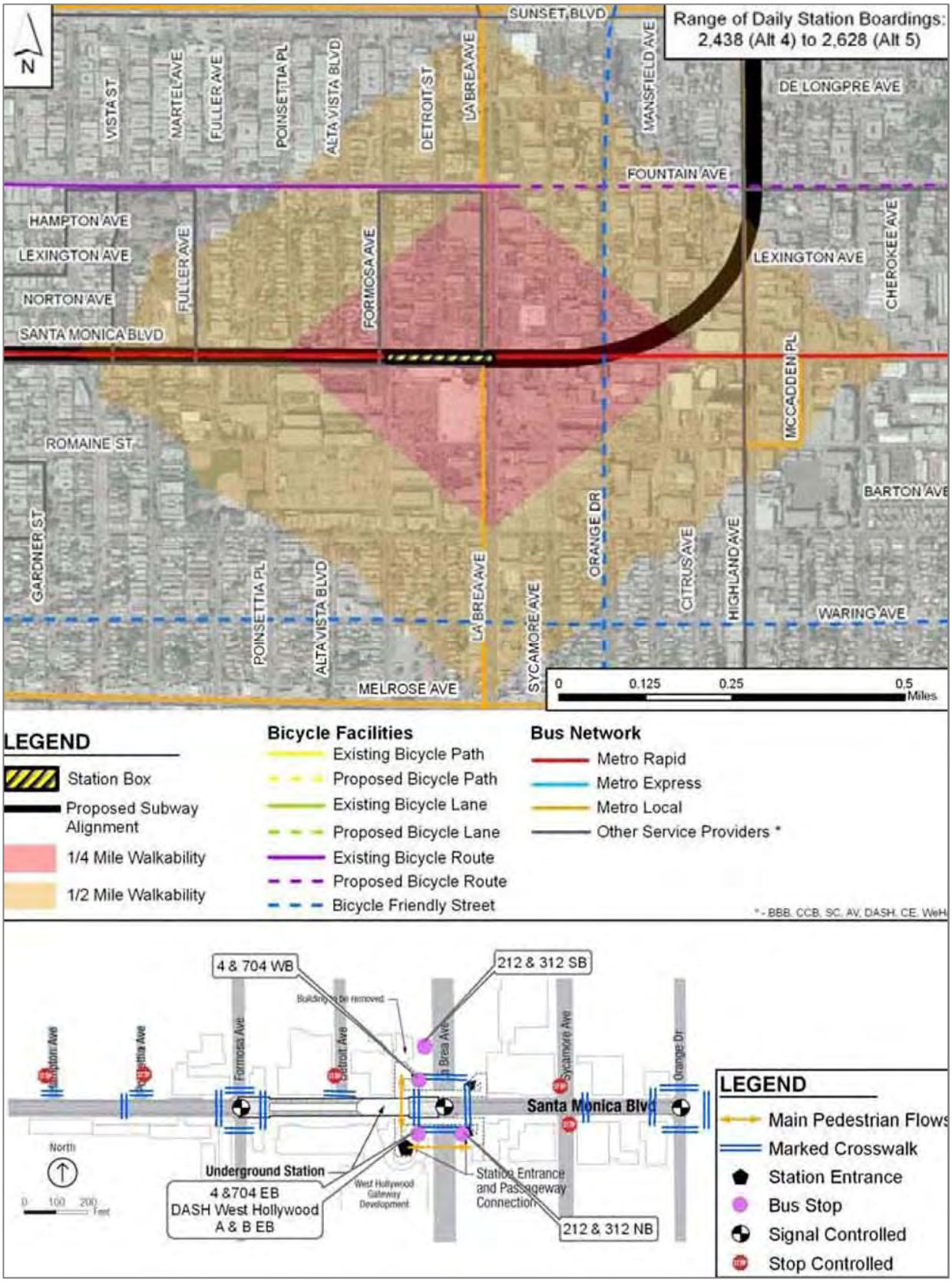


Figure 5-30. Santa Monica/La Brea Station

5.1.6.20 Santa Monica/Fairfax Station

The following Build Alternatives include this station:

- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface

This station is under Santa Monica Boulevard and extends from just east of Fairfax Avenue on the west to just east of Ogden Drive on the east (see Figure 5-31). There are three potential station entrances: on the northeast and southeast corners of the intersection of Fairfax Avenue and Santa Monica Boulevard; and on the southeast corner of the intersection of Ogden Drive and Santa Monica Boulevard.

The intersection of Fairfax Avenue and Santa Monica Boulevard is signalized with protected left-turn phasing in all directions. Marked crosswalks are provided on all legs of the intersection. The intersection of Orange Grove Avenue and Santa Monica Boulevard is unsignalized with stop controls on the northbound and southbound approaches. Marked crosswalks are currently provided on the northern and western legs of the intersection. A raised median with mid-block pedestrian refuge is provided on Santa Monica Boulevard east of Orange Grove Avenue. The intersection of Ogden Drive and Santa Monica Boulevard is unsignalized with stop controls on the northbound and southbound approaches. Marked crosswalks are currently provided on the southern and eastern legs of the intersection.

A bicycle route is designated on Fountain Avenue east of Orange Grove Avenue, and Orange Grove Avenue north of Willoughby Avenue. Waring and Sweetzer Avenues are designated as bicycle friendly streets.

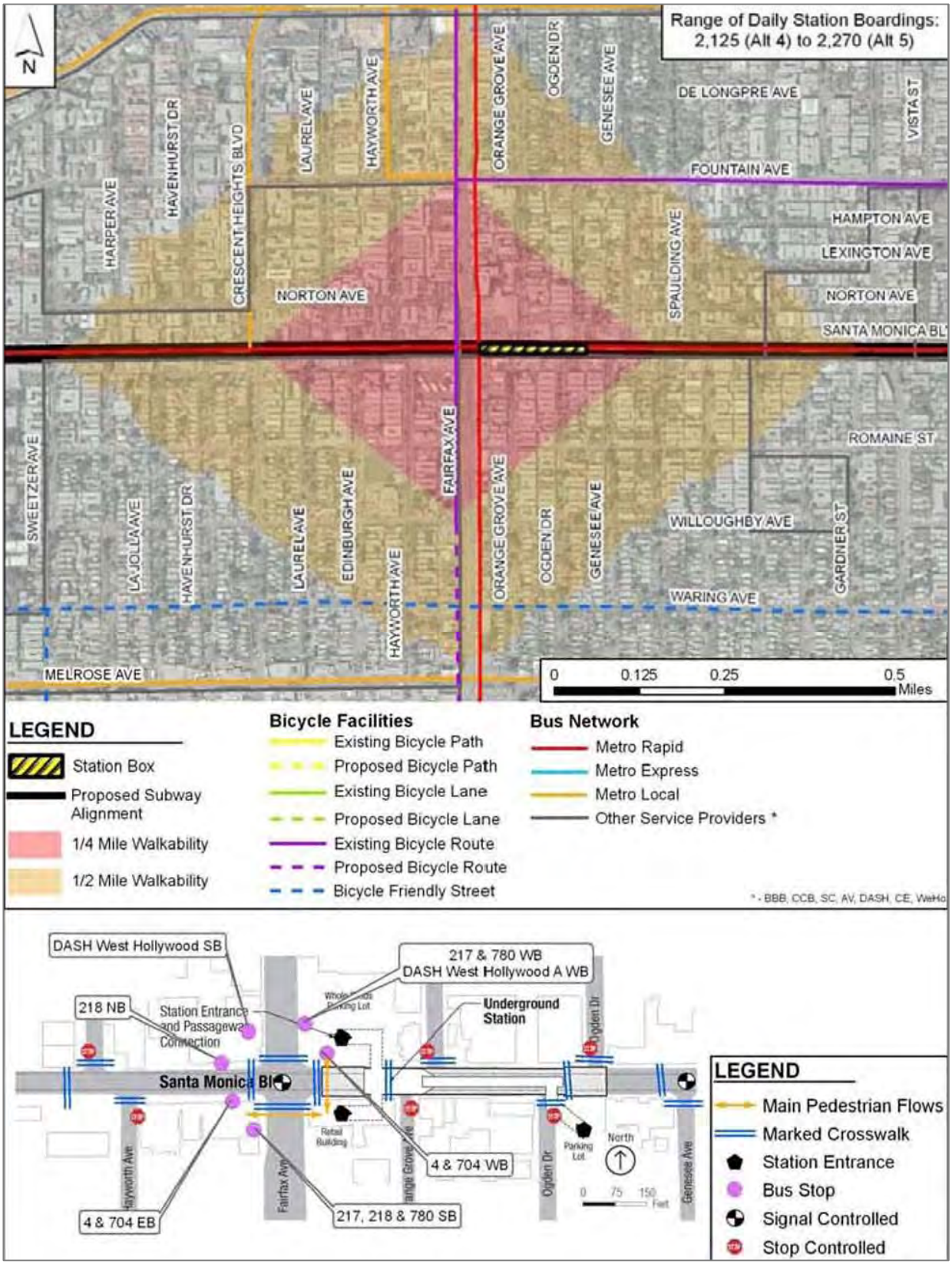


Figure 5-31. Santa Monica/Fairfax Station

Bus Interface

Figure 5-31 also illustrates bus stop locations. Bus stops for Metro Rapid Line 704 and Metro Line 4 are on the north side of Santa Monica Boulevard, east of Fairfax Avenue (westbound buses) and on the south side of Santa Monica Boulevard west of Fairfax Avenue (eastbound buses). Bus stops for Metro Rapid Line 780 and Metro Line 217 are located on the east side of Fairfax Avenue north of Santa Monica Boulevard (northbound buses) and on the west side of Fairfax Avenue south of Santa Monica Boulevard (southbound buses). Bus stops for Metro Line 218 are on the north side of Santa Monica Boulevard west of Fairfax Avenue (northbound buses) and on the west side of Fairfax Avenue south of Santa Monica Boulevard (southbound buses). The Bus stop for the West Hollywood CityLine Route A is located at the bus stop on the northeast corner of the intersection. The bus stop for Route B is located at the northwest corner. Commuter service provided by Antelope Valley Transit Line 786 also serves this station area. Interface between the Westside Subway Extension and commuter transit services is expected to be minimal, because commuter services typically serve the end destination for riders.

5.1.6.21 Santa Monica/San Vicente Station

The following Build Alternatives include this station:

- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface

This station would be under Santa Monica Boulevard and extend from just west of Hancock Avenue on the west to just east of Westmount Drive on the east (see Figure 5-32). There are two potential station entrances: on the northeast corner of the intersection of Hancock Avenue and Santa Monica Boulevard, and on the south side of Santa Monica Boulevard, west of Huntley Drive on Metro property.

The intersection of Hancock Avenue and Santa Monica Boulevard is unsignalized with stop controls on the northbound Metro driveway and southbound Hancock Drive. Marked crosswalks are currently provided on the northern and eastern legs of the intersection. A raised median with mid-block pedestrian refuge is provided on Santa Monica Boulevard east of Hancock Avenue.

Bicycle lanes are provided on Santa Monica Boulevard. Melrose Avenue east of Santa Monica Boulevard, and San Vicente Boulevard south of Sunset Boulevard are designated as bicycle routes.

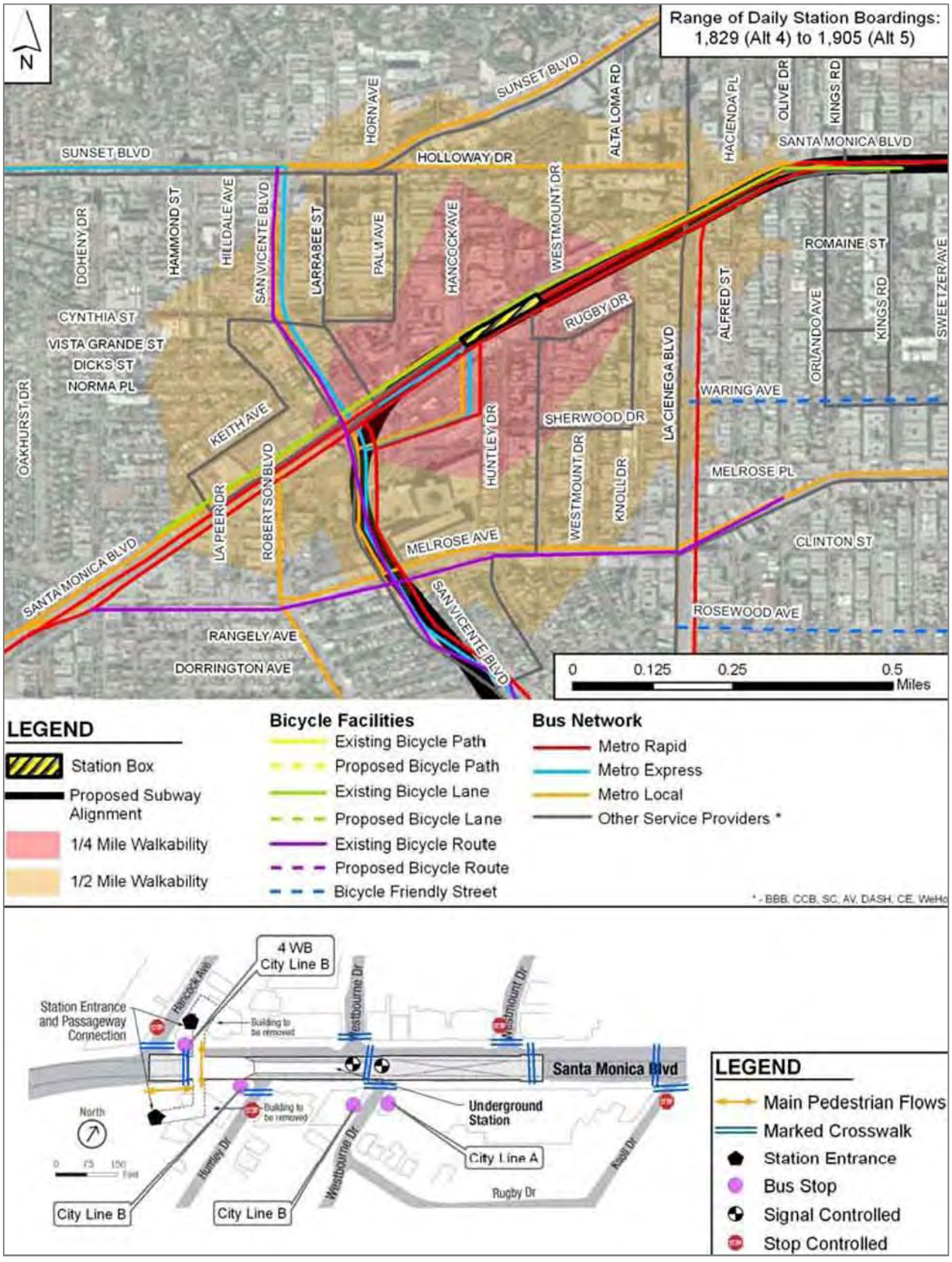


Figure 5-32. Santa Monica/San Vicente Station

Bus Interface
Figure 5-32 also illustrates bus stop locations. Bus stops for Metro Line 4 are on the north side of Santa Monica Boulevard, west of Hancock Avenue (westbound buses) and on the south side of Santa Monica Boulevard just east of the Metro driveway. Metro Rapid Lines 704 and 705, and Metro Lines 10, 105, 305, and 550 stop at San Vicente Boulevard, three blocks to the west.

