

3.0 TRANSPORTATION AND CIRCULATION

This chapter evaluates traffic circulation, transit, parking, pedestrian, bicycle, and rail operational conditions in the Project Area, and the resulting impacts from Alternatives A and B compared to the Project. In order to compare potential impacts during construction of the tunneling method alternatives, only impacts from construction activities along Flower Street and in Little Tokyo were analyzed. Impacts from construction activities for other portions of the project alignment were not analyzed as they would be similar for the tunneling method alternatives as for the Project.

3.1 Affected Environment

This section identifies the existing conditions being evaluated for the Project Area transportation environment. The transportation environment consists of transit, traffic circulation, parking, other modes (e.g., pedestrians and bicycles), and operations.

3.1.1 Transit

Existing bus and rail transit services, including destinations, existing headways, service characteristics, and operating time periods, remain unchanged from those documented in the Final EIS.

3.1.2 Traffic Circulation

This section describes the existing (2014) traffic conditions in the Project Area.

3.1.2.1 Roadway Network

Traffic was evaluated along Flower Street and key roadways within the Little Tokyo area that could potentially be impacted by changes in construction methods proposed by Alternatives A and B. The evaluated roadway segments are listed below:

1. Flower Street north of 5th Street
2. Flower Street north of 6th Street
3. First Street at Alameda Street
4. Alameda Street at First Street
5. Alameda Street at Temple Street
6. Central Street south of First Street
7. San Pedro Street at First Street
8. San Pedro Street at Second Street
9. Temple Street at Alameda Street
10. Temple Street at Judge John Aiso Street

Level of Service (LOS) is the measurement used to relate the quality of traffic service, and is used to analyze roadways by assigning quality levels of traffic based on measurements such as speed, density,

etc. The LOS categories are shown in Table 3.1-1. Table 3.1-2 shows the existing LOS at each of the ten study area roadway segments along Flower Street and in Little Tokyo.

Table 3.1-1: Level of Service (LOS) Categories and Criteria

| Level of Service | Average Vehicle Delay (in seconds) | Definition |
|------------------|------------------------------------|---|
| A | <10.0 | EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used. |
| B | >10.0 and <20.0 | VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles. |
| C | >20.0 and <35.0 | GOOD. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles. |
| D | >35.0 and <55.0 | FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups. |
| E | >55.0 and <80.0 | POOR. Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles. |
| F | >80.0 | FAILURE. Backups from nearby intersections or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths. |

As shown in Table 3.1-1, all ten study area roadway segments currently operate at an acceptable LOS C or better during both the morning (AM) and evening (PM) peak hours.

3.1.2.2 Parking

For the SEIS, the affected Flower Street and Little Tokyo street segments for each of the two tunneling method alternatives were surveyed to review the existing number of parking spaces and associated peak period parking restriction information to provide a baseline for assessing impacts. There are no changes to the parking information presented in the Final EIS. In summary, there is limited on-street parking along Flower Street and adjacent to the Mangrove site in Little Tokyo. On Flower Street, metered two hour parking (8:00 AM to 8:00 PM) is provided only on the east side of the street in two locations between: 1) 4th and 5th Streets; and 2) 6th Street and Wilshire Boulevard.

3.1.2.3 Pedestrians

The central downtown area experiences heavy pedestrian traffic on weekdays, particularly during the commute and lunch hours. Much of the pedestrian traffic occurs in areas with daytime employment, such as Bunker Hill, the Financial District, and the Historic Core. Pedestrian movement also occurs between the Civic Center and Little Tokyo along Temple, 1st, and 2nd Streets.

Table 3.1-2: Existing Roadway Level of Service (LOS) Analysis (2014)

| No. | Roadway | No. of Lanes | Peak Hour Capacity ¹ | AM Peak Hour | | | PM Peak Hour | | |
|-----|------------------------------|--------------|---------------------------------|--------------|------------------|-----|--------------|-------|-----|
| | | | | Volume | V/C ² | LOS | Volume | V/C | LOS |
| 1 | Flower St n/o 5th St | 6 | 4,800 | 1,239 | 0.258 | A | 1,595 | 0.332 | A |
| 2 | Flower St n/o 6th St | 6 | 4,800 | 1,219 | 0.254 | A | 1,651 | 0.344 | A |
| 3 | First St at Alameda St | 4 | 3,200 | 1,385 | 0.433 | A | 1,756 | 0.549 | A |
| 4 | Alameda St at First St | 4 | 3,200 | 2,218 | 0.693 | B | 1,976 | 0.618 | B |
| 5 | Alameda St at Temple St | 4 | 3,200 | 2,395 | 0.748 | C | 2,177 | 0.680 | B |
| 6 | Central St s/o First St | 3 | 2,400 | 858 | 0.358 | A | 1,142 | 0.476 | A |
| 7 | San Pedro St at First St | 4 | 3,200 | 570 | 0.178 | A | 847 | 0.265 | A |
| 8 | San Pedro St at Second St | 4 | 3,200 | 1,093 | 0.342 | A | 1,299 | 0.406 | A |
| 9 | Temple St at Alameda St | 4 | 3,200 | 697 | 0.218 | A | 1,092 | 0.341 | A |
| 10 | Temple St at Judge John Aiso | 4 | 3,200 | 1,050 | 0.328 | A | 1,302 | 0.407 | A |

Notes:

¹Capacity values of 800 vehicles per hour per through lane for arterial segment analysis based on 2010 Los Angeles Congestion Management Plan (CMP), Appendix D guidelines

²V/C = volume to capacity ratio

Source: Los Angeles City Department of Transportation, 2014; Los Angeles CMP; and AECOM, 2014

Despite heavy pedestrian activity, analysis of the area near the evaluated alternatives along Flower Street between 3rd and 6th Streets, including the Project, did not reveal any particularly problematic pedestrian crossings (insufficient crosswalks, sidewalk overcrowding, inadequate pedestrian walk signal time, etc.).

