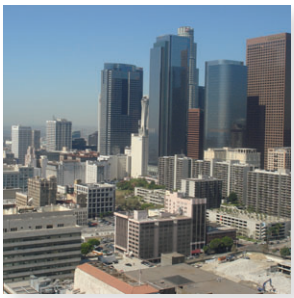
Introduction

The Regional Connector Transit Corridor project (Regional Connector) is a vital public transit infrastructure investment that would enhance investments already made in the existing Los Angeles County Metropolitan Transportation Authority (Metro) Rail system. It would link four distinct travel corridors covering over 80 miles across Los Angeles County through the center of downtown Los Angeles. Metro has envisioned this connection for nearly two decades beginning in the late 1980s/early 1990s. Figure ES-1 shows the regional Metro Rail lines expected to be in operation by the year 2035, and how the Regional Connector would serve as a central link between them.

Figure ES-1: Existing and Proposed Regional Metro Rail Lines (2035)

The project area is the largest regional employment center in Los Angeles County

The Regional Connector would serve communities across the region, allowing greater accessibility while also supporting population and employment growth in downtown Los Angeles. The proposed Regional Connector would directly link 7th Street/Metro Center Station (the Metro Blue Line terminus and Metro Expo Line terminus) located at 7th and Figueroa Streets, to the Metro Gold Line near Little Tokyo/Arts District Station at 1st and Alameda Streets. The project would include new stations downtown and would allow continuous train operations between Long Beach and Montclair and from East Los Angeles and the San Gabriel Valley to Santa Monica without the need to transfer. It would also provide passengers with direct trains into the heart of the business and civic districts, whereas the Metro Gold Line currently passes along the edge of downtown. The following map (Figure ES-2) illustrates the present gap in the light rail network between the Metro Blue and Gold Lines. They are currently connected by only the heavy rail Metro Red and Purple Lines requiring two transfers.



The project area is the largest regional employment center in Los Angeles County, and is densely developed with multi-family residences, industrial and public lands, commercial and retail establishments, government office buildings, and high-rise office towers. The corridor crosses several distinct community areas within downtown including the dense urban core of the Financial District; the residential high rises and regional entertainment centers of Bunker Hill; the Civic Center with a concentration of federal, state, and local government offices; residential and retail uses in the historic structures of the Historic Core; and the culturally unique, mixed-uses of Little Tokyo and the Arts District. Figure ES-2 shows the general locations of these neighborhoods.

In addition to mobility benefits, the location of the Regional Connector project has the potential to improve the livability of the entire Los Angeles County region. The Regional Connector project fills the missing link in the Los Angeles rail network and, by virtue of its location, would afford the region with significant transportation, economic, land use, and environmental benefits. The analysis presented in this document shows that improved mobility to and through downtown Los Angeles has the potential to boost economic development and improve social justice by providing better access to employment, educational opportunities, and cultural activities. Improved transit connectivity would increase transit ridership which would also generate environmental benefits through reduced vehicle trips, less roadway congestion, and improved air quality.

In June 2008, Metro included the Regional Connector Transit Corridor project in its Draft Long Range Transportation Plan (LRTP) as a rail project in the Tier 1 Unfunded Strategic Plan. Measure R identified $160 million for the Regional Connector. Additional funding will need to be secured to build and operate the line. This is consistent with the Regional Transportation Plan (RTP) which was approved by the Southern California Association of Governments (SCAG) in May 2008.

The Regional Connector Transit Corridor Project Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) was made available to identified stakeholders, agencies, and the general public for review and comment for a 45-day review period from September 3, 2010 through October 18, 2010. On October 28, 2010, the Metro Board of Directors voted

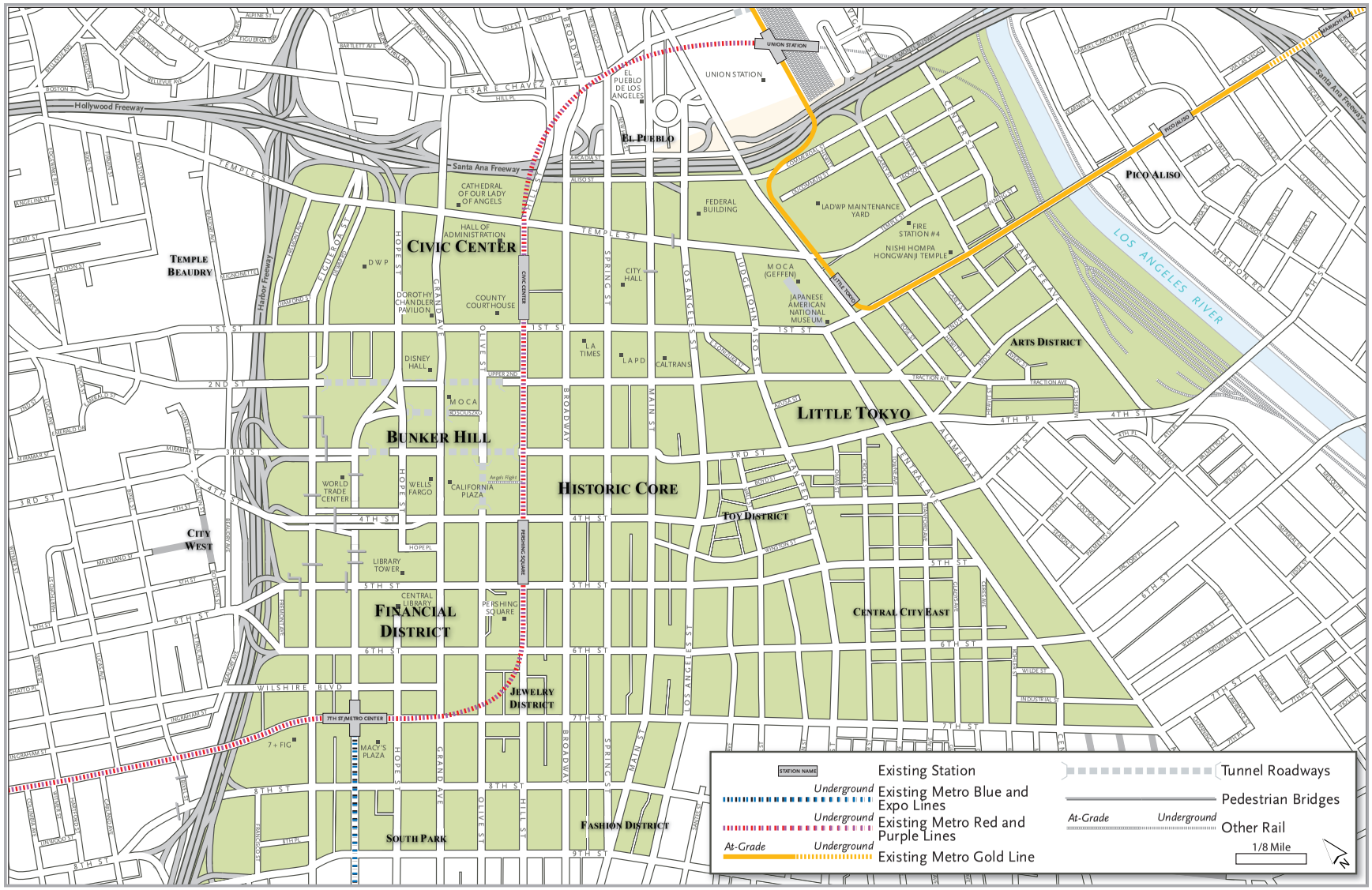


Figure ES-2: Project Area

to designate the Fully Underground LRT Alternative without the Flower/5th/4th Street station as the Locally Preferred Alternative (LPA). However, the project design would not preclude construction of a station at this location as a future, separate project.

The purpose of the proposed build alternatives, including the LPA, is to improve transit travel time and provide more reliable transit service

Based on comments received on the Draft EIS/EIR and input received from community meetings held during preparation of this Final EIS/EIR, refinements were made to the LPA to reduce or avoid previously identified impacts. The refinements to the LPA were analyzed where potential differences in impacts from the Draft EIS/EIR were identified. Some portions of the Draft EIS/EIR pertaining to these refinements were recirculated for a 45-day public review between July 22, 2011 and September 6, 2011. No changes to the National Environmental Policy Act (NEPA) impact findings or California Environmental Quality Act (CEQA) impact determinations were identified as a result of refinements to the LPA or other developments since publication of the Supplemental EA/Recirculated Draft EIR Sections.

The remainder of this Executive Summary describes the purpose and need of the project, a description of the alternatives studied in this EIS/EIR, a summary comparison of the alternatives, a summary of the adverse and/or significant environmental impacts of the LPA, and information regarding avoidance, minimization and mitigation measures.

Purpose and Need

Purpose

The purpose of the proposed build alternatives, including the LPA, is to improve transit travel time and provide more reliable transit service. The project would improve the region's public transit service and mobility by connecting the light rail service of the Metro Gold Line to the Metro Blue Line and the Metro Expo Line (currently under construction). This link would serve communities across the region, allowing greater accessibility while serving population and employment growth in downtown Los Angeles. Thus, the Regional Connector would benefit both riders moving through the downtown area and those whose destination is in the downtown area.

The Regional Connector is planned with the goal of improving travel times, reducing transfers, reducing traffic congestion, improving air quality, and creating a sustainable light rail transit system that serves people throughout the region as well as in downtown Los Angeles. The vision is to connect the spokes of the regional system and provide a "one-seat ride" (a trip with no transfers) from Long Beach to Montclair and from East Los Angeles and the San Gabriel Valley to Santa Monica.

Need

In evaluating the mobility and travel conditions within the project area, several issues emerged that revealed a need to provide improved transit connections and service within and across downtown Los Angeles. These needs include:

- Growth in population and employment will continue to draw both local and regional residents to the project area creating demand for transit services.

- Transit system expansions to the radial network centered on downtown Los Angeles will continue to funnel riders into the unconnected core creating concerns related to Metro Red and Purple Line capacity for connecting riders, crowded station platforms, and regional system schedule reliability.
- Transit dependent populations within the project area and along the existing light rail lines include low-income households, significant elderly populations, and a high percentage of zero car households.
- Travel demand data highlights the congested nature of the downtown core, the high percentage of commuters that come from outside of the project area, and the built up nature of the project area that prevents expansion of the road network.
- Transit usage requires multiple transfers for cross-town trips for both local and regional riders thereby increasing travel times.
- Local land use plans and policies, including the adopted City of Los Angeles General Plan Framework Element, Central City Community Plan, and Downtown Design Guidelines and Modified Street Standards, support increased transit alternatives, linking the regional system through downtown, and transit and pedestrian-friendly design in downtown communities.