5.1.6.22 Beverly Center Area Station
The following Build Alternatives include this station:

- Alternative 4
- Alternative 5

The pedestrian, bicycle, and bus transit interface discussion for this station detailed below is applicable to all of the above listed Build Alternatives.

Pedestrian and Bicycle Interface
This station is under San Vicente Boulevard, extending from just north of Gracie Allen Drive, south of Third Street (see Figure 5-33). There are three potential station entrances: on the south side of Third Street, mid-block between San Vicente and La Cienega Boulevards; on the northeast corner of the intersection of San Vicente Boulevard and Third Street in the Beverly Center shopping center; and on the northwest corner of San Vicente Boulevard and Third Street.

The intersection of San Vicente Boulevard and Third Street is signalized with permissive left-turn phasing in all directions. Marked crosswalks are currently provided on all legs of the intersection. The intersection of Third Street and La Cienega Boulevards is signalized with protected left-turn phasing in northbound and southbound directions and signalized with protected/permissive left-turn phasing in eastbound and westbound directions. Marked crosswalks are provided on all legs of the intersection. The intersection of Third Street and Holt Avenue is unsignalized with a stop control on the northbound approach. There are no marked crosswalks in any direction at this intersection.

Beverly Boulevard west of San Vicente Boulevard, and San Vicente Boulevard north of Beverly Boulevard are designated as bicycle routes. Rosewood Avenue and Sweetzer Avenue are designated as bicycle friendly streets. In the Draft Los Angeles Bicycle Plan Update, portions of Beverly Boulevard, 3rd Street, and San Vicente Boulevard are proposed to be designated as bicycle routes.

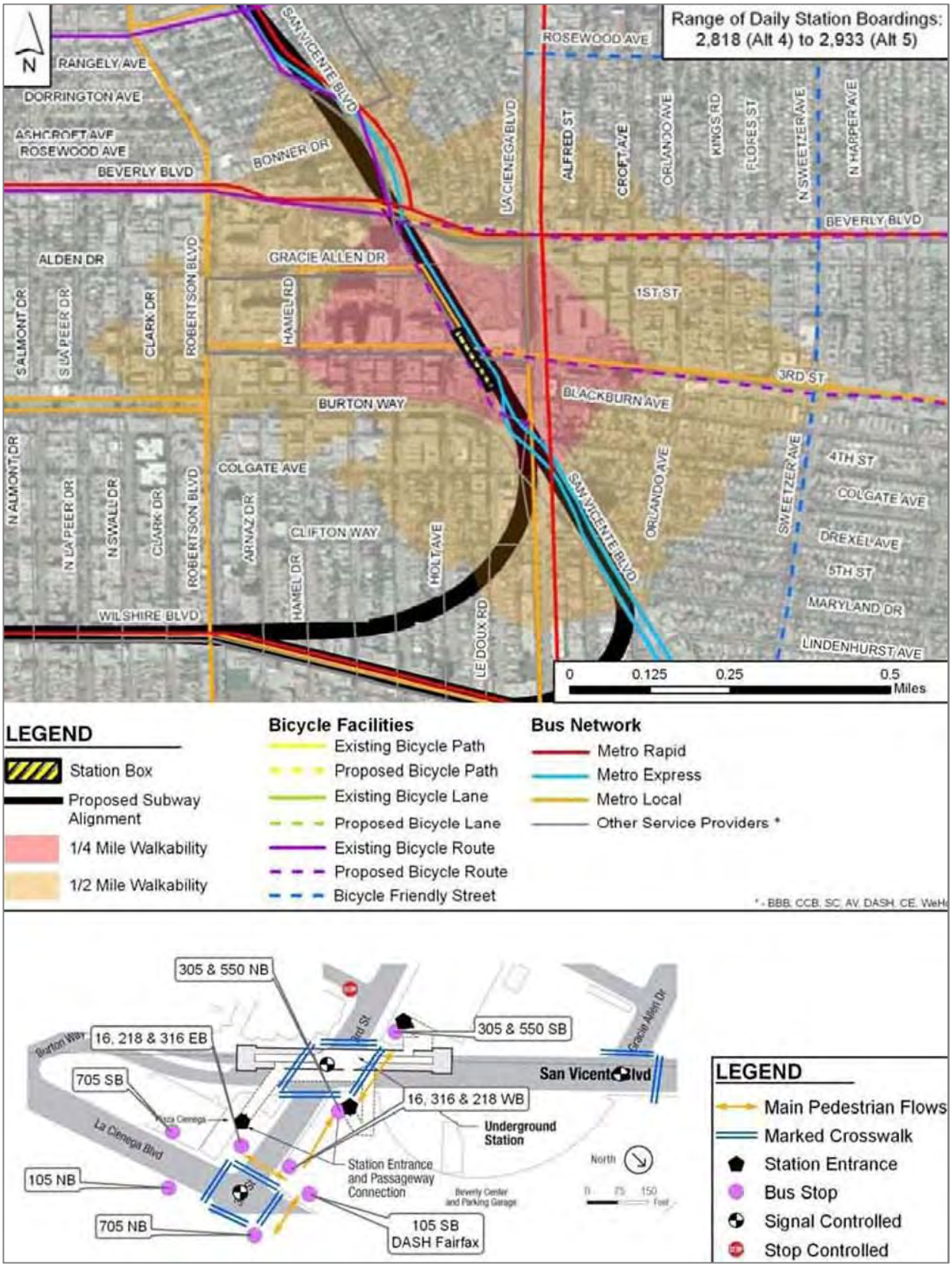


Figure 5-33. Beverly Center Area Station

Bus Interface

Figure 5-33 also illustrates bus stop locations. Bus stops for Metro Rapid Line 705 are on the east side of La Cienega Boulevard north of 3rd Street (northbound buses) and the west side south of 3rd Street (southbound buses). Bus stops for Metro Line 105 are on the west side of La Cienega Boulevard north of 3rd Street (northbound buses) and the east side south of 3rd Street (southbound buses). Bus stops for Metro Lines 305 and 550 are on the east side of San Vicente Boulevard north of 3rd Street (northbound buses) and on the west side of San Vicente Boulevard north of 3rd Street (southbound buses). The DASH West Hollywood and Fairfax lines stop at the northwest corner of La Cienega and 3rd Street.

5.1.7 Station Area Pedestrian/Bicycle/Bus to Rail Impact Assessment

This section presents the evaluation of the potential impacts of the Westside Subway Extension Alternatives on the interfacing transit and non-motorized (pedestrian and bicycle) systems. The forecast mode-of-access data, and the pedestrian/bicycle and transit station interface is used for this evaluation.

5.1.7.1 Methodology

The implementation of the Build Alternatives would increase transit capacity, speed of travel, reliability, and travel time certainty in the Study Area. Overall, the project would have a beneficial impact on the regional transit network and for individuals making trips via transit in the Study Area. For the transit impact analysis, the evaluation of significance under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) was conducted at the station-area level, where the potential for localized impacts could occur. Two criteria were developed and applied at the station-area level for determination of impacts for each of the Project Alternatives:

- Would the location of project station entrances lead to excessive delays for riders transferring to interfacing bus transit lines? For the purposes of this analysis, excessive delay has been defined as the need to cross more than one roadway, or walk at least one full block to transfer between subway and bus.
- Would the location of project station entrances have the potential to increase pedestrian/bicycle safety hazards? For the purposes of this analysis, safety hazards have been defined as the need for pedestrians and bicyclists to cross roadways of more than two lanes at unsignalized locations, or at locations where marked crosswalks are not installed.

5.1.7.2 No-Build Alternative Impact Determination

By definition, the No-Build Alternative would not result in adverse transit-related impacts.

5.1.7.3 TSM Alternative Impact Determination

Criteria 1 and 2

By definition the TSM Alternative would not result in Criteria 1 and 2 impacts because no project station entrances would be constructed.

5.1.7.4 MOS and Build Alternatives

Wilshire/Crenshaw Station

The following MOSs and Build Alternatives include this station:

- MOS 1
- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed MOSs and Build Alternatives.

Impact Determination

- Criterion 1—The proposed station entrance is on the southwest corner of the intersection of Crenshaw and Wilshire Boulevards. Project riders arriving on westbound Metro Rapid Line 720 or Metro Line 20, would need to cross both Wilshire and Crenshaw Boulevards to access the station entrance, and would experience excessive bus transfer delay. Therefore Criterion 1 would be met, and a significant and adverse project-related bus transfer delay impact is projected for this station.
- Criterion 2—A crosswalk is not provided on the western leg of the intersection. Therefore, project riders would experience potential safety hazards attempting to cross Wilshire Boulevard west of Crenshaw Boulevard to travel northwest or to transfer to westbound Metro Rapid Line 720 or 20 buses. Therefore Criterion 2 would be met, and a significant and adverse project-related pedestrian safety impact is projected for this station.

Wilshire/La Brea Station

The following MOSs and Build Alternatives include this station:

- MOS 1
- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed MOSs and Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the northwest, southwest, and southeast corners of the intersection of Wilshire Boulevard and La Brea Avenue. Depending on which station entrance is ultimately constructed, some riders transferring to interfacing bus transit lines would need to cross both Wilshire Boulevard and La Brea Avenue. Therefore Criterion 1 could be met, and a potential significant and adverse bus transfer delay impact is projected for this station. If the station entrance on the southwest corner is constructed, riders would only need to cross either Wilshire Boulevard or La Brea Avenue, therefore a Criterion 1 impact would not be projected if this entrance is constructed.
- Criterion 2—Because the intersection of La Brea Avenue and Wilshire Boulevard is signalized and crosswalks are provided on all legs of the intersection, Criterion 2 would not be met, so no project-related pedestrian safety impacts are projected for this station.

Wilshire/Fairfax
The following MOSs and Build Alternatives include this station:

- MOS 1
- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed MOSs and Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the northwest and northeast corners of the intersection of Wilshire Boulevard and Fairfax Avenue. If only one of the potential station entrances is constructed, some riders transferring to interfacing bus transit lines would need to cross both Wilshire Boulevard and Fairfax Avenue. Therefore Criterion 1 would be met, and a significant and adverse bus transfer delay impact is projected for this station. The northeast entrance is preferred for minimizing bus transfer delay because it is in front of the existing westbound Metro Rapid bus stop, and riders transferring to the eastbound Metro Rapid bus stop would only need to cross Wilshire Boulevard.
- Criterion 2—Because the intersection of Fairfax Avenue and Wilshire Boulevard is signalized and crosswalks are provided on all legs of the intersection, Criterion 2 would not be met, so no project-related pedestrian safety impact are projected for this station.

Wilshire/Fairfax (Optional Station)
Impact Determination

- Criterion 1—The optional station location proposes the same entrances described above for the preferred station location, but adds a potential station entrance near the southeast corner of the intersection of Orange Grove Avenue and Wilshire Boulevard. As with the

preferred station location, if only one of the potential station entrances is constructed, Criterion 1 project impacts could occur due to excessive bus transfer delay.

- Criterion 2—The intersection of Orange Grove Avenue and Wilshire Boulevard is unsignalized and no crosswalks across Wilshire Boulevard are provided at this intersection. Because of the location of the station entrance and the lack of crosswalks across Wilshire Boulevard, project riders would experience potential safety hazards attempting to cross Wilshire Boulevard to travel northbound, or to transfer to westbound Metro Rapid Line 720. Therefore Criterion 2 would be met, and a significant and adverse project-related pedestrian safety is projected for this station. Criterion 2 impacts would not be projected if either entrance at Fairfax Avenue is ultimately constructed.

Wilshire/La Cienega Station
The following MOSs and Build Alternatives include this station:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed MOSs and Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the northeast corner of the intersection of Wilshire and La Cienega Boulevards, and on the southwest corner of Wilshire Boulevard and Hamilton Drive. If only one of the potential station entrances is constructed, some riders transferring to interfacing bus transit lines would need to cross both Wilshire Boulevard and La Cienega Avenue. Therefore Criterion 1 would be met, and a significant and adverse bus transfer delay impact is projected for this station. The northeast entrance is preferred for minimizing bus transfer delay because it is located closer to existing bus stops than the southern entrance
- Criterion 2—The intersection of Hamilton Drive and Wilshire Boulevard is unsignalized, and no crosswalks across Wilshire Boulevard are provided at this intersection. If the southern station entrance is ultimately constructed, project riders could experience potential safety hazards attempting to cross Wilshire Boulevard at this unsignalized location to travel northbound. Therefore Criterion 2 could be met, and a potential significant and adverse project-related pedestrian safety impact is projected for this station. Criterion 2 impacts would not be projected if the northern entrance is ultimately constructed.