The Financial District attracts a high number of pedestrians during weekdays. Seventh Street experiences large volumes of pedestrians due to Metro rail portals and bus stops, the location of hotels (Sheraton, The Standard, and the Los Angeles Athletic Club), major retail and restaurant row along 7th Street (The Bloc/former Macy's Plaza and 7th at Fig Shopping Center), and employment centers throughout. While weekend pedestrian activity has increased as well, weekday volumes are still significantly higher. Unlike years past where pedestrian activity decreased at night in the central downtown area as a majority of the daytime population left after business hours, downtown has experienced a resurgence of nighttime activity due to residents and visitors. The growing residential population has activated the evening pedestrian experience, as have tourists, convention center attendees, and LA Live entertainment venue visitors. Previous pedestrian hubs remain, such as Little Tokyo and the Arts District, that have high evening activity due to increases in housing and a solid commercial base of restaurants and cultural destinations.

3.1.2.4 Bicycles

There are no exclusive bike lanes on Flower Street or adjacent to the Mangrove site in Little Tokyo. There are bike lanes in/around the vicinity of the Financial District along Figueroa Street. In Little Tokyo, there is a shared-lane or sharrowed bike route along 1st and 2nd Streets. These streets in both areas are used by bicyclists, particularly along Flower Street near City National Plaza, where bicycle messengers assemble in between delivery assignments.

3.1.2.5 Operational Impacts

The operational impacts resulting from implementation of the tunneling method alternatives on traffic circulation, transit, parking, pedestrian, and bicycle is discussed, along with the resulting quality of rail system operational performance.

3.2 Environmental Consequences

This section describes the potential impacts of Alternatives A and B on transit, traffic circulation, parking, pedestrians, and bicyclists during construction and operation. Impact conclusions for the tunneling method alternatives are based on the thresholds identified in Appendix B – Regulatory Framework Section 1.1 of this document.

3.2.1 Alternative A – EPBM/Open Face Shield/SEM Project Profile

3.2.1.1 Construction Impacts

Alternative A would result in an increase in the level and duration of excavation-related activity in Little Tokyo over Project conditions, as previously presented in Table 2.3-1, and would have corresponding construction-related transportation impacts. Even though surface-related excavation activities along Flower Street under Alternative A are reduced in comparison to conditions under the Project, the required grouting operations would result in the closure of two additional travel lanes at a time to provide space for grouting equipment and staging areas for the two phases of grouting activity. Alternative A would decrease the share of excavation materials handled on Flower Street from 81 percent under the Project to 25 percent. Correspondingly, it would increase the quantity of Flower

Street excavation materials handled in Little Tokyo from 19 percent under the Project to 75 percent, and would increase the duration of those activities and impacts by 15 months. It should be noted that these percentages reflect the volume of excavated materials from the Flower Street segment only, not of the entire Regional Connector project.

For Alternative A, a minor amount of cut and cover construction would be required for three shafts: an emergency exit and tunnel boring machine retrieval shaft south of 4th Street, an emergency exit south of 5th Street, and a train control room vent shaft north of the 7th Street/Metro Center Station tail tracks structure. The excavated materials of these shafts would be primarily handled along Flower Street.

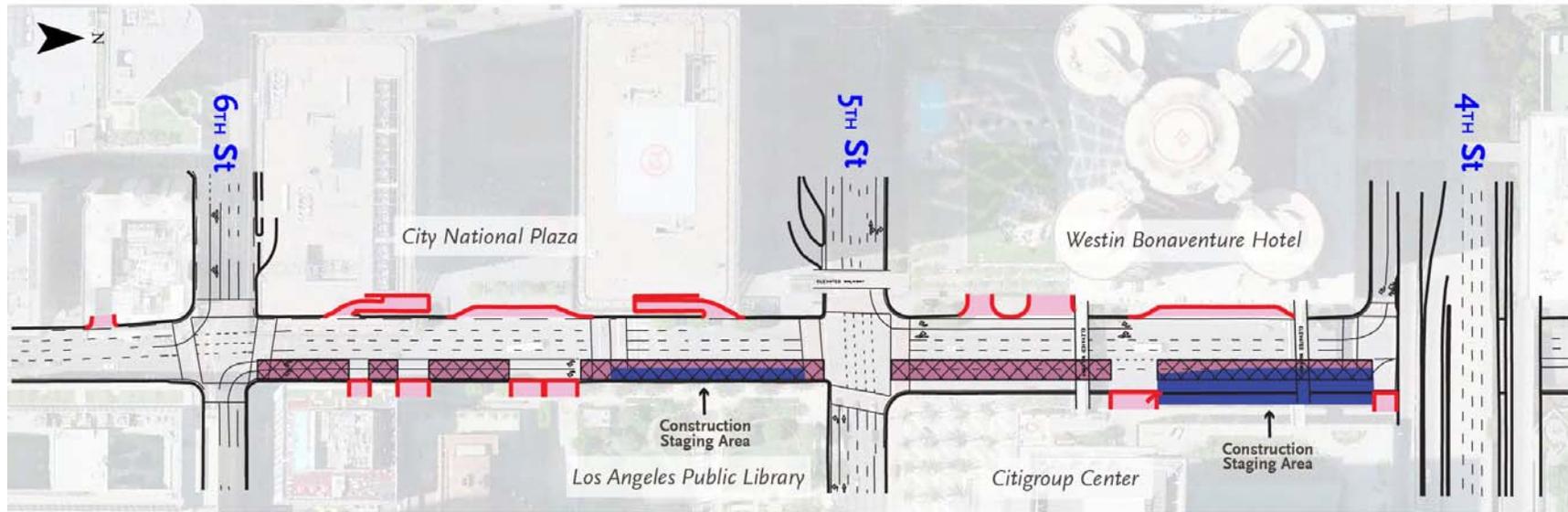
In order to stabilize the ground for open-face shield and SEM excavations, extensive jet grouting will be required from south of 4th to 6th Streets. Construction of Alternative A would require the closure of two travel lanes at a time for approximately 12 months to accommodate the two phases of grouting activities. Grouting activities could extend up to approximately 24 months due to unforeseen underground conditions. Figure 3.1 shows driveway access, traffic circulation impacts, and staging areas required for the Project, and Figures 3.2 and 3.3 illustrate the grouting areas, as well as equipment staging areas, required along Flower Street for Alternatives A and B. During Phase I, construction of Alternative A would require the closure of two lanes on the east side of Flower Street for construction and grouting equipment staging, as well as closure of the two center travel lanes for grouting activities. During Phase II, the two lanes on the west side of Flower Street would be used for grouting activities along with the two lanes on the east side for equipment staging. A total of four lanes would be temporarily closed during periods when grouting is taking place for approximately 12, possibly up to 24 months.