Growth in population and employment will continue to draw both local and regional residents to the project area creating demand for transit services

Project Corridor

The project would link the regional destinations of Long Beach to Montclair and East Los Angeles and the San Gabriel Valley to Santa Monica without the need to transfer. The project area is located in downtown Los Angeles. It is bounded on the west by State Route (SR) 110 (Harbor Freeway); on the north by US 101 (Hollywood Freeway); on the south by 7th and 9th Streets; and on the east by Alameda Street between 7th and 4th Streets and the Los Angeles River between 4th Street and US 101 (Figure ES-2).

See Figure ES-2 on page ES-3

Description of Alternatives Studied in the Draft EIS/EIR

The Alternatives Analysis (AA) process identified and screened 36 potential transportation alternatives in light of the project's purpose and need, goals, and objectives. The AA process included initial technical analyses and community and public agency feedback gathered at meetings and public workshops. Alternatives considered in the AA represent the full spectrum of reasonable means of achieving the goals and objectives of the project. The AA evaluated the potential alternatives based on their environmental impacts, efficiency, financial feasibility, effectiveness, and equity. From the AA effort, alternatives emerged which were analyzed further in the Draft EIS/EIR and were confirmed and refined based on the public scoping process and community input received.

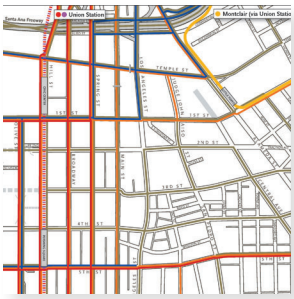
The AA process included initial technical analyses and community and public agency feedback

All proposed light rail transit (LRT) build alternatives studied in the Draft EIS/EIR would begin underground at the existing Metro Blue Line (and future Metro Expo Line) platform at the 7th Street/Metro Center Station. The tracks

would extend in a northeastern direction to a new junction with the Metro Gold Line near Alameda Street. Three build alternatives were analyzed in the Draft EIS/EIR and are further described below.

In addition to the LRT alternatives, a No Build Alternative and a Transportation System Management (TSM) Alternative were also studied in the Draft EIS/EIR. The No Build and TSM Alternatives demonstrate how the regional transportation system would function if the proposed project was not implemented, and serve as benchmarks for measuring the potential impacts of the build alternatives.

No Build Alternative



See Figure ES-3 on page ES-7

The No Build Alternative is the future scenario without the TSM or any of the proposed build alternatives. The No Build Alternative does not include any major service improvements or new transportation infrastructure beyond what is listed in Metro's 2009 LRTP. Figure ES-3 illustrates the transit lines that currently serve the project area.

By the projection year of 2035, the Metro Expo Line to Santa Monica, Metro Purple Line to Westwood, Metro Crenshaw Line, Metro Green Line to the South Bay and LAX, and the Metro Gold Line to Azusa (which will ultimately run to Montclair) and the San Gabriel Valley will have opened, and a number of bus routes will have been reorganized and expanded to provide connections with these new rail lines. The transit network within the project area would otherwise be largely the same as it is now.

Transportation System Management Alternative

See Figure ES-4 on page ES-8

The TSM Alternative includes all of the provisions of the No Build Alternative, plus two new express shuttle bus lines linking the 7th Street/Metro Center and Union Stations. These buses would run frequently, just a few minutes apart, especially during peak hours. Enhanced bus stops would be located every two to three blocks to maximize coverage of the area surrounding the routes. Rail service would remain the same as for the No Build Alternative.

Build Alternatives

An LRT system consists of electric trains powered by overhead wires, typically operating in an urban transit setting. LRT uses conventional steel tracks, which have the flexibility to be placed in exclusive surface right-of-way, in tunnels, on elevated viaducts, in street medians, or in mixed flow traffic lanes. This allows light rail trains to operate in a variety of environments. From the AA effort, two build alternatives emerged which were analyzed further in the Draft EIS/EIR. These alternatives are:

- At-Grade Emphasis LRT Alternative
- Underground Emphasis LRT Alternative

Metro undertook a unique and intense community engagement process to shape and compose the Draft EIS/EIR. Based on this extensive public outreach effort, the Fully Underground LRT Alternative evolved to more adequately address the community of Little Tokyo's concerns regarding potential impacts of the other build alternatives. The Metro Board of Directors voted in February 2010 to add the Fully Underground LRT Alternative to the Draft EIS/EIR analysis.