Wilshire/La Cienega (Optional Station)
Impact Determination

- Criterion 1—The optional station location proposes entrances at the northwest corner of the intersection of La Cienega and Wilshire Boulevards, and at the northwest corner of Le Doux Road and Wilshire Boulevard. Riders transferring to eastbound Metro Rapid

Line 720 and Metro Line 20, and northbound Metro Line 105 would need to cross both Wilshire and La Cienega Boulevards to access the station entrance, and would experience excessive bus transfer delay. Therefore Criterion 1 would be met, and a significant and adverse bus transfer delay impact is projected for this station. The entrance at La Cienega and Wilshire Boulevards is preferred for minimizing bus transfer delay because it is located closer to existing bus stops than the entrance at Le Doux Road and Wilshire Boulevard.

- Criterion 2—The intersections of Le Doux Road and Wilshire Boulevard and Stanley Drive and Wilshire Boulevard are unsignalized, and no crosswalks across Wilshire Boulevard are provided at either intersection. If the western station entrance is ultimately constructed, project riders could experience potential safety hazards attempting to cross Wilshire Boulevard at these unsignalized locations. Therefore Criterion 2 could be met, and a potential significant and adverse project-related pedestrian safety impact is projected for this station. Criterion 2 impacts would not be projected if the eastern entrance is ultimately constructed.

Wilshire/Rodeo Station
The following MOSs and Build Alternatives include this station:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed MOS and Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the northwest corner of the intersection of Canon Drive and Wilshire Boulevard, the southwest corner of the intersection of Reeves Drive and Wilshire Boulevard, the northwest and northeast corners of the intersection of Beverly Drive and Wilshire Boulevard, and the southeast corner of El Camino Drive and Wilshire Boulevard. If only one of the potential station entrances is constructed, some riders transferring to interfacing bus transit lines would need to cross both Wilshire Boulevard and one of the intersecting streets listed above. Therefore Criterion 1 would be met, and a significant and adverse bus transfer delay impact is projected for this station. The proposed entrance on the northwest corner of Wilshire Boulevard and Beverly Drive is preferred for minimizing bus transfer delay because most of the interfacing bus lines could be accessed without needing to cross more than one street.
- Criterion 2—The intersection of El Camino Drive and Wilshire Boulevard is signalized with crosswalks across the western and southern legs of the intersection. There are no crosswalks on the eastern leg of the intersection of El Camino Drive and Wilshire Boulevard or on any leg of the intersection of Reeves Drive and Wilshire Boulevard (but are located to the east at Canon Drive). If either the entrance on the southeast corner of

the intersection of or El Camino Drive and Wilshire Boulevard, or the southwest corner of Reeves Drive and Wilshire Boulevard is ultimately constructed project riders could experience potential safety hazards attempting to cross Wilshire Boulevard at locations without marked crosswalks. Therefore Criterion 2 could be met, and a potential significant and adverse project-related pedestrian safety impact is projected for this station. Criterion 2 impacts would not be projected if either of the two entrances, at Beverly Drive or Canon Drive, is ultimately constructed.

Century City Station
The following MOSs and Build Alternatives include this station:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed MOS and Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the southwest and southeast corners of the intersection of Avenue of the Stars and Santa Monica Boulevard, and in the Westfield Century City shopping center. Depending on which station entrance is ultimately constructed, some riders transferring to interfacing bus transit lines would need to cross both Santa Monica Boulevard and Avenue of the Stars. Therefore Criterion 1 could be met, and a potential significant and adverse bus transfer delay impact is projected for this station. If the station entrance on the southeast corner is constructed, riders would only need to cross either Santa Monica Boulevard or Avenue of the Stars, therefore a Criterion 1 impact would not be projected if this entrance is constructed.
- Criterion 2—The intersection of Avenue of the Stars and Santa Monica Boulevard is signalized with crosswalks provided on the southern and eastern legs of the intersection. If either the entrance on the southwest corner of the intersection of Avenue of the Stars and Santa Monica Boulevard, or the entrance adjacent to the Westfield Century City shopping center is ultimately constructed, project riders could experience potential safety hazards attempting to cross Santa Monica Boulevard at locations without marked crosswalks. Therefore Criterion 2 could be met, and a potential significant and adverse project-related pedestrian safety impact is projected for this station. Criterion 2 impacts would not be projected if the entrance at the southeast corner of the intersection of Santa Monica Boulevard and Avenue of the Stars is ultimately constructed.

Century City (Optional Station)
Impact Determination

- Criterion 1—Potential station entrances for the optional station are proposed on the northeast, southeast, and southwest corners of the intersection of Avenue of the Stars and Constellation Boulevard, and on the north side of Constellation Boulevard at MGM Drive (at the entrance to the Westfield shopping center). Depending on which station

entrance is ultimately constructed, some riders transferring to interfacing bus transit lines would need to cross both Avenue of the Stars and Constellation Boulevard. Therefore Criterion 1 could be met, and a potential significant and adverse bus transfer delay impact is projected for this station. If the station entrance at MGM Drive is constructed, riders would only need to cross Constellation Boulevard. Therefore, a Criterion 1 impact would not be projected if this entrance is constructed.

- Criterion 2—The intersection of Avenue of the Stars and Constellation Boulevard is signalized with crosswalks provided on all legs of the intersection. Therefore Criterion 2 would not be met, so no project-related pedestrian safety impacts are projected for this station.

Westwood/UCLA Station
The following Build Alternatives include this station:

- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed Build Alternatives.

Impact Determination

- Criterion 1—The four potential station entrances are on the northwest corner of Wilshire Boulevard and Gayley Avenue, on the southeast corner of the Wilshire Boulevard and Veteran Avenue, on the north end of Lot 36 near Kinross Avenue, and on the eastern end of Lot 36 near Lindbrook Drive. Depending on which station entrance is ultimately constructed, some riders transferring to interfacing bus transit lines would need to cross both Veteran Avenue and Wilshire Boulevard. Therefore Criterion 1 could be met, and a potential significant and adverse bus transfer delay impact is projected for this station. If the station entrance on the southeast corner of the intersection of Veteran Avenue and Wilshire Boulevard is constructed, riders transferring to the interfacing bus transit lines that serve this intersection would only need to cross one of the streets, thus minimizing bus transfer delay. However, most of the bus routes that serve the Westwood area, including all of the Metro Rapid Lines have bus stops located adjacent to the intersection of Wilshire and Westwood Boulevards. Therefore, riders would need to cross Galey Avenue, and potentially Wilshire and/or Westwood Boulevard to access most interfacing bus transit. Therefore Criterion 1 would be met, and a significant and adverse bus transfer delay impact is projected for this station.
- Criterion 2—The intersections of Veteran Avenue and Wilshire Boulevard and Galey Avenue and Wilshire Boulevard are both signalized with crosswalks provided on all legs of both intersections. Therefore Criterion 2 would not be met, so no project-related pedestrian safety impacts are projected for this station.

Westwood/UCLA (Optional Station)

Impact Determination

- Criterion 1—Potential station entrances for the optional station location are proposed on the northwest corner of the intersection of Gayley Avenue and Wilshire Boulevard, the northwest, southwest and southeast corners of the intersection of Westwood and Wilshire Boulevards, and an entrance near the southeast corner of Midvale Avenue and Wilshire Boulevard. If only one of the potential station entrances is constructed, some riders transferring to interfacing bus transit lines would need to cross Wilshire Boulevard and Gayley Avenue and/or Westwood Boulevard. Therefore Criterion 1 would be met, and a significant and adverse bus transfer delay impact is projected for this station. The proposed entrance on the northwest corner of Westwood and Wilshire Boulevards is preferred for minimizing bus transfer delay because most of the interfacing bus lines could be accessed without needing to cross more than one street.
- Criterion 2—The intersections of Gayley Avenue and Wilshire Boulevard, and Westwood and Wilshire Boulevards are both signalized with crosswalks provided on all legs of both intersections. Therefore Criterion 2 would not be met, so no project-related pedestrian safety impacts are projected for this station.

Westwood/VA Hospital Station

The following Build Alternatives include this station:

- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed Build Alternatives.

Impact Determination

- Criterion 1—A potential station entrance is proposed in an at-grade entrance plaza south of Wilshire Boulevard and east of Bonsall Avenue, with pedestrian walkway connections to the VA hospital building and Bonsall Avenue. With the location of the proposed entrance, riders transferring to eastbound Big Blue Bus Line 2 would need to cross Bonsall Avenue to access the bus stop. Riders transferring to eastbound Metro Rapid Line 720 and Metro Line 20 would need to cross Bonsall Avenue and the Wilshire Boulevard access ramp and travel up the stairs to Wilshire Boulevard. Riders transferring to westbound buses would need to cross under Wilshire Boulevard on the Bonsall Avenue underpass, as well as cross the westbound Wilshire Boulevard access ramps. As a result, Criterion 1 would be met.
- Criterion 2—The intersection of the eastbound Wilshire Boulevard access ramp and Bonsall Avenue is unsignalized with crosswalks provided on the western and southern legs of the intersection. The intersections of Wilshire Boulevard access ramps and Bonsall Avenue have stop signs. Because the roadways are unsignalized and experience low traffic volumes, the station location would not generate pedestrian/bicycle safety hazards and Criterion 2 would not be met. Therefore no significant or adverse project-related pedestrian safety impacts are projected for this station.

Westwood/VA Hospital (Optional Station)

Impact Determination

- Criterion 1—The station entrance proposed for the optional station is in an at-grade entrance plaza north of Wilshire Boulevard and west of Bonsall Avenue, with pedestrian walkway connections to the VA hospital building and Bonsall Avenue. With the location of the proposed entrance, riders transferring to westbound Big Blue Bus Line 2 would need to cross Bonsall Avenue to access the bus stop. Riders transferring to westbound Metro Rapid Line 720 and Metro Line 20 would need to travel down the stairs from Wilshire Boulevard, cross both the westbound Wilshire Boulevard access ramp and Bonsall Avenue to access the bus stop. Riders transferring to eastbound buses would need to cross under Wilshire Boulevard on the Bonsall Avenue underpass, as well as cross the eastbound Wilshire Boulevard access ramps. As a result, Criterion 1 would be met.
- Criterion 2—The intersection of the westbound Wilshire Boulevard access ramp and Bonsall Avenue is unsignalized with crosswalks provided on the western and southern legs of the intersection. The intersections of Wilshire Boulevard access ramps and Bonsall Avenue have stop signs. Because the roadways are unsignalized and experience low traffic volumes, the station location would not generate pedestrian/bicycle safety hazards and Criterion 2 would not be met. Therefore no significant or adverse project-related pedestrian safety impacts are projected for this station.

Wilshire/Bundy Station

The following Build Alternatives include this station:

- Alternative 3
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the northeast and southeast corners of the intersection of Bundy Drive and Wilshire Boulevard. If only one of the potential station entrances is constructed, some riders transferring to interfacing bus transit lines would need to cross both Bundy Drive and Wilshire Boulevard. Therefore Criterion 1 would be met, and a significant and adverse bus transfer delay impact is projected for this station. The proposed northeast entrance is preferred for minimizing bus transfer delay because most of the interfacing bus lines could be accessed without needing to cross more than one street.
- Criterion 2—The intersection of Bundy Drive and Wilshire Boulevard is signalized with crosswalks provided on all legs of the intersection. Therefore Criterion 2 would not be met, so no project-related pedestrian safety impacts are projected for this station.

Wilshire/26th Station

The following Build Alternatives include this station:

- Alternative 3
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the northwest and northeast corners of the intersection of 26th Street and Wilshire Boulevard. Depending on which station entrance is ultimately constructed, some riders transferring to interfacing bus transit lines would need to cross both 26th Street and Wilshire Boulevard. Therefore Criterion 1 could be met, and a potential significant and adverse bus transfer delay impact is projected for this station. If the station entrance on the northeast corner is constructed, riders would only need to cross Wilshire Boulevard. Therefore a Criterion 1 impact would not be projected if this entrance is constructed.
- Criterion 2—The intersection of 26th Street and Wilshire Boulevard is signalized with crosswalks provided on all legs. Therefore Criterion 2 would not be met, and no project-related pedestrian safety impacts are projected for this station.

Wilshire/16th Station

The following Build Alternatives include this station:

- Alternative 3
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the northwest and northeast corners of the intersection of 15th Street and Wilshire Boulevard, as well as an entrance in front of the Santa Monica/UCLA Medical Center on the south side of Wilshire Boulevard east of 15th Street. Bus stops for Metro Rapid Line 720, Metro Line 20, and Big Blue Bus Line 2 are on 14th Street. Riders transferring to westbound interfacing bus transit lines would not need to cross any streets assuming the northwest entrance was constructed, but would need to walk an entire block to access buses. Riders transferring to eastbound buses would need to cross 14th Street and Wilshire Boulevard as well as walk an entire block to access buses. If other entrances were ultimately built, transferring riders would need to walk further. Therefore Criterion 1 would be met, and significant and adverse project-related bus transfer delay impacts are projected for this station. The proposed entrance on the northwest corner of the intersection of 15th Street and Wilshire Boulevard is preferred for minimizing bus transfer delay because most of the interfacing bus lines could be accessed without needing to cross more than one street.
- Criterion 2—The intersections of 14th and 15th Streets with Wilshire Boulevard are all signalized with crosswalks provided on all legs of both intersections. Therefore Criterion 2 would not be met, so no project-related pedestrian safety impacts are projected for this station.

Wilshire/4th Station

The following Build Alternatives include this station:

- Alternative 3

- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the northeast and southeast corners of the intersection of 4th Street and Wilshire Boulevard. Depending on which station entrance is ultimately constructed, some riders transferring to interfacing bus transit lines would need to cross both 4th Street and Wilshire Boulevard. Therefore Criterion 1 could be met, and a potential significant and adverse bus transfer delay impact is projected for this station. If the station entrance on the southeast corner is constructed, riders would only need to cross Wilshire Boulevard, or 4th Street. Therefore a Criterion 1 impact would not be projected if this entrance is constructed.
- Criterion 2—The intersection of 4th Street and Wilshire Boulevard is signalized with crosswalks provided on all legs of the intersection. Therefore Criterion 2 would not be met, so no project-related pedestrian safety impacts are projected for this station.