Transit

Alternative A may require relocation of two Flower Street bus stops between 4th and 6th Streets due to Phase II grouting activities along the eastern side of the street. Although construction would occur during nighttime and weekend hours, under the two phased grouting scenario (shown in Figures 3.2 and 3.3), construction would require the use of two traffic lanes at a time for grouting equipment during weekday hours. Additionally, bus service may need to be rerouted in the case of night closures of Flower Street in its entirety.

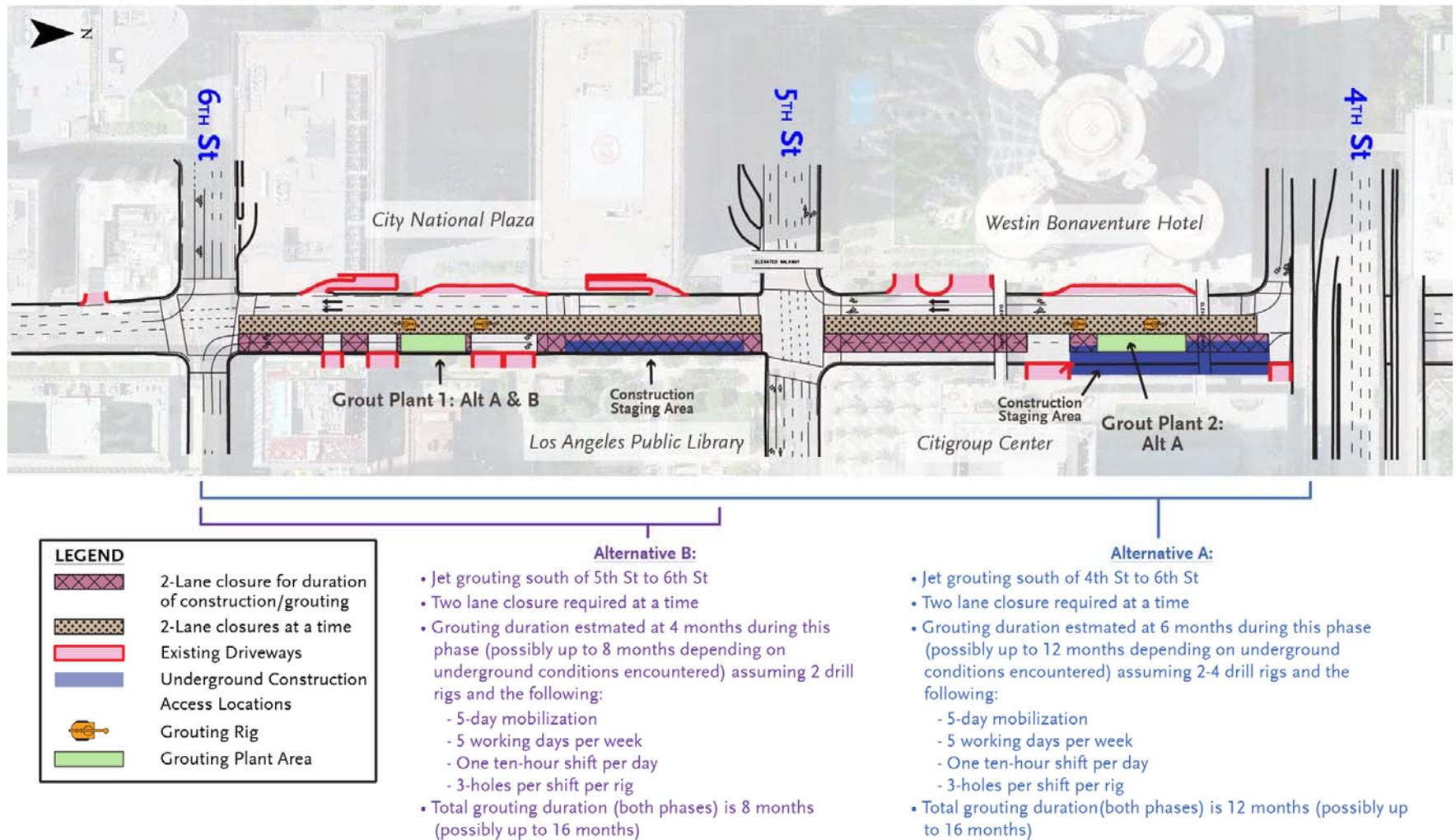
Alternative A would have an adverse transit effect on Flower Street between 4th and 6th Streets due to the need for additional lane closures compared to the Project.

