



Figure 5-38. Year 2035 MOS 1 Intersection Levels of Service (continued)



Figure 5-39. Year 2035 MOS 2 Intersection Levels of Service

WESTSIDE SUBWAY EXTENSION

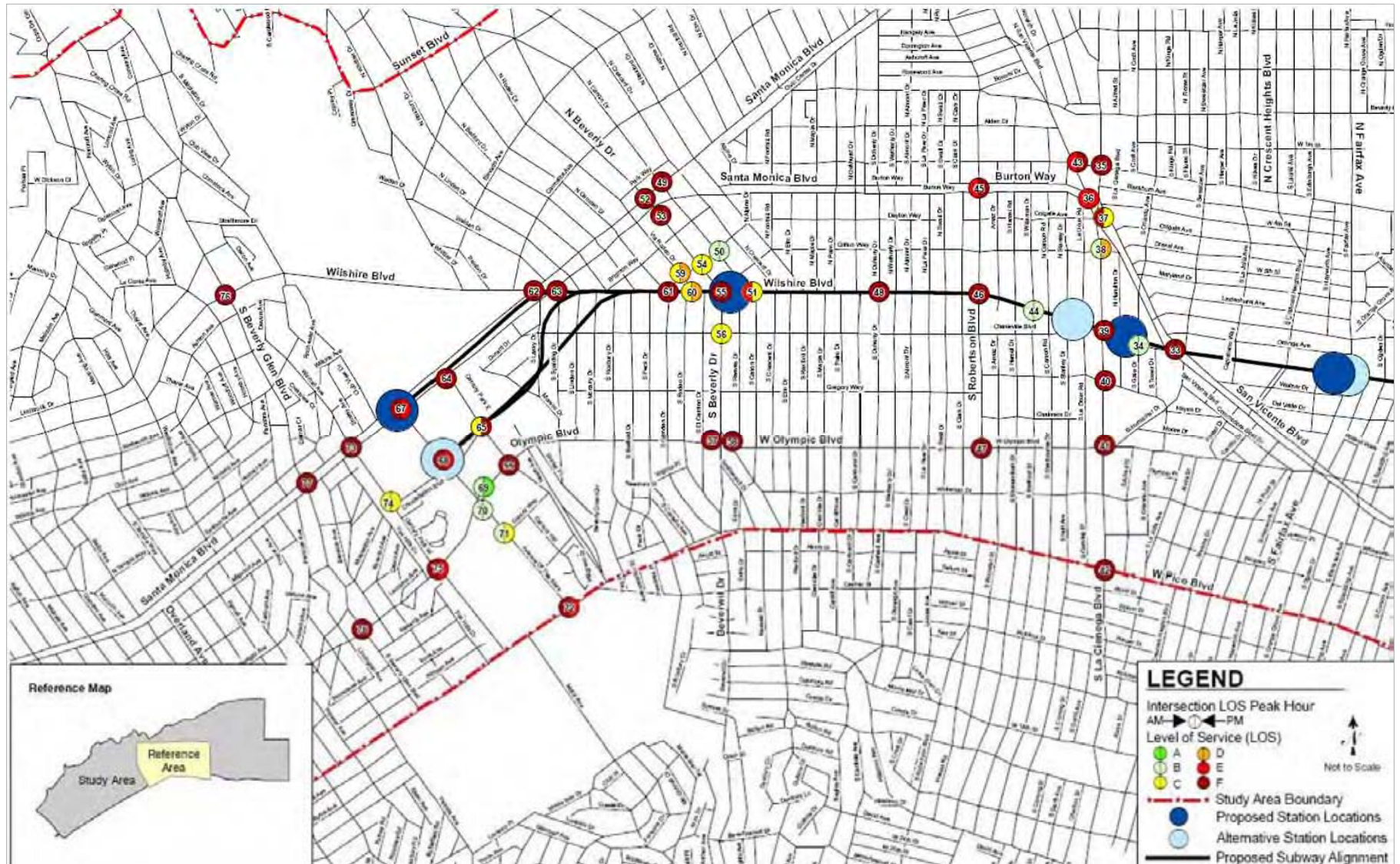


Figure 5-39. Year 2035 MOS 2 Intersection Levels of Service (continued)

WESTSIDE SUBWAY EXTENSION



Figure 5-39. Year 2035 MOS 2 Intersection Levels of Service (continued)

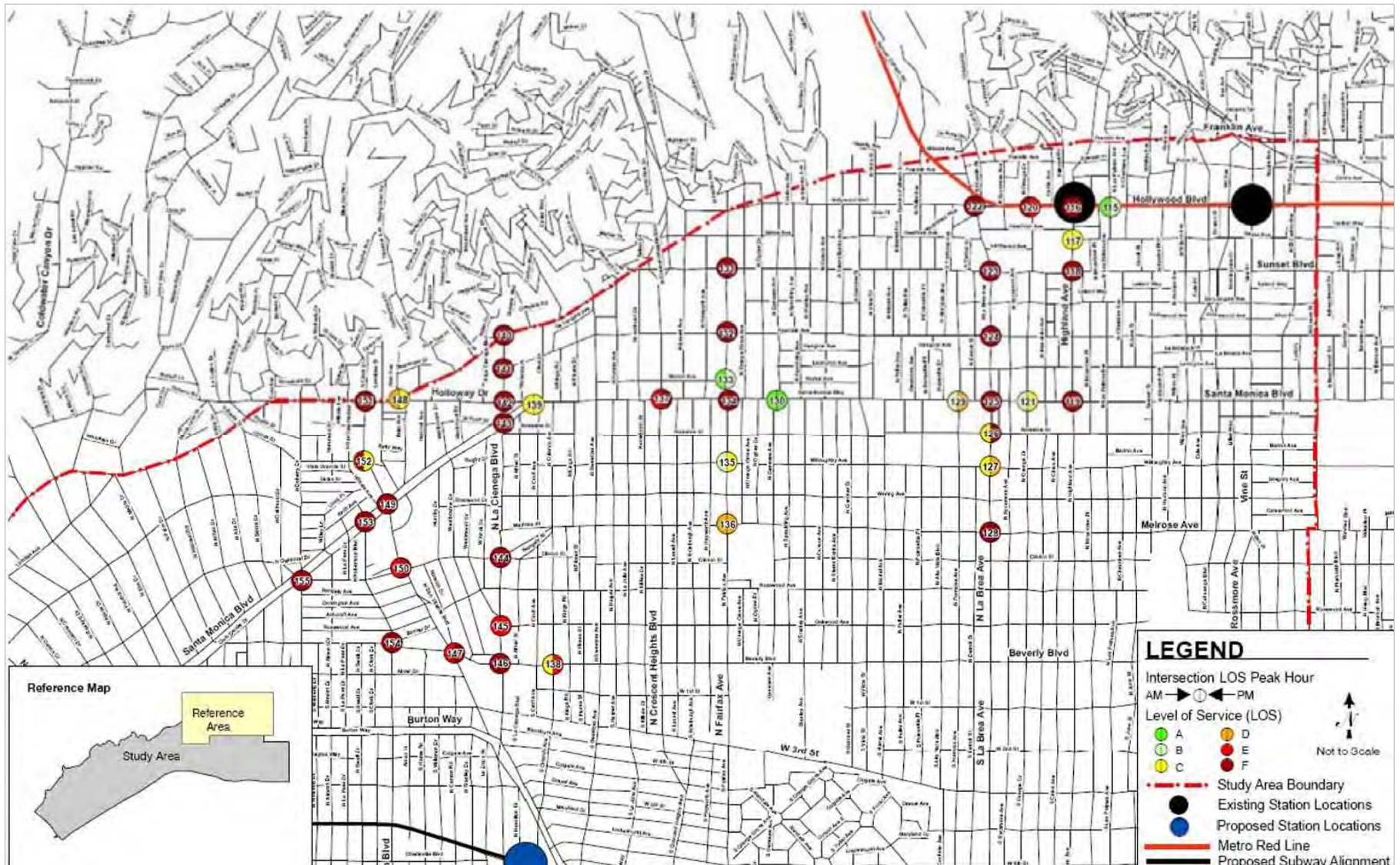


Figure 5-39. Year 2035 MOS 2 Intersection Levels of Service (continued)

WESTSIDE SUBWAY EXTENSION

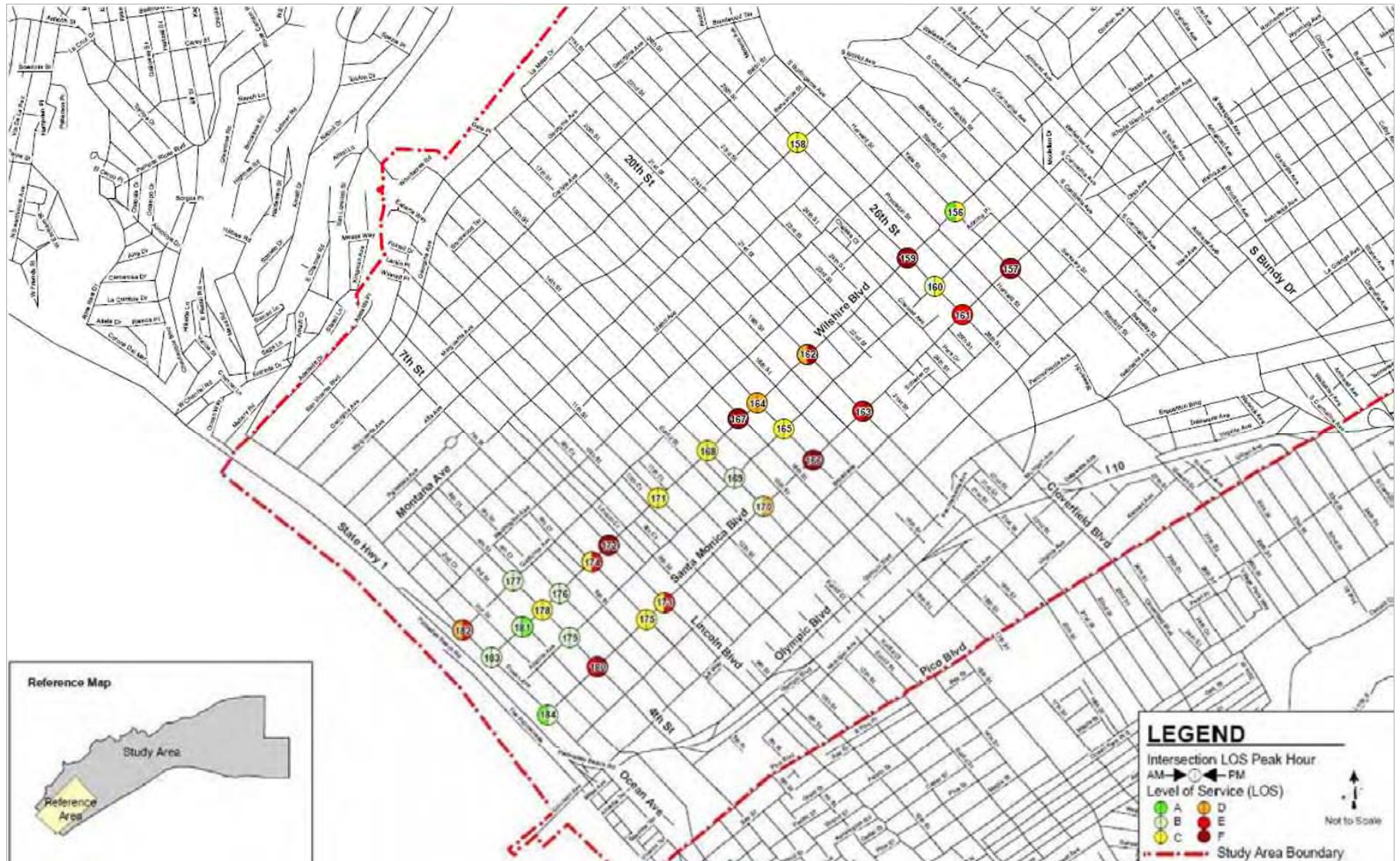


Figure 5-39. Year 2035 MOS 2 Intersection Levels of Service (continued)



5.2.2.12 Alternative 2

Traffic Forecasts

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

Level of Service Analysis

Twenty seven of the 126 analyzed intersections (21 percent) would operate at an acceptable LOS D or better in the morning and afternoon peak hours. The remaining 99 intersections (79 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 5-40. For any intersections that were not studied under this alternative, the Future Year 2035 No Build level of service is shown.

Alternative 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, 12 intersections would improve by one level of service and in the PM peak hour, nine intersections would improve by one level of service. Table 5-15 summarizes the improvement of level of service in each peak hour by alternative.

5.2.2.13 Alternative 3

Traffic Forecasts

Using the inputs described previously, the weekday peak hour (AM and PM) year 2035 traffic forecasts for Alternative 3 were developed at Study Area intersections.

Level of Service Analysis

Forty four of the 156 analyzed intersections (28 percent) would operate at an acceptable LOS D or better in the morning and afternoon peak hours. The remaining 112 intersections (72 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 5-41. For any intersections that were not studied under this alternative, the Future Year 2035 No Build level of service is shown.

Alternative 3 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, 13 intersections would improve by one level of service and in the PM peak hour, nine intersections would improve by one level of service. Table 5-15 summarizes the improvement of level of service in each peak hour by alternative.



Figure 5-40. Year 2035 Alternative 2 Intersection Levels of Service

WESTSIDE SUBWAY EXTENSION



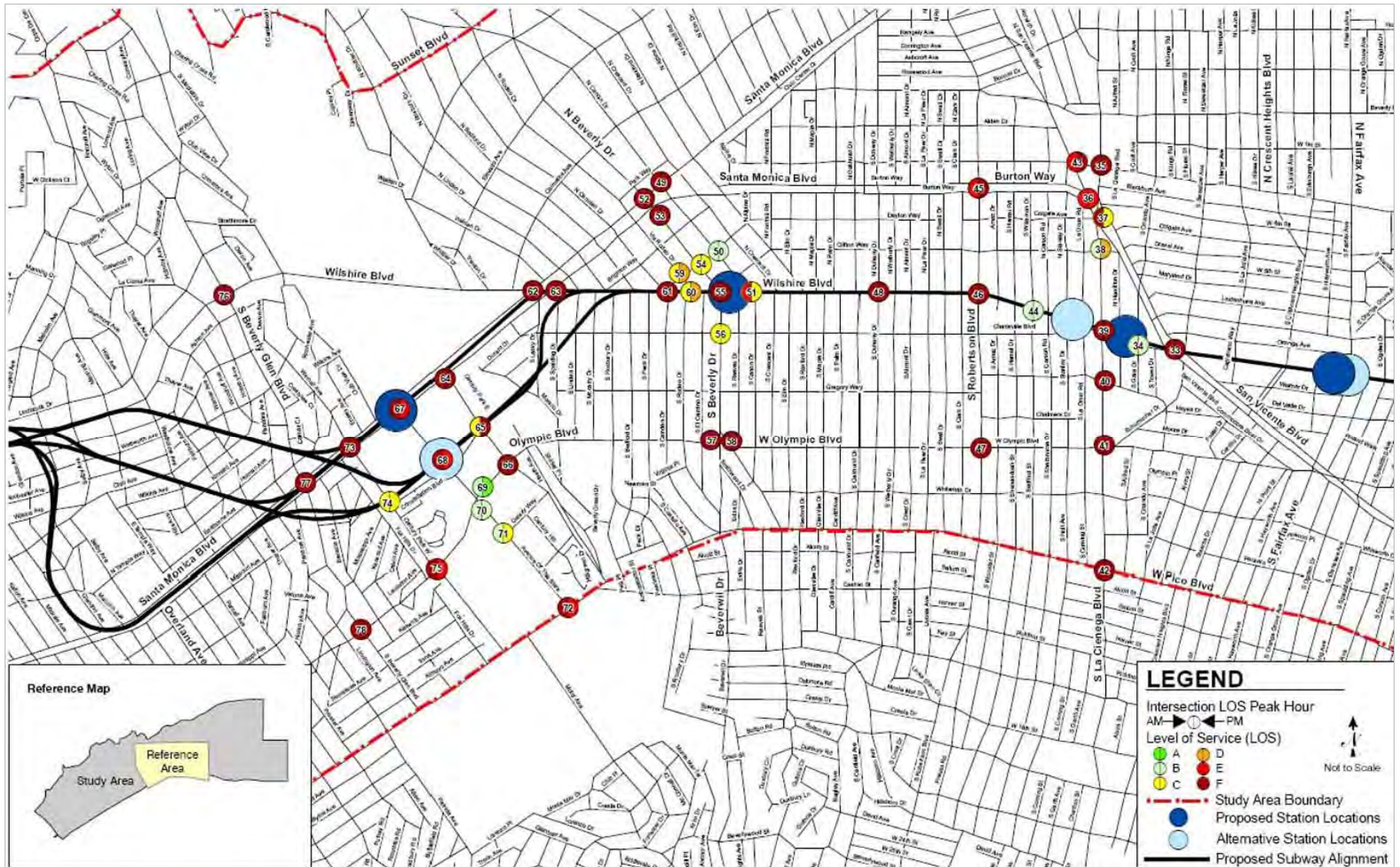


Figure 5-40. Year 2035 Alternative 2 Intersection Levels of Service (continued)