Hollywood/Highland Station
The following Build Alternatives include this station:

- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the south side of Hollywood Boulevard east of Highland Avenue, the northwest corner of the intersection of Highland and Hawthorne Avenues, and the northeast corner of Highland Avenue and Selma Place. The station could also be accessed via the existing Metro Red Line Station entrance just west of the northwest corner of the intersection of Highland Avenue and Hollywood Boulevard. Bus stops for the numerous lines that serve the station area are located on or near the northwest, northeast and southeast corners of the intersection of Highland Avenue and Hollywood Boulevard. If the potential entrance on the south side of Hollywood Boulevard east of Highland Avenue is constructed, (in addition to the existing Metro Red Line entrance), riders transferring to the interfacing bus transit lines would need to cross either Highland Avenue or Hollywood Boulevard, and Criterion 1 would not be met. If the entrance at the northwest corner of the intersection of Highland and Hawthorne Avenues is constructed (in addition to the existing Metro Red Line entrance), riders transferring to the interfacing bus transit lines would need to cross either Highland Avenue or Hollywood Boulevard. However, because the Highland/Hawthorne entrance would be up to a block south of Hollywood Boulevard, Criterion 1 would be met, and significant and adverse project-related bus transfer delay impacts are projected for this station. Criterion 1 would also be met for the entrance on the northeast corner of Highland and Selma, because it would require crossing several streets to transfer to connecting bus service, and it is a full block south of Hollywood Boulevard.

- Criterion 2—The intersection of Highland Avenue and Hollywood Boulevard is signalized with crosswalks provided on all legs of both intersections. The intersection of Highland and Hawthorn Avenues is unsignalized, with stop controls on eastbound and westbound Hawthorn Avenue. No marked crosswalks are provided at this intersection. The intersection of Highland Avenue and Selma Place is signalized with crosswalks provided on the southern and eastern legs of the intersection. Because the intersection of Highland and Hawthorn Avenues is unsignalized and without crosswalks, and because the northern leg of the intersection of Highland Avenue and Selma Place (where the potential station entrances would be located) does not have a marked crosswalk, project riders could experience potential safety hazards attempting to cross Highland Avenue at these locations. Therefore Criterion 2 would be met for these entrances, and a significant and adverse project-related pedestrian safety impact could occur if these station entrances are constructed. Criterion 2 impacts would not be projected for the existing Red Line station entrance, nor are they projected for the potential entrance on the south side of Hollywood Boulevard east of Highland Avenue—therefore; it is the recommended station entrance.

Santa Monica/La Brea Station
The following Build Alternatives include this station:

- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on all four corners of the intersection of La Brea Avenue and Santa Monica Boulevard. Depending on which station entrance is ultimately constructed, some riders transferring to interfacing bus transit lines would need to cross both La Brea Avenue and Santa Monica Boulevard. Therefore Criterion 1 could be met, and a potential significant and adverse bus transfer delay impact is projected for this station. If the station entrance on the southwest corner is constructed, riders would only need to cross La Brea Avenue or Santa Monica Boulevard. Therefore a Criterion 1 impact would not be projected if this entrance is constructed.
- Criterion 2—The intersection of La Brea Avenue and Santa Monica Boulevard is signalized with crosswalks provided on all legs of both intersections. Therefore Criterion 2 would not be met, so no project-related pedestrian safety impacts are projected for this station.

Santa Monica/Fairfax Station
The following Build Alternatives include this station:

- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the northeast and southeast corners of the intersection of Fairfax Avenue and Santa Monica Boulevard. If only one of the potential station entrances is constructed, some riders transferring to interfacing bus transit lines would need to cross both Fairfax Avenue and Santa Monica Boulevard. Therefore Criterion 1 would be met, and a significant and adverse bus transfer delay impact is projected for this station. The proposed southeast entrance is preferred for minimizing bus transfer delay because most of the interfacing bus lines (including all Metro Rapid stops) could be accessed without needing to cross more than one street.
- Criterion 2—The intersection of Fairfax Avenue and Santa Monica Boulevard is signalized with crosswalks provided on all legs of the intersection. Therefore Criterion 2 would not be met, so no project-related pedestrian safety impacts are projected for this station.

Santa Monica/San Vicente Station
The following Build Alternatives include this station:

- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the northeast corner of the intersection of Hancock Avenue and Santa Monica Boulevard, and on the south side of Santa Monica Boulevard, west of Huntley Drive on Metro property. If either potential entrance is constructed, riders transferring to both eastbound and westbound Metro Line 4 would only need to cross Santa Monica Boulevard, thus minimizing bus transfer delay. However, most of the bus routes that serve the proposed station area, including all of the Metro Rapid Lines have bus stops located at San Vicente Boulevard, three blocks to the west. Therefore Criterion 1 would be met, and significant and adverse project-related bus transfer delay impacts are projected for this station.
- Criterion 2—The intersection of Hancock Avenue/Metro Driveway and Santa Monica Boulevard is unsignalized with stop controls on the northbound and southbound approaches. Marked crosswalks are installed on the northern and the eastern legs of the intersection. Therefore Criterion 2 would be met, and significant and adverse project-related pedestrian safety impacts are projected for this station.

Beverly Center Area Station
The following Build Alternatives include this station:

- Alternative 4
- Alternative 5

The impact determination detailed below for this station is applicable to all of the above listed Build Alternatives.

Impact Determination

- Criterion 1—Potential station entrances are proposed on the northwest, northeast and southeast corners of the intersection of San Vicente Boulevard and 3rd Street. If only one of the potential station entrances is constructed, some riders transferring to interfacing bus transit lines would need to cross both La Cienega Boulevard and 3rd Street. Therefore Criterion 1 would be met, and a significant and adverse bus transfer delay impact is projected for this station. The proposed southeast entrance is preferred for minimizing bus transfer delay because more interfacing bus lines operating on La Cienega Boulevard could be accessed without needing to cross more than one street.
- Criterion 2—The intersections of San Vicente Boulevard and 3rd Street and La Cienega Boulevard and 3rd Street are both signalized with crosswalks provided on all legs of each intersection. Therefore Criterion 2 would not be met, so no project-related pedestrian safety impacts are projected for this station.

5.1.7.5 Impact Summary

Table 5-7 summarizes the impact determination for each Build Alternative. Because it has the most stations of any alternative, Alternative 5 is projected to have the most impacted station areas, with a total of 12 impacted stations. At some locations, alternatives to added or relocated entrances could be considered. Further information is provided in Section 7—Mitigation Measures.

Table 5-7. Transit and Non-Motorized Impact Summary

Station	MOS 1	MOS 2	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
1. Wilshire/Crenshaw Station	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted
2. Wilshire/La Brea Station	Potential *	Potential *	Potential *	Potential *	Potential *	Potential *	Potential *
3. Wilshire/Fairfax Station	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted
Optional Station	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted
4. Wilshire/La Cienega Station	—	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted
Optional Station	—	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted
5. Wilshire/Rodeo Station	—	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted
6. Century City Station	—	Potential *	Potential *	Potential *	Potential *	Potential *	Potential *
Optional Station	—	Potential *	Potential *	Potential *	Potential *	Potential *	Potential *
7. Westwood/UCLA Station	—	—	Impacted	Impacted	Impacted	Impacted	Impacted
Optional Station	—	—	Impacted	Impacted	Impacted	Impacted	Impacted
8. Westwood/VA Hospital Station	—	—	—	Impacted	Impacted	Impacted	Impacted
Optional Station	—	—	—	Impacted	Impacted	Impacted	Impacted
9. Wilshire/Bundy Station	—	—	—	—	Impacted	—	Impacted
10. Wilshire/26th Station	—	—	—	—	Potential *	—	Potential *
11. Wilshire/16th Station	—	—	—	—	Impacted	—	Impacted
12. Wilshire/4th Station	—	—	—	—	Potential *	—	Potential *
13. Hollywood/Highland Station	—	—	—	—	—	Potential *	Potential *
14. Santa Monica/La Brea Station	—	—	—	—	—	Potential *	Potential *
15. Santa Monica/Fairfax Station	—	—	—	—	—	Impacted	Impacted
16. Santa Monica/San Vicente Station	—	—	—	—	—	Impacted	Impacted
17. Beverly Center Area Station	—	—	—	—	—	Impacted	Impacted
Total Impacted Station Areas **	2	4	5	6	8	9	11

Source: Fehr & Peers, April 2010

Note: * Station area would not be impacted if recommended entrance is constructed. Otherwise station area would be impacted.
** Impact totals reflect the fact that either the preferred station or the optional station will be built at station areas, not both.

5.1.8 Mitigation Measures

This section details the measures proposed to mitigate the significant and adverse project-related impacts to less than significant levels.

5.1.8.1 Wilshire/Crenshaw Station

This station area is expected to be impacted under the following MOSs and Build Alternatives:

- MOS 1
- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

To mitigate impacts under these MOSs and Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

To mitigate impacts under these MOSs and Build Alternatives due to pedestrian safety hazards, the following mitigation measure should be implemented:

- Install a marked crosswalk on the western leg of the intersection

5.1.8.2 Wilshire/La Brea Station

Depending on which station entrance is ultimately constructed, this station area has the potential to be impacted under the following MOSs and Build Alternatives:

- MOS 1
- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

If the southwest entrance is not constructed, to mitigate impacts due to excessive bus transfer delay, the following mitigation measure should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

5.1.8.3 Wilshire/Fairfax Station

This station area is expected to be impacted under the following MOSs and Build Alternatives:

- MOS 1
- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

To mitigate impacts under these MOSs and Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

5.1.8.4 Wilshire/Fairfax Optional Station

This station area is expected to be impacted under the following MOSs and Build Alternatives:

- MOS 1
- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

To mitigate impacts under these MOSs and Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

To mitigate impacts under these MOSs and Build Alternatives due to pedestrian safety hazards, the following mitigation measure should be implemented:

- Relocate the potential station entrance near the southeast corner of Orange Grove Avenue and Wilshire Boulevard to the southeast corner of Fairfax Avenue. If this mitigation measure is determined to be infeasible, an alternative mitigation measure would be to not construct this potential station entrance.

5.1.8.5 Wilshire/La Cienega Station

This station area is expected to be impacted under the following MOS and Build Alternatives:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

To mitigate impacts under MOS 2 and the Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

To mitigate potential impacts under the MOS 2 and the Build Alternatives due to pedestrian safety hazards, the following mitigation measure should be implemented:

- Construct the entrance on the northeast corner of the intersection of La Cienega and Wilshire Boulevards in lieu of the potential entrance proposed at the southwest corner of the intersection of Hamilton Drive and Wilshire Boulevard.
- Alternatively, relocate the entrance at Hamilton Drive and Wilshire Boulevard to the southeast corners of La Cienega and Wilshire Boulevards. If this mitigation measure is determined to be infeasible, signalize the intersection of Hamilton Drive and Wilshire Boulevard and install marked crosswalks on all four legs of the intersection.

5.1.8.6 Wilshire/La Cienega Optional Station

This station area is expected to be impacted under the following MOS and Build Alternatives:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

To mitigate impacts under MOS 2 and the Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

To mitigate potential impacts under MOS 2 and the Build Alternatives due to pedestrian safety hazards, the following mitigation measures should be implemented:

- Construct the entrance on the northwest corner of the intersection of La Cienega and Wilshire Boulevards in lieu of the potential entrance proposed at the northwest corner of the intersection of Le Doux Road and Wilshire Boulevard.

- Alternatively, signalize the intersection of Le Doux Road and Wilshire Boulevard and install marked crosswalks on all four legs of the intersection.

5.1.8.7 Wilshire/Rodeo Station

This station area is expected to be impacted under the following MOS and Build Alternatives:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

To mitigate impacts under MOS 2 and the Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

To mitigate potential impacts under MOS 2 and the Build Alternatives due to pedestrian safety hazards, the following mitigation measures should be implemented:

- Construct one or more of the potential entrances at Beverly and Canon Drives in lieu of the potential entrances proposed at the southeast corner of El Camino Drive and Wilshire Boulevard, and the southwest corner of Reeves Drive and Wilshire Boulevard

5.1.8.8 Century City Station

Depending on which station entrance is ultimately constructed, this station area has the potential to be impacted under MOS 2 and the Build Alternatives:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

If the entrance at the southeast corner of the intersection of Avenue of the Stars and Santa Monica Boulevard is not constructed, to mitigate potential impacts due to excessive bus transfer delay, the following mitigation measure should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

To mitigate potential impacts due to pedestrian safety hazards, the following mitigation measures should be implemented:

- Construct the entrance at the southeast corner of the intersection of Avenue of the Stars and Santa Monica Boulevard in lieu of the other potential entrances
- If the above mitigation measure is determined to be unfeasible, stripe a crosswalk on the western leg of the intersection of Avenue of the Stars and Santa Monica Boulevard
- If striping a crosswalk is determined to be unfeasible due the roadway geometry of Santa Monica Boulevard, construct a pedestrian underpass across Santa Monica Boulevard

5.1.8.9 Century City Optional Station

Depending on which station entrance is ultimately constructed, this station area has the potential to be impacted under MOS 2 and the Build Alternatives:

- MOS 2
- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

If the entrance MGM Drive and Constellation Boulevard is not constructed, to mitigate potential impacts due to excessive bus transfer delay, the following mitigation measure should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

5.1.8.10 Westwood/UCLA Station

This station area is expected to be impacted under the following Build Alternatives:

- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

To mitigate impacts under these Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- To the extent it is feasible, relocate and consolidate Westwood Boulevard bus stops to Galey Avenue to ensure that transfers between bus transit and the subway do not require crossing more than one roadway
- Alternatively, construct station entrance(s) at the intersection of Westwood and Wilshire Boulevards in lieu of station entrances at Galey or Veteran Avenues

5.1.8.11 Westwood/UCLA Optional Station

This station area is expected to be impacted under the following Build Alternatives:

- Alternative 1

- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

To mitigate impacts under these Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway.