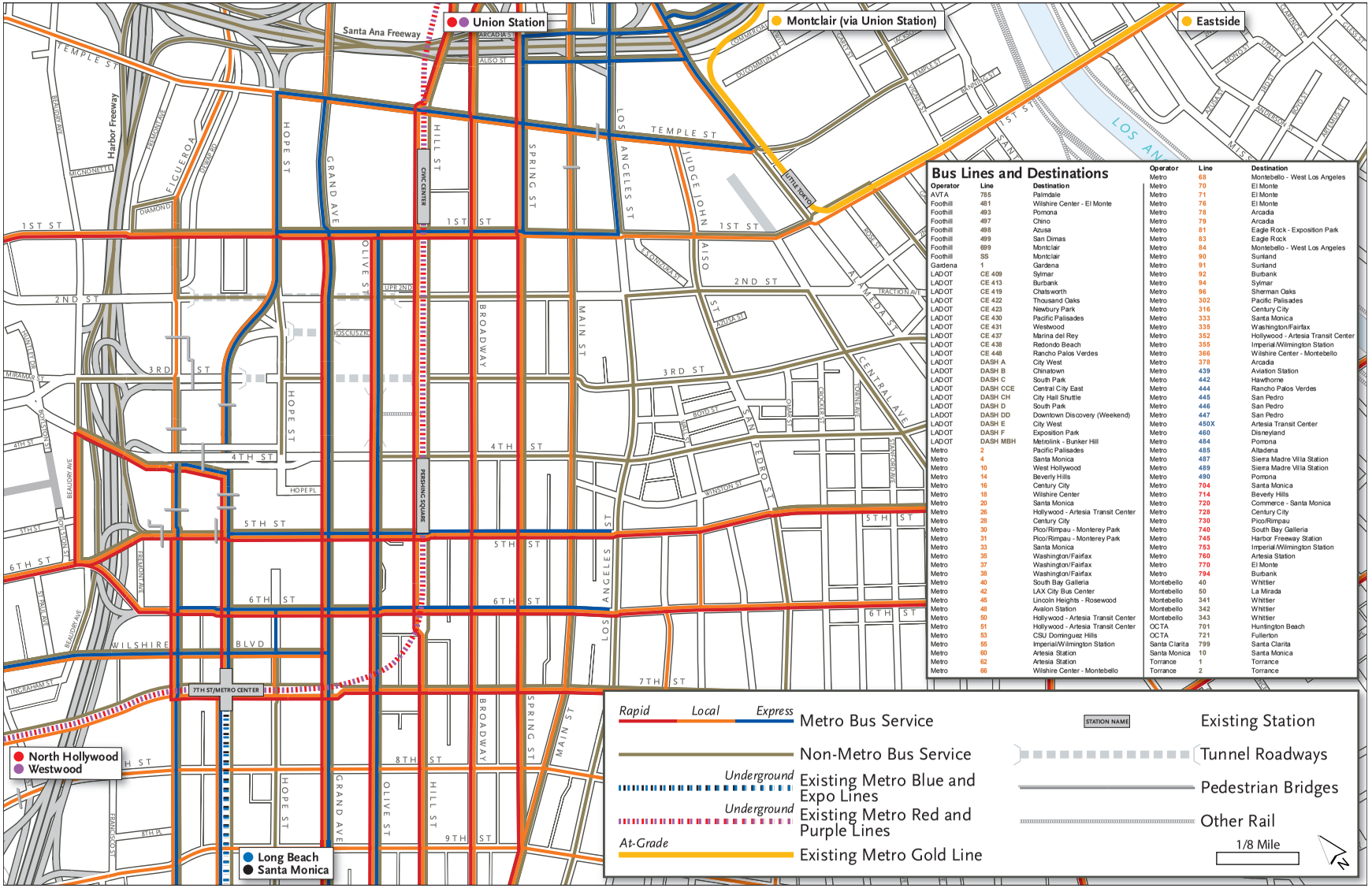


Figure ES-3: No Build Alternative

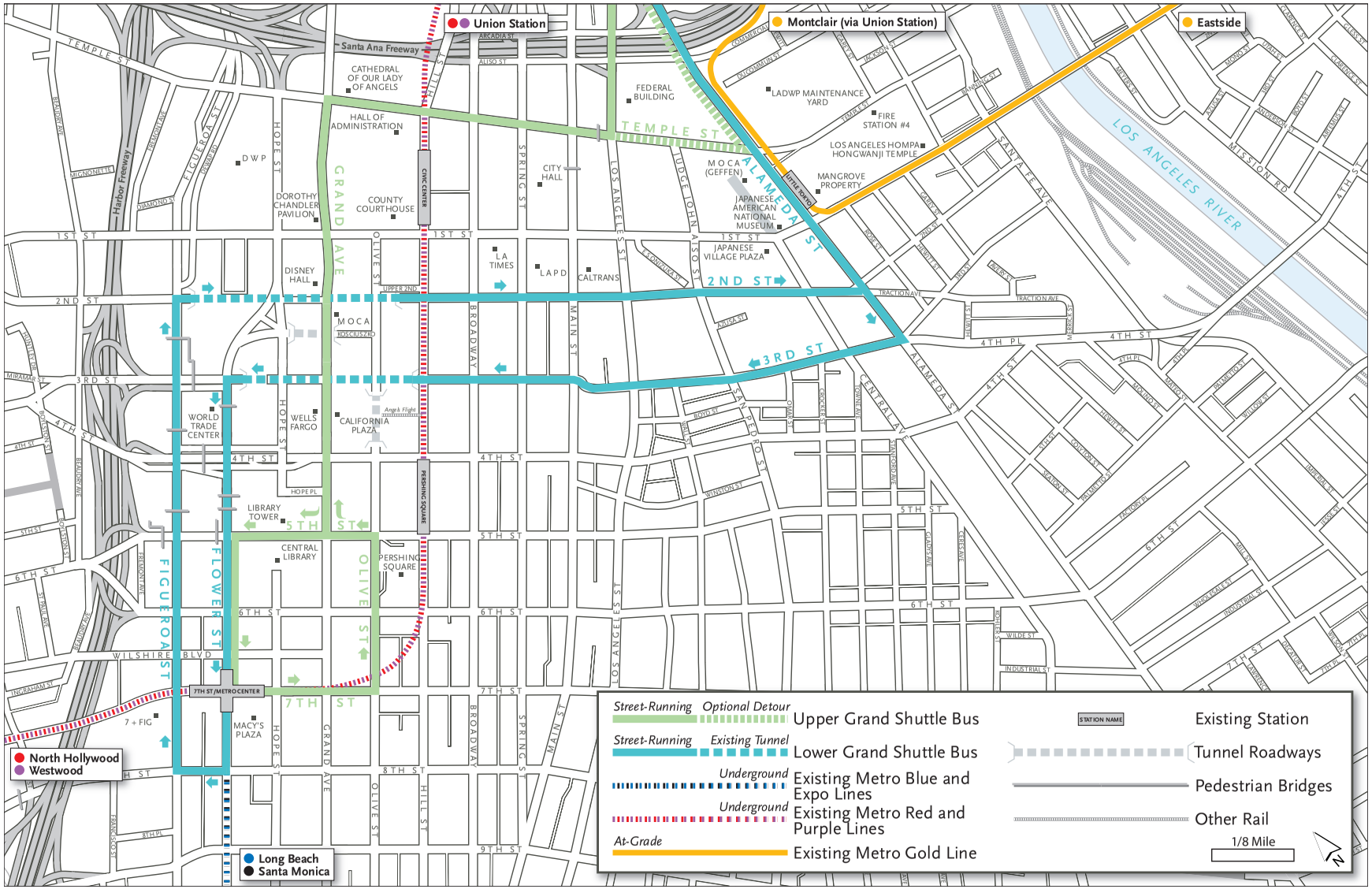


Figure ES-4: Transportation System Management Alternative

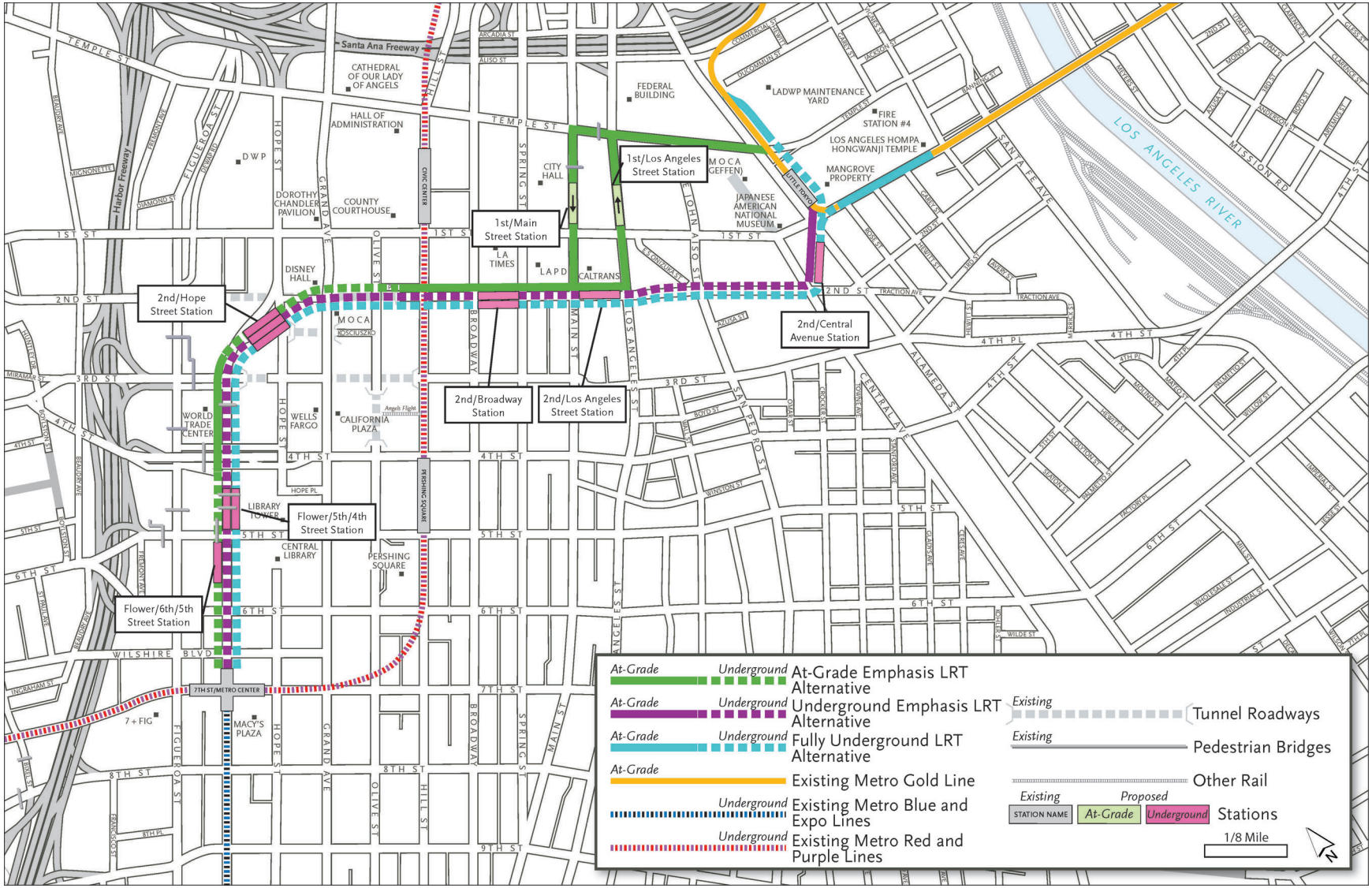


Figure ES-5: LRT Alignments and Stations Studied in the Draft EIS/EIR

See Figure ES-5 on page 9

Figure ES-5 shows all of the possible LRT routes and stations identified for study in the Draft EIS/EIR. The features and impacts of each of the build alternatives are described in the following section.

At-Grade Emphasis LRT Alternative

The At-Grade Emphasis LRT Alternative would provide a direct connection from the existing underground 7th Street/Metro Center Station to the Metro Gold Line at Temple and Alameda Streets with three new station locations. This alignment includes a combination of underground and at-grade segments, with 46 percent of the route underground. New stations would serve the Civic Center, Grand Avenue, and the Financial District. 2nd Street would be converted to a pedestrian-friendly transit mall between Hill and Los Angeles Streets. To implement this alternative, the number of traffic lanes and on-street parking spaces would be reduced on 2nd Street. As a result, traffic is likely to divert to adjacent parallel streets such as 1st and 3rd Streets, but the roadway capacity along these streets would remain unchanged. Roadway congestion would likely increase along these streets. Figure ES-6 provides an illustration of a typical at-grade alignment.

Figure ES-6: Typical At-Grade Alignment

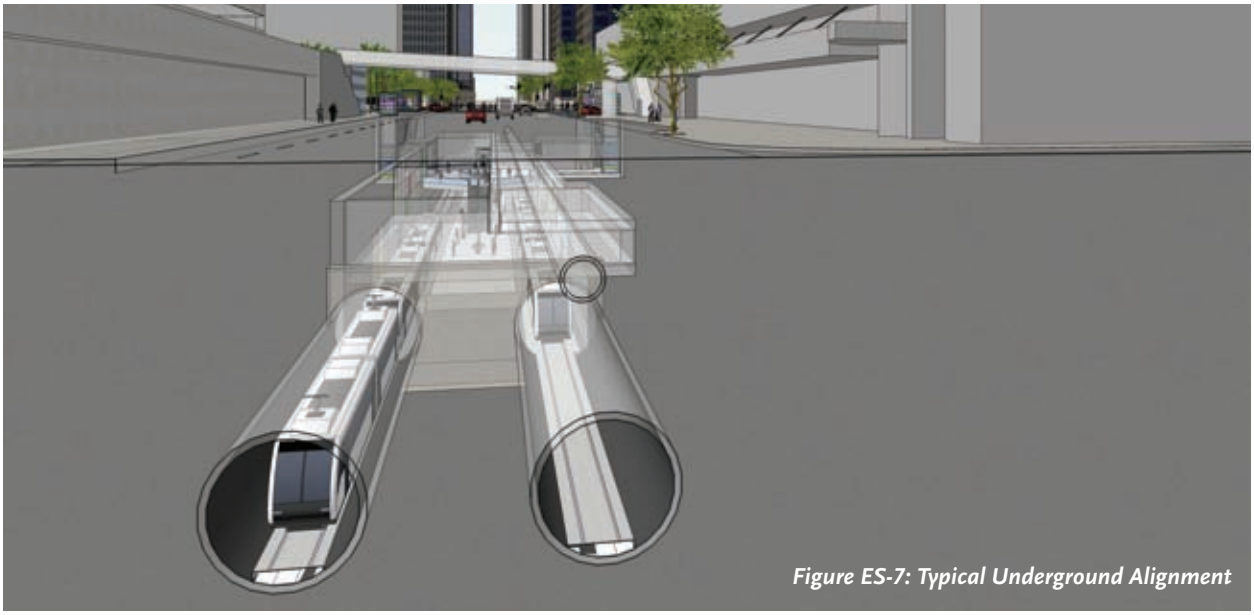


Figure ES-7: Typical Underground Alignment

Underground Emphasis LRT Alternative

The Underground Emphasis LRT Alternative would provide a direct connection from 7th Street/Metro Center Station to the Metro Gold Line tracks at the Little Tokyo/Arts District Station with three new station locations. The alignment would extend underground from the 7th Street/Metro Center Station under Flower Street to 2nd Street. The tracks would then proceed east underneath the 2nd Street Tunnel and 2nd Street to a new portal on the parcel bounded by 1st Street, Alameda Street, 2nd Street, and Central Avenue. It is anticipated that some of this parcel would need to be acquired to construct the portal and stage construction of the tunnels beneath 2nd Street. The new tracks would then connect to the tracks of the Metro Gold Line at-grade. The Underground Emphasis LRT Alternative would be located entirely underground except for a single at-grade crossing at the intersection of 1st and Alameda Streets. Figure ES-7 is an illustration of a typical underground alignment.

Fully Underground LRT Alternative

As a result of a unique and intense community engagement process that evolved from the scoping process, the Fully Underground LRT Alternative was developed to best address community concerns simultaneous with cost, operational, and design considerations. Based on this extensive public outreach effort, Metro staff recommended that the Fully Underground LRT Alternative be designated the staff-recommended LPA in the Draft EIS/EIR. This recommendation was made by Metro staff because this alternative uniquely addresses community concerns, and the Regional Connector's transportation purpose and need.

The Fully Underground LRT Alternative in the Draft EIS/EIR is essentially the same configuration as the Underground Emphasis LRT Alternative, except that it provides for four new underground stations instead of three, and it traverses under the intersection of 1st and Alameda Streets connecting to the Metro Gold Line within 1st Street and north of Temple Street.

The alignment would extend underground from the 7th Street/Metro Center Station under Flower Street and 2nd Street to Central Avenue in the same manner as the Underground Emphasis LRT Alternative. At 2nd Street and Central Avenue, the tracks would continue underground heading northeast under 1st and Alameda Streets.

An underground junction would be constructed beneath the intersection of 1st Street and Alameda Street. To the north and east of the junction, trains would rise to the surface through two new portals to connect to the Metro Gold Line heading north to Montclair and east towards I-605.