WESTSIDE SUBWAY EXTENSION

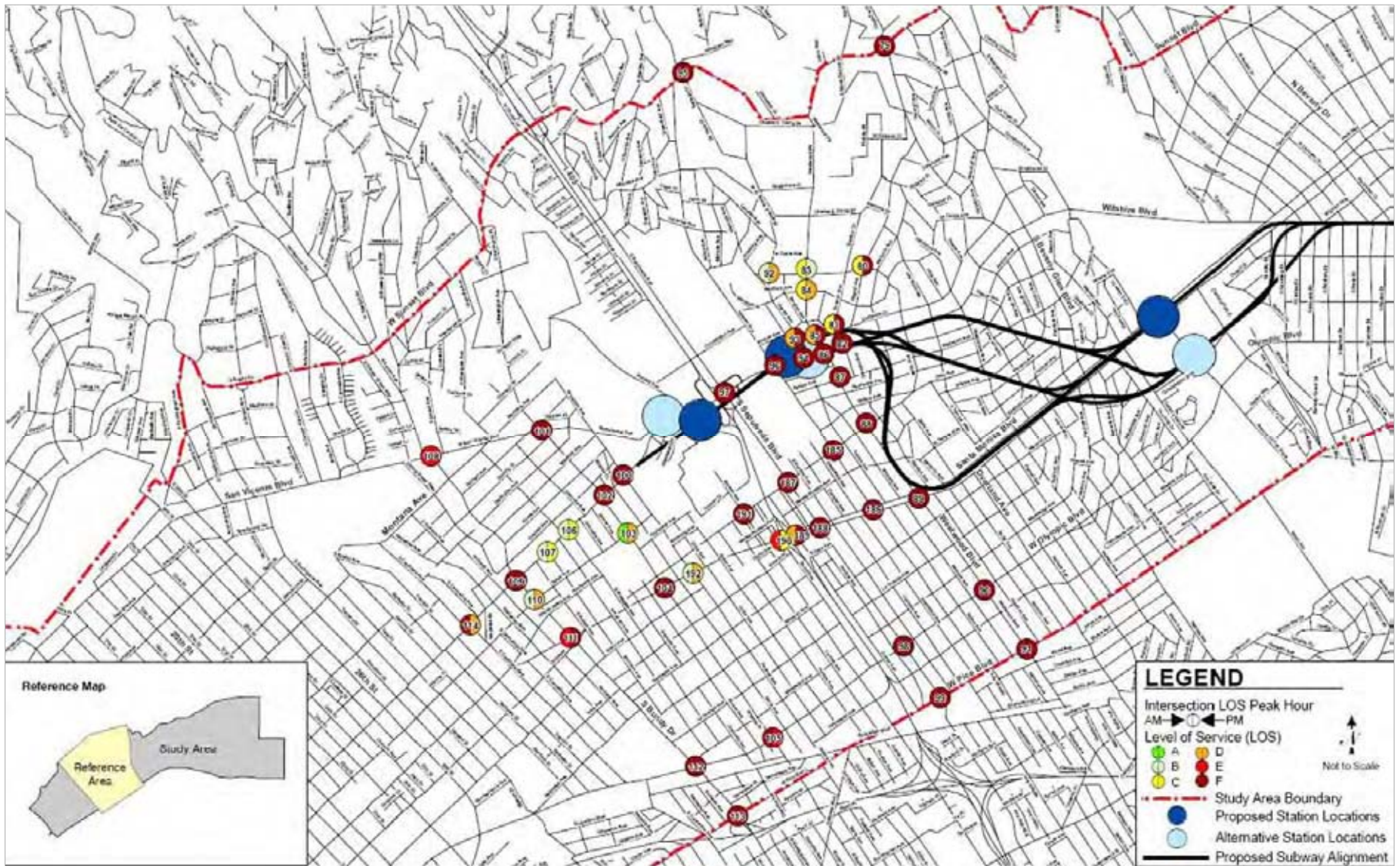


Figure 5-40. Year 2035 Alternative 2 Intersection Levels of Service (continued)

WESTSIDE SUBWAY EXTENSION

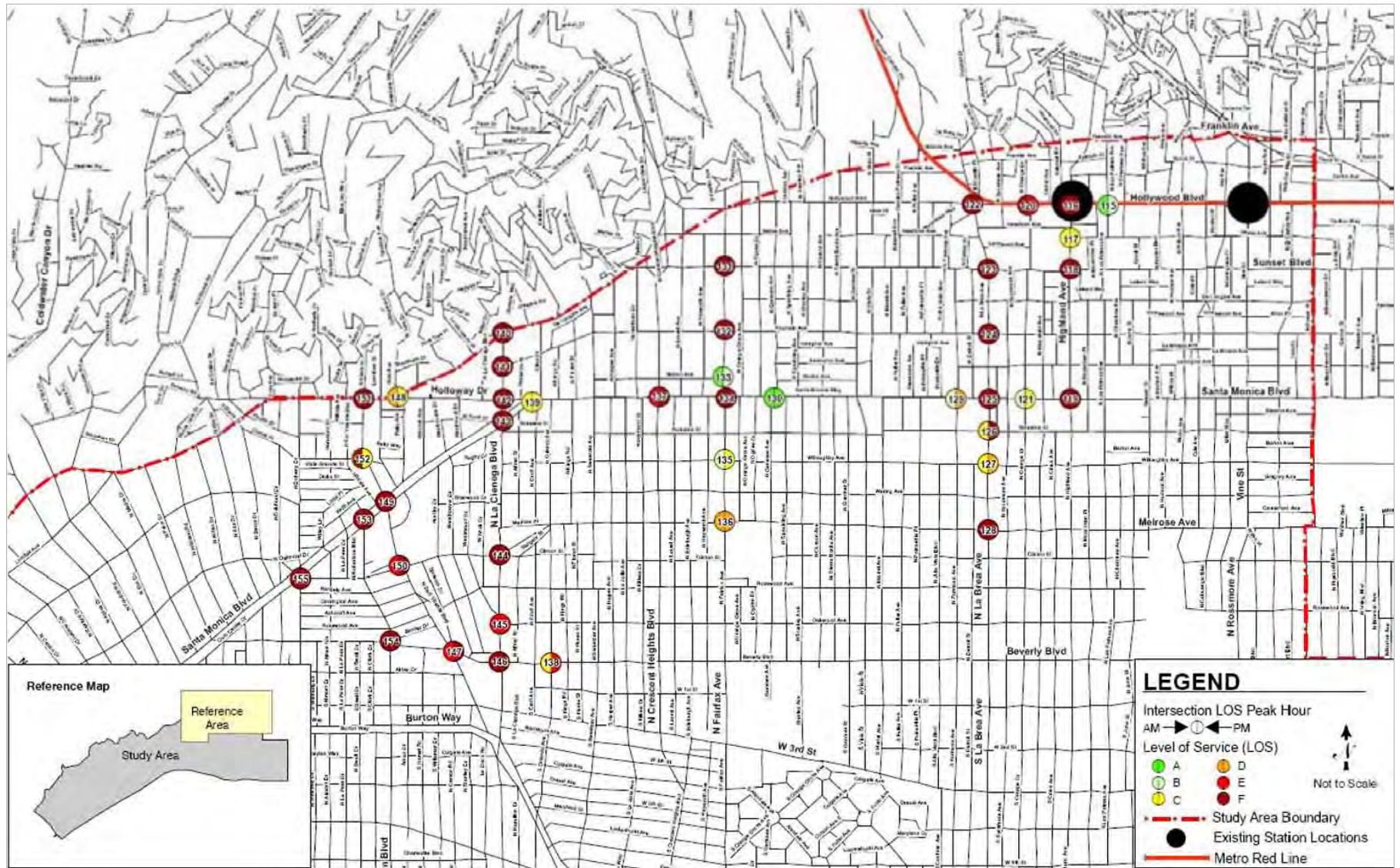


Figure 5-40. Year 2035 Alternative 2 Intersection Levels of Service (continued)

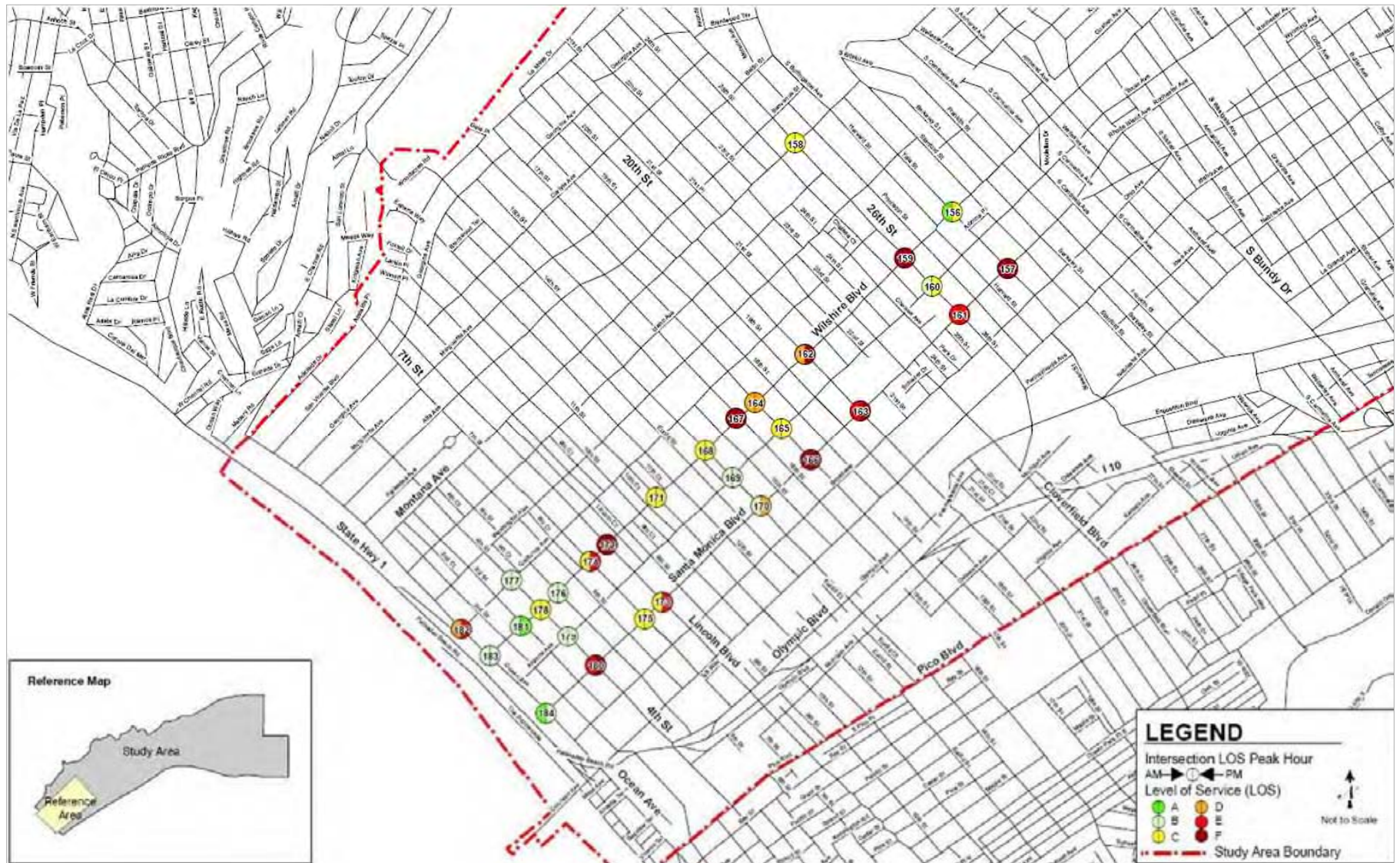


Figure 5-40. Year 2035 Alternative 2 Intersection Levels of Service (continued)



Figure 5-41. Year 2035 Alternative 3 Intersection Levels of Service

WESTSIDE SUBWAY EXTENSION

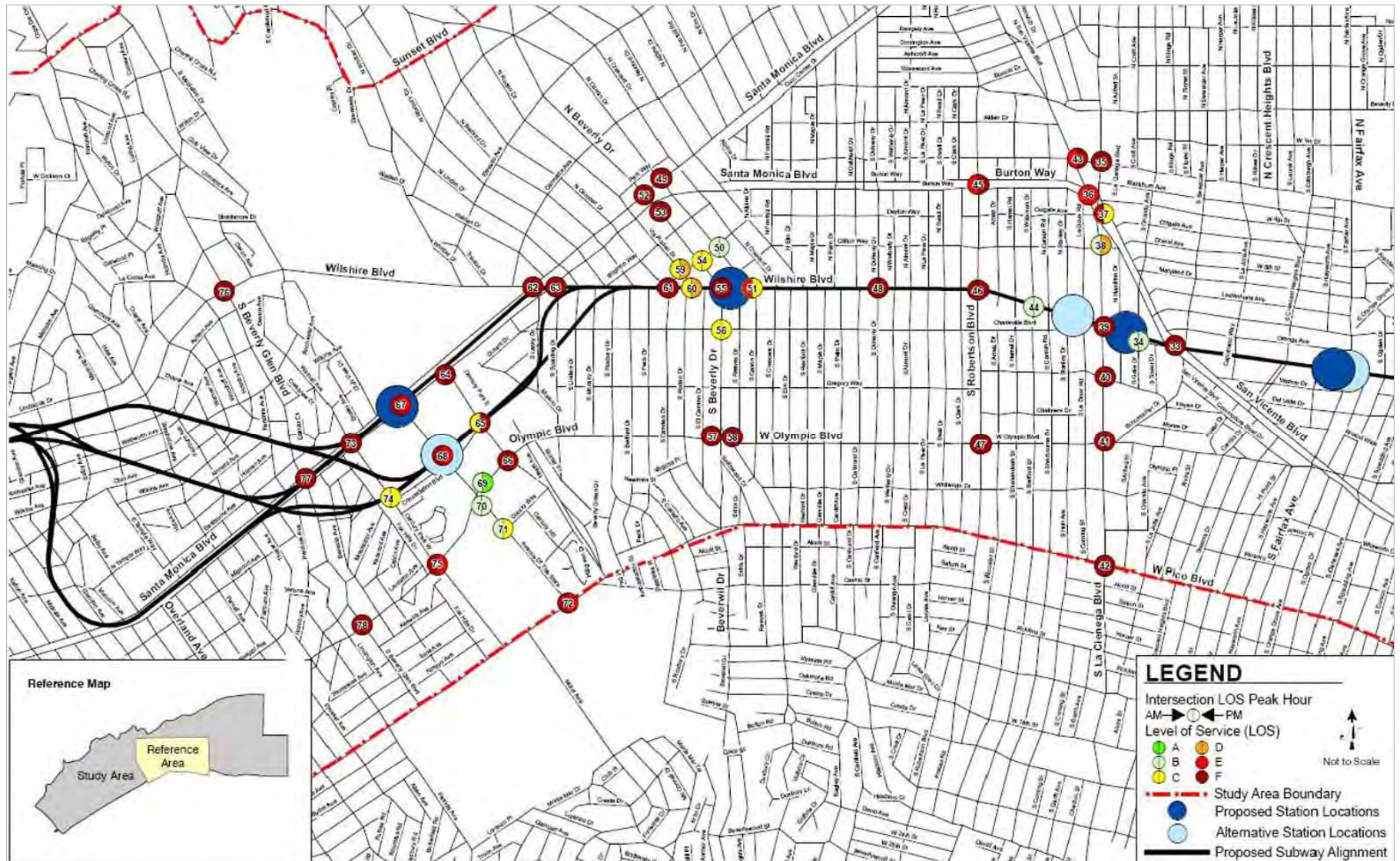


Figure 5-41. Year 2035 Alternative 3 Intersection Levels of Service (continued)