5.1.8.12 Westwood/VA Hospital Station

This station area is expected to be impacted under the following Build Alternatives:

- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

To mitigate impacts under these Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- Relocate bus stops currently located in bus turn-outs on Wilshire Boulevard to the Wilshire Boulevard access ramps in front of the station entrance
- Construct a bus turnaround in front of the station to enable westbound buses to stop in front of the station entrance, before circling around, traveling north on Bonsall Avenue, and turning left on the access ramps to continue traveling west on Wilshire Boulevard

5.1.8.13 Westwood/VA Hospital Optional Station

This station area is expected to be impacted under the following Build Alternatives:

- Alternative 2
- Alternative 3
- Alternative 4
- Alternative 5

To mitigate impacts under these Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- Relocate bus stops currently located in bus turn-outs on Wilshire Boulevard to the Wilshire Boulevard access ramps in front of the station entrance
- Construct a bus turnaround in front of the station to enable eastbound buses to stop in front of the station entrance, before circling around, traveling south on Bonsall Avenue, and turning left on the access ramps to continue traveling east on Wilshire Boulevard

5.1.8.14 Wilshire/Bundy Station

This station area is expected to be impacted under the following Build Alternatives:

- Alternative 3
- Alternative 5

To mitigate impacts under these Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

5.1.8.15 Wilshire/26th Station

Depending on which station entrance is ultimately constructed, this station area has the potential to be impacted under the following Build Alternatives:

- Alternative 3
- Alternative 5

If the entrance at the northeast corner of the intersection of 26th Street and Wilshire Boulevard is not constructed, to mitigate potential impacts due to excessive bus transfer delay, the following mitigation measure should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

5.1.8.16 Wilshire/16th Station

This station area is expected to be impacted under the following Build Alternatives:

- Alternative 3
- Alternative 5

To mitigate impacts under these Build Alternatives due to excessive bus transfer delay, the following mitigation measure should be implemented:

- To the extent it is feasible, relocate bus stops at 14th Street and Wilshire Boulevard to 15th Street and Wilshire Boulevard in front of potential station entrances.

5.1.8.17 Wilshire/4th Station

Depending on which station entrance is ultimately constructed, this station area has the potential to be impacted under the following Build Alternatives:

- Alternative 3
- Alternative 5

If the entrance at the southeast corner of the intersection of 4th Street and Wilshire Boulevard is not constructed, to mitigate potential impacts due to excessive bus transfer delay, the following mitigation measure should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

5.1.8.18 Hollywood/Highland Station

Depending on which station entrance is ultimately constructed, this station area has the potential to be impacted under the following Build Alternatives:

- Alternative 4
- Alternative 5

If the entrance on the south side of Hollywood Boulevard east of Highland Avenue is not constructed, to mitigate potential impacts due to excessive bus transfer delay, the following mitigation measure should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

If the entrance on the south side of Hollywood Boulevard east of Highland Avenue is not constructed, to mitigate potential impacts due to pedestrian safety hazards, the following mitigation measures should be implemented:

- Shift the potential Highland Avenue entrance near Hawthorne Avenue to the southwest corner of the intersection of Highland Avenue and Hollywood Boulevard to the extent feasible. If entrances near the corners of the intersection are not feasible, shift the potential entrance as far to the north as possible.
- If the potential entrance near Selma Place is constructed, install a marked crosswalk on the northern leg of the intersection of Highland Avenue and Selma Place

5.1.8.19 Santa Monica/La Brea Station

Depending on which station entrance is ultimately constructed, this station area has the potential to be impacted under the following Build Alternatives:

- Alternative 4
- Alternative 5

If the entrance at the southwest corner of the intersection of La Brea Avenue and Santa Monica Boulevard is not constructed, to mitigate potential impacts due to excessive bus transfer delay, the following mitigation measure should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

5.1.8.20 Santa Monica/Fairfax Station

This station area is expected to be impacted under the following Build Alternatives:

- Alternative 4
- Alternative 5

To mitigate impacts under these Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

5.1.8.21 Santa Monica/San Vicente Station

This station area is expected to be impacted under the following Build Alternatives:

- Alternative 4

- Alternative 5

To mitigate impacts under these Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- Shift potential entrance(s) to the northeast and/or southeast corners of the intersection of San Vicente and Santa Monica Boulevards to the extent feasible
- If relocating potential entrances to San Vicente is not feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

To mitigate impacts under these Build Alternatives due to pedestrian safety hazards, the following mitigation measures should be implemented:

- Shift potential entrances to the northeast and southeast corners of the intersection of San Vicente and Santa Monica Boulevards to the extent feasible
- If relocating potential entrances to San Vicente is not feasible, signalize the intersection of Hancock Avenue and Santa Monica Boulevard

5.1.8.22 Beverly Center Area Station

This station area is expected to be impacted under the following Build Alternatives:

- Alternative 4
- Alternative 5

To mitigate impacts under these Build Alternatives due to excessive bus transfer delay, the following mitigation measures should be implemented:

- To the extent it is feasible, relocate or consolidate bus stops to ensure that transfers between bus transit and the subway do not require crossing more than one roadway

At this time it is not known which entrances will be constructed, so this potential mitigation measure does not reference specific station entrances.

5.1.9 CEQA Determination

5.1.9.1 No-Build Alternative Impact Determination

By definition, the No-Build Alternative would not result in significant transit-related impacts.

5.1.9.2 TSM Alternative Impact Determination

Criteria 1 and 2

By definition the TSM Alternative would not result in Criteria 1 and 2 significant impacts because no project station entrances would be constructed.

5.1.9.3 MOS and Build Alternatives

The impacts described above in the NEPA analysis are also applicable to the CEQA analysis of significant impacts. All mitigation measures recommended for each station area would apply under CEQA.

5.1.9.4 Impacts Remaining After Mitigation

After implementation of the mitigation measures detailed above for each station location, project-related impacts to the interfacing transit and non-motorized facilities and services would be mitigated to less-than significant levels for all Project Alternatives.

5.2 Traffic

By 2035, the population and employment density in the Study Area will increase by 10 and 12 percent, respectively. This will result in increases in 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.

The high population and employment densities and peak period levels of congestion in the Study Area create a viable setting for the Westside Subway Extension. The proposed Westside Subway Extension has the ability to reduce vehicle trips and congestion within the Study Area and the region as a whole. The availability of a grade-separated transit option on the Westside can change drivers' mode choice and reduce vehicle trips on arterials that are already experiencing traffic over their intended capacity. A detailed traffic operations analysis was conducted for 192 key intersections to forecast future congestion levels with anticipated regional growth and similar transit service as today (No Build) and the benefits of the Westside Subway Extension on vehicular congestion (Build Alternatives).

This section develops future traffic conditions in the Study Area and begins with a brief discussion of regional and Study Area performance measures projected using the Metro Regional Travel Demand Model. For the assessment of Study Area intersection performance, the Metro Regional Travel Demand Model, in combination with a customized sub-area VISUM model, were used to develop intersection turning movement forecasts, while corresponding levels of service were analyzed with Synchro. Synchro is common traffic simulation software based on procedures outlined in the Transportation Research Board's 2000 Highway Capacity Manual (HCM). The model development, including validation and calibration, and the forecasted turning movements per alternative, along with future traffic operating conditions, are detailed in this section.

5.2.1 Regional Transportation Performance Measures

The projected regional travel changes that would result from the different Project Alternatives compared to the Future Year 2035 No Build Scenario both for Los Angeles County as a whole as well as for the Study Area have been summarized in Table 5-8. These data are direct outputs of the Metro Regional Travel Demand Model. Compared to the Future Year 2035 No Build Alternative, the project Build Alternatives would not result in major changes in countywide or Study Area performance measures.

Even without major changes in countywide or Study Area performance measures, the data indicates that the Build Alternatives would have beneficial effects on regional transportation network by reducing VMT, VHT, and peak hour vehicle trips. Overall, there is little percentage change between the Build Alternatives and the No Build/TSM Alternatives because total travel demand within the county and Study Area is so significantly greater than the comparatively small reduction affected by a Build Alternative.

Table 5-8. Year 2035 Performance Measures for Project Alternatives

Measure	No Build	TSM	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	MOS 1	MOS 2
Regional									
VMT	504,651,236	504,622,466	504,510,630	504,478,371	504,478,074	499,379,904	504,281,492	504,315,228	504,563,698
VHT	29,204,905	29,182,039	29,150,448	29,176,362	29,167,001	28,920,955	29,150,499	29,177,868	29,147,101
Average vehicle speed (mph)	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
Study Area									
VMT	5,056,227	5,055,329	5,032,417	5,032,719	5,021,729	5,023,750	5,014,584	5,048,050	5,040,354
VHT	246,759	246,454	243,846	244,018	242,453	242,773	241,837	245,986	244,920
Average Speed (mph)	20.5	20.5	20.6	20.6	20.7	20.7	20.7	20.5	20.6
AM Peak VMT	1,143,472	1,142,863	1,137,069	1,136,954	1,131,944	1,132,786	1,130,979	1,140,207	1,138,340
AM Peak VHT	64,766	64,646	63,754	63,692	63,055	63,147	62,876	64,459	63,986
AM Peak Average Speed (mph)	17.7	17.7	17.8	17.9	18.0	17.9	18.0	17.7	17.8
AM Peak Vehicle Trips	214,110	213,617	212,321	211,885	211,636	211,693	211,336	213,257	212,517
PM Peak VMT	1,703,535	1,703,247	1,694,792	1,696,797	1,692,156	1,693,159	1,691,390	1,700,564	1,700,050
PM Peak VHT	108,494	108,308	106,863	107,165	106,360	106,530	106,141	108,048	107,671
PM Peak Average Speed (mph)	15.7	15.7	15.9	15.8	15.9	15.9	15.9	15.7	15.8
PM Peak Vehicle Trips	260,320	260,045	258,764	258,707	258,300	258,365	257,979	259,697	259,023

Source: Metro Travel Demand Model

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

5.2.2 Study Area Intersections

This section details the development of traffic forecasts for each Project Alternative and analyzes intersection level of service. A travel demand model for the Westside Subway Extension was developed using a combination of the updated Metro regional travel demand model and the VISUM modeling software. The VISUM model provides additional land use and roadway network detail within the project Study Area.

In order to determine the potential changes in Study Area traffic conditions for Project Alternatives, future conditions were first assessed without the Project. This section describes Future Year 2035 No Build turning movement volumes at study intersections; the subsequent section describes intersection LOS. The 192 study intersections assessed for Future Year 2035 No Build conditions were the same as those assessed for Existing Traffic Conditions.

5.2.2.1 Methodology

The Metro Regional Travel Demand Model focuses on estimating regional travel for all of Los Angeles County. The Metro Regional Travel Demand Model receives its demographic inputs from the Southern California Association of Governments (SCAG) Regional Travel Demand Model. The Metro Regional Travel Demand Model produces regional travel flows based on a standard four-step modeling process. Since the proposed project will focus on a localized area along the proposed heavy rail transit alignment alternatives, the regional model would need to be supplemented by a more refined sub-area model for use in this study.

To improve on the level of detail in the forecasting process, the VISUM modeling software was used to extract a sub-area of the regional model and enhance its level of detail. VISUM has the same standard features as traditional travel demand models as well as other features that allow it to capture the local-scale distributional effects of roadway improvements and land use changes more accurately. VISUM is capable of refining regional travel patterns to match observed traffic volumes and can utilize a wide range of sophisticated assignment algorithms to assign trips to the network based on roadway link capacity as well as turning movement capacities. Therefore, the regional model was used as a macro-level planning tool for trip generation, trip distribution, and mode split, while the VISUM model was used for detailed trip assignment in the sub-area.

5.2.2.2 Base Year Model Development

The first step in the forecasting process was to develop a base year AM and PM peak hour VISUM model for the project Study Area. This process involved: (1) data collection, (2) regional model refinement and sub-area extraction, (3) VISUM model development, and (4) VISUM model calibration and validation. Data collection was conducted as part of the existing conditions analysis.

Regional Model Refinement and Sub-Area Extraction

The base year Metro Regional Travel Demand Model was refined by Fehr & Peers to ensure macro-level traffic patterns were reasonable prior to their refinement in VISUM. The roadway network was modified to include all arterial roadways within the project Study Area. Additionally, the roadway network was reviewed to ensure each roadway's facility type, free-flow speed, and number of lanes matched field observations.

A sub-area extraction was then performed on the Metro Regional Travel Demand Model to obtain AM and PM peak hour origin-destination auto trip tables for the project Study Area. This process involved drawing a cordon around the Study Area to capture the destination of trips leaving the Study Area and the origin of trips entering the Study Area. These trips were then aggregated into singular zones, representing points at which vehicles can enter and exit the Study Area. Since the Metro Regional Travel Demand Model produces 3-hour AM and 4-hour PM peak period forecasts, peak period to peak hour factors were developed based on traffic counts collected in the Study Area. The AM and PM peak period sub-area trip tables were factored by 0.38 and 0.30, respectively. The resulting trip tables were the source of peak hour macro-level traffic patterns in the Study Area that were refined in VISUM.

Existing VISUM Model Development

Using aerial photography and field data, a VISUM model was developed for the project Study Area for base year (2009) conditions. The VISUM model was coded with the same attributes typically entered in a regional demand model, such as roadway speeds and capacities, which were based on values coded in the Metro Regional Travel Demand Model and field observation. Detailed characteristics, such as intersection control and turn movement capacities not typically specified in a regional demand model, were also coded in the VISUM model. The additional detail results in a greater understanding of traffic diversion as a result of roadway improvements and land use changes and greater confidence in the resulting forecasts.

Like standard travel demand models, a traffic analysis zone (TAZ) structure was developed for the VISUM model that corresponds to the TAZ system from the Metro Travel Demand Model. TAZs that corresponded to locations where trips enter and exit the network were included along with intermediate “driveway” TAZs that account for traffic originating and terminating in the Study Area. This TAZ system maintains balanced traffic volumes, which are critical in the development of origin-destination trip tables for use in VISUM.

The existing TAZ structure from the Metro Regional Travel Demand Model was then disaggregated in VISUM in order to more accurately forecast traffic volumes for intersection-level analysis. Following the disaggregation of the TAZs, centroid connectors were reconnected at mid-block locations in order to facilitate the flow of traffic onto project Study Area roadways. The existing 112 TAZs in the regional model which represented the project Study Area were disaggregated into a total of 187 TAZs in the VISUM model.