Figure ES-8 is an illustration of a typical underground station, and Figure ES-9 is a typical underground station entrance as seen from street level.

Figure ES-8: Typical Underground Station

Figure ES-9: Typical Underground Station Entrance

Figure ES-10 shows the existing Metro Rail system without the Regional Connector. Figure ES-11 shows how the system would operate with the LPA illustrating the enhanced connectivity, new stations, and reduction in transfers associated with this alternative.

Figure ES-10: Existing Metro Rail System

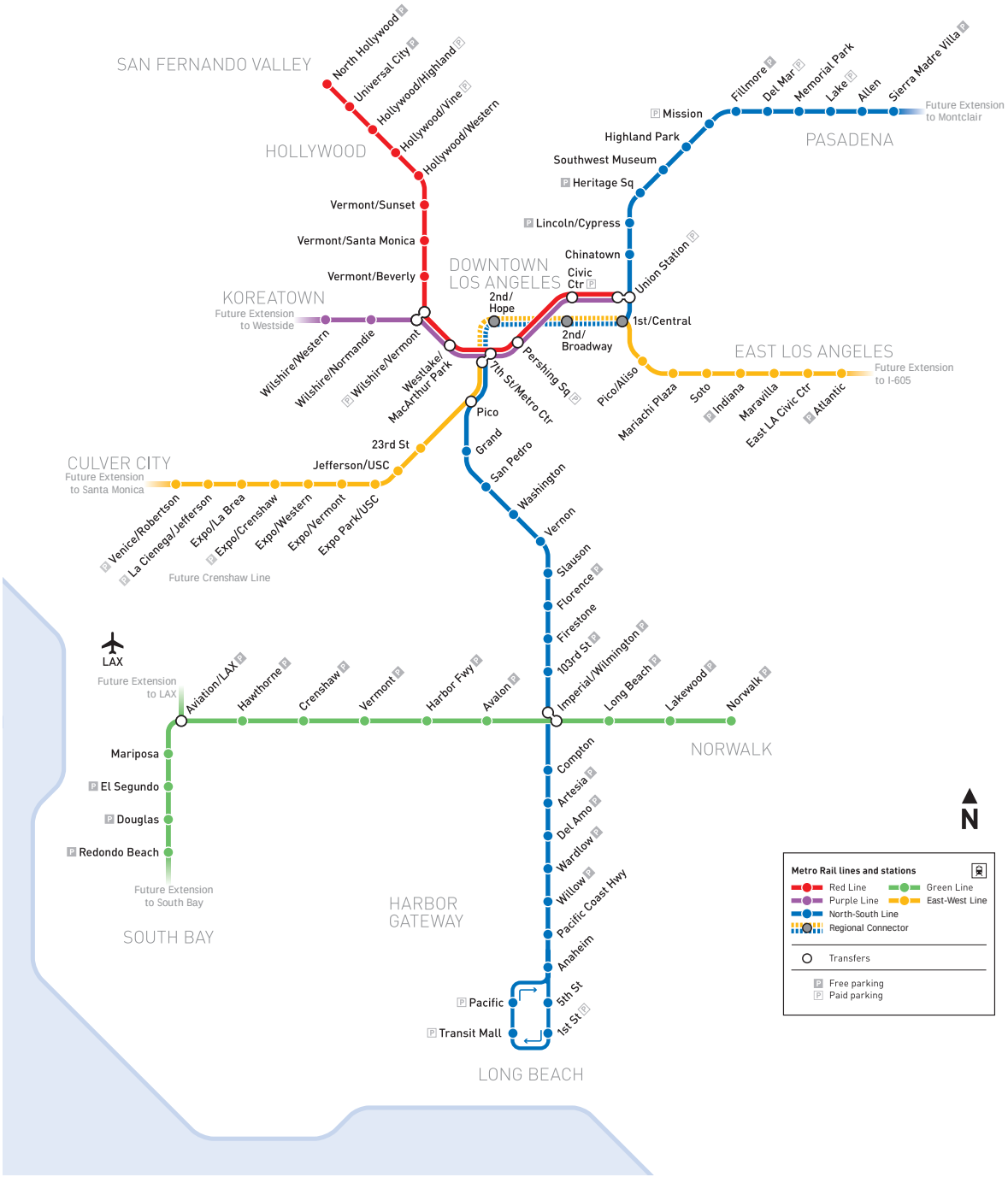


Figure ES-11: Metro Rail System with Locally Preferred Alternative

The Locally Preferred Alternative

Metro Board of Directors Designates the LPA

On October 28, 2010, the Metro Board of Directors concurred with staff's recommendation to designate the Fully Underground LRT Alternative as the LPA, with the elimination of the Flower/5th/4th Street station. The LPA is essentially the same configuration as the Fully Underground LRT Alternative, as analyzed in the Draft EIS/EIR, except that the LPA does not include the Flower/5th/4th Street station and it has been further refined to reduce impacts. However, the project design would not preclude construction of a station at this location as a future, separate project.

Key Refinements to the LPA

Based on comments received on the Draft EIS/EIR and input received from community coordination during preparation of this Final EIS/EIR, the following key refinements were made to the LPA to reduce or avoid previously identified impacts. The refinements are described in greater detail in Section 2.3.6 and Section 4.18 of this Final EIS/EIR.

Key refinements were made to the LPA to reduce or avoid previously identified impacts

- An enhanced pedestrian walkway would be created along the east side of Flower Street from the 4th Street and Flower Street area to the existing 7th Street/Metro Center Station entrance at 7th and Flower Streets.
- At 2nd Street and the pedestrian signal to the Japanese Village Plaza (JVP), the tracks would continue underground heading northeast under the JVP and 1st and Alameda Streets.
- Cut and cover on 2nd Street in Little Tokyo would not be required, which would result in less cut and cover overall during construction.
- The proposed Little Tokyo/Arts District underground station, 1st Street/Central Avenue station (previously called 2nd Street/Central Avenue station), would be partially located within Central Avenue and the northern half of the block bounded by 1st Street, Central Avenue, 2nd Street, and Alameda Street.
- The Tunnel Boring Machine (TBM) would be inserted at the property northeast of 1st and Alameda Streets, the Mangrove property (formerly known as the Nikkei development), and transported underground to Central Avenue south of 1st Street, where it would begin excavating westward.
- Tunnel boring activities from the Mangrove property insertion site would allow tunneling to proceed farther down Flower Street to 4th Street instead of ending at the proposed 2nd/Hope Street station.

Overview of the LPA Alignment

The LPA is shown in Figure ES-12. The alignment would extend underground from the 7th Street/Metro Center Station under Flower Street to 2nd Street. Tracks would then proceed east underneath the 2nd Street Tunnel and 2nd Street to just west of Central Avenue. At 2nd Street and the pedestrian signal to the JVP, the tracks would continue underground heading northeast under the JVP and 1st and Alameda Streets.

See Figure ES-12 on pg ES-16

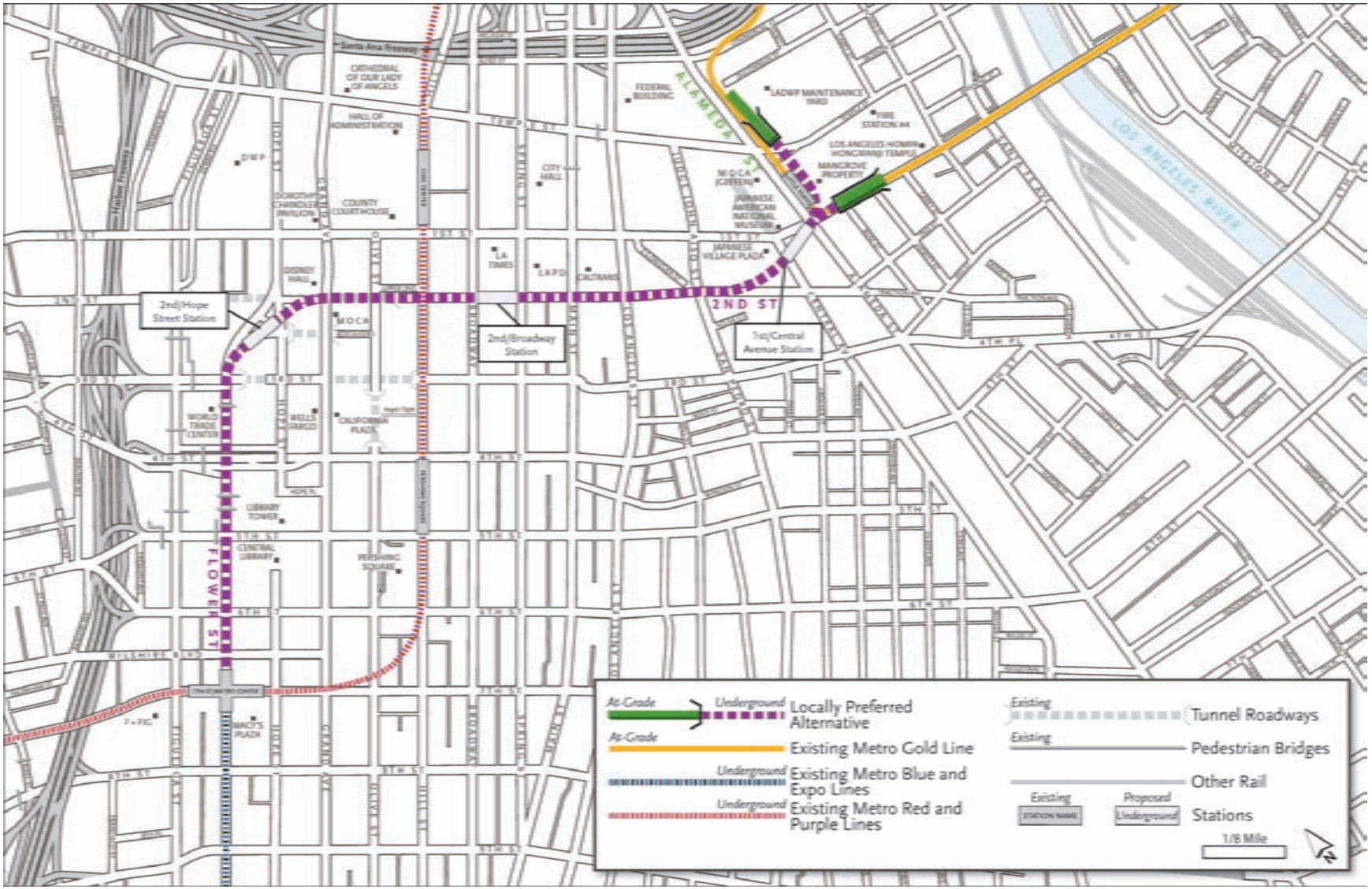


Figure ES-12: Locally Preferred Alternative

An underground junction would be constructed beneath the intersection of 1st Street and Alameda Street. Two portals would be needed to facilitate the connection between the underground Regional Connector and the at-grade Metro Gold Line branches to Pasadena/Montclair and the Eastside. The new portals would be located to the north and east of the junction, where trains would rise to the surface to connect to the Metro Gold Line heading north to Montclair and east towards I-605.