WESTSIDE SUBWAY EXTENSION

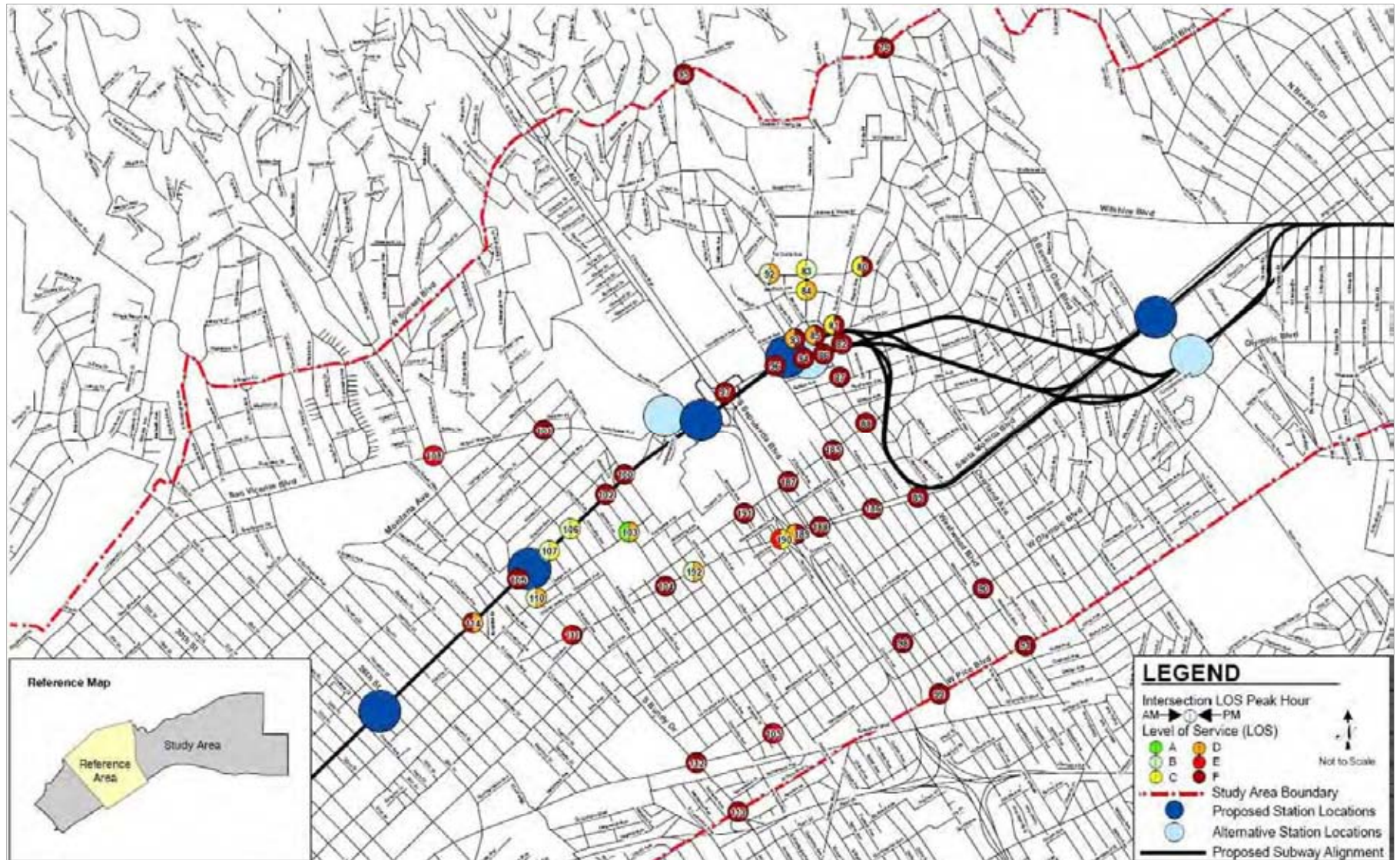


Figure 5-41. Year 2035 Alternative 3 Intersection Levels of Service (continued)

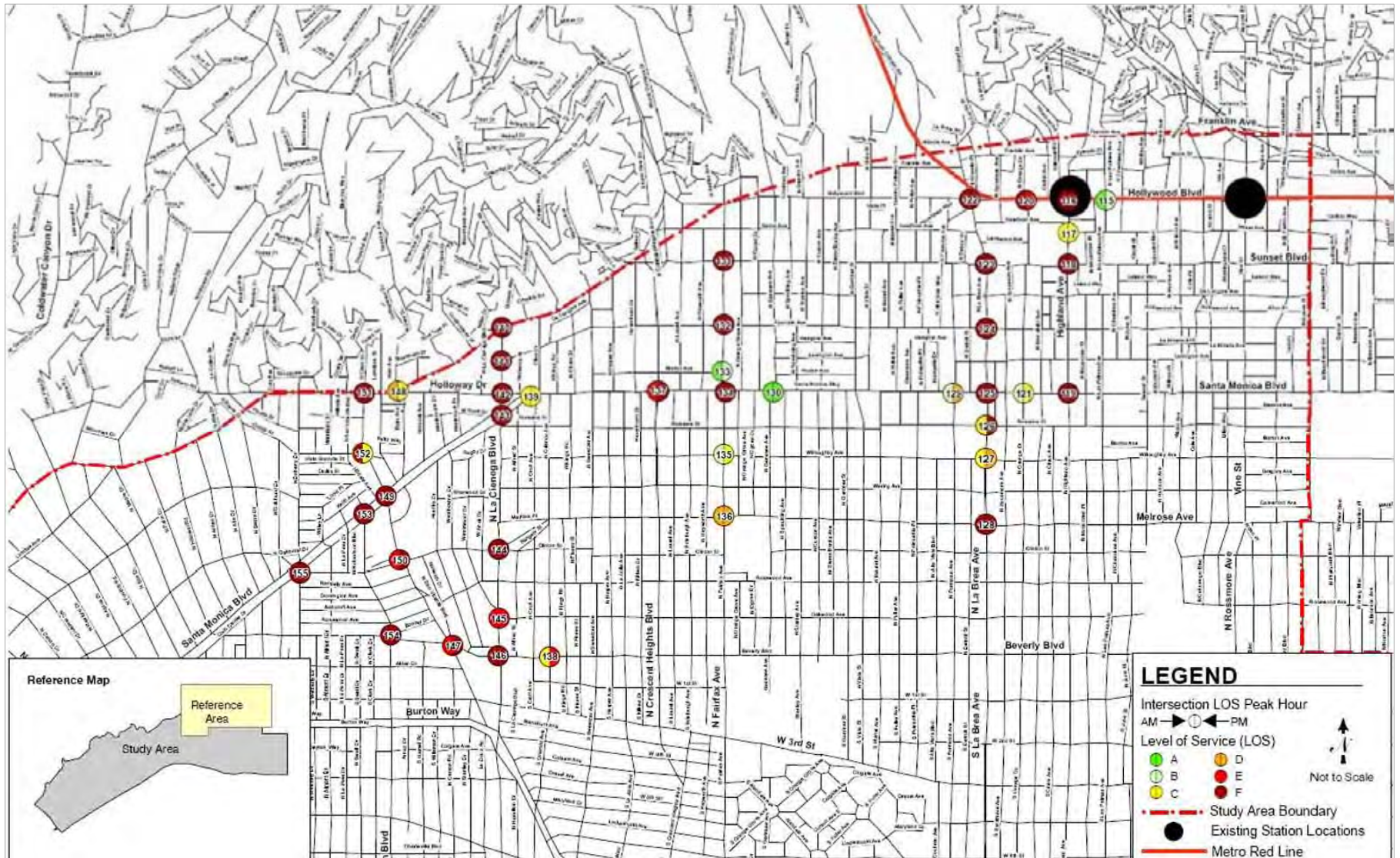


Figure 5-41. Year 2035 Alternative 3 Intersection Levels of Service (continued)

WESTSIDE SUBWAY EXTENSION



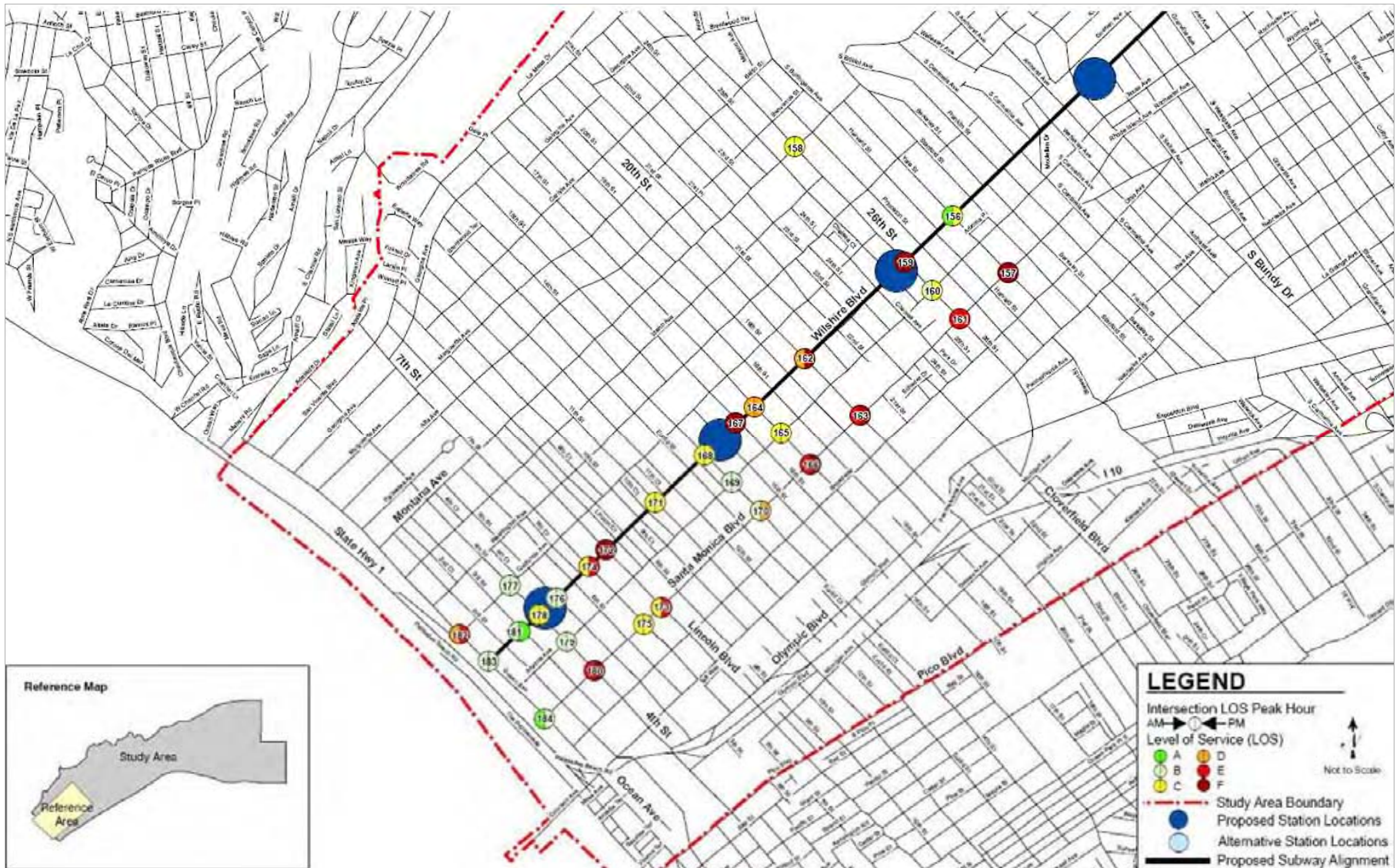


Figure 5-41. Year 2035 Alternative 3 Intersection Levels of Service (continued)



5.2.2.14 Alternative 4

Traffic Forecasts

Using the inputs described previously, the weekday peak hour (AM and PM) year 2035 traffic forecasts for Alternative 4 were developed at Study Area intersections.

Level of Service Analysis

Thirty eight of the 162 analyzed intersections (23 percent) would operate at an acceptable LOS D or better in the morning and afternoon peak hours. The remaining 124 intersections (77 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 5-42. For any intersections that were not studied under this alternative, the Future Year 2035 No Build level of service is shown.

Alternative 4 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, 16 intersections would improve by one level of service and in the PM peak hour, nine intersections would improve by one level of service. Table 5-15 summarizes the improvement of level of service in each peak hour by alternative.

5.2.2.15 Alternative 5

Traffic Forecasts

Using the inputs described previously, the weekday peak hour (AM and PM) year 2035 traffic forecasts for Alternative 5 were developed at the Study Area intersections.

Level of Service Analysis

Fifty five of the 192 analyzed intersections (29 percent) would operate at an acceptable LOS D or better in the morning and afternoon peak hours. The remaining 137 intersections (71 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 5-43.

Alternative 5 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, 17 intersections would improve by one level of service and in the PM peak hour, nine intersections would improve by one level of service. Table 5-15 summarizes the improvement of level of service in each peak hour by alternative.

5.2.3 Build Alternatives Traffic Forecast Summary

The improvements in level of service that complement the Build Alternatives are a result of a decrease in overall delay experienced by drivers at Study Area intersections as fewer vehicle trips are made due to the convenience and travel time predictability of a fixed-guideway transit system.

As ridership on the subway increases, more decreases in delay can be expected along major east-west and north-south corridors in the Westside. The traffic-related improvements in the Study Area increase as the number of stations and area served by the subway increases. This direct correlation is illustrated in Table 5-15.

When the subway is implemented motorists who do not shift modes and continue to drive should experience less congestion and overall delay when they travel in the Study Area. This improvement would be greatest along major east-west corridors. This analysis has shown that a subway investment would have a beneficial impact on traffic conditions in the Study Area.