Unlike standard travel demand models, the VISUM model does not include zonal land use data as an input. Instead, the origin-destination trip tables from the refined base year Metro Travel Demand Model were imported into VISUM. Additionally, the existing peak hour traffic volumes were imported into the VISUM model since VISUM has the ability to adjust origin-destination trip tables to match observed volumes by utilizing the relation of link or turning movement traffic volumes and the macro-level traffic patterns from the regional model. The matrix adjustment module (TFlowFuzzy) in VISUM was executed to iteratively adjust the origin-destination trip tables from the regional model to first match the observed intersection approach and departure traffic counts and then again to match the observed intersection turning movement traffic counts.

The TFlowFuzzy process is based on matrix correction research by Zuylen/Willumsen, Bosserhoff, and Rosinowski. The process uses complex vector analysis with the matrix

values used as weights for the origin-destination relations. The matrix correction procedure finds a solution to match the traffic counts. Therefore, it is not necessary that the traffic counts and the origin-destination trip table represent the same year. The end result is a refined origin-destination (AM and PM peak hour) trip table based on the macro-level trip distribution and assignment results from the Metro Regional Demand Model, as well as actual field counts.

Existing VISUM Model Calibration and Validation

The most critical static measurement of the accuracy of any travel model is the degree to which it can approximate actual traffic counts in the base year. For a model to be considered accurate and appropriate for use in traffic forecasting, it must replicate actual conditions to within a certain level of accuracy.

A sub-area validation was performed on the base year VISUM model to ensure the model produces traffic forecasts that reasonably resemble observed traffic counts obtained in the project Study Area in 2009. Traffic forecasting models are typically calibrated by adjusting model parameters until they are validated by applying a set of criteria that compare model volumes to actual counts. In order to more accurately forecast future traffic volumes, the base year VISUM model was calibrated and validated to 1,391 intersection approach and departure link volumes as well as to 1,211 intersection turning movement volumes. Model link volumes were also compared to traffic counts along 22 model validation screenlines, as shown on Figure 5-34.

Caltrans has established guidelines for determining whether a model is valid and acceptable for forecasting future year traffic volumes. The sub-area validation results were compared to the following validation thresholds discussed in *Travel Forecasting Guidelines* (Caltrans 1992):

- The two-way sum of the volumes on all roadway links for which counts are available should be within 10 percent of the counts.
- All of the roadway screenlines should be within the maximum desirable deviation of at least 100 percent.
- At least 75 percent of the roadway links for which counts are available should be within the maximum desirable deviation, which ranges from approximately 15 to 60 percent depending on total volume (the larger the volume, the less deviation is permitted).
- The correlation coefficient between the actual ground counts and the estimated traffic volumes should be greater than 88 percent.

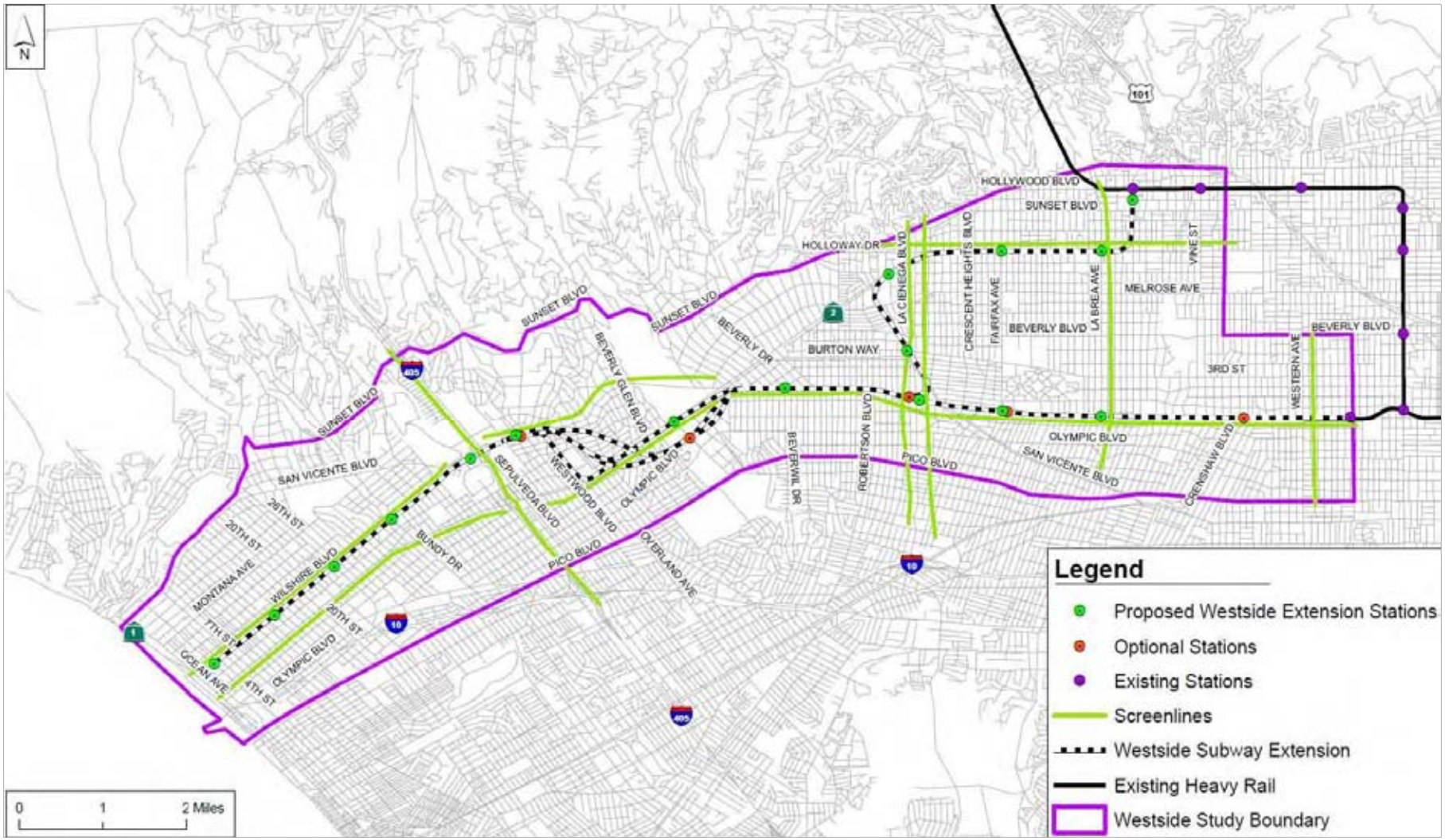


Figure 5-34. Validation Screenlines

Although not stated in the Caltrans standards, an additional Fehr & Peers validation guideline was applied to the sub-area model:

- The percent root mean square (RMSE) should not exceed 40 percent.

The results for AM and PM peak hour conditions are summarized in Table 5-9 and Table 5-10 below, while the detailed spreadsheets are presented in Appendix A.

Table 5-9. Peak Hour VISUM Model Link Volume Validation

Validation Statistic	Threshold	AM Peak Hour	PM Peak Hour
Model/count ratio	Within 10%	0.96	0.96
Percent of screenlines within Caltrans maximum deviation	100%	100%	100%
Percent of turns within Caltrans maximum deviation	> 75%	92%	92%
Percent RMSE	< 40%	18%	17%
Correlation coefficient	> 0.88	0.98	0.99

Source: Fehr & Peers, 2010

As shown in Table 5-9, both the AM and PM peak hour models passed all the validation criteria at the link level. Additionally, a model-to-count ratio of 0.96 indicates the magnitude of trips in the Study Area is appropriate, while validating along all screenlines indicates the directionality of trips in the Study Area is appropriate.

Table 5-10. Peak Hour VISUM Model Turning Movement Validation

Validation Statistic	Threshold	AM Peak Hour	PM Peak Hour
Model/count ratio	Within 10%	0.96	0.96
Percent of turns within Caltrans maximum deviation	> 75%	88%	87%
Percent RMSE	< 40%	23%	22%
Correlation coefficient	> 0.88	0.99	0.99

Source: Fehr & Peers, 2010

As shown in Table 5-10, the VISUM model meets or exceeds the guidelines for model accuracy in the AM and PM peak hours at the turning movement level. Therefore, the VISUM model is considered to be valid to 2009 traffic counts and appropriate for use in forecasting Future Year 2035 turning movement volumes.

5.2.2.3 Future Year (2035) VISUM Model Development

The next step in the forecasting process was to develop Future Year 2035 AM and PM peak hour VISUM models for the No Build and each Build Alternative based on the Existing Conditions calibrated/validated VISUM model. Future Year 2035 origin-destination trip tables were first developed for each alternative with the use of the Future Year 2035 Metro Regional Travel Demand Model. This ensured the VISUM models reflected the anticipated growth in the Study Area by year 2035 as estimated by the Metro Regional Travel Demand Model.

Since the Future Year 2035 Metro Regional Travel Demand Model was derived from the base year Metro Travel Demand Model, the same roadway network modifications made to the base year Metro Travel Demand Model were incorporated into the 2035 Metro Travel Demand Model. The Future Year 2035 origin-destination auto trip tables were then assigned to the modified 2035 roadway network to produce 3-hour AM and 4-hour PM peak period forecasts. A summary of the 7-hour peak period Metro Travel Demand Model trip tables for all modes of travel are presented in Table 5-11, which shows the total trips for the No Build Alternative and the difference in trips between the No Build Alternative and each of the Build Alternatives.

Table 5-11. Year 2035 7-Hour Peak Period Metro Model Trips by Travel Mode

Alternative	Bus Trips	Rail Trips	Auto Trips	Walk/Bike Trips
No Build	764,483	333,440	35,871,537	3,926,744
Difference From No Build Scenario				
TSM	2,009	-31	-1,399	-569
Alternative 1	-10,046	23,205	-10,906	-2,248
Alternative 2	-11,431	26,476	-12,434	-2,610
Alternative 3	-14,422	33,412	-16,025	-2,957
Alternative 4	-12,865	29,565	-13,520	-3,174
Alternative 5	-16,254	37,674	-17,815	-3,596
MOS 1	-2,836	6,710	-3,080	-787
MOS 2	-7,443	17,376	-8,001	-1,928

Source: Fehr & Peers, 2010

As shown in Table 5-11, the Build Alternatives reduce the number of auto, bus, and walk/bike trips in the Future Year 2035 Metro Regional Travel Demand Model while the total number of trips remain relatively unchanged, indicating a shift in mode of travel rather than an overall change in the total number of trips. Under the TSM Alternative, a relatively small number of auto trips would be reduced from the No Build as compared to any Build Alternatives. Additionally, approximately 45% of new rail trips with the Build Alternatives are shifted from the existing bus system to the expanded rail system. The rest of the rail trips would shift from auto and a small amount from walk and bike.

A sub-area extraction was then performed on the Future Year 2035 Metro Regional Travel Demand Model to obtain AM and PM peak hour origin-destination auto trip tables for the project Study Area. This process involved using the same cordon used in the base year model development to capture the destination of trips leaving the model and the origin of trips entering the model. Since the Future Year 2035 Metro Regional Travel Demand Model also produces 3-hour AM and 4-hour PM peak period forecasts, the same peak period to peak hour factors developed for the base year were used. The AM and PM peak period sub-area trip tables were factored by 0.38 and 0.30, respectively.

The resulting trip tables were compared to the trip tables from the base year Metro Regional Travel Demand Model to ensure a reasonable growth (or decline) in traffic between individual origin-destination pairs. If an unrealistic growth or decline was observed between an origin and destination, the flow between the origin-destination pair was adjusted. A summary of the AM and PM peak hour Study Area auto trip tables are presented in

Table 5-12 and Table 5-13, respectively, which show the total trips for the No Build Alternative and the difference in trips between the No Build Alternative and each of the Build Alternatives.

Table 5-12. Year 2035 AM Peak Hour Study Area Auto Trips by Type

Alternative	Internal Trips	One Trip End in the Study Area	Cut-Through Trips	Total Trips
No Build	5,363	14,557	17,796	37,717
Difference From No Build Scenario				
TSM	-13	-480	310	-183
Alternative 1	-226	-1,563	224	-1,565
Alternative 2	-449	-1,776	251	-1,973
Alternative 3	-400	-2,074	195	-2,279
Alternative 4	-473	-1,944	340	-2,077
Alternative 5	-618	-2,155	374	-2,400
MOS 1	-92	-761	186	-667
MOS 2	-213	-1,379	419	-1,173

Source: Fehr & Peers, 2010

Table 5-13. Year 2035 PM Peak Hour Study Area Auto Trips by Type

Alternative	Internal Trips	One Trip End in the Study Area	Cut-Through Trips	Total Trips
No Build	7,967	13,771	20,928	42,666
Difference From No Build Scenario				
TSM	235	-509	626	352
Alternative 1	-124	-1,432	517	-1,039
Alternative 2	-97	-1,515	513	-1,100
Alternative 3	-206	-1,814	442	-1,577
Alternative 4	-231	-1,723	562	-1,393
Alternative 5	-418	-1,922	440	-1,901
MOS 1	152	-775	348	-275
MOS 2	-209	-1,088	485	-812

Source: Fehr & Peers, 2010

As shown in Table 5-12 and Table 5-13, the Build Alternatives reduce the total number of auto trips in the Future Year 2035 Metro Regional Travel Demand Model, with a majority of the decrease coming from trips with one trip end in the Study Area. Cut-though trips account for approximately 50% of the growth in vehicle trips between the base year and the Future Year 2035 No Build Alternative, and cut-through trips also increase under all Build Alternatives in the AM and PM peak hours. Auto trips with their origin and destination in the Study Area (internal trips) generally decrease under the Build Alternatives.

The Future Year 2035 AM and PM peak hour origin-destination trip tables for the VISUM models were then developed by adding the difference between the base and future year trip tables from the Metro Regional Travel Demand Model to the refined existing origin-destination trip tables were developed during the VISUM calibration/validation process.

The approach described above is consistent with other model adjustment techniques like the "difference method," which applies the following formula:

- Adjusted Future Volume = Field Count + (Model Future Volume—Model Base Volume)

However, instead of applying the adjustment at the link or turning movement level, the adjustment is applied at the origin-destination level to better reflect the model's growth predictions.