One portal would be located north of Temple Street, northeast of the existing at-grade Little Tokyo/Arts District Station and Metro Gold Line tracks. This portal would rise to the north within the maintenance yard of the City of Los Angeles Department of Water and Power (LADWP) and connect to the existing LRT bridge over US 101, allowing a connection to the Metro Gold Line to Montclair. Tracks would run from the junction under 1st and Alameda Streets through a new tunnel crossing beneath Temple Street and the Mangrove property (the property on the northeast corner of 1st and Alameda Streets) to the new portal. This new tunnel would run immediately east of the existing Little Tokyo/Arts District Station and Metro Gold Line tracks.

The second portal would be located within 1st Street between Alameda and Garey Streets, with the portal opening just west of Garey Street. Tracks would rise to the east within this second portal and connect at-grade to the existing Metro Gold Line tracks toward I-605. 1st Street would be widened to the north to accommodate this second portal and maintain the existing number of through lanes. The widening would initiate at Alameda Street and continue east, significantly tapering down as the alignment crosses Hewitt Street, returning to the existing condition prior to the Los Angeles Hompa Hongwanji Buddhist Temple, to join the existing 1st Street LRT tracks, just west of the 1st Street Bridge.

A temporary easement across the property northeast of 1st and Alameda Streets, the Mangrove property, would be needed for insertion of the TBM, to stage construction of both portals, to connect to the Metro Gold Line LRT bridge, and to construct the tunnels beneath Temple Street and the Mangrove property. During construction, tracks would be installed in this area at-grade to allow service to proceed on the Metro Gold Line while construction activities occur within the project area.

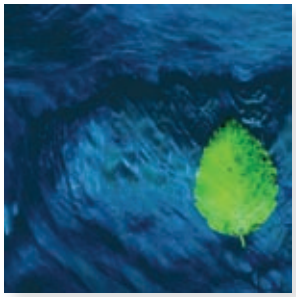
A summary comparison of alternatives is shown in Table ES-1. After the Draft EIS/EIR was published, adjustments to the ridership modeling baseline data were made in response to input received from FTA. Since the Metro Board of Directors had already designated the Fully Underground LRT Alternative as the LPA by the time FTA's comments were received, only the ridership modeling data for the No Build Alternative and the LPA were updated. The ridership modeling data for the other alternatives were not updated. As such, only the LPA modeling data is valid for the purposes of comparison with the No Build Alternative. The TSM Alternative and other build alternatives from the Draft EIS/EIR are shown for reference only.

Table ES-1: Summary Comparison of Alternatives

Criteria	No Build	TSM	At-Grade Emphasis	Underground Emphasis	Locally Preferred Alternative[1]
Alternative Features					
New Daily System-wide Linked Trips in 2035	N/A	5,300	12,300	14,900	17,700
Number of Transfers Needed to Reach:					
Long Beach from Pasadena	2	2	0	0	0
East Los Angeles from Culver City	2	2	0	0	0
East Los Angeles from Long Beach	2	2	1	1	1
Culver City from Pasadena	2	2	1	1	1
Little Tokyo/Arts District from Long Beach	2	1[2]	1	0	0
Little Tokyo/Arts District from Culver City	2	1[2]	0	1	0
Little Tokyo/Arts District from Pasadena	0	0	1	0	0
Little Tokyo/Arts District from East Los Angeles	0	0	0	1	0
Travel Times in Minutes From[3]:					
Chinatown Station to Pico Station	20	25[2]	17	15	13
Pico/Aliso Station to Pico Station	23	30[2]	15	10	11
Other Features:					
New Rail Stations	0	0	3	3	3
Alternative Length (miles)	N/A	N/A	1.8	1.6	1.9
FTA New Starts Cost-Effectiveness Index (CEI) vs. TSM	N/A	Base	$20.44	$17.12	$12.65[1]
Capital Costs (millions, 2009$)	None	$67.3	$899.2	$1,120.1	$1,167.8[4]
2035 Operating and Maintenance Costs (millions, 2009$)	Base	$14.3	$11.9	$5.1	$6.0[4]
Annual Greenhouse Gas Reduction (metric tons CO_2e)	Base	51,400	56,900	58,200-58,300	59,500-59,600
Environmental Impacts Remaining After Mitigation	**Adverse/Significant**				
Temporary Impediment of Traffic/Transit/ Bicycle/Pedestrian Circulation During Construction	No	No	Yes	Yes	Yes
Number of Intersections with Significantly Worsened Traffic Congestion due to Operations	Base	None	AM: 11 PM:15	AM: 2 PM: 3	AM: 1 PM: None
Conflict with Applicable Land Use Plans	Yes	Yes	No	No	No
Possible Destruction of Unknown Paleontological Resources	No	No	No	Yes	Yes
Use of Resources Protected Under Section 4(f) of the USDOT Act of 1966	No	No	Yes	De Minimis	De Minimis
Maximum Construction Emissions (lbs./day):					
Volatile Organic Compounds (VOC)	None	None	119	147	193
Nitrogen Oxides (NO_x)	None	None	432	488	626
Carbon Monoxide (CO)	None	None	908	998	1,304
Change in Nitrogen Oxides Emissions due to Operations Compared to No Build (lbs./day)	Base	+16	-6	-6	-6
Disproportionate Burden on a Minority Community After Mitigation:					
Traffic Congestion Deterioration	No	No	No	Yes	No
Community and Neighborhood Impacts	No	No	No	Yes	No
Visual and Aesthetic Impacts	No	No	Yes	Yes	No

1 No Build and LPA reflect adjustments to ridership modeling baseline data since publication of the Draft EIS/EIR
2 Assumes use of TSM shuttles instead of the Metro Red/Purple Lines
3 Assumes five minutes for each transfer.
4 Year 2011 dollars.

Summary of Environmental Impacts of the LPA



Based on guidance contained in NEPA and CEQA, this Final EIS/EIR studied the potential environmental consequences associated with construction and operation of the project alternatives and the No Build Alternative. NEPA requires that the No Build Alternative continue to be evaluated because it serves as the basis for identifying project-related effects.

Due to the highly urbanized nature of the project area, environmental impacts would pertain primarily to the built environment. Over 20 categories of environmental impacts were evaluated. Adverse effects under NEPA and significant impacts under CEQA before mitigation are summarized in Table ES-2 at the end of this Executive Summary. Only environmental impact categories where the LPA will have adverse effects or significant impacts remaining after mitigation are listed below under unavoidable adverse impacts. More information regarding other environmental impacts that will not be adverse/significant after mitigation is provided in Table ES-2 and the appropriate sections of Chapters 3 and 4. The topics where there will not be an adverse effect under NEPA or significant impact under CEQA after mitigation are:

- Land Use and Development
- Displacement and Relocation of Existing Uses
- Community and Neighborhood Impacts
- Visual and Aesthetic Impacts
- Climate Change
- Noise and Vibration
- Ecosystems/Biological Resources
- Geotechnical/Subsurface/Seismic/Hazardous Materials
- Environmental Justice
- Section 4(f) Resources
- Water Resources
- Energy Resources
- Historic – Built Environment
- Historic – Archaeology
- Parklands and Other Community Facilities
- Economic and Fiscal Impacts
- Safety and Security
- Growth-Inducing Impacts

Avoidance, Minimization, and Mitigation Measures

Metro is committed to satisfying applicable federal, state, and local environmental regulations and to applying reasonable mitigation measures to reduce adverse effects and significant impacts. Candidate mitigation measures to mitigate potential impacts from the project alternatives were identified in the Draft EIS/EIR. Avoidance and minimization measures were identified along with other potential measures that will reduce or eliminate impacts. This Final EIS/EIR includes the Mitigation Monitoring and Reporting Program (Chapter 8) that contains mitigation measures for the Regional Connector LPA. The mitigation measures therein were developed based on the candidate mitigation measures identified in the Draft EIS/EIR, input received from the public and agencies during the Draft EIS/EIR and Supplemental EA/ Recirculated Draft EIR Sections public review periods, and further analysis and specification of the mitigation measures in preparing this Final EIS/ EIR. The mitigation measures specified in the Mitigation Monitoring and Reporting Program supersede all previously studied, analyzed, and considered mitigation measures. All mitigation measures therein shall be implemented and monitored by Metro.

Unavoidable Adverse Impacts of the LPA

After mitigation, the LPA will have unavoidable adverse impacts in five categories. These impacts are described below.

Transportation

After mitigation measures are implemented for the LPA, the intersection of 4th and Flower Streets will continue to be adversely affected during the AM peak hour. This impact would be considered significant under CEQA. In the PM peak hour, three intersections: 4th and Flower Streets, 5th and Flower Streets and 6th and Flower Streets potentially would be adversely affected. With the implementation of mitigation measures, the effect will not be adverse under NEPA and will be considered less than significant under CEQA.

Air Quality

Even with implementation of mitigation during construction, regional construction emissions of volatile organic compounds (VOC), nitrogen oxides (NO_x), and carbon monoxide (CO) will remain adverse, significant and unavoidable under CEQA. With implementation of mitigation, localized construction emissions will be reduced below the maximum allowable emissions and therefore, less than significant. Operational emissions for the LPA will be less than significant under CEQA and not adverse under NEPA.

Although regional construction emissions will be significant and unavoidable, the operation of the LPA will result in improved air quality associated with the reduction in regional Vehicle Miles Traveled (VMT).

Paleontology

The LPA will not have significant impacts under CEQA or adverse effects under NEPA on paleontological resources with implementation of proposed mitigation measures with the exception of areas where potential impacts associated with tunneling operations cannot be mitigated. In areas where new underground TBM segments would be constructed, mitigation for impacts to paleontological resources will not be feasible and thus construction and cumulative impacts will be significant and unavoidable. The LPA will not result in adverse or significant operational impacts to paleontological resources.

Construction

With incorporation of mitigation measures, construction of the LPA will still result in significant construction impacts under CEQA and adverse effects under NEPA to bus transit, traffic circulation, pedestrian and bicycle movements, regional air quality, and paleontology.

Cumulative Impacts

With incorporation of mitigation measures, construction of the LPA could still result in a considerable contribution to cumulative construction impacts associated with bus transit, traffic circulation, pedestrian and bicycle movements, and regional construction emissions under NEPA and CEQA.

Operation of the LPA would result in a considerable contribution to an adverse cumulative effect under NEPA and a significant cumulative impact under CEQA at one intersection (Flower Street/ 4th Street) during the AM peak hour.