Figure 5-42. Year 2035 Alternative 4 Intersection Levels of Service

WESTSIDE SUBWAY EXTENSION

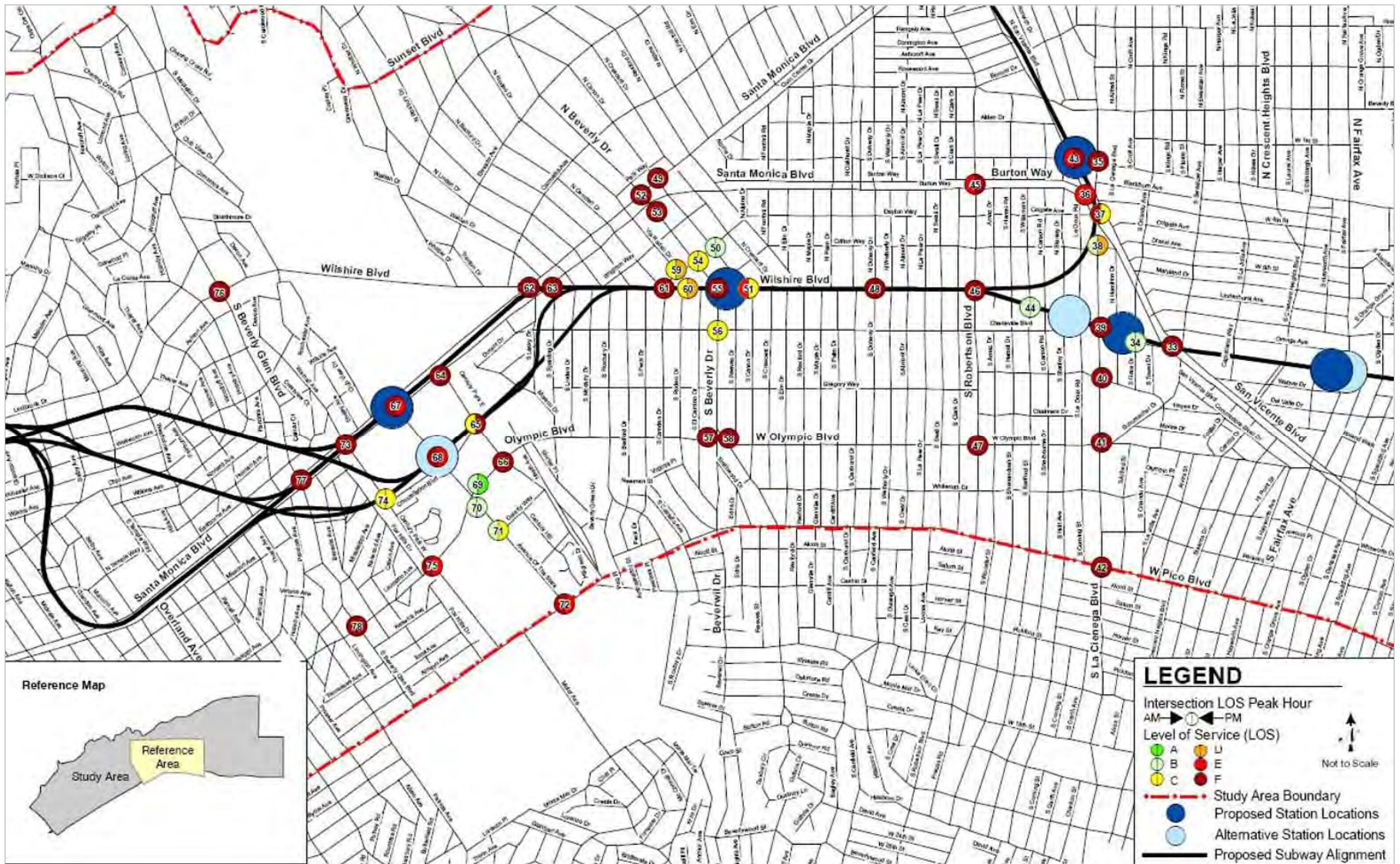


Figure 5-42. Year 2035 Alternative 4 Intersection Levels of Service (continued)

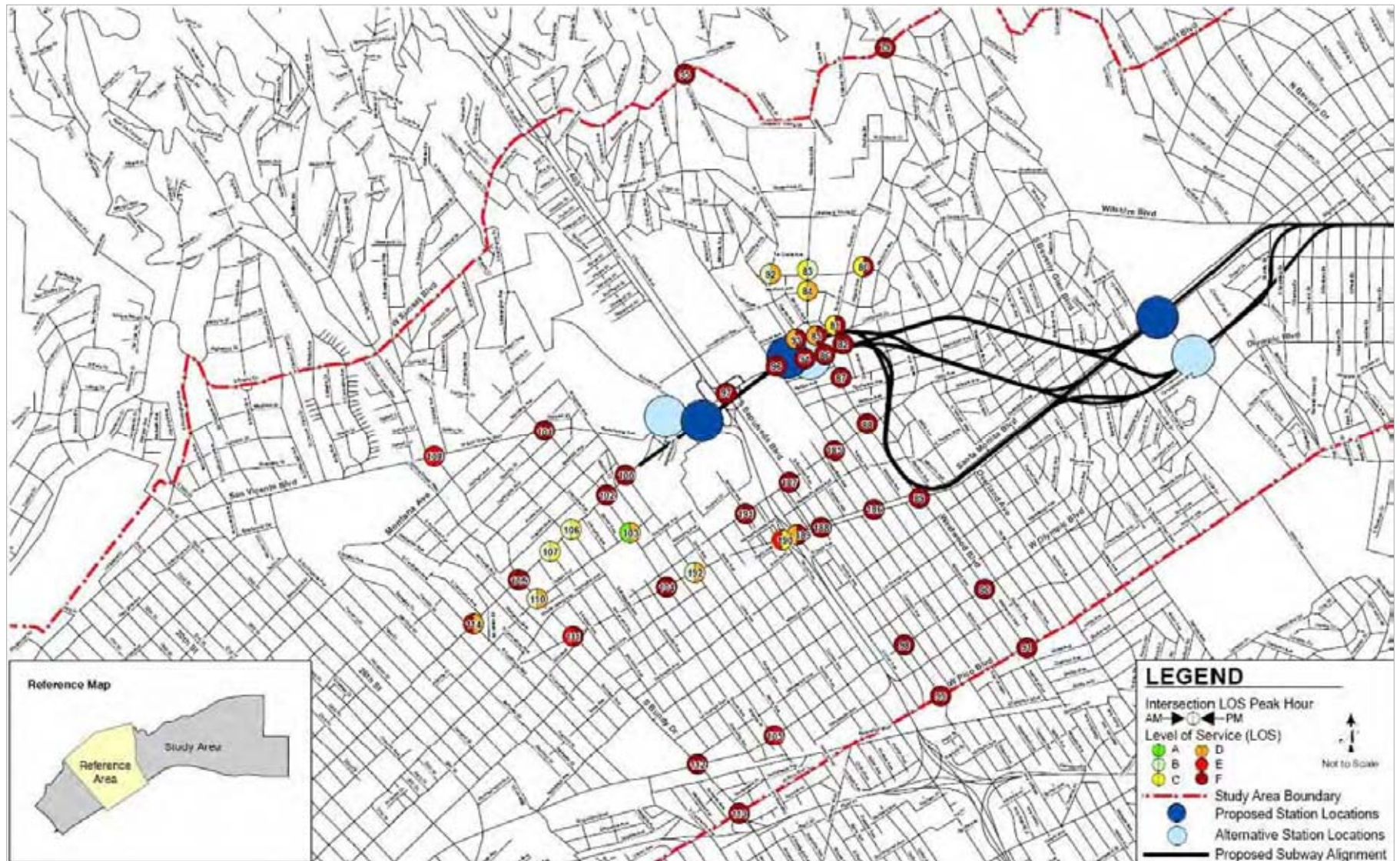


Figure 5-42. Year 2035 Alternative 4 Intersection Levels of Service (continued)

## WESTSIDE SUBWAY EXTENSION

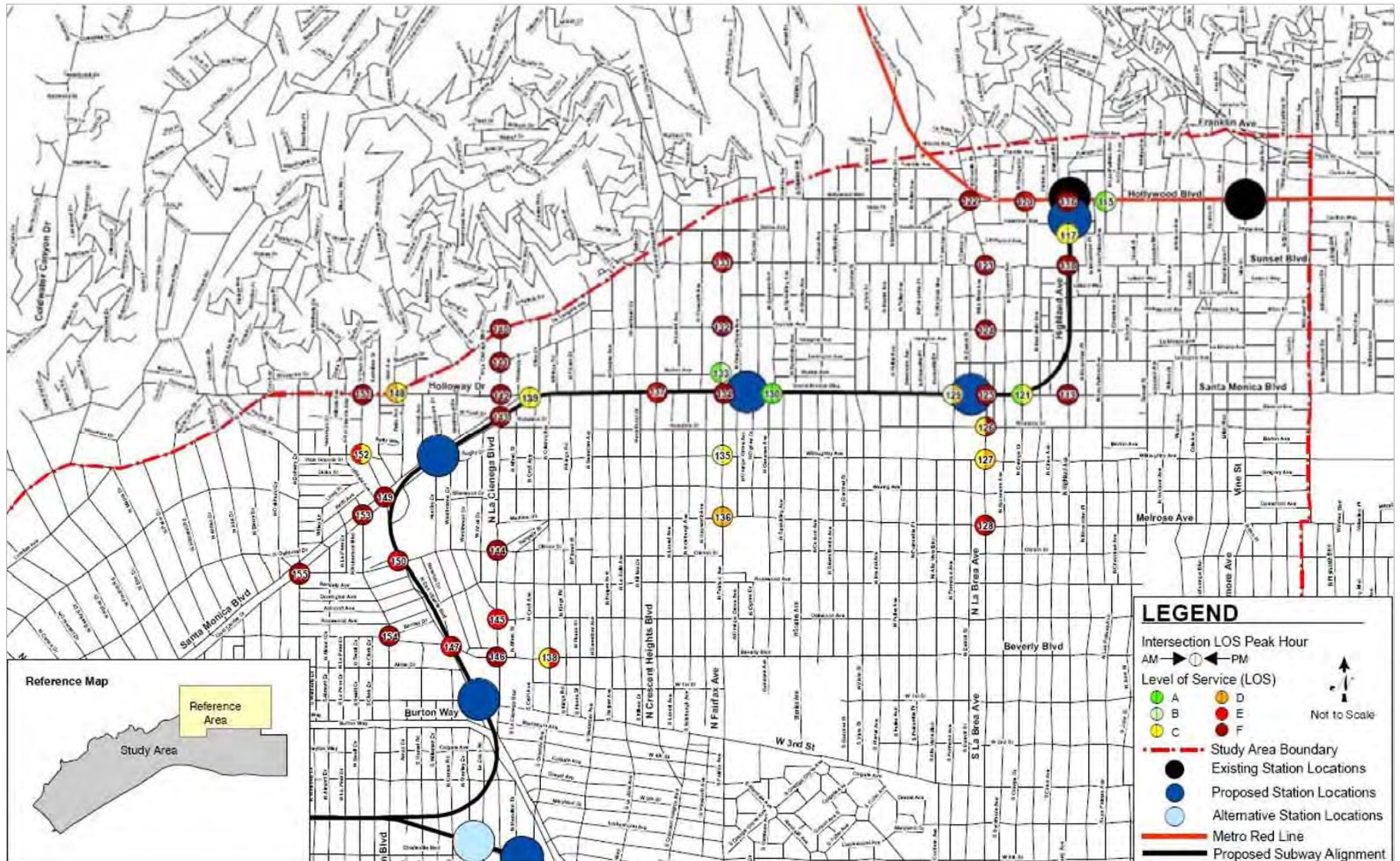


Figure 5-42. Year 2035 Alternative 4 Intersection Levels of Service (continued)

WESTSIDE SUBWAY EXTENSION

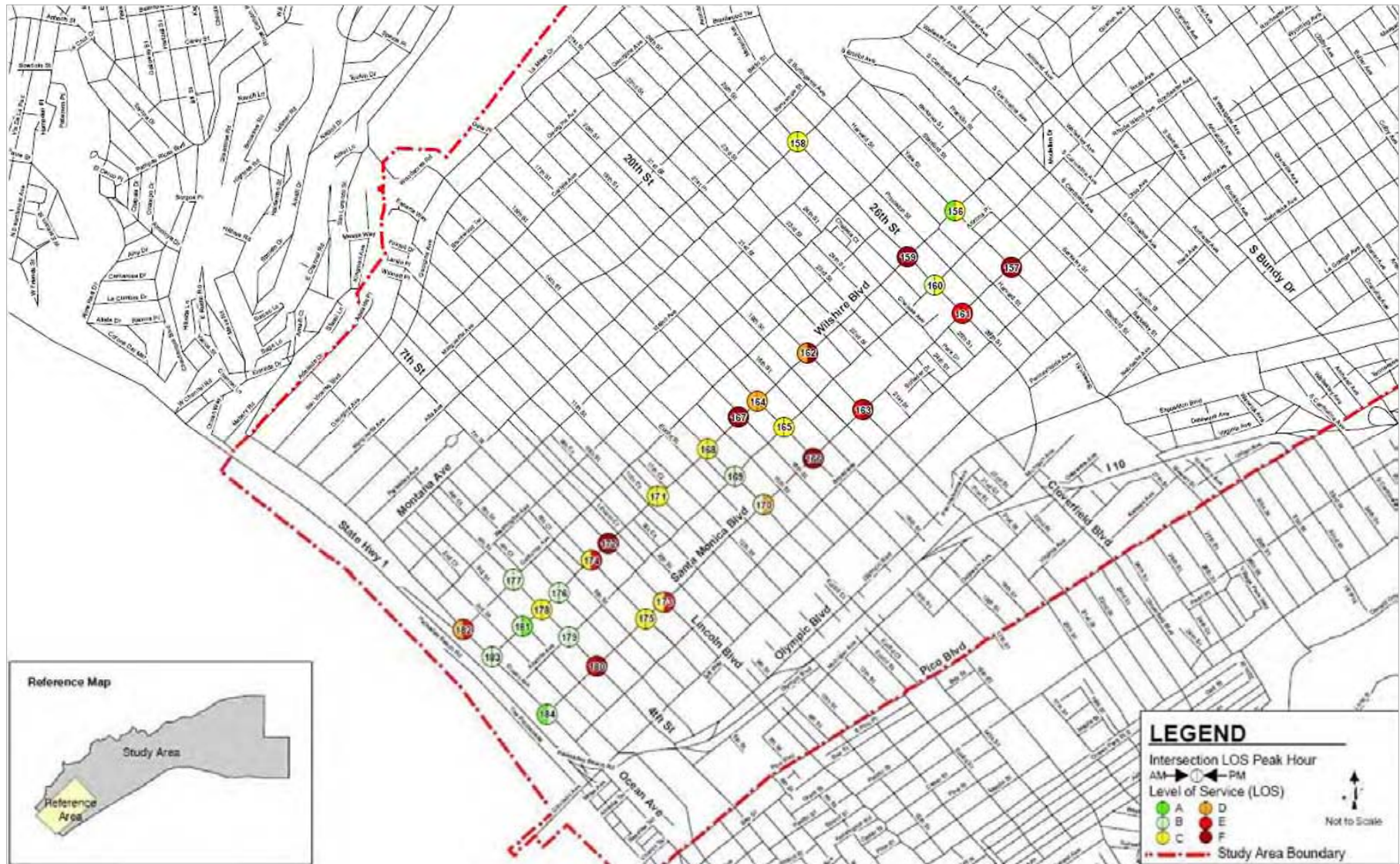


Figure 5-42. Year 2035 Alternative 4 Intersection Levels of Service (continued)



Figure 5-43. Year 2035 Alternative 5 Intersection Levels of Service

WESTSIDE SUBWAY EXTENSION



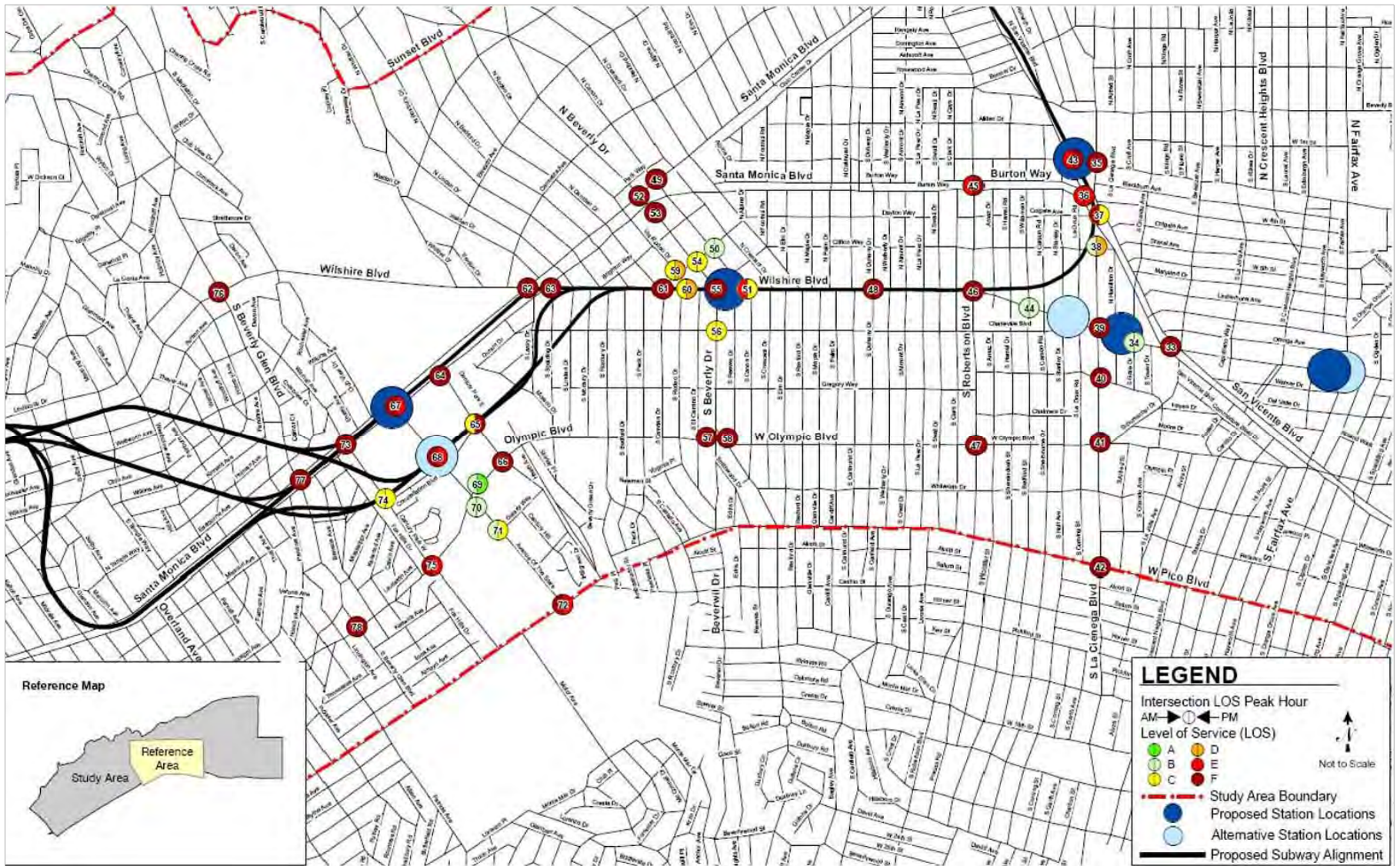


Figure 5-43. Year 2035 Alternative 5 Intersection Levels of Service (continued)