The Existing calibrated/validated VISUM model was then modified to include the northbound HOV lane on I-405 assumed in the Future Year 2035 Metro Regional Travel Demand Model. No other future roadway improvements were included in the Future Year 2035 Metro Regional Travel Demand Model in the Study Area. The final Future Year 2035 origin-destination trip tables were then assigned for the No Build and each of the Build Alternatives and the resulting link volumes for the No Build Alternative were compared to base year link volumes to ensure the growth was reasonable. The resulting link volumes for the Build Alternatives were compared to link volumes for the No Build Alternative to ensure the growth (or decline) was reasonable. Subsequently, the turning movement volumes for the No Build and Build Alternatives were adjusted through the use of the "difference method" to account for Existing VISUM model deviation from observed traffic counts.

The AM and PM peak hour vehicle-miles traveled (VMT) results from the 2035 VISUM model are shown in Table 5-14, which show the AM and PM peak hour VMT for the No Build Alternative and each Build Alternative, and the difference in VMT between the No Build Alternative and each of the Build Alternatives. This difference is shown in Figure 5-35.

Table 5-14 shows that VMT generally decreases from the No Build Alternative to each of the Build Alternatives. Additionally, VMT generally decreases from the No Build Alternative to each of the Build Alternatives. Increases in VMT reported for several of the Build Alternatives during the PM peak hour are due to the additional cut-though trips traveling through the Study Area as projected by the Metro Regional Travel Demand Model.

Table 5-14. Year 2035 AM and PM Peak Hour Vehicle-Miles Traveled

Alternative	AM Peak Hour VMT	AM Peak Hour VMT Delta	PM Peak Hour VMT	PM Peak Hour VMT Delta
No Build	350,090	—	380,492	—
Difference From No Build Scenario				
TSM	349,625	-465	382,125	1,633
Alternative 1	346,001	-4,089	378,721	-1,771
Alternative 2	344,839	-5,251	378,725	-1,768
Alternative 3	344,020	-6,070	376,857	-3,635
Alternative 4	344,973	-5,117	378,040	-2,453
Alternative 5	343,283	-6,806	376,211	-4,281
MOS 1	348,841	-1,249	381,089	597
MOS 2	346,369	-3,720	379,355	-1,138

Source: Fehr & Peers, 2010. Values shown do not include cut-through trips that do not have an origin or destination within the Study Area.

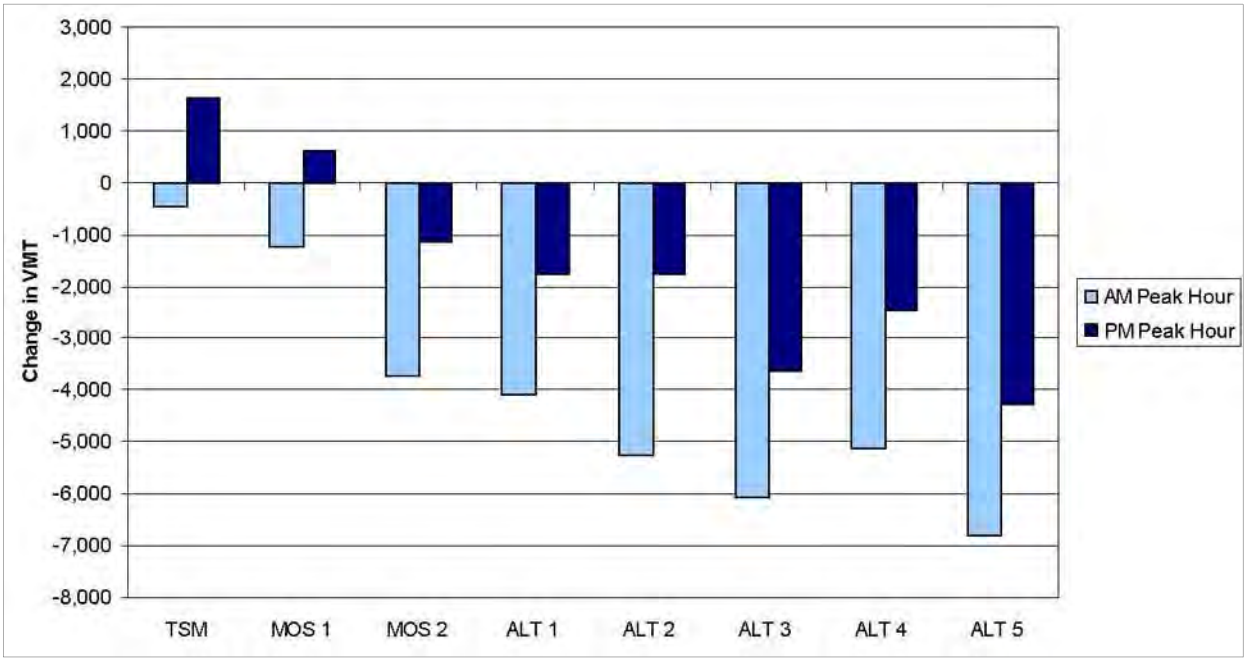


Figure 5-35. Change in VMT Compared to the No Build Alternative

5.2.2.4 Synchro Analysis

The Synchro 6.0 software suite was used to develop the Study Area roadway and intersection network for the previously completed Existing Conditions traffic analysis. The model network developed for the Existing Conditions traffic analysis was also used for the future year 2035 No Build scenario. The Synchro model network was constructed by drawing the roadway network using aerial photography as a background. The number of lanes and the location of lane additions and drops were confirmed by field observations. Additional detail was incorporated into the Synchro model network (posted speed limits, grades, etc.) to better reflect observed field conditions. Traffic signal-related information such as phasing and initial timings (minimum green, maximum green, distance or "gap" between vehicles, etc.) for the signalized intersections was obtained from the local agencies or during field visits to the site. Additional detail, such as turn pocket lengths, saturation flow and intersection spacing was coded based on field measurements. Once the model network was developed, Future Year 2035 No Build AM and PM peak hour intersection turning movement counts and pedestrian volumes were input into the model and the delay and delay-based level of service (LOS) calculations were completed for each Study Area intersection included in the model network.

5.2.2.5 Incorporation of Pedestrian Volumes

Future 2035 No Build Scenario

Existing pedestrian data collected at study intersections adjacent to potential station locations were added to the Synchro network to establish a future base for pedestrian volumes under the Future Year 2035 No Build scenario. These volumes were added to the Synchro network to account for additional vehicle delay at unprotected left and right turns as a result of pedestrian activity.

Future Build Alternatives

The project would result in additional pedestrian activity at intersections immediately adjacent to and within walking distance (typically one-quarter mile) of proposed station locations. Mode of access data from the Metro Regional Travel Demand Model along with future station site plans (locations of pedestrian ingress and egress) were used to determine the increase in pedestrians expected at each leg of an intersection adjacent to a proposed station entrance location. The pedestrian volumes were added to the Synchro network to account for additional vehicle delay at unprotected left and right turns as a result of increased pedestrian activity. Vehicle delay would also be affected by an increased number of pedestrian calls, which would increase time allotted to walk phases and associated red/yield phases for vehicles.

5.2.2.6 Incorporation of Heavy Vehicles

The Metro Regional Travel Demand Model did not include heavy vehicle trips (such as delivery trucks and tractor-trailers) as a part of the highway assignment. In the Existing Traffic Conditions analysis, these trips were accounted for because level of service analysis was calculated based on turning movement counts that were recorded at each of the study intersections, which included heavy vehicle trips. Therefore, to account for the assignment of heavy vehicle trips that was not included the Metro Regional Travel Demand Model, 2%[6] of the incremental increase in volumes between Existing Conditions and Future Year 2035 No Build was applied to the Future Year 2035 No Build and all Build Alternative scenarios.

5.2.2.7 Incorporation of Transit Services

The Metro Regional Travel Demand Model did not include transit trips (such as buses) as a part of the highway assignment. In the Existing Traffic Conditions analysis, these trips were accounted for because level of service analysis was calculated based on turning movement counts that were recorded at each of the study intersections, which included transit (bus) trips. Therefore, to account for increased (or decreased) transit activity compared to the Existing Traffic Conditions scenario, the 2035 No Build transit network (including routes and headways) was reviewed and the net increase or decrease in trips were added to the through traffic at the affected intersections in the Future Year 2035 No Build and all Build Alternative scenarios.

5.2.2.8 No Build Traffic Forecasts and Level of Service Analysis

Traffic Forecasts

The weekday peak hour (AM and PM) Future Year 2035 No Build traffic forecasts projected at the 192 study intersections are shown in Appendix A.

Level of Service Analysis

Fifty-three of the 192 analyzed intersections (28 percent) are operating at an acceptable LOS D or better in the morning and afternoon peak hours. The remaining 139 intersections (72 percent) operate at LOS E or F (deficient LOS) during one or both analyzed peak hours. By 2035, the majority of study intersections will operate under congested conditions (LOS E or F) during peak hours without the Project.

[6] In the absence of local classification data, 2% heavy vehicle trips is the default value in Exhibit 10-12 of the *2000 Highway Capacity Manual* (Transportation Research Board, 2000)

The model predicts that the majority of analyzed intersections along Wilshire and Santa Monica Boulevards will operate under deficient LOS in the future, resulting in significant delay for motorists traveling along east-west and north-south corridors in the Westside. These LOS results by peak hour are illustrated graphically in Figure 5-36.

Projected morning and afternoon peak period delay and corresponding LOS at each study intersection are contained in Appendix B-2.

Detailed LOS calculations are provided in Appendix C-2.

5.2.2.9 TSM Traffic Forecasts and Level of Service Analysis

Traffic Forecasts

The only improvement assumed under the TSM Alternative is increased bus service along Wilshire Boulevard. The weekday AM and PM peak hour Future Year 2035 TSM traffic forecasts indicate a net decrease of 183 total trips in the AM peak hour and a net increase of 352 total trips in the PM peak hour within the entire Study Area as compared with the Future No Build Scenario. This represents less than 1/10 of a percent difference in traffic volumes between the TSM and No Build Alternatives. The minimal change is the result of a nearly identical roadway and transit network (land use does not change). The effect of the TSM Alternative at individual study intersections would be nominal and the difference from the No Build Alternative is not statistically significant. Therefore, for the traffic operations LOS analysis, the TSM alternative is considered to be identical to the No Build Alternative.

Level of Service Analysis

No changes in level of service between the Future Year 2035 No Build Scenario and TSM Alternative are expected as a result of only a minor improvement to the transit service along Wilshire Boulevard. Level of service has been depicted in Figure 5-36.

Therefore, the same fifty-three of the 192 analyzed intersections (28 percent) would operate at an acceptable LOS D or better in the morning and afternoon peak hours. The remaining 139 intersections (72 percent) would operate at LOS E or F (deficient LOS) during one or both analyzed peak hours.

Figure 5-36. Future Year 2035 No Build/TSM Intersection Levels of Service

Figure 5-36. Future Year 2035 No Build/TSM Intersection Levels of Service (continued)

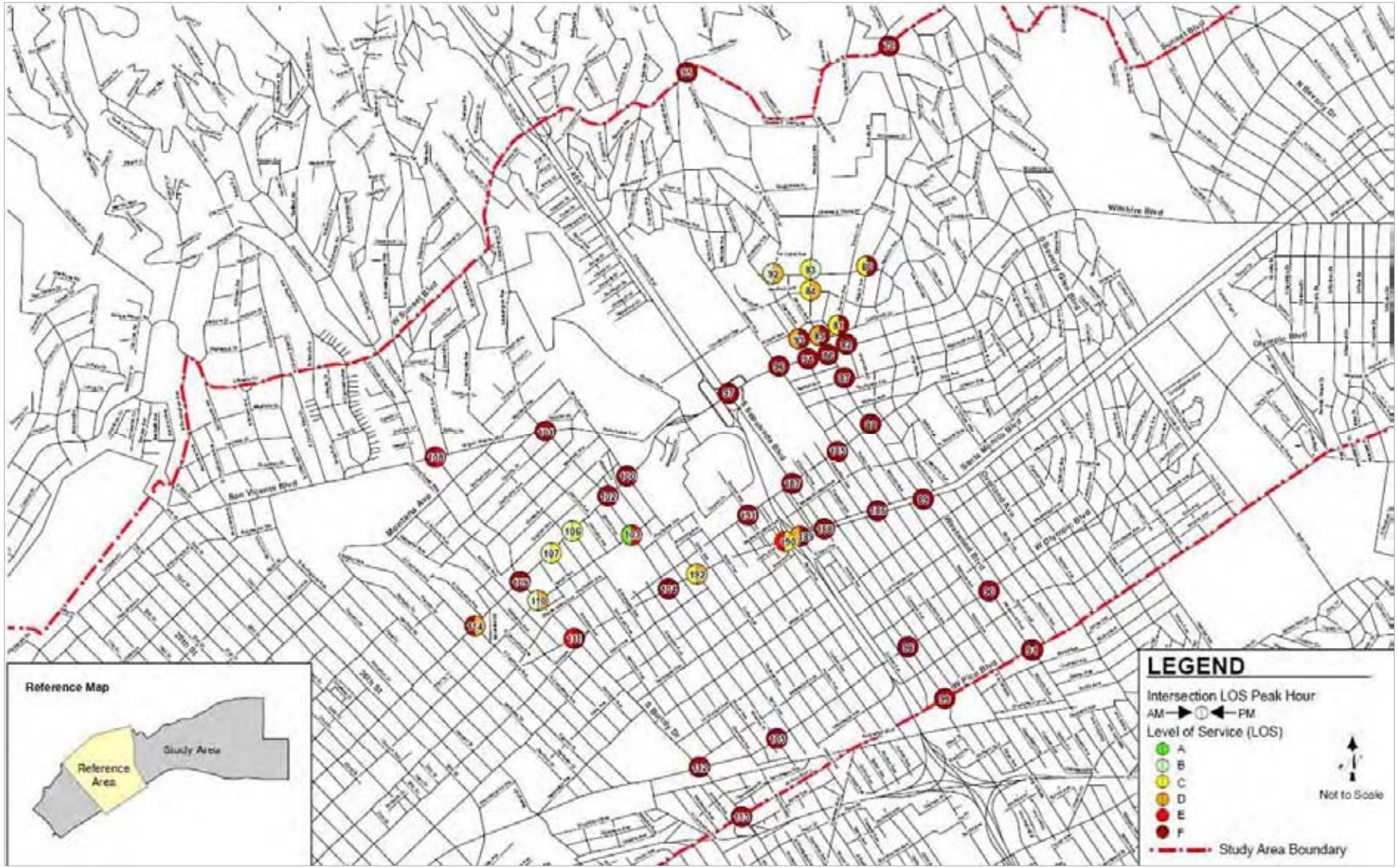


Figure 5-36. Future Year 2035 No Build/TSM Intersection Levels of Service (continued)