Figure 3.1: Driveway Access, Traffic Circulation Impacts, and Staging Areas during Construction – The Project



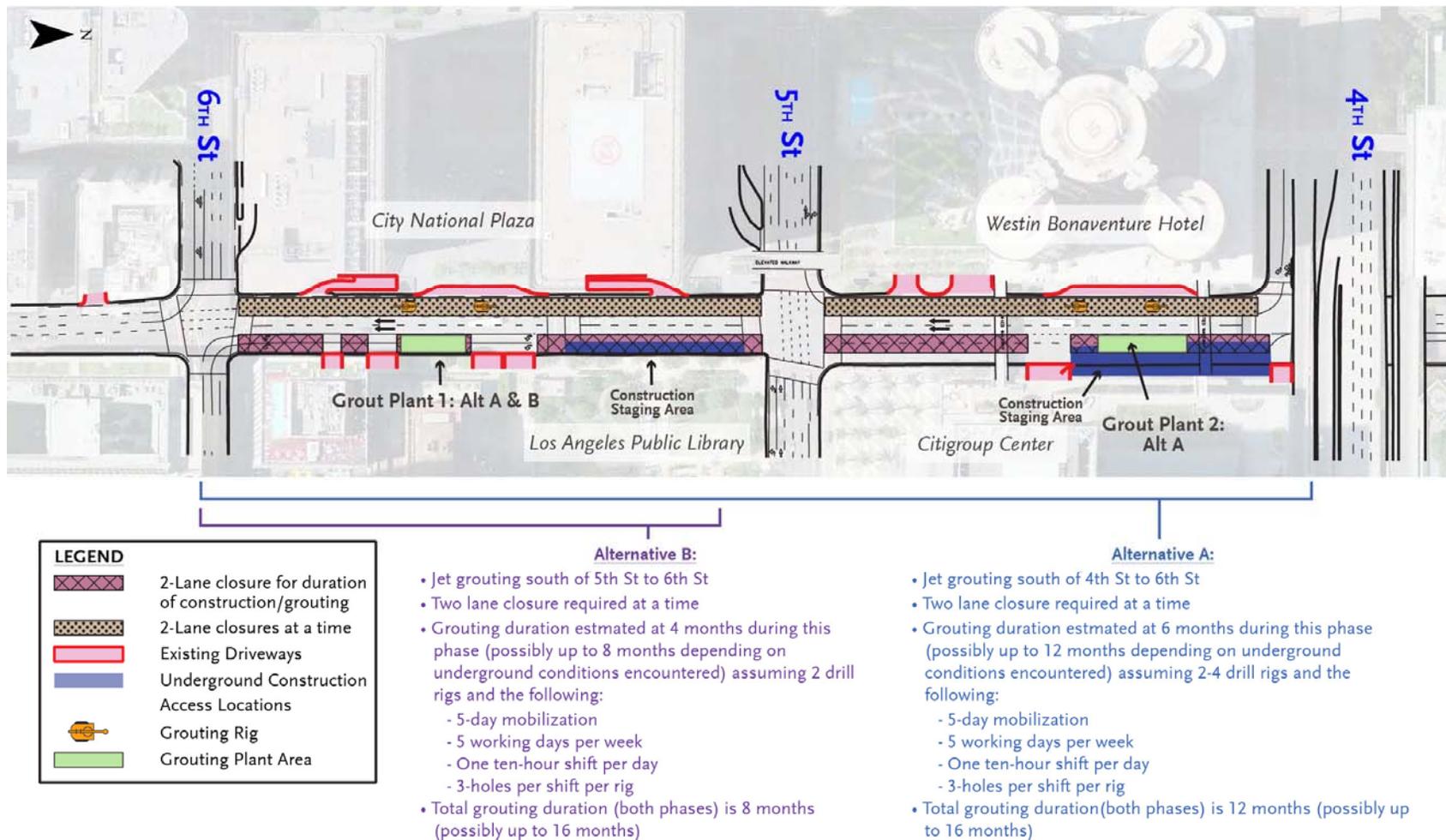
| LEGEND | |
|---|---|
|  | 2-Lane closure for duration of construction |
|  | Existing Driveways |
|  | Underground Construction Access Locations |

Figure 3.2: Driveway Access, Traffic Circulation Impacts, Construction Staging, and Grouting Areas (Phase I) – Alternatives A and B



Note: Figure is representative of a concept grouting operation. The final grouting and traffic plans would be dependent on the Contractor’s design.

Figure 3.3: Driveway Access, Traffic Circulation Impacts, Construction Staging, and Grouting Areas (Phase II) – Alternatives A and B



Note: Figure is representative of a concept grouting operation. The final grouting and traffic plans would be dependent on the Contractor’s design.

Traffic Circulation

Under Alternative A, handling of Flower Street segment excavation materials on Flower Street would decrease from 81 percent under the Project to 25 percent, with a corresponding increase in the amount of Flower Street segment materials handled through the Mangrove portal site in Little Tokyo. The number of soils excavation and construction trucks using the Flower Street route would decrease to 18 trucks per day compared to 32 for the Project, while the number of trucks using the Little Tokyo haul routes would increase to 22 trucks per day versus eight trucks under the Project.

Table 3.2-1 shows the effect of the shift in excavation truck trips from Flower Street to Little Tokyo on study area roadway segments. Table 3.2-1 also reflects the reduction in capacity on Flower Street from six lanes to two lanes to accommodate construction and grouting equipment staging. Figures 3.4 and 3.5 provide a comparison of the Project and Alternative A in the Flower Street and Little Tokyo study areas, respectively.