In areas where TBM construction would occur, mitigation for impacts to paleontological resources will not be feasible, and thus cumulative construction impacts to paleontological resources will be significant and unavoidable.

Areas of Controversy/Issues to be Resolved

During review of the Draft EIS/EIR, the Little Tokyo community expressed concerns regarding construction impacts to businesses. Based on comments received on the Draft EIS/EIR and input received from community meetings held during preparation of this Final EIS/EIR, refinements were made to the LPA, which are described in further detail in Chapter 2, to reduce construction impacts. Based on comments received on the Supplemental EA/Recirculated Draft EIR Sections, the Little Tokyo community continues to be concerned about construction impacts to Little Tokyo including small businesses. The Mitigation Monitoring and Reporting Program includes mitigation for these impacts including the commitment of Metro to continue to work with and communicate with the community to resolve this concern. Metro is committed to working with the community and businesses to ensure that the mitigation measures in the Mitigation Monitoring and Reporting Program are effective.

Permanent displacement of approximately 270 off-street parking spaces would occur as a result of the acquisitions required for the LPA. Approximately 130 of these off-street parking spaces are in the Little Tokyo community, where businesses and residents have expressed concern over the potential loss of parking. Surface parking lots are an important resource in downtown Los Angeles due to the presence of many historic buildings that do not provide the amount of off-street parking required by current planning code. During construction, parking services such as valet parking will be provided as detailed in the Mitigation Monitoring and Reporting Program. The Regional Connector would provide new non-auto access to the area, and partially offset the parking demand in the area. While parking has been an area of controversy, it will be resolved by implementation of the mitigation measures that have been developed and included in the Mitigation Monitoring and Reporting Program.

Table ES-2 is a summary of impacts, mitigation measures, and impacts remaining after mitigation associated with the LPA. Each mitigation measure has a unique assigned number. To see the full extent and details of each mitigation measure, please refer to the Mitigation Monitoring and Reporting Program (MMRP) for the LPA in Chapter 8 of this Final EIS/EIR.

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Transportation Impacts		
Traffic circulation disruption would occur during construction.	TR-1: Prior to the initiation of localized construction activities, a traffic management and construction mitigation plan shall be devised. The closure schedules in the construction traffic plan shall be coordinated to minimize impacts to residences, businesses, special events, and traffic flow. During these times, traffic shall be re-routed to adjacent streets via clearly marked detours. The traffic management and construction mitigation plan shall identify, for instance, proposed closure schedules and detour routes; construction traffic routes, including haul truck route, and hours so as to avoid peak hours where feasible. It shall also account for the provisions below. Traffic flow shall be maintained, particularly during peak hours, to the degree feasible. Access to adjacent businesses shall be maintained at all times during business hours, and to residences at all times. Metro shall provide signage and post advance notice signs prior to construction in areas where business access could be affected. Metro shall notify Los Angeles Department of Transportation (LADOT) and advisory committees in advance of street closures, detours, or temporary lane reductions. See also CN-1 through CN-3 and CN-5.	Adverse/Significant construction-related traffic, transit, bicycle, and pedestrian circulation effects/impacts.
Construction haul routes along project area streets would be needed.	TR-2: Haul routes shall be located to minimize noise, vibration, and other possible impacts to adjacent businesses and neighborhoods. Truck trips shall be primarily scheduled at times when they would be least disruptive to the community. If physical damage to the haul route roads occurs due to project-related traffic, the roads shall be restored to their pre-construction condition as quickly as is practicable.	Adverse/Significant construction-related traffic, transit, bicycle, and pedestrian circulation effects/impacts.

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Street parking would need to be temporarily removed during construction.	TR-3: To avoid impacts to neighborhood parking supplies, Metro shall require the contractor to designate areas for construction/contractor employee parking and shall not allow employees to park in other lots or unauthorized areas. Metro shall identify and implement measures to reduce the need for parking by construction workers, including carpool incentives, transit passes, or designated on-site or off-site parking. Metro shall direct construction workers not to park on the street. See also DR-4 and DR-5.	Not Adverse/Less than Significant
Re-routing of pedestrian and bicycle traffic would be needed during construction.	TR-4: Safe pedestrian detours shall be provided as needed. Access shall be Americans with Disabilities Act (ADA) accessible at all times per existing Metro policy. TR-5: Detours shall be provided as needed. Metro shall provide signage showing the alternate bicycle routes. Pedestrian and bicycle circulation, and travel lanes temporarily impacted during construction shall be restored to their permanent configurations at the conclusion of the construction period and prior to operations.	Adverse/Significant construction-related traffic, transit, bicycle, and pedestrian circulation effects/impacts.
Permanent reductions in intersection performance on Flower Street from 4th to 6th Streets would occur.	TR-6: At the intersection of 4th and Flower Streets, Metro, in coordination with LADOT, shall permanently restripe the southbound Flower Street approach to provide one shared left-turn/through lane and two through lanes. Metro, in coordination with LADOT, shall also optimize the signal splits. TR-7: At the intersection of 5th and Flower Streets, Metro, in coordination with LADOT, shall permanently restripe the southbound Flower Street approach to provide three through lanes and one exclusive right-turn lane. Metro, in coordination with LADOT, shall also optimize the signal splits. TR-8: At the intersection of 6th and Flower Streets, Metro, in coordination with LADOT, shall permanently restripe the eastbound 6th Street approach to provide three through lanes and two exclusive right-turn lanes. Metro, in coordination with LADOT, shall also optimize the signal splits.	After mitigation measures are implemented, the intersection of 4th and Flower Streets would continue to be adversely affected during the AM peak hours. This impact would be considered significant under CEQA. In the PM peak hour, three intersections: 4th and Flower Streets, 5th and Flower Streets and 6th and Flower Streets would potentially be adversely affected. With the implementation of mitigation measures, the effect would not be adverse under NEPA and would be considered less than significant under CEQA.

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Shuttle bus drop-off areas for City National Plaza could be affected by construction activities.	TR-9: Metro shall ensure that shuttle bus drop-off areas at City National Plaza are provided throughout construction.	Not Adverse/Less than Significant
Connectivity with other transit lines and pedestrian systems would be needed.	TR-10: Metro shall design and implement linkages with the proposed streetcar project and Bringing Back Broadway project at the 2nd/Broadway station. The project shall also provide a knockout panel to the west side of Flower Street at 3rd Street to connect to the pedestrian system previously designed by the City of Los Angeles. TR-11: Metro shall construct an enhanced pedestrian walkway along the east side of Flower Street between 4th and 7th Streets to better connect the Financial District to the improved transit services available at the existing 7th Street/Metro Center Station.	Not Adverse/Less than Significant
Access to some bus stops would be restricted during construction.	TR-12: Metro shall maintain access to bus stops and provide adequate signage to guide bus users to accessible stops. Metro shall minimize temporary closures or relocations of bus stops and layover zones. Metro shall provide notices of closures and relocations on its website, smart phone apps, and other modes typically used to communicate service announcements. When closures of other bus operators' stops are needed, Metro shall work closely with the affected operators to provide notices.	Adverse/Significant construction-related traffic, transit, bicycle, and pedestrian circulation effects/impacts.
Some bus stops would need to be temporarily relocated due to street closures during construction, and buses may need to be re-routed around construction areas.	TR-13: Metro shall temporarily relocate bus stops to nearby alternative locations based on the re-routing of bus service, and provide adequate signage and notices at strategic locations indicating the relocated bus stops.	Adverse/Significant construction-related traffic, transit, bicycle, and pedestrian circulation effects/impacts.
Displacement and Relocation Impacts		
Partial taking of parking and primary access to the Central Plant (APN 5151-014-032, 703 W. 3rd Street).	DR-1: Metro shall provide replacement parking elsewhere on the parcel or on a nearby parcel during construction. DR-2: Metro shall maintain access to the Central Plant at all times during construction.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Some privately-owned parcels needed for construction staging currently contain buildings, but would be owned by Metro and may be vacant after construction.	DR-3: Upon completion of construction, property needed for construction but not required to maintain the physical infrastructure or necessary for access shall be included in the Metro Joint Development Program for possible development. Any development shall be environmentally and separately cleared from this project and shall undergo its own community input process. Until a development is approved, the remaining underutilized property may be used for public parking spaces or at the very least shall be graded and fenced to a higher standard that reflects the community's identity and character more than typical gravel and chain link. Per Metro's Joint Development Policy, the community shall be included in the development process.	Not Adverse/Less than Significant
Public parking spaces would be lost in Little Tokyo during construction.	DR-4: Metro shall work with the City to develop a parking mitigation program to mitigate the loss of public parking spaces during construction. Such parking mitigation shall be implemented on a temporary, tiered basis pending findings of the annual parking analysis described in EJ-11. DR-5: Metro shall not hinder access to other public parking lots during construction. See also EJ-2 through EJ-9, EJ-11, and EF-1.	Not Adverse/Less than Significant
Access to the Little Tokyo Library and other community destinations could be affected by construction.	DR-6: Metro shall maintain access to the Little Tokyo Library and other community facilities at all times during construction. DR-7: Metro shall develop a Construction Mitigation Program that includes protocol for community notification of construction activities, including traffic control measures, schedule of activities, and duration of operations, with written communications to the community translated into appropriate languages.	Not Adverse/Less than Significant
Displacement and relocation of businesses would be necessary.	DR-8: Metro shall provide relocation assistance and compensation as required by the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.	Not Adverse/Less than Significant
A portion of the LADWP site on parcels 5173-007-901 and 5173-006-900 would need to be permanently acquired for right-of-way.	DR-9: Metro shall consult Los Angeles Department of Water and Power (LADWP) during the design phase to accommodate its operational needs during construction and operation of the project.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Community and Neighborhood Impacts		
Disruption of traffic patterns during construction would affect access to residences and businesses, which could affect the economic vitality of some businesses.	CN-1: Accessible detours shall be provided whenever possible. Detours shall be compliant with the ADA. Signage shall be provided in those languages most commonly spoken in the immediate community. Detours shall be designed to minimize cut-through traffic in adjacent residential areas. CN-2: Early notification of traffic disruption shall be given to emergency service providers. Work plans and traffic control measures shall be coordinated with emergency responders to prevent impacts to emergency response times. CN-3: Traffic management and construction mitigation plans shall be developed in coordination with the community to minimize disruption and limit construction activities during special events. Worksite Traffic Control Plans shall be developed in conjunction with LADOT and surrounding communities to minimize impacts to traffic, businesses, residents, and other stakeholders. CN-4: A 24-hour live hotline for community concerns regarding construction shall be provided, as well as a project office within the Little Tokyo community. Residents and businesses shall also be provided with comment/complaint forms during construction. A construction office shall also be placed within the community to provide in-person assistance and services. Metro shall negotiate with the Japanese American National Museum (JANM) to locate the office within the museum's historic building on 1st Street. The hotline and office shall enable Metro to maintain day-to-day contact with the community during construction and provide community members with all project details that may be relevant to the public. CN-5: A community outreach plan shall be developed and implemented to notify local communities and the general public of construction schedules and road and sidewalk detours. Construction activities shall be coordinated with special events. CN-6: Metro shall develop a construction mitigation plan with community input to directly address specific construction impacts in the project area. Metro shall establish and receive input from the Regional Connector Community Leadership Council (RCCLC) in developing the construction mitigation plan. The RCCLC shall consist of representatives from all parts of the alignment area. Metro shall work with the RCCLC in developing the outreach plan.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	See also DR-4 and DR-5.	
Construction sites could have a negative impact on the community if left unsecured.	CN-7: Barriers shall be erected and security personnel provided during construction to minimize trespassing and vandalism. Barriers shall be enhanced with culturally-relevant artwork, attractive design features, and advertisements for parking locations and businesses. Signage shall also identify that businesses are open during construction. Community input shall be sought in determining artwork and design features.	Not Adverse/Less than Significant
The 1st/Central Avenue station should incorporate the Arts District's identity, in addition to Little Tokyo.	CN-8: Metro shall implement urban design improvements in the form of an "Arts District Path" linking the Arts District to the 1st/Central Avenue station. Metro shall invite Southern California Institute of Architecture and other local students to participate in the path's design. CN-9: Design of the 1st/Central Avenue station shall encourage connections and pedestrian travel to the Japanese Village Plaza (JVP), Los Angeles Hompa Hongwanji Temple, the JANM, and businesses south of 2nd Street.	Not Adverse/Less than Significant
Temporary intermittent utility disruption could occur as part of construction.	CN-10: Metro shall field verify (by potholing or other methods) the exact locations and depths of underground utilities and conduct condition checks prior to utility relocation. CN-11: Metro shall coordinate closely with utility providers to develop a service plan as needed to address planned and unplanned utility service interruptions. Should an unplanned outage occur as a result of construction activities, Metro shall contact the appropriate utility provider immediately to restore service. Metro shall also maintain access to utilities for providers' technicians. Metro shall provide protective measures such as pipe and conduit support systems, vibration and settlement monitoring, trench sheeting, and shoring during construction to avoid potential damage to utilities.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Visual and Aesthetic Impacts		
Prominent street-level features would be installed, including station entrances and tunnel portals. Visual character of the corridor could change slightly.	VA-1: Metro shall coordinate with the station area communities to obtain input on the urban design of the project within the community. VA-2: Urban design measures shall be developed to integrate the light rail transit (LRT) facilities (stations, portals, entrances, etc.) into each community as appropriate.	Not Adverse/Less than Significant
Temporary visual impacts could occur during construction, but would be less than significant.	VA-3: Metro shall shield temporary lighting during construction to reduce spillover lighting. VA-4: Metro shall locate stockpile areas (storage areas for construction equipment, supplies, and excavated soil) primarily in less visually sensitive locations, where they are not visible from the road or to businesses or residents. VA-5: Temporary construction sheds and barricades shall be located so as to avoid obscuring significant views of historic properties.	Not Adverse/Less than Significant
Air Quality		
Construction emissions of volatile organic compounds (VOC), nitrogen oxides (NO_X), carbon monoxide (CO), and particulate matter (PM_{10} and $PM_{2.5}$) would occur.	AQ-1: Contractors shall be required to adhere to South Coast Air Quality Management District (SCAQMD) standards for off-road engine emissions (refer to Section 4.5.1.1). AQ-2: Metro shall require contractors to use equipment that meets up-to-date specifications (equivalent to models manufactured from 2013 to 2017) for pollutant emissions during project construction. AQ-3: Contractors shall be required to adhere to SCAQMD standards for dust emissions such as SCAQMD Rule 403. AQ-4: Dirt from construction equipment shall not extend 25 feet or more from an active operation, and shall be removed at the conclusion of each workday (refer to Section 4.5.3.3). Street sweeping services shall be coordinated with construction activity to minimize impacts to surrounding businesses and residences.	Even with implementation of mitigation during construction, regional construction emissions of VOC, NOx, and CO would remain adverse, significant and unavoidable under CEQA. With implementation of mitigation, localized construction emissions would be reduced below the maximum allowable emissions and therefore, less than significant. Operational emissions for the LPA would be less than significant under CEQA and not adverse under NEPA.