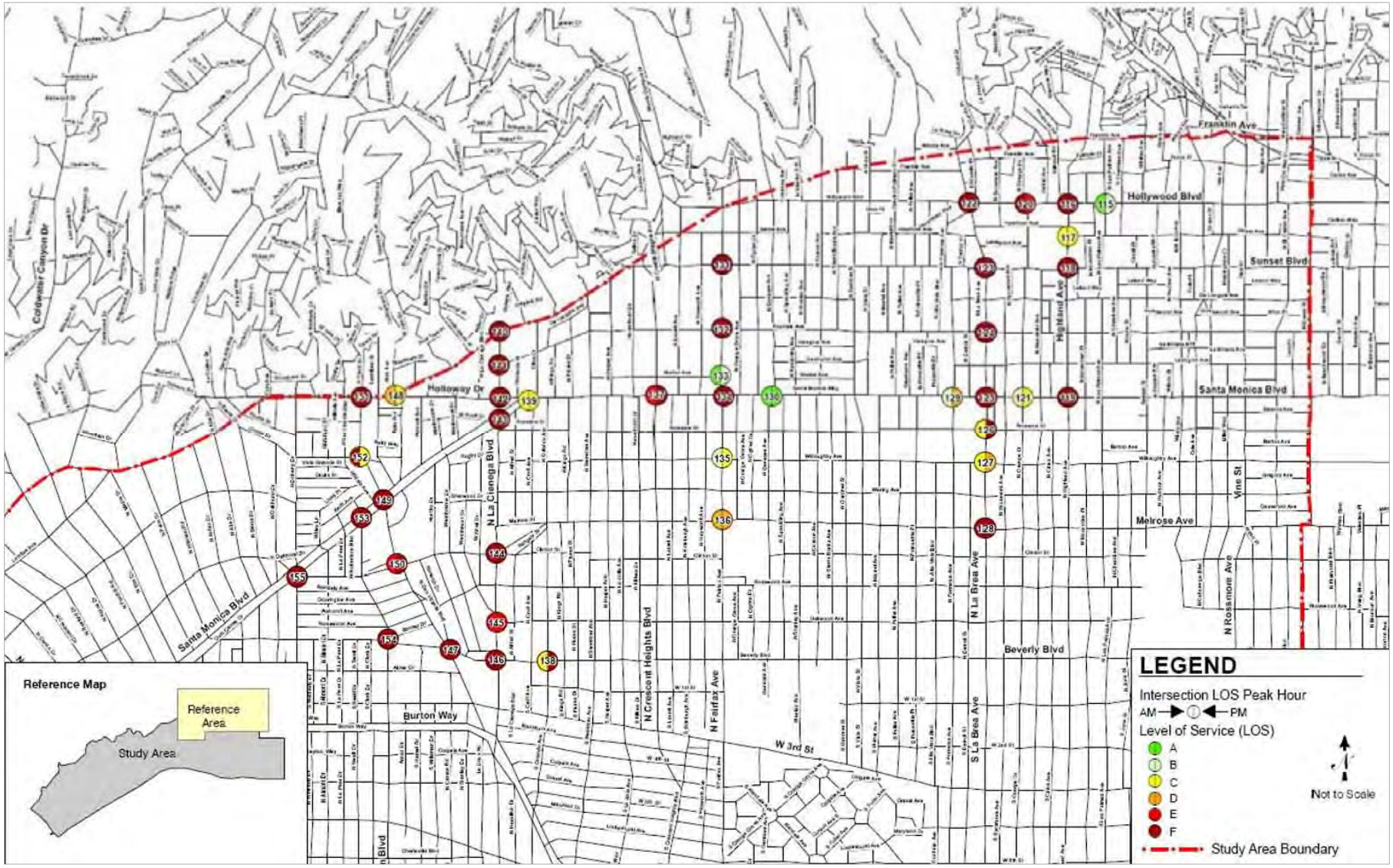


Figure 5-36. Future Year 2035 No Build/TSM Intersection Levels of Service (continued)

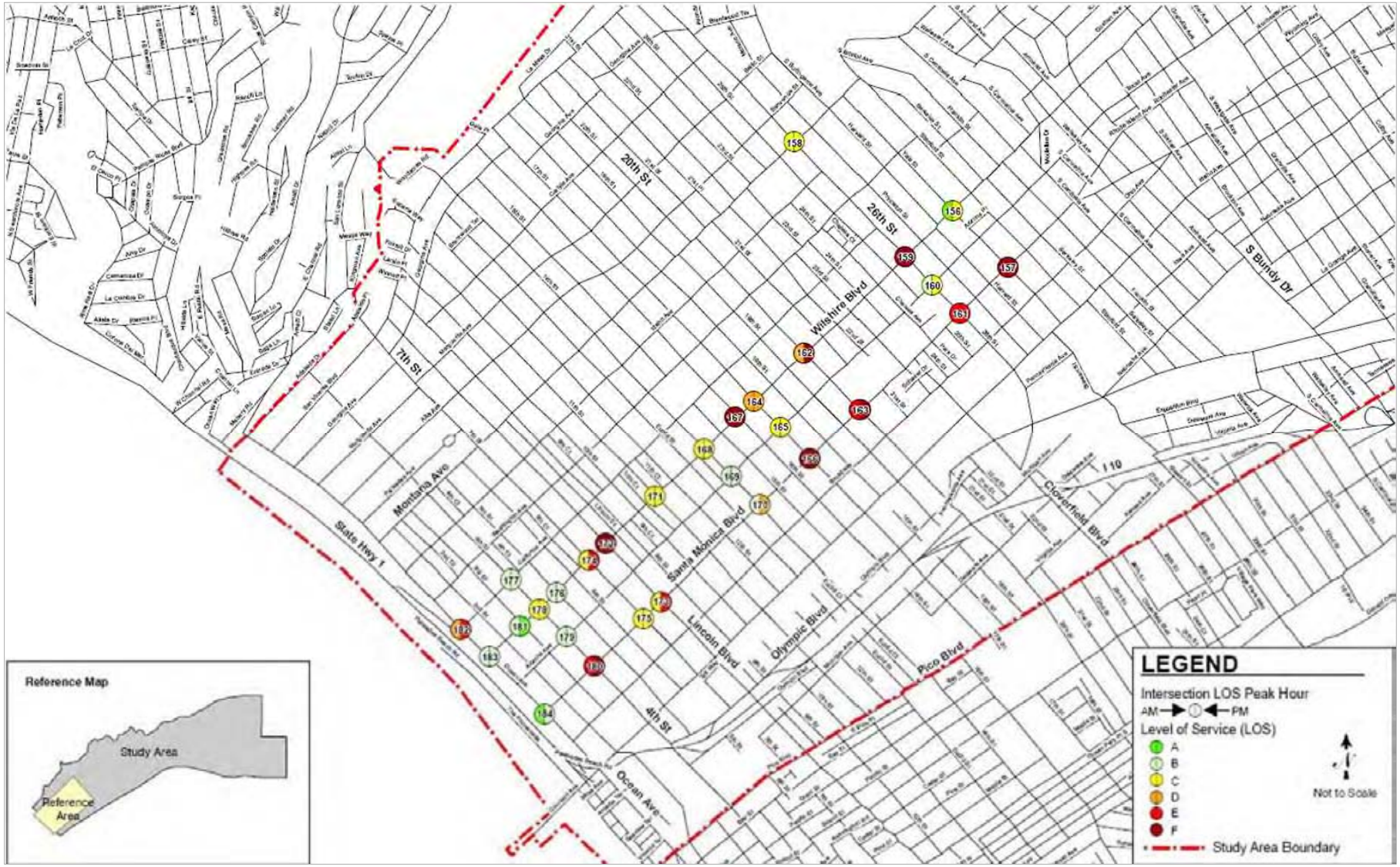


Figure 5-36. Future Year 2035 No Build/TSM Intersection Levels of Service (continued)

5.2.2.10 Future Build Alternative Traffic Forecasts and Level of Service Analysis

For the five Build Alternatives, study intersections within one mile of potential station locations were analyzed, as it was reasonable to assume that vehicular and pedestrian traffic at study intersections farther than one mile from a station location would be nominally affected by the project. The level of service at intersections farther than one mile will remain the same as the Future Year 2035 No Build and TSM Alternatives. Under Alternative 5, all 192 intersections were analyzed as this alternative assumed full build out of the Westside Subway Extension. The following provides a description of the modified Study Area for each analyzed project alternative:

- Alternative 1 (111 study intersections)
  - Intersections south of Melrose Avenue
  - Intersections east of and including Sawtelle Avenue
- MOS 1 (47 study intersections)
  - Intersections south of Melrose Avenue
  - Intersections east of and including La Cienega Boulevard
- MOS 2 (83 study intersections)
  - Intersections south of Melrose Avenue
  - Intersections east of and including Beverly Glen Boulevard
- Alternative 2 (126 study intersections)
  - Intersections south of Melrose Avenue
  - Intersections east of and including Bundy Drive
- Alternative 3 (156 study intersections)
  - Intersections south of Melrose Avenue
- Alternative 4 (162 study intersections)
  - Intersections east of and including Bundy Drive
- Alternative 5 (192 study intersections)

Study intersection turning movement volumes are contained in Appendix A. Intersections not applicable to the project scenario show “NA” in place of turning movement volumes. Projected morning and afternoon peak period delay and corresponding LOS at each study intersection for the seven Build Alternatives are contained in Appendices B-3 to B-7. By 2035, the majority of study intersections will operate under congested conditions (LOS F) during peak hours both with and without the Project. Detailed LOS calculations per intersection by scenario are provided in Appendices C-3 to C-7.

Consideration of Parking Spillover in Traffic Forecasts

The parking impact assessment for the Westside Subway Extension considered the potential for parking spillover to occur in the residential neighborhoods surrounding potential station locations. Spillover potential was assessed because some riders of the Westside Subway Extension may still drive to stations to access the subway, despite park-and- ride facilities not being provided. Without park-and-ride, parking demand would be reduced, as more riders

are picked-up/dropped-off, walk, bike, or take bus transit to access the subway; but, some riders with access to automobiles might still locate available unrestricted parking on neighborhood streets within a one half mile walking distance of stations. The parking impact assessment disclosed impacts related to spillover and recommended feasible mitigation measures, including the creation of residential permit parking districts, to prevent spillover and reduce those impacts to below significant levels. With parking mitigation measures in place, project-related peak hour traffic entering residential neighborhoods would be nominal and no impacts would be expected to occur.

5.2.2.11 Alternative 1 + MOS 1, MOS 2

Traffic Forecasts

Using the inputs described previously, the weekday peak hour (AM and PM) year 2035 traffic forecasts for Alternative 1, MOS 1, and MOS 2 were developed at Study Area intersections.

Level of Service Analysis

Alternative 1

Twenty two of the 111 analyzed intersections (20 percent) would operate at an acceptable LOS D or better in the morning and afternoon peak hours. The remaining 89 intersections (80 percent) would operate at LOS E or F (deficient LOS) during one or both analyzed peak hours. The LOS results by peak hour are illustrated graphically in Figure 5-37. For any intersections that were not studied under this alternative, the Future Year 2035 No Build level of service is shown.

Alternative 1 would result in a measurable improvement in traffic operating conditions compared to the Future Year 2035 No Build Scenario. In the AM peak hour, 10 intersections would improve by one level of service and in the PM peak hour, seven intersections would improve by one level of service. Table 5-15 summarizes the improvement in level of service during each peak hour by alternative.

MOS 1

Nine of the 47 analyzed intersections (19 percent) would operate at an acceptable LOS D or better in the morning and afternoon peak hours. The remaining 38 intersections (81 percent) would operate at LOS E or F (deficient LOS) during one or both analyzed peak hours. The LOS results by peak hour are illustrated graphically in Figure 5-38. For any intersections that were not studied under this alternative, the Future Year 2035 No Build level of service is shown.

MOS 1 would result in a modest, but measurable improvement in traffic operating conditions compared to the Future Year 2035 No Build Scenario. In the AM peak hour, six intersections would improve by one level of service and in the PM peak hour, three intersections would improve by one level of service. Table 5-15 summarizes the improvement of level of service in each peak hour by alternative.

MOS 2

Nineteen of the 83 analyzed intersections (23 percent) would operate at an acceptable LOS D or better in the morning and afternoon peak hours. The remaining 64 intersections (77 percent) operate at LOS E or F (deficient LOS) during one or both analyzed peak hours. The LOS results by peak hour are illustrated graphically in Figure 5-39. For any intersections that

were not studied under this alternative, the Future Year 2035 No Build level of service is shown.

MOS 2 would result in a modest, but measurable improvement in traffic operating conditions compared to the Future Year 2035 No Build Scenario. In the AM peak hour, 10 intersections would improve by one level of service and in the PM peak hour, seven intersections would improve by one level of service. Table 5-15 summarizes the improvement of level of service in each peak hour by alternative.

Table 5-15. Level of Service Improvement Compared with Future Year 2035 No Build Scenario

	Alternative 1		MOS 1		MOS 2		Alternative 2		Alternative 3		Alternative 4		Alternative 5	
Level of Service Improvement	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	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
F to E	6	4	5	3	6	4	7	5	8	5	10	5	11	5
E to D	0	1	0	0	0	1	0	2	0	2	0	2	0	2
D to C	4	1	1	0	4	1	4	1	4	1	4	1	4	1
C to B	0	0	0	0	0	0	1	0	1	0	1	0	1	0
B to A	0	1	0	0	0	1	0	1	0	1	1	1	1	1
Total	10	7	6	3	10	7	12	9	13	9	16	9	17	9