Figure 3.4: Flower Street LOS for Each Alternative (During Construction, 2014-2017)

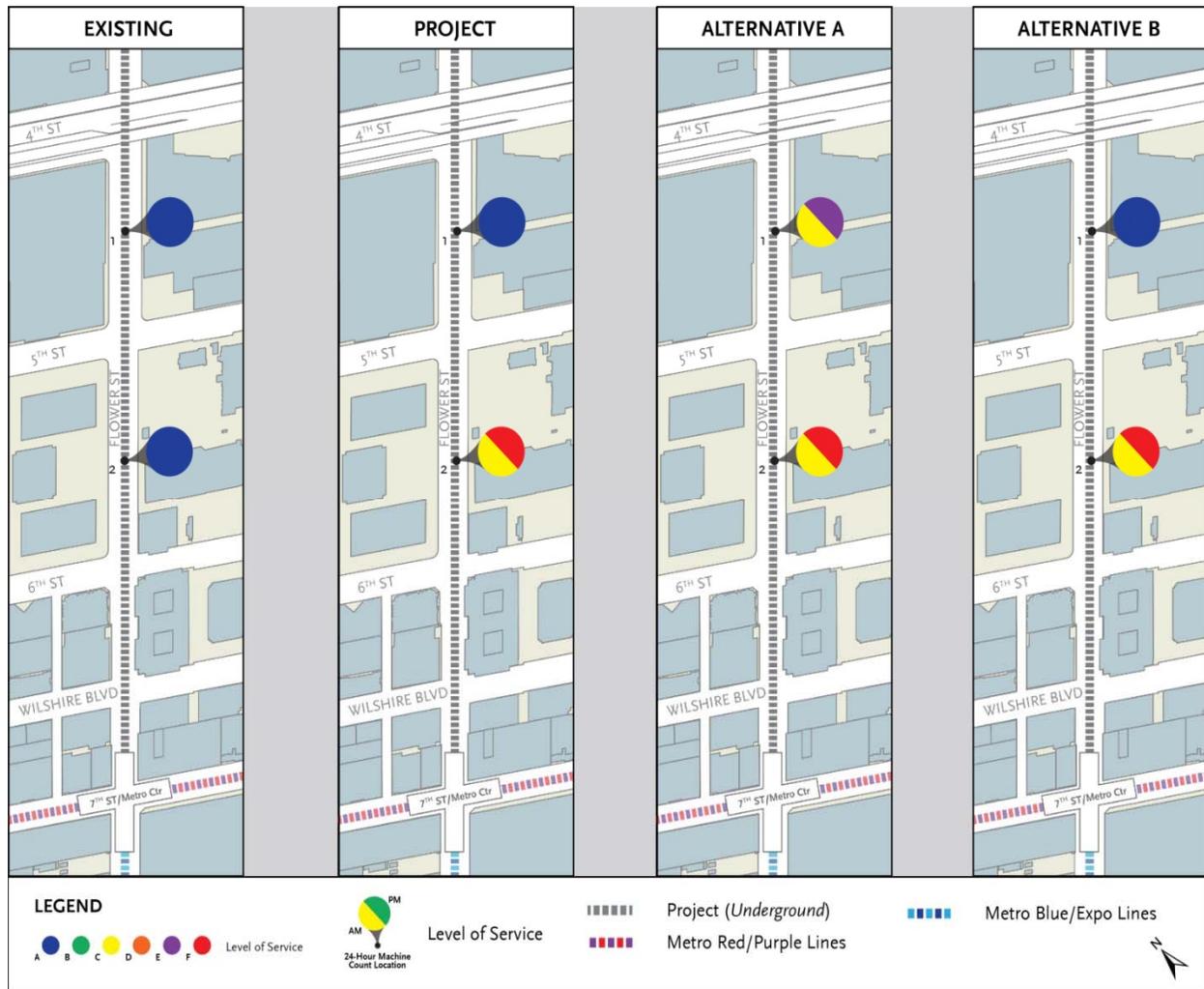


Figure 3.5: Little Tokyo LOS for Each Alternative (During Construction, 2014-2017)