WESTSIDE SUBWAY EXTENSION

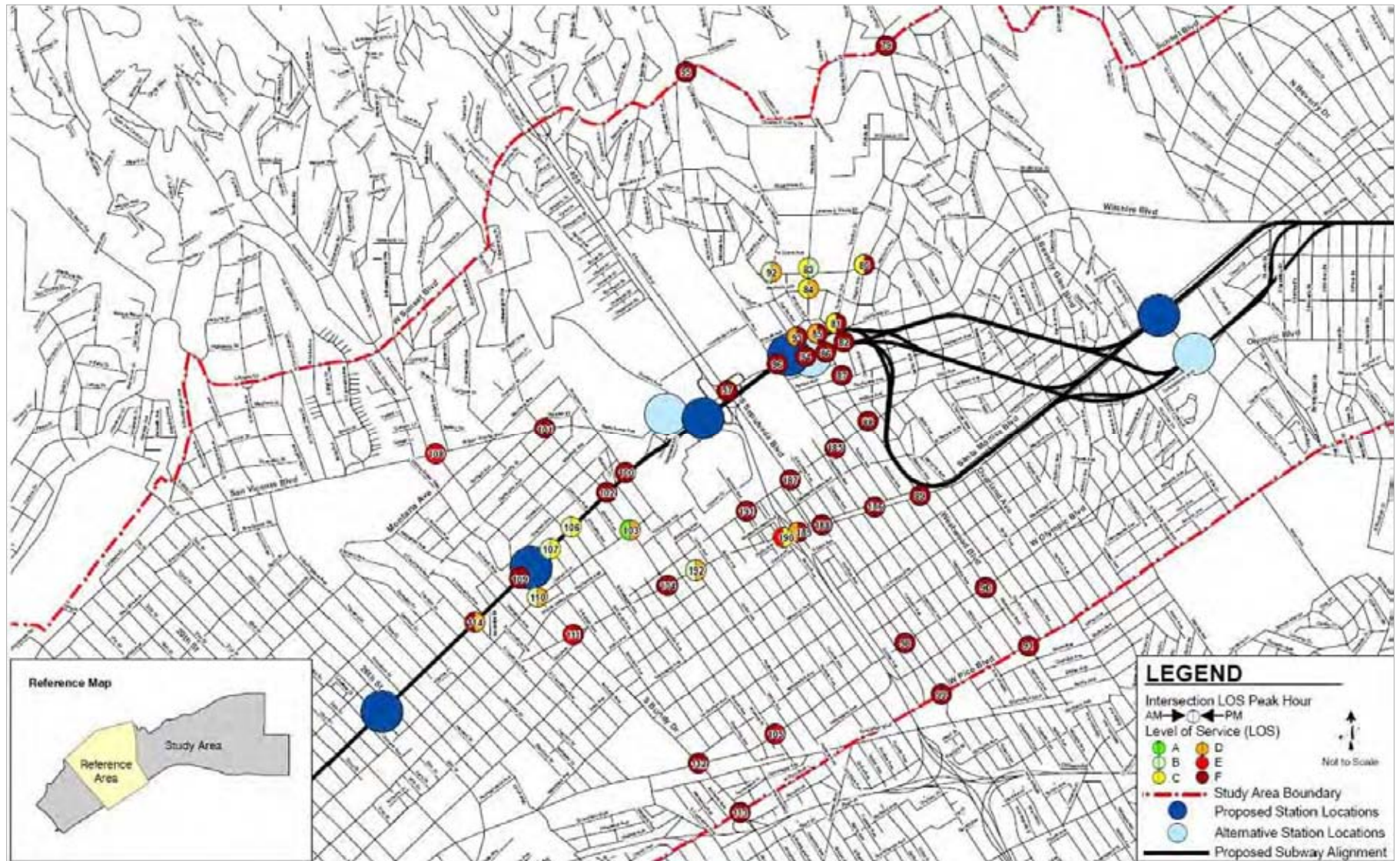


Figure 5-43. Year 2035 Alternative 5 Intersection Levels of Service (continued)

WESTSIDE SUBWAY EXTENSION

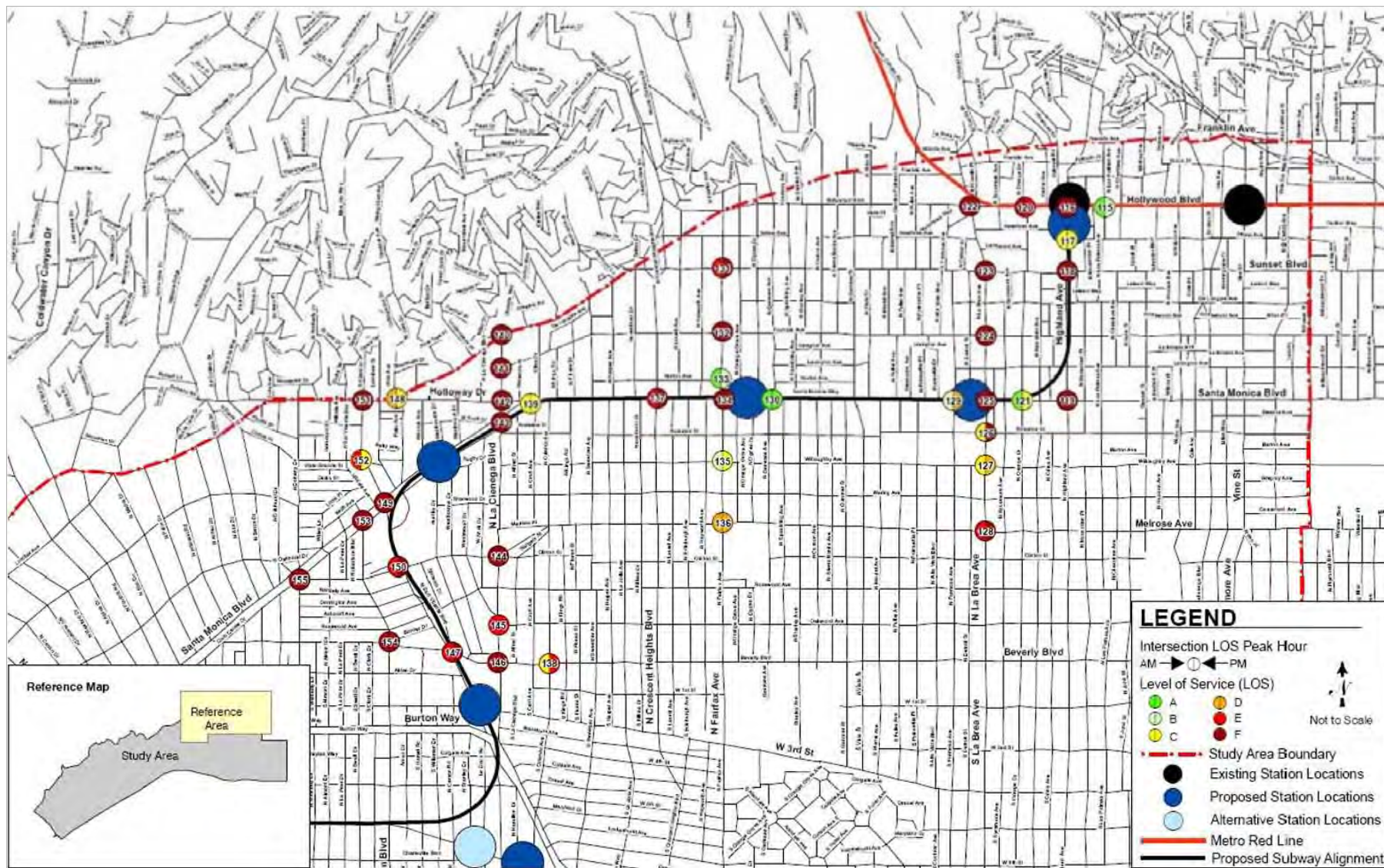


Figure 5-43. Year 2035 Alternative 5 Intersection Levels of Service (continued)

WESTSIDE SUBWAY EXTENSION

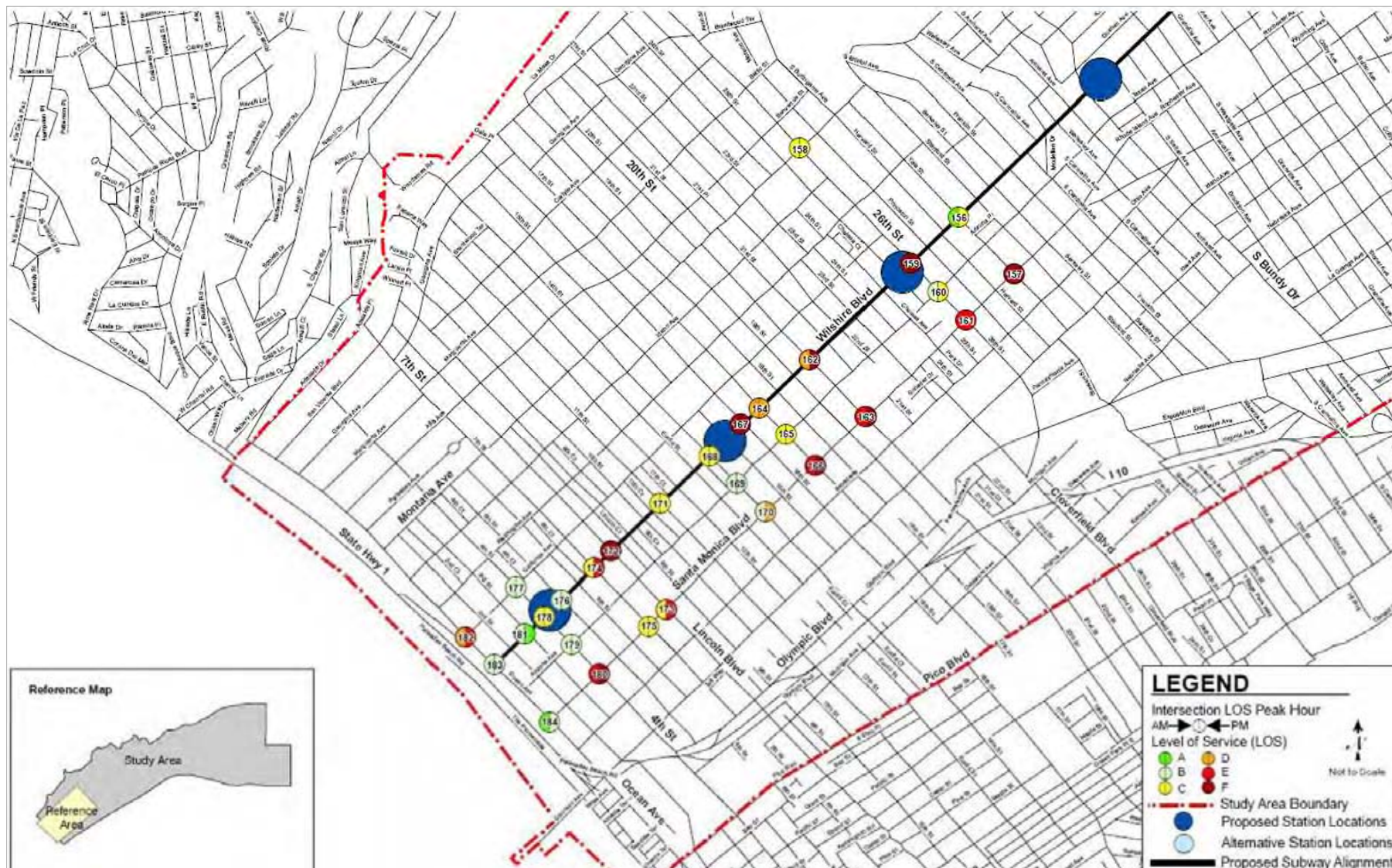


Figure 5-43. Year 2035 Alternative 5 Intersection Levels of Service (continued)



## 5.2.4 Impact Assessment

The projected year 2035 No Build levels of service were analyzed to determine the baseline operating conditions of the study intersections. These levels of service were compared to the TSM and Build Alternatives to identify the potential impacts of the proposed project on the surrounding street system. This section provides a discussion of the impact criteria used to assess the potential for significant/adverse impacts, provides an impact analysis, and summarizes the results.

### 5.2.4.1 Regional Impact Assessment

This subsection considers the potential for the project to generate adverse impacts on the regional transportation system, including the countywide network of freeways and arterials.

#### No-Build Alternative

By definition, the No-Build Alternative would not result in adverse regional transportation impacts either countywide or in the Study Area.

#### TSM Alternative

Although minimal, impacts from the TSM Alternative would be beneficial on both a countywide and Study Area level. Countywide, reductions in overall VMT and vehicle trips would occur. Peak vehicle trips would change by less than 1/10 percent in the AM peak and 1/10 percent in the PM peak compared to the Future Year 2035 No Build Alternative. In the Study Area, the TSM alternative generates reductions in daily and peak hour VMT, VHT and vehicle trips compared to the Future Year 2035 No Build Alternative.

#### Future Build Alternatives (Alternatives 1—5, MOS 1, MOS 2)

The future Build Alternatives would be beneficial on both a countywide and Study Area level. Countywide, reductions in overall VMT and vehicle trips are achieved. VMT reductions improve as more of the alignment is built (Alternative 5 experiences the greatest reduction in VMT). Peak period auto trips are reduced by approximately 11,000 trips under Alternative 1 and approximately 18,000 trips under Alternative 5 in the Study Area. In the Study Area, the future Build Alternatives result in reductions to daily and peak hour VMT, VHT and vehicle trips compared to the Future Year 2035 No Build Alternative.

#### CMP Impact Criteria and Assessment

This analysis was conducted in accordance with the transportation impact analysis procedures outlined in 2004 Congestion Management Program for Los Angeles County (Metro, July 2004). The CMP requires that, when an environmental impact report is prepared for a project, traffic impact analysis be conducted for select regional facilities based on the quantity of project traffic expected to use these facilities.

#### *CMP Impact Criteria*

The CMP guidelines require that the first issue addressed is the determination of the geographic scope of the Study Area. The criteria for determining the Study Area for CMP arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections where the proposed project will add 50 or more trips during either the AM or PM weekday peak hours of adjacent street traffic.
- All CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.



*CMP Impact Assessment*

The CMP arterial monitoring locations within the Study Area are listed in Section 3.1.3.2. The 15 Study Area intersections would not be impacted during the AM or PM peak hours as a result of project volumes under any Project Alternatives. Therefore, there would be no CMP impacts at these Study Area intersections.

5.2.4.2 Intersection Methodology and Impact Criteria

For the traffic impact analysis, the evaluation of significance under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) is defined by comparing the Future Build Alternative scenario to the Future Year 2035 No Build scenario. The net change in delay at study intersections is compared to thresholds of significance for determination of impacts. The criteria used to measure a significant impact are defined in Table 5-16.

Table 5-16. Westside Subway Extension Traffic Impact Criteria

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

5.2.4.3 Impact Determination

Projected morning and afternoon peak period delay, corresponding LOS and impact determination for the following scenarios at each study intersection are contained in Appendices C-3 to C-7. Impacts per alternative have been summarized in Table 5-17.

5.2.4.4 No Build Impact Determination

The Future Year 2035 No Build Alternative is the future baseline from which Project Alternatives are compared to for assessment of adverse impacts. Therefore, by definition, the No Build Alternative would not result in significant/adverse traffic impacts at any of the 192 study intersections.