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	AQ-5: Contractors shall be required to utilize at least one of the measures set forth in SCAQMD Rule 403 Section (d)(5) to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site. AQ-6: All haul trucks hauling soil, sand, and other loose materials shall maintain at least six inches of freeboard (not filling trucks all the way to the top) in accordance with California Vehicle Code 23114. AQ-7: All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce dust emissions) (refer to Section 4.5.1.1). AQ-8: Traffic speeds on unpaved roads shall be limited to 15 MPH. AQ-9: When wind gusts exceed 25 MPH, Metro shall require the contractor to implement the requirements of SCAQMD Rule 403, as they apply to each of the construction activities identified below: • Earth-moving activities • Disturbed surface areas • Unpaved roads • Open storage piles • Paved road track-out Any other control measures approved by the Executive Officer and the United States Environmental Protection Agency as equivalent to the methods specified in SCAQMD Rule 403 may be used. AQ-10: Heavy equipment operations shall be suspended during second stage smog alerts as issued by SCAQMD. AQ-11: On-site stockpiles of debris, dirt, or rusty materials shall be covered or watered at least two times per day. AQ-12: Contractors shall utilize electricity supplied by LADWP rather than temporary diesel or gasoline generators, as feasible.	

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	AQ-13: Heavy-duty trucks shall be prohibited from idling in excess of five minutes, both on- and off-site. Metro shall employ California Air Resources Board anti-idling requirements during construction. Metro shall require the contractor to regularly perform unscheduled inspections of construction equipment and activities to ensure minimization of associated air quality impacts. AQ-14: Construction worker parking shall be configured to minimize traffic interference. AQ-15: Construction activity that affects traffic flow on the arterial system, including the transportation of excavated materials, shall be primarily limited to off-peak hours. AQ-16: Metro shall require ongoing maintenance and adherence to manufacturer's specifications for all construction equipment engines and vehicles. AQ-17: Dedicated turn lanes for the movement of trucks and equipment to and from construction sites shall be provided where appropriate. AQ-18: Metro shall require on-site construction equipment to meet EPA Tier 2 or higher emission standards according to the January 1, 2012 to December 31, 2014 and post-January 15, 2015 criteria. AQ-19: Metro shall maintain and clean all trucks and construction equipment. AQ-20: Metro shall use low-sulfur fuel where possible. AQ-21: The project and stations shall be designed and constructed in a manner consistent with Metro's sustainability policies (such as Metro's Energy and Sustainability Policy).	

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Construction-related lane closures and intersection improvements would result in increased emissions, particularly CO emissions, at the major points of delay.	AQ-22: Detour routes shall be designed to ensure that traffic does not idle for extended periods of time, thus reducing the potential for localized exceedence of federal CO/CO_2 standards.	Even with implementation of mitigation during construction, regional construction emissions of VOC, NOx, and CO would remain adverse, significant and unavoidable under CEQA. With implementation of mitigation, localized construction emissions would be reduced below the maximum allowable emissions and therefore, less than significant. Operational emissions for the LPA would be less than significant under CEQA and not adverse under NEPA.
Noise and Vibration		
Sensitive or historic buildings within 21 feet of construction may be susceptible to vibration damage.	NV-1: Mitigation Measure CR/B-2 shall also apply to sensitive, non-historic structures (Category I, II, III, IV buildings as defined in Table 4.7-4) located within 21 feet of vibration producing construction activity. However, design contract documents shall not require input or review by an architectural historian or historical architect under this mitigation measure. See CR/B-2 and CR/B-4. NV-2: A vibration monitoring plan shall be developed during Final Design to ensure appropriate measures are taken to avoid any damage to sensitive buildings (Category I, II, III, IV buildings as defined by FTA in Table 4.7-4) or historic buildings due to construction-induced vibration. This shall include pre-construction surveys of all buildings within 21 feet of vibration producing construction activity to confirm the building category (Category I, II, III, IV buildings as defined in Table 4.7-4), structural condition of the building, and to provide a baseline for monitoring of ground-borne vibration (GBV) and measuring the potential for GBV to cause damage where needed. Any damage caused by Metro's construction activities shall be repaired.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Moderate (but not significant) GBV could cause annoyance to sensitive land uses during construction.	NV-3: Distances greater than those provided in EIS/EIR Table 4.7-5 shall be maintained near vibration-sensitive locations to avoid potential construction-related vibration impacts. NV-4: Less vibration-intensive construction equipment or techniques shall be used near vibration-sensitive locations. NV-5: Heavily laden vehicles shall be routed away from vibration-sensitive locations. NV-6: Earthmoving equipment shall be operated as far as possible from vibration-sensitive locations. NV-7: Construction activities that produce vibration, such as demolition, excavation, earthmoving, and ground impacting shall be sequenced so that the vibration sources do not operate simultaneously. NV-8: Nighttime construction activities that produce noticeable vibration shall be avoided near vibration-sensitive locations. NV-9: Devices with the least impact shall be used to accomplish necessary tasks. NV-10: Non-impact demolition and construction methods, such as saw or torch cutting and removal for off-site demolition, chemical splitting, and hydraulic jack splitting, shall be used instead of high impact methods near vibration-sensitive locations. NV-11: Building protection measures such as underpinning, soil grouting, or other forms of ground improvement shall be used where needed to prevent deterioration of building condition due to construction. NV-12: Pavement breakers, vibratory rollers, and packers shall operate as far as possible from vibration-sensitive locations.	Not Adverse/Less than Significant
Noise may inadvertently exceed FTA significance criteria during construction.	NV-13: If a noise complaint is filed during project construction, noise monitoring shall be conducted in the vicinity of the area in question. If monitored noise levels exceed FTA construction noise criteria, the contractor shall use all or a combination of measures NV-14 through NV-17 to reduce construction noise levels below FTA construction noise criteria.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	NV-14: Temporary noise barriers around the construction sites and localized barriers around specific items of equipment or smaller areas shall be provided as needed. NV-15: Alternative back-up alarms/warning procedures shall be used where feasible as needed. NV-16: Higher performance mufflers shall be used on equipment used during nighttime hours as needed near sensitive land uses. NV-17: Portable noise sheds for smaller, noisy equipment, such as air compressors, dewatering pumps, and generators shall be provided as needed.	