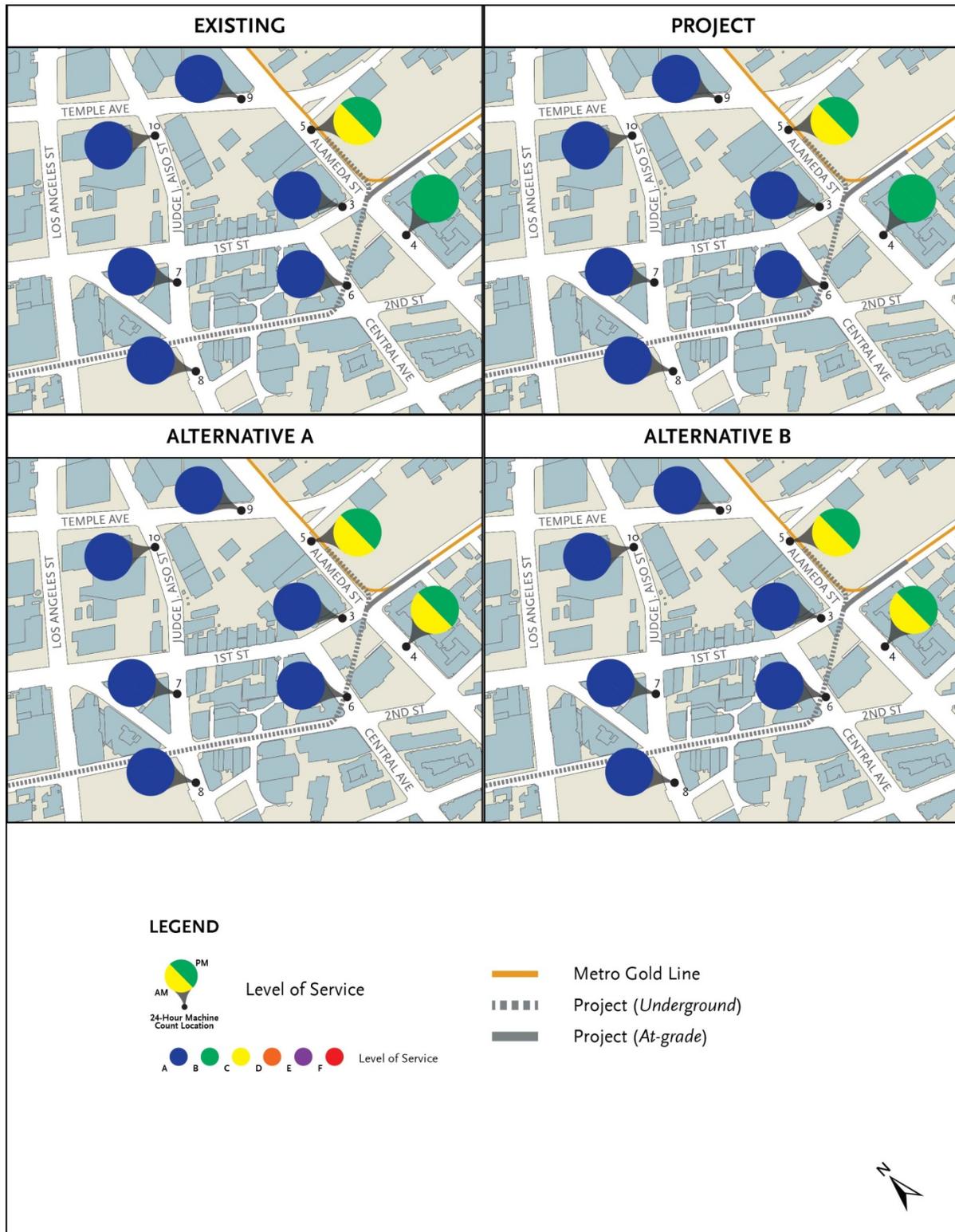


Table 3.2-1: Alternative A – Level of Service Analysis (During Construction, 2014-2017)

| No. | Roadway | No. of Lanes | Peak Hour Capacity ¹ | AM Peak Hour | | | PM Peak Hour | | |
|-----|------------------------------|--------------|---------------------------------|--------------|------------------|-----|--------------|-------|----------|
| | | | | Volume | V/C ² | LOS | Volume | V/C | LOS |
| 1 | Flower St n/o 5th St | 2 | 1,600 | 1,217 | 0.761 | C | 1,573 | 0.983 | E |
| 2 | Flower St n/o 6th St | 2 | 1,600 | 1,197 | 0.748 | C | 1,629 | 1.018 | F |
| 3 | First St at Alameda St | 4 | 3,200 | 1,407 | 0.440 | A | 1,778 | 0.556 | A |
| 4 | Alameda St at First St | 4 | 3,200 | 2,240 | 0.700 | C | 1,998 | 0.624 | B |
| 5 | Alameda St at Temple St | 4 | 3,200 | 2,417 | 0.755 | C | 2,199 | 0.687 | B |
| 6 | Central St s/o First St | 3 | 2,400 | 880 | 0.367 | A | 1,164 | 0.485 | A |
| 7 | San Pedro St at First St | 4 | 3,200 | 592 | 0.185 | A | 869 | 0.272 | A |
| 8 | San Pedro St at Second St | 4 | 3,200 | 1,115 | 0.348 | A | 1,321 | 0.413 | A |
| 9 | Temple St at Alameda St | 4 | 3,200 | 719 | 0.225 | A | 1,114 | 0.348 | A |
| 10 | Temple St at Judge John Aiso | 4 | 3,200 | 1,072 | 0.335 | A | 1,324 | 0.414 | A |

Notes:

¹Capacity values of 800 vehicles per hour per through lane for arterial segment analysis based on 2010 Los Angeles Congestion Management Plan Appendix D guidelines

²V/C = volume to capacity ratio

Bolded and shaded intersections operate at or approaching an unacceptable LOS E or worse, per City guidelines

Source: Los Angeles City Department of Transportation, 2014; Los Angeles Congestion Management Plan (CMP); AECOM, 2014

During construction, evening peak period traffic operations along Flower Street north of 5th Street and north of 6th Street would degrade to unacceptable LOS E and F, respectively, due to the additional two lane closure required for construction activities, compared to LOS A for the Project.

While the LOS would remain unchanged with the shift in excavation truck trips from Flower Street to Little Tokyo – with only a slight increase in the volume/capacity ratio – travel times may increase for vehicles circulating along the Little Tokyo haul routes. Under Alternative A, the duration of these impacts would be 15 months longer than the Project.

Construction of Alternative A would have an adverse effect on traffic on Flower Street between 4th and 5th Streets when compared to the Project. Although the majority of the impacts identified under Alternative A would be temporary, they would be significant and unavoidable.

Parking

There is limited on-street parking along Flower Street and adjacent to the Mangrove site in Little Tokyo, and there are no changes from the conditions identified in the Final EIS. Under Alternative A, construction-related parking impacts along the Flower Street segment would be similar to those identified for the Project. As stated in the Final EIS, parking effects would be considered adverse before mitigation only in the Little Tokyo community portion of the alignment – in street segments where reduction in traffic lanes and roadway space would be utilized for street enhancements and/or underground station construction; however parking impacts would not be adverse after implementation of mitigation identified in the Final EIS.