5.2.4.5 TSM Impact Determination

The TSM Alternative would not generate significant/adverse traffic impacts at any of the 192 study intersections. The addition of transit service along the corridor would result in a small shift in travel mode from automobile to bus. The result is a general improvement in traffic operating conditions at the study intersections as fewer automobile trips are made compared to the Future Year 2035 No Build Alternative. As stated in Section 5.2.2.9, the effect of the TSM Alternative at individual study intersections would be nominal. Therefore, for the traffic operations LOS analysis, the TSM Alternative is considered to be identical to the No Build Alternative, resulting in no significant/adverse traffic impacts at any of the 192 study intersections.



- 5.2.4.6 **Alternative 1 + MOS 1, MOS 2 Impact Determination**  
**Alternative 1**  
Using the impact criteria shown in Table 5-16, the traffic impact analysis found that no study intersection exceeded the threshold for a significant/adverse traffic impact as compared to the Future Year 2035 No Build Scenario. Therefore, the proposed project would not result in significant/adverse traffic impacts under Project Alternative 1.
- MOS 1**  
Using the impact criteria shown in Table 5-16, the traffic impact analysis found that no study intersection exceeded the threshold for a significant/adverse traffic impact as compared to the Future Year 2035 No Build Scenario. Therefore, the proposed project would not result in significant/adverse traffic impacts under Project MOS 1.
- MOS 2**  
Using the impact criteria shown in Table 5-16, the traffic impact analysis found that no study intersection exceeded the threshold for a significant/adverse traffic impact as compared to the Future Year 2035 No Build Scenario. Therefore, the proposed project would not result in significant/adverse traffic impacts under Project MOS 2.
- 5.2.4.7 **Alternative 2 Impact Determination**  
Using the impact criteria shown in Table 5-16, the traffic impact analysis found that no study intersection exceeded the threshold for a significant/adverse traffic impact as compared to the Future Year 2035 No Build Scenario. Therefore, the proposed project would not result in significant/adverse traffic impacts under Project Alternative 2.
- 5.2.4.8 **Alternative 3 Impact Determination**  
Using the impact criteria shown in Table 5-16, the traffic impact analysis found that the intersection of Wilshire Boulevard and 16th Street (City of Santa Monica) exceeded the threshold for a significant/adverse traffic impact as compared to the Future Year 2035 No Build Scenario. This unsignalized intersection is adjacent to a potential station location under Alternative 3. Projected traffic and pedestrian volumes with the project would be expected to adversely affect the intersection at the northbound and southbound approaches during both the AM and PM peak hours. The LOS would continue to remain at F but further delay would be incurred. Therefore, the proposed project would result in one significant/adverse traffic impact under Project Alternative 3.
- 5.2.4.9 **Alternative 4 Impact Determination**  
Using the impact criteria shown in Table 5-16, the traffic impact analysis found that no study intersection exceeded the threshold for a significant/adverse traffic impact as compared to the Future Year 2035 No Build Scenario. Therefore, the proposed project would not result in significant/adverse traffic impacts under Project Alternative 4.
- 5.2.4.10 **Alternative 5 Impact Determination**  
Using the impact criteria shown in Table 5-16, the traffic impact analysis found that the intersection of Wilshire Boulevard and 16th Street (City of Santa Monica) exceeded the threshold for a significant/adverse traffic impact as compared to the Future Year 2035 No Build Scenario. This unsignalized intersection is adjacent to a potential station location under Alternative 5. Projected traffic and pedestrian volumes with the project would be expected to adversely affect the intersection at the northbound and southbound approaches



during both the AM and PM peak hours. The LOS would continue to remain at F but further delay would be incurred. Therefore, the proposed project would result in one significant/adverse traffic impact under Project Alternative 5.

Table 5-17. Impact Summary Table

Peak Hour	Alternative 1	MOS 1	MOS 2	Alternative 2	Alternative 3	Alternative 4	Alternative 5
AM Peak Hour	None	None	None	None	Wilshire Boulevard and 16th Street	None	Wilshire Boulevard and 16th Street
PM Peak Hour	None	None	None	None	Wilshire Boulevard and 16th Street	None	Wilshire Boulevard and 16th Street

### 5.2.5 Mitigation Measures

#### 5.2.5.1 Alternative 3 Mitigation Measures

Physical mitigation measures to address the significant/adverse traffic impact of Project Alternative 3 were investigated with these results:

- T—1 Wilshire Boulevard and 16th Street—Signalization of intersection.
- Using FHWA criteria found in *Manual of Uniform Traffic Control Devices* (FHWA, 2003), the projected peak hour volumes at the intersection were found to warrant signalization. Signalization of the Wilshire Boulevard and 16th Street intersection is projected to provide mitigation measures for the expected project impact. Using the project’s Synchro network to test the proposed mitigation, signalization was found to fully mitigate the impacts of the project. Based on the Synchro network analysis, LOS at the adversely impacted intersection would improve to LOS B under the proposed mitigation measure. The new signal at Wilshire/16th would be synchronized with nearby/adjacent intersections in order to minimize traffic impacts and queuing on Wilshire.

Detailed LOS calculations for the proposed mitigation at Wilshire Boulevard and 16th Street are contained in Appendix C-5.

#### 5.2.5.2 Alternative 5 Mitigation Measures

Physical mitigation measures to address the significant/adverse traffic impact of Project Alternative 5 were investigated with these results:

- T—1 Wilshire Boulevard and 16th Street—Signalization of intersection.
- Using FHWA criteria found in *Manual of Uniform Traffic Control Devices* (FHWA, 2003), the projected peak hour volumes at the intersection were found to warrant signalization. Signalization of the Wilshire Boulevard and 16th Street intersection is projected to provide mitigation measures for the expected project impact. Using the project’s Synchro network to test the proposed mitigation, signalization was found to fully mitigate the impacts of the project. Based on the Synchro network analysis, LOS at the adversely impacted intersection would improve to LOS B under the proposed mitigation measure. The new signal at Wilshire/16th would be synchronized





with nearby/adjacent intersections in order to minimize traffic impacts and queuing on Wilshire.

Detailed LOS calculations for the proposed mitigation at Wilshire Boulevard and 16th Street are contained in Appendix C-7.

### 5.2.6 CEQA Determination

This CEQA determination is based on the following thresholds of significance for traffic impacts:

- Final LOS C—impact is significant if the delay is increased by 10 or more seconds
- Final LOS D—impact is significant if the delay is increased by 7.5 or more seconds
- Final LOS E/F—impact is significant if the delay is increased by 5 or more seconds

#### Future Year 2035 No Build Alternative

No significant impacts would be anticipated under the Future Year 2035 No Build Alternative.

#### TSM Alternative

No significant impacts would be anticipated under the TSM Alternative.

#### Alternative 1 + MOS 1, MOS 2

No significant impacts would be anticipated under Alternative 1, MOS 1 and MOS 2 Alternatives.

#### Alternative 2

No significant impacts would be anticipated under Alternative 2.

#### Alternative 3

Alternative 3 would result in a significant impact at one of the 192 study intersections (Wilshire Boulevard and 16th Street). The impacted intersection under Alternative 3 is the same as for the NEPA impact analysis described in Section 5.3.5. Signalization of this intersection would fully mitigate project impacts, as described in Section 6.1. Based on the Synchro network analysis, LOS at the adversely impacted intersection would improve to LOS B under the proposed mitigation measure.

#### Alternative 4

No significant impacts would be anticipated under Alternative 2.

#### Alternative 5

Alternative 5 would result in a significant impact at one of the 192 study intersections (Wilshire Boulevard and 16th Street). The impacted intersection under Alternative 5 is the same as for the NEPA impact analysis described in Section 5.3.7. Signalization of this intersection would fully mitigate project impacts, as described in Section 6.2. Based on the Synchro network analysis, LOS at the adversely impacted intersection would improve to LOS B under the proposed mitigation measure.



### 5.2.7 Impacts Remaining After Mitigation

Following implementation of mitigation measure T-1 for Alternatives 3 and 5, all significant traffic impacts would be reduced to less than significant levels.

## 5.3 Parking

### 5.3.1 Parking Future Conditions

Under the current project description, there would be no park-and-ride facilities provided at any rail station. As a result, the transportation demand model does not predict any park-and-ride access. However, even without park-and-ride facilities, neighborhood spillover by subway riders seeking free, unrestricted parking is still an impact concern. To estimate parking demand for the spillover impact analysis, the transportation demand model was run without parking demand being constrained. In light of the model's inability to estimate park-and-ride demand for free, on-street spaces in close proximity to the stations, the model run with parking "unconstrained" acts as a surrogate..

Since the parking demand estimates involve theoretical maximums, they would not be affected by demand variations under each Build Alternative.

#### 5.3.1.1 Station Maximum Parking Demand Forecasts

Table 5-18 described estimated theoretical maximum daily parking demand for each station location under the unconstrained parking scenario, and compares this demand to with vacant parking supply as identified in existing occupancy surveys. Using the unconstrained parking estimate to approximate demand for free parking, demand would exceed available vacant parking supply at most stations.

This analysis is very conservative due to the approach in forecasting unconstrained parking demand, as noted above. Additionally, parking demand forecasts are daily totals, which have been compared to vacant supply during the AM peak period. While it is likely that much of the parking demand will occur during an entire work day, some parking demand will occur during off peak periods and in the evenings, so actual parking demand would likely be lower during AM peak periods. Additionally, the occupancy percent for on-street parking spaces may be lower later in the day or evening than during the AM peak hour. However, the purpose of this conservative analysis is to identify locations where the potential for spillover parking exists.



Table 5-18. Estimated Parking Demand by Station

Station	Maximum Daily Parking Demand	Existing Vacant Supply	Demand Exceeds Vacant Supply?
1. Wilshire/Crenshaw Station	595	1,091	NO
2. Wilshire/La Brea Station	277	120	YES
3. Wilshire/Fairfax Station	238	26	YES
Optional Station	238	18	YES
4. Wilshire/La Cienega Station	223	35	YES
Optional Station	223	61	YES
5. Wilshire/Rodeo Station	155	[a]	[a]
6. Century City Station	164	0	YES
Optional Station	164	[a]	[a]
7. Westwood/UCLA Station	266	3	YES
Optional Station	266	10	YES
8. Westwood/VA Hospital Station	394	2	YES
Optional Station	394	9	YES
9. Wilshire/Bundy Station	334	394	NO
10. Wilshire/26th Station	264	366	NO
11. Wilshire/16th Station	303	134	YES
12. Wilshire/4th Station	293	58	YES
13. Hollywood/Highland Station	195	53	YES
14. Santa Monica/La Brea Station	194	176	YES
15. Santa Monica/Fairfax Station	123	497	NO
16. Santa Monica/San Vicente Station	76	163	NO
17. Beverly Center Area Station	77	9	YES

Source: Fehr & Peers, January 2010

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

### 5.3.2 Parking Impact Assessment

This section describes future on- and off-street parking conditions in Study Area, specifically in station areas, and assesses potential parking-related impacts resulting from the Build Alternatives. This analysis assumes that parking conditions as identified in the existing conditions section of this chapter would still be maintained in 2035. To assess adverse/significant impacts, the assessment determined whether there would be potential permanent loss of existing parking supply as a result of the Build Alternatives. The assessment also examined possible effects on existing on-street and off-street parking that could occur as a result of subway riders who, despite the lack of park-and-ride facilities at any rail station, would still try to park in station areas.

#### 5.3.2.1 Station Impacts

This section assesses the potential for Alternatives 1 through 5, and MOSs 1 and 2 to generate significant/adverse impacts related to the loss of on-street and/or off-street parking.



#### On-Street Spaces Removed

Alternatives 1 through 5, and MOSs 1 and 2 would be constructed below grade; therefore no on-street parking spaces would be permanently removed to accommodate the project stations or alignment.

#### *Impact Assessment*

No station impacts related to the removal of on-street parking would occur because no on-street parking spaces would be permanently removed.

#### Off-Street Spaces Removed

Alternatives 1 through 5, and MOSs 1 and 2 would be constructed below grade and would not result in permanent parking loss at most stations. At the Westwood/UCLA Off-Street and Westwood/VA Hospital Stations, there could be potential loss of existing off-street parking. At both locations, the spaces are not required by local parking codes. The potential for impacts at the Westwood/UCLA Station and the Westwood/VA Hospital Station are discussed in greater detail.

#### Westwood/UCLA Station

The potential Westwood/UCLA Station entrance in UCLA Lot # 36 would require the removal of a portion of the approximately 700 off-street spaces provided in the lot to accommodate the station entrance. Additionally, more spaces could be removed to accommodate UCLA shuttle access to this potential station entrance.

The removal of parking spaces at this location would be offset by increased transit usage by UCLA students, faculty, staff, and visitors and other TDM measures once the Westside Subway Extension is completed. Further, this potential station entrance has been requested by UCLA and it is reasonable to assume that Lot #36 could be redeveloped for another use if the subway is not built. With over 24,000 current parking spaces and approximately 1,000 more planned, UCLA could choose to replace any parking loss with a new facility as it has been doing over the past decades. Further, UCLA is not subject to municipal minimum parking requirements so any loss would not be considered a code violation.

#### Westwood/VA Hospital Station

The potential Westwood/VA Hospital Station would be constructed in an at-grade entrance plaza requiring the removal of some of the approximately 415 off-street spaces provided in the lot to accommodate the station entrance. The removal of parking spaces at this location would be offset by increased transit usage by VA Hospital employees, patients, and visitors as well as the potential shifting of demand to adjacent facilities in the area that may have surplus capacity once the Westside Subway Extension is completed. Further, this potential station has been requested by the VA Hospital. The VA is not subject to municipal minimum parking requirements so any loss would not be considered a code violation.

### 5.3.3 Impact Assessment

Based on the above analysis, no station area impacts related to the removal of off-street parking would be expected to occur.

#### 5.3.3.1 Neighborhood Spillover Parking Impacts

The parking impact assessment for the Westside Subway Extension considered the potential for parking spillover to occur in 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, even though park-and-ride facilities would not be provided. Without park-and-ride facilities, parking demand would be reduced, as more riders are picked-up or dropped-off, walk, bike, or take bus transit to access the subway. However, some riders with access to automobiles might still seek available unrestricted parking on neighborhood streets within a one-half mile walking distance of stations. The potential extent of riders who elect to park in station areas could be significant given the travel time, convenience, and reliability of rail service provided by grade-separated rail service to major employment areas. This contrasts with less reliable and congested traffic conditions in the Study Area along with parking charges at the destination end of the commute trip.

One-half mile is typically the farthest distance transit riders are willing to walk to access a transit station. Therefore, the potential for spillover parking impacts are assessed at this distance from each station.

#### Impact Criteria

The potential for spillover parking impacts are assessed according to the following criteria:

- Is there unrestricted parking located within a one-half mile walking distance of potential stations?
- Would maximum daily Westside Subway Extension parking demand exceed available supply?
- Is there unrestricted parking located on streets that are primarily residential?

To be considered an impact, a station area would need to meet Criterion 1, and either Criterion 2 or Criterion 3. A station area that does not meet Criterion 1 would not be impacted. It should be noted that the parking impact determination is very conservative. Available parking supply was determined based on the AM peak only. Yet demand is based on maximum daily demand. Parking supply may increase throughout the day and evening versus what is available in the AM peak.

#### Impact Assessment

This section describes the adverse impacts to on- and off-street parking and parking spillover along the project corridor generated by the project alternatives.

#### No-Build Alternative

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

#### TSM Alternative

Under the TSM Alternative, no on- or off-street parking loss would occur. The increased frequency of Rapid Route 720 planned as part of the TSM alternative would utilize the existing street system and restrictions. While the increased frequency of Route 720 would increase ridership and park-and-ride demand, fairly minimal neighborhood spillover parking would be expected above the No-Build condition because this alternative would not change the mode-of-access for most riders — those that walk, bike, or are dropped off at bus stops would not be expected to change their mode-of-access.

**Alternative 1—Westwood/UCLA Extension**

Using the parking impact criteria, the Westside Subway Extension's potential to create spillover parking impacts has been assessed within a one-half mile walking distance of each potential station location for Alternative 1.

- **Wilshire/Crenshaw Station**—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 5-19, 1,091 vacant parking spaces were counted, which would accommodate the Westside Subway Extension's estimated maximum daily parking demand of 595 spaces. However, the neighborhood around the station is primarily residential, so it is not a preferable location to accommodate project parking. As summarized in Table 5-19, Criteria 1 and 3 have been met, therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station.
- **Wilshire/La Brea Station**—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 5-19, 120 vacant parking spaces were counted, which would not accommodate the Westside Subway Extension's estimated maximum daily parking demand of 277 spaces. As summarized in Table 5-19, Criteria 1 and 2 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station.
- **Wilshire/Fairfax Station**—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 5-19, 26 vacant parking spaces were counted around this station location, and 18 spaces around the optional station, which would not accommodate the Westside Subway Extension's estimated maximum daily parking demand of 238 spaces. As summarized in Table 5-19, Criteria 1 and 2 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of both this station and the optional station location.



Table 5-19. Neighborhood Spillover Parking Impacts

Station	Criteria 1: Unrestricted Parking within One-half Mile	Criteria 2: Estimated Parking Demand would Exceed Supply	Criteria 3: Unrestricted Parking Located on Residential Streets
1. Wilshire/Crenshaw Station	YES	NO	YES
2. Wilshire/La Brea Station	YES	YES	N/A
3. Wilshire/Fairfax Station	YES	YES	N/A
Optional Station	YES	YES	N/A
4. Wilshire/La Cienega Station	YES	YES	N/A
Optional Station	YES	YES	N/A
5. Wilshire/Rodeo Station	NO	N/A	N/A
6. Century City Station	YES	YES	N/A
Optional Station	NO	N/A	N/A
7. Westwood/UCLA Station	YES	YES	N/A
Optional Station	YES	YES	N/A
8. Westwood/VA Hospital Station	YES	YES	N/A
Optional Station	YES	YES	N/A
9. Wilshire/Bundy Station	YES	NO	YES
10. Wilshire/26th Station	YES	NO	YES
11. Wilshire/16th Station	YES	YES	N/A
12. Wilshire/4th Station	YES	YES	N/A
13. Hollywood/Highland Station	YES	YES	N/A
14. Santa Monica/La Brea Station	YES	YES	N/A
15. Santa Monica/Fairfax Station	YES	NO	YES
16. Santa Monica/San Vicente Station	YES	YES	N/A
17. Beverly Center Area Station	YES	YES	N/A

Source: Fehr & Peers, January 2010

N/A—not applicable because preceding impact criteria have been met

- Wilshire/La Cienega Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 4-1, 35 vacant parking spaces were counted around this station location, and 61 spaces around the optional station, which would not accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 223 spaces. As summarized in Table 5-1, Criteria 1 and 2 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of both this station and the optional station location.
- Wilshire/Rodeo Station—There are no unrestricted parking spaces located within a one-half mile walking distance of this station. As summarized in Table 5-1, Criterion 1 has not been met; therefore no project-related spillover parking impacts would be expected within a one-half mile walking distance of this station. As shown in Table 5-19, the project’s estimated daily parking demand is 155 spaces. It is anticipated that this demand would either shift to station areas where there is unrestricted parking or would be accommodated in off-street paid parking facilities.
- Century City Station—Unrestricted parking supply is available within a one-half mile walking distance of this station location. As shown in Table 5-19, 0 vacant parking spaces



were counted, which would clearly accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 164 spaces. As summarized in Table 5-19, Criteria 1 and 2 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station location. There are no unrestricted parking spaces located within a one-half mile walking distance of the optional station location. As summarized in Table 5-19, Criterion 1 has not been met, therefore no project-related spillover parking impacts would be expected within a one-half mile walking distance of the optional station location.

- Westwood/UCLA Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 5-19, 3 vacant parking spaces were counted around this station location, and 10 spaces around the optional station, which would not accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 266 spaces. As summarized in Table 5-19, Criteria 1 and 2 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of both this station and the optional station location.

**Alternative 2—Westwood/VA Hospital Extension**

Alternative 2 would follow the same alignment as Alternative 1, but extends beyond the Westwood/UCLA Station, terminating at the Westwood/VA station. The impact assessment discussed above for Stations 1 through 7 is applicable to Alternative 2. In addition to these stations, the Westside Subway Extension’s potential to create spillover parking impacts has been assessed within a one-half mile walking distance for the following additional station location:

- Westwood/VA Hospital Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 5-19, 2 vacant parking spaces were counted around this station location, and 9 spaces around the optional station, which would not accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 394 spaces. As summarized in Table 5-19, Criteria 1 and 2 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of both this station and the optional station location.

**Alternative 3—Santa Monica Extension**

Alternative 3 would follow the same alignment as Alternative 1, but extends beyond the Westwood/UCLA station, terminating at the Wilshire/4th Station. The impact assessment discussed above for Stations 1 through 8 is applicable to Alternative 3. In addition to these stations, the Westside Subway Extension’s potential to create spillover parking impacts has been assessed within a one-half mile walking distance for the following additional station locations:

- Wilshire/Bundy Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 4-1, 394 vacant parking spaces were counted, which would accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 334 spaces. However, because there are residential uses in the neighborhood around the station, the area is not a preferable location to accommodate project parking. As summarized in Table 5-1, Criteria 1 and 3 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station.





- Wilshire/26th Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 4-1, 366 vacant parking spaces were counted, which would accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 264 spaces. However, because there are residential uses in the neighborhood around the station, the area is not a preferable location to accommodate project parking. As summarized in Table 5-1, Criteria 1 and 3 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station.
- Wilshire/16th Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 4-1, 134 vacant parking spaces were counted, which would not accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 303 spaces. As summarized in Table 5-1, Criteria 1 and 2 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station.
- Wilshire/4th Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 4-1, 58 vacant parking spaces were counted, which would not accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 293 spaces. As summarized in Table 5-1, Criteria 1 and 2 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station.

Alternative 4—Westwood/VA Hospital Extension plus West Hollywood Extension

Alternative 4 would follow the same alignment as Alternative 2, and includes an alignment extending from the existing Metro Red Line Hollywood/Highland Station to the Wilshire alignment in Beverly Hills. The impact assessment discussed above for Stations 1 through 12 is applicable to Alternative 4. In addition to these stations, the Westside Subway Extension’s potential to create spillover parking impacts has been assessed within a one-half mile walking distance for the following additional station locations:

- Hollywood/Highland Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 4-1, 53 vacant parking spaces were counted, which would not accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 195 spaces. As summarized in Table 5-1, Criteria 1 and 2 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station.
- Santa Monica/La Brea Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 5-19, 176 vacant parking spaces were counted, which would not accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 194 spaces. As summarized in Table 5-1, Criteria 1 and 2 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station.
- Santa Monica/Fairfax Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 4-1, 497 vacant parking spaces were counted, which would accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 123 spaces. However, the neighborhood around the station is primarily residential, so it is not a preferable location to accommodate project parking. As summarized in Table 5-19, Criteria 1 and 3 have been



met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station.

- Santa Monica/San Vicente Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 5-19, 163 vacant parking spaces were counted, which would accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 76 spaces. However, the neighborhoods where unrestricted parking is located are primarily residential, so are not preferable locations to accommodate project parking. As summarized in Table 5-19, Criteria 1 and 3 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station.
- Beverly Center Area Station—Unrestricted parking supply is available within a one-half mile walking distance of this station. As shown in Table 5-19, 9 vacant parking spaces were counted, which would not accommodate the Westside Subway Extension’s estimated maximum daily parking demand of 77 spaces. As summarized in Table 5-19, Criteria 1 and 2 have been met; therefore project-related spillover parking impacts would be expected within a one-half mile walking distance of this station.

**Alternative 5—Santa Monica Extension plus West Hollywood Extension**

Alternative 5 would be a combination of Alternative 3 (Santa Monica Extension) plus Alternative 4 (West Hollywood Extension). No additional station locations would be provided uniquely for this alternative. The impact assessment discussed above for all Project stations is applicable to Alternative 5.

**MOS 1—Fairfax Extension**

MOS 1 would follow the same alignment as Alternative 1, but would terminate at the Wilshire/Fairfax Station rather than extending to the Westwood/UCLA Station. No additional station locations would be provided uniquely for this MOS. The impact assessment discussed above for the first three stations is applicable to MOS 1.

**MOS 2—Century City Extension**

MOS 2 would follow the same alignment as Alternative 1, but would terminate at the Century City Station rather than extending to the Westwood/UCLA Station. No additional station locations would be provided uniquely for this MOS. The impact assessment discussed above for the first three stations is applicable to MOS 2.

**Impact Summary**

Table 5-20 summarizes the results of the parking impact assessment for each build alternative.

Table 5-20. Parking Impact Summary

Station	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	MOS 1	MOS 2
1. Wilshire/Crenshaw Station	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted
2. Wilshire/La Brea Station	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted	Impacted
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	None	Impacted
Optional Station	Impacted	Impacted	Impacted	Impacted	Impacted	None	Impacted
5. Wilshire/Rodeo Station	None	None	None	None	None	None	None
6. Century City Station	Impacted	Impacted	Impacted	Impacted	Impacted	None	Impacted
Optional Station	None	None	None	None	None	None	None
7. Westwood/UCLA Station	Impacted	Impacted	Impacted	Impacted	Impacted	None	None
Optional Station	Impacted	Impacted	Impacted	Impacted	Impacted	None	None
8. Westwood/VA Hospital Station	None	Impacted	Impacted	Impacted	Impacted	None	None
Optional Station	None	Impacted	Impacted	Impacted	Impacted	None	None
9. Wilshire/Bundy Station	None	None	Impacted	None	Impacted	None	None
10. Wilshire/26th Station	None	None	Impacted	None	Impacted	None	None
11. Wilshire/16th Station	None	None	Impacted	None	Impacted	None	None
12. Wilshire/4th Station	None	None	Impacted	None	Impacted	None	None
13. Hollywood/Highland Station	None	None	None	Impacted	Impacted	None	None
14. Santa Monica/La Brea Station	None	None	None	Impacted	Impacted	None	None
15. Santa Monica/Fairfax Station	None	None	None	Impacted	Impacted	None	None
16. Santa Monica/San Vicente Station	None	None	None	Impacted	Impacted	None	None
17. Beverly Center Area Station	None	None	None	Impacted	Impacted	None	None
<i>Total Impacted Station Areas</i>	<i>6</i>	<i>7</i>	<i>11</i>	<i>12</i>	<i>16</i>	<i>3</i>	<i>5</i>
<i>Total Impacted Station Areas (with Optional Station Locations)</i>	<i>5</i>	<i>6</i>	<i>10</i>	<i>11</i>	<i>15</i>	<i>3</i>	<i>4</i>

Source: Fehr & Peers, January 2010

### Mitigation Measures

The following mitigation measures shall be implemented in the areas adjacent to potential station locations to reduce impacts of the Westside Subway Extension patrons parking in neighborhoods:

#### *Measure 1—Parking Monitoring and Community Outreach*

In the one-half mile area surrounding each station where unrestricted parking is located (as illustrated in Figure 4-67 through Figure 4-51), a program shall be established to monitor the on-street parking activity in the area prior to the opening of service and monitor the availability of parking monthly for six months following the opening of service. If a parking shortage is identified due to the parking activity of Westside Subway Extension patrons, Metro shall work with the appropriate local jurisdiction and affected communities to assess the need for and specific elements of a residential permit parking program (RPP) for the impacted neighborhoods.

In general, RPP districts are created to ensure that neighborhood residents have access to on-street parking. These programs are in effect in municipalities all across the United States, including Los Angeles County. They are commonly used to address spillover parking



concerns, such as those that arise when residential neighborhoods are in close proximity to commercial districts that do not provide sufficient parking. Patrons of the commercial districts, who are non-residents, tend to “spillover” into adjacent residential neighborhoods to find parking. The impact that spillover parking causes is adverse, and restricting parking to residents only, or limiting the time non-residents can park, is one way to mitigate these adverse impacts.

Additionally, Metro could conduct outreach meetings for the affected communities to gauge the interest of residents to participate in an RPP program, regardless of whether parking shortages have been identified. RPP programs would be implemented according to guidelines established by each local jurisdiction. Metro would reimburse local jurisdictions for costs associated with developing both the RPP programs and installing parking restriction signs in the neighborhoods contained within a one-half mile walking distance of each affected station. Metro would not be responsible for the costs of permits for residents desiring to park on streets in RPP districts. For locations where station spillover parking cannot be addressed through a RPP program, alternative mitigation options would include the implementation of time-restrictions. Metro would work with local jurisdictions to determine which option(s) would be preferable.

#### *Measure 2—Parking Benefits District*

As a variation to the RPP program described in Measure 1, a Parking Benefits District would be created, whereby residents would receive free parking permits, but a certain amount of parking permits could be made available for purchase by non-resident commuters. Revenues from parking permits sold to commuters would be used to fund physical improvements to the built environment in station areas, such as adding or improving street trees, sidewalks, and street furniture.

#### *Measure 3—Consideration of Shared Parking Program*

Metro could consider developing a shared parking program with operators of off-street parking facilities to accommodate Westside Subway Extension parking demand, thereby allowing subway riders to use excess capacity in these facilities. As indicated in Table 4-9, it is estimated that several thousand off-street parking spaces serve the commercial land uses located within a one-half mile walking distance of each potential station. While off-street parking spaces for office land uses would be expected to be fully occupied during daytime work hours, some opportunities for shared parking facilities may be feasible for retail and food service uses. For six months following the opening of service, Metro would monitor off-street parking activity in station areas through communication with parking facility owners/managers to qualitatively gauge the effects on parking demand as a result of the introduction of the Westside Subway Extension. It is anticipated that the Westside Subway Extension would reduce parking demand in station areas, as employees use the Subway to commute to work rather than driving.

Because the development of a shared parking program would be contingent on the willingness of parking facility owners/managers to participate, as well as the availability of parking supply at their facilities, it may be infeasible to implement this measure at some or all station areas where spillover parking impacts have been identified.



5.3.4 CEQA Determination

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.

5.3.5 Impacts Remaining after Mitigation

After the implementation of the above mitigation measures, the Westside Subway Extension spillover parking impact would be mitigated to less than significant levels.



## 6.0 ENVIRONMENTAL IMPACTS/ENVIRONMENTAL CONSEQUENCES—CONSTRUCTION IMPACTS

This section will identify vehicle trips resulting from project construction, including mobilization of construction equipment, delivery trips, commute trips, and earthmoving trips. It will identify road closures requiring detours that would result from project construction, and obstacles to existing or planned pedestrian and bicycle facilities, safety, and mobility resulting from project construction.

In this section, estimated potential adverse impacts are described under each Build Alternative as well as the two MOSs. The proposed construction staging scenarios for the Westside Subway Extension will determine transportation-related construction impacts. These scenarios are further described in the Final Traffic Handling and Construction Staging Report (137B; August 2010). The construction sequences described below reflect an initial identification of potential tunnel drive directions and sequences. There are several possibilities for tunneling and other more advantageous approaches will likely develop as the alignments, crossover locations, alternate station locations, and availability of long-term tunneling sites become better defined.

For each Build Alternative and MOS, estimated traffic-related impacts associated with contractor work and storage area, mining entry/exit locations and tunnel boring machine (TBM) operations, and truck haul routes are presented below. Information is also presented on traffic impacts associated with other construction elements, including vertical shafts, drop holes, grouting, and station portals. Designated haul routes will be identified during the final design phase of the project. These routes would be located in a manner that will minimize noise, vibration, and other possible impacts to adjacent businesses and neighborhoods. Following completion of the project, if slight physical damage to haul routes is found, any affected roads would be treated accordingly.

Detailed information on truck routes would need to await final determination of construction staging, including potential consolidation of truck routings to address activities at multiple stations. The Traffic Control Plans to be developed for the project will provide an opportunity to identify appropriate details on specific routes, keeping in mind the necessary coordination with affected local jurisdictions, public transportation systems and other parties as necessary. This coordination may result in further details on actual truck haul volumes on the Westside road network.

As a general assumption, temporary street closures would be limited to night time, off peak and/or weekend closures. The maintenance of traffic lanes during construction would follow local agency requirements and standards with respect to minimum lane widths, the number of available travel lanes, and the duration of temporary lane closures. No closures are expected during the morning and evening peak travel periods, except for areas discussed in the following sections. Specific street closure locations would be identified in close coordination with the local agencies during the final design phase of the project. In some locations, a fast track approach would be considered for construction. This approach would have longer construction periods including 24-hour activities that would result in a shortened overall time span for any street closures and other construction-related impacts.