Other Modes

Pedestrian access along Flower Street to adjoining properties and bicycle traffic movements would be maintained during construction of Alternative A. Portions of sidewalks may be temporarily closed for decking construction at cut and cover shaft locations similar to the Project. Bicycle riders could be affected by uneven roadway surfaces, cracks, metal surfaces, or other dangerous conditions, due to the different construction methods proposed under this alternative.

Temporary closures of sidewalks and crosswalks may be necessary. Lane reductions and street closures could inhibit the flow of bicycle traffic during construction, particularly along Flower Street during grouting activities on the central and eastern sides of the street. Although temporary, the identified potential impacts during construction on pedestrian and bicycle movements would be significant and unavoidable similar to the Project.

3.2.1.2 Operational Impacts

There would be no operational impacts from implementation of Alternative A on traffic circulation, transit, parking, or other modes beyond those identified for the Project.

There would be a reduction in the light rail transit (LRT) operational speed in the Flower Street segment for Alternative A, which would be reduced to 35 mph from 55 mph under the Project and identified as required by Metro Rail Design Criteria, Section 10 Operations. The speed reduction would have impacts on rail headway and runtimes compared to the Project, and Alternative A would offer less travel time savings than the Project. Increased travel times may result in a reduction in project ridership, and a corresponding decrease in air quality and climate change benefits as SOV drivers are not attracted to shift to rail service.

3.2.2 Alternative B – EPBM/SEM Low Alignment Alternative

3.2.2.1 Construction Impacts

Alternative B would result in an increase in the level and duration of excavation-related activity in Little Tokyo over the Project, as previously presented in Table 2.3-1, and would have corresponding construction-related transportation impacts. Even though surface-related excavation activities along Flower Street under Alternative B are reduced in comparison to conditions under the Project, the required grouting operations would result in the closure of two additional travel lanes at a time to provide space for grouting equipment and staging areas for the two phases of grouting activity. Alternative B would decrease the share of excavation materials handled on Flower Street from 81 percent under the Project to 20 percent. Correspondingly, it would increase the quantity of Flower Street excavation materials handled in Little Tokyo from 19 percent under the Project to 80 percent, and would increase the duration of those activities and impacts by seven months. It should be noted that these percentages reflect the volume of excavated materials from the Flower Street segment only, not of the entire Regional Connector project.

For Alternative B, a minor amount of cut and cover construction would be required for two shafts: an emergency exit south of 5th Street, and a train control room vent shaft north of the 7th Street/Metro Center Station tail tracks structure. The excavated materials of these shafts would be handled along Flower Street. The excavated materials of these shafts would be primarily handled along Flower Street.

In order to stabilize the ground for SEM and extension of EPBM tunneling further south on Flower Street, extensive jet grouting will be required from 5th Street to 6th Street. Construction of Alternative B would require the closure of two travel lanes at a time for approximately eight months to accommodate the two phases of grouting activities. Grouting activities could extend up to approximately 16 months due to unforeseen underground conditions. Figures 3.2 and 3.3 illustrate the grouting area, as well as the equipment staging areas, required along Flower Street for Phases I and II. During Phase I, construction of Alternative B would require the closure of two lanes on the east side for construction and grouting equipment staging, as well as closure of the two center travel lanes for grouting activities. During Phase II, the lanes on the west side of Flower Street would be used for grouting activities along with the two lanes on the east side for equipment staging. A total of four lanes would be temporarily closed when grouting is taking place for approximately for a total of eight months, possibly up to 16 months.

Transit

Alternative B may require relocation of one major Flower Street bus stop between 5th and 6th Streets due to Phase II grouting activities along the eastern side of the street. Although construction would occur during nighttime and weekend hours, under the two phased grouting scenario (shown in Figures 3.2 and 3.3), construction would require the use of two traffic lanes at a time for grouting equipment during weekday hours. Additionally, bus service may need to be rerouted in the case of night closures of Flower Street in its entirety.

Alternative B would have an adverse transit effect on Flower Street between 5th and 6th Streets due to the need for additional lane closures compared to the Project.

Traffic Circulation

Under Alternative B, handling of Flower Street segment excavation materials on Flower Street would be decreased from 81 percent under the Project to 20 percent, with a corresponding increase in the amount of Flower Street segment materials handled through the Mangrove portal site in Little Tokyo. The number of excavation trucks using the Flower Street route would decrease by 24 trucks to eight trucks per day, while the number of trucks using the Little Tokyo haul routes would increase to 32 trucks per day versus eight for the Project.

Table 3.2-2 shows the effect of the shift in excavation truck trips from Flower Street to Little Tokyo on study area roadway segments. Table 3.2-2 also reflects the reduction in capacity on Flower Street from six lanes to two lanes to accommodate the two-phased construction and grouting equipment staging, as previously shown in Figures 3.2 and 3.3.

Traffic operations along Flower Street between 5th and 6th Streets would degrade to unacceptable LOS F during the PM peak due to the two lane closure required to accommodate construction and grouting equipment. In Little Tokyo, although the LOS would remain relatively unchanged with the shift in excavation truck trips from Flower Street to Little Tokyo – with only a slight increase in the volume/capacity ratio – travel times may increase for vehicles circulating along the Little Tokyo haul routes. Under Alternative B, the duration of these traffic impacts would be seven months longer than the Project.

Construction of Alternative B would have an adverse effect on traffic on Flower Street between 5th and 6th Streets when compared to the Project. Although the majority of the impacts identified under Alternative B would be temporary, they would be significant and unavoidable.