The traffic control activities associated with construction activities described below reflect an initial identification of potential tunnel drive directions and sequences. Potential traffic control measures will be determined in part by construction staging activity for the project. Table 6-1 describes the expected steps for typical construction sequencing at a station location along with associated traffic control activities:

Table 6-1. Traffic Control Activities during Construction

Construction Phasing	Construction Activity	Traffic Control Activities
Stage 0	Utility Relocation Street Improvements Removal of Existing Raised Medium	Provide traffic control per local agency requirements
Stage 1	Soldier Pile Installation (north or west side of street)	Shift traffic to south or east side of roadway and maintain two-way traffic circulation
Stage 2	Soldier Pile Installation (south of east half of street)	Shift traffic to north or west side of roadway and maintain two-way traffic circulation
Stage 3	Decking Installation(half or full length of station)	Close roadway lanes and provide detour route
Stage 4	Decking Installation(other half of station)	Close roadway lanes and provide detour route

An evaluation of construction impacts are provided in the following sections for each one of the alternatives under consideration. Although the majority of the impacts identified under this alternative may be temporary, they would be considered significant and unavoidable.

### 6.1.1 Alternative 1—Westwood/UCLA Extension

During construction of the project, temporary closure of traffic lanes would be necessary during the night, weekend and/or off-peak hours. Closures of several blocks on certain streets may also be required. This would temporarily interfere with the normal flow of traffic resulting in the increase of travel times due to potential traffic congestion. Construction activities at each of the seven station areas or station options would require the temporary closure of lanes on Wilshire and Santa Monica Boulevards. However, at a minimum, two lanes would be maintained in each direction during the peak periods. This would result in a reduction of roadway capacity and potentially the modification of existing traffic patterns to bypass congested areas.

As previously noted, construction of the Westside Extension Transit Corridor project would temporarily interfere with the normal flow of traffic, causing some lanes and streets to be closed to vehicles for various time periods. It is possible that in some instances, block-long sections of streets would be closed temporarily for utility relocation and station construction. The current estimate is that construction of a typical station would take about 34 months using cut-and-cover construction methods although the primary impact to traffic is usually associated with the time it takes to install decking over the station box, which is approximately several weekends using methods similar to the construction of stations on the Metro Gold Line Eastside Extension. For stations built under existing streets, the top 2 to 3 feet of the roadway would be removed and decking would be installed over an approximate 2 to 3 month period. Construction of the station would continue while traffic travels on the decking. This procedure would require temporary off-peak, nighttime, and/or weekend street closures to install the decking. As these street closure requirements are identified,



traffic would be rerouted to nearby intersections and arterials with detours clearly signed and marked.

Construction at the station areas would result in a reduction of roadway capacity and potentially the modification of existing traffic patterns to bypass congested areas. Vehicular travel times and intersection operations along these roadways would be impacted. Therefore, in order to maintain a minimum of two through travel lanes in each direction, the two-way left turn median in mid-block areas and exclusive right and left turn lanes at intersection approaches may need to be eliminated.

The resulting intersection approach lane configurations would consist of a shared through and right lane and a shared through and left lane for the roadway segments where stations are being constructed. In addition, the existing signal phasing may be changed to split phasing in order to minimize conflicts between left turns and opposing through movements and minimize the formation of queues as a result of a vehicle waiting for a gap in the opposing traffic to conduct a left turn movement. Consequently, travel times along these Wilshire and Santa Monica Boulevard roadway segments are expected to increase due to the potential for increased traffic congestion during the peak periods and to a lesser extent during the off-peak periods.

It is expected that truck hauling traffic to and from the Westwood/UCLA Station construction site would be via Wilshire Boulevard to the I-405 (San Diego) Freeway, heading south, or north.

### 6.1.2 Alternative 2—Westwood/VA Hospital Extension

This alternative is similar to Alternative 1 with the extension of the alignment west of the I-405 freeway to the proposed west wood/VA Hospital Station. The following describe potential construction-related impacts for the extension to the Westwood/VA Hospital Station.

#### 6.1.2.1

If the VA Hospital site is the terminus, the site could be used as a TBM entry station, with mining proceeding eastbound to the Century City Station. Since the VA Hospital station is located off-street on VA property, station excavation could remain open, without the need for temporary decking. While no street closures would be necessary, locating the terminus at the VA site may require (partial) closure of Bonsall Avenue, the Eastbound Bonsall/Wilshire on-ramp, and/or the I-405 on- and off-ramps adjacent to the site. Further traffic control would only be needed for entering and exiting of construction traffic onto adjacent roadways.

It is assumed truck haul traffic to and from the construction yard at the Westwood/VA Hospital Station would be via Bonsall Avenue, Wilshire Boulevard and the I-405, San Diego Freeway, heading south, or north.

### 6.1.3 Alternative 3—Santa Monica Extension

This alternative is similar to Alternative 2 with the extension of the alignment west from the VA Hospital Station site to the proposed Wilshire/4th Station in the City of Santa Monica. The following describe potential construction-related impacts for the extension from the Westwood/VA Hospital Station to the Wilshire/4th Station.





Mining could proceed from the Westwood/VA Hospital Station or alternative tunnel site on the Army Reserve area near Federal Way West about 3.7 miles to 4th Street in Santa Monica. Since the Westwood/VA Hospital Station would be located on VA property, a tunneling access shaft could remain open, without the need for temporary decking. In this scenario, no street closures would be necessary at the TBM mining site, and traffic control would only be needed for entering and exiting of construction traffic onto adjacent roadways.

Truck haul access would be via Wilshire from the VA Hospital site to the nearest freeway, I-10, or I-405 south or north.

tunnels to the west from Century City or to the east from the VA property.

#### 6.1.4 Alternative 4—Westwood/VA Hospital Extension plus West Hollywood Extension

This alternative adds a West Hollywood Extension from the Red Line station at Hollywood/Highland and connects to the Wilshire alignment in Beverly Hills. Impacts identified in Alternative 1 would occur plus the following for the extension from Hollywood/Highland Station to Beverly Hills.

Construction activities at each of the 12 station areas or station options would require the temporary closure of lanes on Highland Avenue, Wilshire, Santa Monica, and San Vicente Boulevards. However, at a minimum two lanes would be maintained in each direction during the peak periods. This would result in a reduction of roadway capacity and potentially the modification of existing traffic patterns to bypass congested areas.

The Santa Monica/Fairfax Station could be used as the mining location under Alternative 4. Mining operations would proceed from this station east towards the existing station at Hollywood/Highland and southwest towards the Wilshire alignment. The construction worksite for the mining operations is adjacent to North Fairfax Avenue and construction traffic would need to be separated by traffic control measures. Excavation of the Santa Monica/Fairfax Station would require lane channelization in order to install soldier piling and cap beams for support of temporary roadway decking during short term lane closures that would require the entire roadway to be closed. With the approximately 680-foot length of station involved, three road closures may be needed in order to allow Santa Monica Boulevard to be restored to normal operations within allotted timeframes.

It is assumed that truck haul traffic to and from the West Hollywood Station would use Santa Monica Boulevard to access the nearest freeway, I-101, a distance of approximately 3 miles.

#### 6.1.5 Alternative 5—Santa Monica Extension plus West Hollywood Extension

Alternative 5 incorporates the West Hollywood extension under Alternative 4 and those under the Wilshire subway extension to Santa Monica. Impacts described for these alternatives would apply to Alternative 5. .

#### 6.1.6 MOS 1—Fairfax Station Terminus

This alternative consists of the first three station locations in Alternative 1.



Construction activities will require a number of partial road closures. The extent of closures would be depend on the length of Wilshire/Fairfax Station, which may include short tail tracks for safe deceleration behind the station or an optional double cross over.. Lane closures for channeling the flow of traffic would use curb side lanes on one or both sides of Wilshire Boulevard. These lanes would be reopened upon completion of decking of the roadway for the entire station. As for temporary closures, Traffic Control Plans approved by LADOT will be prepared prior to start of work.

It is expected that access to the 150 feet x 1,000 feet construction site located near the Wilshire/Fairfax Station could follow Wilshire, then La Brea to I-10. Alternatively, truck haul route might follow Wilshire to La Cienega to I-10. Traffic control for this work would consist mainly of channelization of construction-related and general-purpose traffic flow. If the Wilshire/Western site is used for the TBM starting location, haul routes would include Wilshire Boulevard to Western Avenue to US-101 (North) or I-5 (South).

### 6.1.7 MOS 2—Century City Station Terminus

This alternative consists of the first six station locations in Alternative 1. Impacts identified under MOS 1 would apply plus the following ones associated with subway construction from the Wilshire/Fairfax Station to Century City.

#### 6.1.7.1

Access to the Century City Station staging area would be via Santa Monica Boulevard or Olympic Boulevard directly to I-405. Alternatively, use of Avenue of the Stars or Century Park West to westbound Pico, then southbound Overland Avenue to I-10 may be more feasible.

### 6.1.8 Mitigation Measures

Mitigation for construction-related traffic impacts will involve development of traffic control plans that will need to be approved by the appropriate public agency. The traffic control plans will provide for the reasonably safe and efficient movement of road users, including pedestrian and bicyclists, through or around the permanent or temporary construction work areas. Information on the traffic control plans are presented in this section. Further details on these plans are in the Traffic Handling and Construction Staging Report (137B; March 16, 2010).

The traffic control plans will need to recognize local agency requirements and guidelines, including:

- City of Los Angeles: CA MUTCD, WATCH Manual, The Standard Specifications for Public Works Construction, "Brown Book" Special Provisions and Standard Drawings (City of Los Angeles), and Standard Worksite Traffic Control Plans (City of Los Angeles)
- City of Beverly Hills :CA MUTCD and WATCH Manual
- City of Santa Monica: CA MUTCD, WATCH Manual, and Traffic Control Plan Preparation Guidelines (City of Santa Monica)
- City of West Hollywood: CA MUTCD and WATCH Manual



- County of Los Angeles: CA MUTCD and WATCH Manual
- Caltrans: CA MUTCD

A traffic control zone is an area of a roadway where road user (vehicle, pedestrian, and bicyclist) conditions are changed due to a construction activity or by a direction of uniformed law enforcement officers. Most traffic control zones are divided into four areas: the advance warning area, the transition area, the construction activity area and the termination area. The traffic control zone also includes the streets identified as the detour routes on the approved traffic control plans. The following sections describe the traffic control zones that would be required at station areas for the Westside Subway Extension.

In order to better facilitate traffic flow and avoid major disruptions and bottlenecks due to construction, Traffic Control Zones (in particular Advance Warning Areas) should extend beyond one arterial street to either side of station construction sites. This will better disperse heavy traffic flows on the major arterials and help the roadway network better absorb the traffic impacts from construction.

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

Coordination and interaction with appropriate agencies will determine which streets can be closed and the detour routes to be used should streets need to be closed for a limited period of time. The expected year at which construction would take place will be determined so that construction-related traffic impacts.

Temporary traffic signal plans will be required when the following occur:

- Traffic signal equipment is temporarily relocated due to construction
- Traffic signal operation is modified to facilitate construction
- Existing intersection lane configuration is changed
- Visibility of traffic signal equipment is obscured by construction
- As directed by the local agencies having jurisdiction

Each affected agency will determine the need for temporary striping installation or modifications. Temporary striping would be considered for the following conditions:

- When traffic is to be diverted to the left of an existing centerline for two or more consecutive nights.
- When the work area is adjacent to an intersection and results in a transition within the intersection.
- When there is an unusual situation where traffic and physical conditions, such as speed or restricted visibility, occur



- Temporary signs would be implemented per the approved traffic control plans. Temporary sign devices include:
  - ▶ Traffic signs (regulatory, warning and guide)
  - ▶ Changeable message signs
  - ▶ Arrow panels
  - ▶ High-level warning devices
- When signs in a traffic control zone conflict with the implemented traffic control, the signs must be covered by the local agency's approved method to avoid confusion to the motorist.
- Temporary striping and signing plans shall be prepared by the construction contractor and approved by the agency having jurisdiction.

When the construction activity impacts existing newspaper stands, mail boxes or bus shelters, an arrangement should be made with each impacted owner for relocation or removal.

Emergency bus stop relocations will require a contractor employee to visit the office of the impacted bus agency to negotiate the needed change. In no event shall the notice be less than 14 days. Prior to implementation of any temporary street closures or any changes affecting bus zone locations, the following transit providers will be contacted at least 100 days in advance of the proposed closure date:

- Metro
- LADOT DASH
- LADOT Commuter Express
- Santa Clarita Transit
- Culver CityBus
- West Hollywood CityLine/Dayline
- Santa Monica's Big Blue Bus
- Antelope Valley Transportation Authority
- UCLA Shuttle

When the construction activity impacts the existing on-street parking spaces, parking circulation plans shall be prepared by the construction contractor and approved by the agency having jurisdiction. The parking circulation plan must be coordinated with each impacted property representative.

As part of the DEIS/DEIR, a parking impact and policy plan was prepared for the project. This will be utilized during the subsequent construction and traffic handling phase of the project. Existing parking meters affected by construction, within the traffic control zone, shall be removed or covered as directed by the agency having jurisdiction. Based on the proposed parking replacement strategy, temporary parking spaces can be considered for the impacted business or residents during construction.



When the construction activity impacts curb side passenger loading or commercial loading zones, loading zone circulation plans shall be prepared by the construction contractor and approved by the agency having jurisdiction. The loading zone plan must be coordinated with each impacted property representative.

When the construction activity encroaches into a sidewalk, walkway or crosswalk area, special consideration must be given to pedestrian safety, and the following items should be considered for pedestrians in temporary traffic control zone:

- Pedestrians should not be led into conflicts with work site vehicles, equipment or operations
- Pedestrians should not be led into conflicts with vehicles moving through or around the work site
- Pedestrians should be provided with a safe, convenient and accessible path

Access to sidewalks will be maintained on both sides of the street at all Metro construction sites at all times. Access to all businesses by pedestrians also will be maintained at all times without requirement by business owners to make such a request.

All temporary sidewalk designs shall be submitted to Metro for approval prior to installation. Temporary sidewalks need not be expensive, but they must be well built of approved material (wood or other), ADA compliant and having a well built cover.

When pedestrians are diverted into the street or adjacent to an open trench, K-rail type concrete barriers or other approved barrier types would be used for barricading between pedestrian and vehicular traffic. Sidewalk closures, if necessary, will be approved by the affected agency having jurisdiction and only one side of the street should be closed at a time.

Pedestrian access to each business property would be provided during the essential hours as requested by the property representative. If acceptable alternate access points are provided, the impacted access may be closed.

As part of the DEIS/DEIR, a preliminary bike lane design analysis is being prepared for the project. This information will be utilized during the construction and traffic handling phase of the project. The bike lane design analysis will show the existing bike lanes and proposed bike lanes within the vicinity of the project. During the construction phase, Metro-approved bike routes will be maintained past all construction sites, by widened sidewalks or by signed or striped bike detour routes.

When the construction activity impacts the existing business driveways, maintenance of traffic plans would be prepared by the construction contractor showing how vehicular access would be maintained to businesses and approved by the agency having jurisdiction. The construction activity must be coordinated with each impacted property representative.

During construction, driveway entrance and exits would be maintained during essential hours. If acceptable alternate access points (approved by the applicable agency) are provided, the impacted driveway may be closed. The local agency may restrict left-turn and/or right-turn vehicular movements entering and/or exiting driveways during construction.



6.1.9 CEQA Determination

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

6.1.10 Impacts Remaining After Mitigation

With implementation of items included in Section 3.6.9, the adverse effects of construction in the Study Area would be reduced for adjacent commercial areas and residential neighborhoods. Because these effects are short-term only, no adverse effects are expected.

## References

- Caltrans California Department of Transportation Division of Engineering Services. July 1983. *Energy and transportation systems*.
- Caltrans *2008 Traffic Volumes on California State Highways*
- FTA 2009 Federal Transit Administration. November 13, 2009. *Federal Register Vol. 74. No 218. Proposed policy statement on the eligibility of pedestrian and bicycle improvements under federal transit law.*
- LADOT 2009 traffic count database
- Metro Metro Travel Demand Model
- Mineta 2006 Mineta Transportation Institute. June 2006. *How far, by which route and why? A spatial analysis of pedestrian preference*
- Transportation Research Board *Highway Capacity Manual, 2000*
- ULI 2005 Urban Land Institute. 2005. *Shared parking*.
- Victoria 2009 Victoria Department of Transportation. 2009. *Walking and cycling international literature review*.