Parking

There is limited on-street parking along Flower Street and adjacent to the Mangrove site in Little Tokyo, and there are no changes from conditions identified in the Final EIS. Under Alternative B, construction-related parking impacts would be similar to those identified for the Project. As stated in the Final EIS, parking effects would be considered adverse before mitigation only in the Little Tokyo community portion of the alignment, in portions where reduction in traffic lanes and roadway space would be utilized for street enhancements and/or underground station construction; however parking impacts would not be adverse after implementation of mitigation identified in the Final EIS.

Other Modes

Pedestrian access along Flower Street to adjoining properties and bicycle traffic movements would be maintained during construction of Alternative B; however, portions of sidewalks may be temporarily closed for decking construction at cut and cover shaft locations similar to the Project. Bicycle riders could be affected by uneven roadway surfaces, cracks, metal surfaces, or other dangerous conditions, due to different construction methods.

Table 3.2-2: Alternative B – Level of Service Analysis (During Construction, 2014-2017)

| No. | Roadway | No. of Lanes | Peak Hour Capacity ¹ | AM Peak Hour | | | PM Peak Hour | | |
|-----|------------------------------|--------------|---------------------------------|--------------|------------------|-----|--------------|-------|----------|
| | | | | Volume | V/C ² | LOS | Volume | V/C | LOS |
| 1 | Flower St n/o 5th St | 4 | 3,200 | 1,215 | 0.380 | A | 1,571 | 0.491 | A |
| 2 | Flower St n/o 6th St | 2 | 1,600 | 1,195 | 0.747 | C | 1,627 | 1.017 | F |
| 3 | First St at Alameda St | 4 | 3,200 | 1,409 | 0.440 | A | 1,780 | 0.556 | A |
| 4 | Alameda St at First St | 4 | 3,200 | 2,242 | 0.701 | C | 2,000 | 0.625 | B |
| 5 | Alameda St at Temple St | 4 | 3,200 | 2,419 | 0.756 | C | 2,201 | 0.688 | B |
| 6 | Central St s/o First St | 3 | 2,400 | 882 | 0.368 | A | 1,166 | 0.486 | A |
| 7 | San Pedro St at First St | 4 | 3,200 | 594 | 0.186 | A | 871 | 0.272 | A |
| 8 | San Pedro St at Second St | 4 | 3,200 | 1,117 | 0.349 | A | 1,323 | 0.413 | A |
| 9 | Temple St at Alameda St | 4 | 3,200 | 721 | 0.225 | A | 1,116 | 0.349 | A |
| 10 | Temple St at Judge John Aiso | 4 | 3,200 | 1,074 | 0.336 | A | 1,326 | 0.414 | A |

Notes:

¹ Capacity values of 800 vehicles per hour per through lane for arterial segment analysis based on 2010 Los Angeles CMP Appendix D guidelines

² V/C = volume to capacity ratio

Bolded and shaded intersections operate at or approaching an unacceptable LOS E or worse, per City guidelines

Source: Los Angeles City Department of Transportation, 2014; Los Angeles CMP; AECOM, 2014

Temporary closures of sidewalks and crosswalks may be necessary. Lane reductions and street closures could inhibit the flow of bicycle traffic during construction, particularly along Flower Street during grouting activities on the central and eastern sides of the street. Although temporary, the identified potential impacts during construction on pedestrian and bicycle movements would be significant and unavoidable similar to the Project.

3.2.2.2 Operational Impacts

There would be no operational impacts from implementation of Alternative B on traffic circulation, transit, parking, or other modes beyond those identified for the Project.

There would be a reduction in the resulting LRT operational speed in the Flower Street segment for Alternative B, which would be reduced to 35 mph from 55 mph under the Project and identified as required by Metro Rail Design Criteria, Section 10 Operations. This speed reduction would have permanent negative operational impacts on headway and runtimes compared to the Project, and Alternative B would offer less travel time savings than the Project. Increased travel times may result in a reduction in project ridership, and a corresponding decrease in air quality and climate change benefits as SOV drivers are not attracted to shift to rail service.

3.3 Mitigation Measures

Mitigation measures to reduce potential transportation impacts during construction were identified in the Final EIS. Implementation of mitigation measures TR-1 through TR-13 from the Final EIS for the Project would apply for Alternatives A and B. Below is a summary of these mitigation measures, and a detailed description can be found in Appendix G:

- TR-1: Prior to construction, traffic management and construction mitigation plans shall be devised outlining access routes, haul truck activity, street closures, etc
- TR-2: Haul truck routes confirmed during final design and all haul truck activity
- TR-3: Construction worker parking and designated contractor designated areas
- TR-4: Implementation of safe pedestrian detours and crosswalks with ADA compliance
- TR-5: Proper signage for bicyclists of detours, travel lanes, and alternate routes
- TR-6: Permanently restriping Flower Street at the 4th Street intersection
- TR-7: Permanently restriping Flower Street at the 5th Street intersection
- TR-8: Permanently restriping Flower Street at the 6th Street intersection
- TR-9: Continued shuttle service and bus drop-off areas at City National Plaza
- TR-10: Design and implementation of linkages to the proposed Broadway Streetcar
- TR-11: Enhanced pedestrian walkways along Flower Street to better connect Financial District
- TR-12: Maintaining access to bus stops whenever possible and adequate signage
- TR-13: Temporary relocation of bus stops to nearby alternative locations

As with the Project, potentially adverse construction-related effects to traffic, transit, bicycle, parking, and pedestrian circulation would remain after implementation of these mitigation measures for Alternative A and B, which would have additional transportation impacts along Flower Street and in Little Tokyo beyond those identified for the Project.