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Significant ground-borne noise (GBN) impacts could occur during construction at Walt Disney Concert Hall, and the Broad Art Foundation Museum, which is currently under construction. Mitigation for the Walt Disney Concert Hall has been modified to cover the Colburn School as well, in an abundance of caution.	NV-18: Construction of the LPA, in the vicinity of the Walt Disney Concert Hall, shall be done in accordance with the Memorandum of Agreement (MOA) between FTA and the State Historic Preservation Officer (SHPO), which includes stipulations that outline the specific requirements for consultation and decision-making, and outline specific requirements for pre- and post-construction surveys, geotechnical investigations, building protection measures, and tunnel boring machine (TBM) specifications(for the Walt Disney Concert Hall only). Tunnel Boring Machine: NV-19: Maintenance and Operation: The construction contractor shall minimize vibration from jacking or pressing operations (if applicable, the action could be smoothed out to avoid a sharp push), and maintain machinery in good working order. NV-20: Coordination and Notification: There would be times when the Main Auditorium of the Walt Disney Concert Hall is vacant or not used for a noise-sensitive activity, thereby eliminating any noise impact from TBM. Similarly, there would be times at the Los Angeles Philharmonic Association Conference Room (and offices) of the Walt Disney Concert Hall and at the recording/performance halls of the Colburn School when activities are not particularly noise-sensitive. Metro shall coordinate closely with the Walt Disney Concert Hall, the Colburn School, and the Broad Art Foundation Museum, which is currently under construction, to ensure that the noise-generating parts of TBM operations shall be conducted to avoid noise-sensitive periods. Delivery Train: NV-21: Speed: Delivery train speed shall be limited to 5 MPH in the vicinity of the Walt Disney Concert Hall, the Colburn School, and the Broad Art Foundation Museum, currently under construction, which would reduce the GBN to the lower range, or 5 dBA from the maximum range. NV-22: Resilient Mat: A resilient system to support and fasten the delivery train tracks shall be used during construction, which would reduce GBN levels by at least 4 dBA. NV-23: Conveyor: The delivery train shall be replaced with a conveyor system to transport materials in the tunnel if GBN exceeds the FTA annoyance criteria at the Walt Disney Concert Hall, the Colburn School, or the Broad Art Foundation Museum, which is currently under construction.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	NV-24: Coordination and Notification: There would be times when the Main Auditorium and Choral Hall of the Walt Disney Concert Hall and the recording/performance halls of the Colburn School are vacant or not used for noise-sensitive activities, thereby eliminating any noise impact from the delivery train. Metro shall coordinate closely with the Walt Disney Concert Hall, the Colburn School, and the Broad Art Foundation Museum, which is currently under construction, to ensure that the delivery train pass-bys would be conducted to avoid noise-sensitive periods.	
Significant GBN impacts and GBV could occur during construction at the Hikari Lofts, offices in JVP, and the Nakamura Tetsujiro Building.	NV-25: Metro shall provide advance notice and coordinate with the affected property owners regarding schedules for tunneling and other activities prior to the commencement of those activities. NV-26: Metro shall provide advanced notification and coordination by doing the following. • Establish a Construction Community Relation Program to inform and coordinate construction activities including notification to all occupants at the Hikari Lofts, the interior designer office at the JVP, and the Nakamura Tetsujiro Building about the schedule of tunneling activities at least one month prior to the start of the activities. • Monitor GBN and GBV levels in the building adjacent to TBM activity during its operation in that area. • During the few days the TBM will be operating in this area, should GBN or GBV measurements exceed FTA annoyance criteria for short-term impacts during construction, Metro shall offer to temporarily relocate affected residents.	Not Adverse/Less than Significant
Significant GBN impacts could occur during operations at Walt Disney Concert Hall, Hikari Lofts, offices in JVP, the Nakamura Tetsujiro Building, and the Broad Art Foundation Museum, currently under construction.	NV-27: In the vicinity of the Walt Disney Concert Hall and the Colburn School, Metro shall implement resiliently supported fasteners, isolated slab track, or other appropriate measures as needed to eliminate impacts and to reduce GBN below FTA annoyance criteria.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Mitigation for the Walt Disney Concert Hall has been modified to cover the Colburn School as well, in an abundance of caution.	NV-28: In the vicinity of the Hikari Lofts and Nakamura Tetsujiro Building, Metro shall conduct engineering studies during Final Design to verify initial estimates of GBN and shall implement high compliance resilient fasteners, floating slab trackbed, or other appropriate measures as needed to eliminate impacts and to reduce GBN below FTA annoyance criteria. NV-29: In the vicinity of the offices at JVP and the Broad Art Foundation Museum, currently under construction, Metro shall conduct engineering studies during Final Design to verify initial estimates of GBN and shall implement high compliance resilient fasteners or other appropriate measures as needed to eliminate impacts and reduce GBN below FTA annoyance criteria.	
Ecosystems/Biological Resources		
Some trees in the project area would be removed or disturbed during construction.	EB-1: The construction contractor shall minimize disturbance to trees through avoidance or fencing. EB-2: If disturbance is unavoidable, the construction contractor shall trim individual trees instead of removing them completely where feasible to reduce the scale of disturbance. EB-3: The construction contractor shall replant or replace disturbed or removed trees as soon as practicable.	Not Adverse/Less than Significant
Some tree removal and trimming may need to occur during the bird breeding season, from February 1 to August 31.	EB-4: The construction contractor shall schedule necessary tree removal and trimming activities that would affect bird nesting outside of the bird breeding season, which can extend from February 1 to August 31. EB-5: A qualified biologist shall conduct two biological surveys, one 15 days prior and a second 72 hours prior to construction activities that would remove or disturb suitable nesting habitat. The biologist would document the presence or absence of active nests of any protected native bird to be removed and any other such habitat within 300 feet of the construction work area (within 500 feet for raptors). EB-6: If an active native bird species nest is located, construction within 300 feet of the nest (500 feet for raptor nests) shall be postponed or modified in consultation with the qualified biologist until the nest is vacated, juveniles have fledged, and there is no evidence of a second attempt at nesting.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Some of the trees that need to be removed may be native trees.	EB-7: A removal permit shall be obtained from the Los Angeles Board of Public Works in accordance with the City of Los Angeles Native Tree Protection Ordinance. Tree replacement shall comply with the ordinance and the terms of the removal permit. See also EJ-30.	Not Adverse/Less than Significant
Geotechnical/Subsurface/Seismic/Hazardous Materials		
Potential exists for ground movement associated with cut and cover construction and potential ground loss due to tunneling.	GT-1: Before any construction, a survey of structures within the anticipated zone of construction influence shall be conducted in order to establish baseline conditions. A geotechnical instrumentation and settlement monitoring plan and mitigation measures shall be developed and adhered to during construction to ensure appropriate measures are taken to address any construction-induced movement. If assessments indicate the necessity to proactively protect nearby structures, additional support for the structures by underpinning or other ground improvement techniques shall be required prior to the underground construction. Metro shall require the construction contractor to limit movement to less than acceptable threshold values for vertical, horizontal, and angular deformation as a performance standard. These acceptable threshold values shall be established such that the risk of damage to buildings and utilities will be negligible to very slight. GT-2: Ground improvement such as grouting or other methods shall be required to fill voids where appropriate and offset potential settlement when excess material has been removed during excavation. GT-3: The tunnel alignment shall be grouted in advance to provide adequate soil support and minimize settlement as geotechnical conditions require. GT-4: Settlement along the project alignment shall be monitored using a series of measuring devices above the route of the alignment. Leveling surveys shall be conducted prior to tunneling to monitor for possible ground movements. GT-5: Tunnel construction monitoring requirements shall be described and defined in design contract documents. See also CR/B-2.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Contaminated soil or groundwater may be encountered during construction.	GT-6: A Contaminated Soil/Groundwater Management Plan shall be implemented during construction to establish procedures to follow if contamination is encountered. The plan shall include procedures for the implementation of mitigation measures GT-7 through GT-11. GT-7: Appropriate regulatory agencies shall be contacted if contaminated soil or groundwater is encountered. GT-8: Sampling and analysis of soil and/or groundwater known or suspected to be impacted by hazardous materials shall be conducted. GT-9: Procedures for the legal and proper handling, storage, treatment, transport, and disposal of contaminated soil and/or groundwater shall be delineated and conducted in consultation with regulatory agencies and in accordance with established statutory and regulatory requirements (refer to Section 4.9.1). GT-10: Dust control measures such as soil wetting, wind screens, etc. shall be implemented for contaminated soil. GT-11: Groundwater collection, treatment, and discharge shall be performed according to applicable standards and procedures (refer to Section 4.10.1). GT-12: Worker Health and Safety Plan shall be implemented prior to the start of construction activities. GT-13: Impermeable grout and other appropriate measures shall be used where necessary to fill gaps between the tunnels and the surrounding earth to address the potential for creation of a preferential pathway and resulting spread of existing contaminated groundwater.	Not Adverse/Less than Significant
Subsurface gases associated with oilfields in the vicinity of the project area may be encountered during construction.	GT-14: Testing for subsurface gases shall be conducted along all portions of the underground alignment. GT-15: Construction of the project shall be consistent with the City of Los Angeles Methane Mitigation Standards, established in accordance with City of Los Angeles Ordinance No. 175790 and No. 180619, which provide detailed installation procedures, design parameters, and test protocols for the methane gas mitigation system as well as methods to control methane intrusion emanating from geologic formations.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	GT-16: Specialized excavation methods shall be implemented to protect workers and the public from exposure to toxic gases and prevent explosions. The project shall also comply with the City's Methane Mitigation Standards, which include provisions to protect workers and the public.	
Asbestos and lead may be encountered during building demolition.	GT-17: Prior to building demolition, surveys of asbestos containing materials and lead-based paint shall be conducted. All asbestos containing materials and lead-based paint would be removed or otherwise abated prior to demolition in accordance with all applicable laws and regulations.	Not Adverse/Less than Significant
Potential exists for accidental release of construction-related hazardous materials.	GT-18: The construction contractor shall be required to implement best management practices (BMPs) for handling hazardous materials in compliance with existing regulations. These shall include requirements for proper use, storage, and disposal of chemical products and hazardous materials used in construction.	Not Adverse/Less than Significant
Potential exists for intrusion of subsurface gases into the underground portions of the alignment.	GT-19: Structures within methane zones and buffer zones shall be consistent with municipal code requirements for gas concentration/pressure testing on a specified frequency and, based on the results, appropriate mitigation measures or controls to be included in the design.	Not Adverse/Less than Significant
Potential exists for hazardous materials to be encountered during excavation and construction activities.	GT-20: Metro shall develop and implement an Environmental Site Assessment program in accordance with appropriate laws and regulations (refer to Section 4.9.1) to assess the potential for hazardous materials that may be encountered during construction.	Not Adverse/Less than Significant
Potential exists for hazardous building materials to be encountered during demolitions.	GT-21: Metro shall develop and implement plans for pre-demolition and demolition abatement of hazardous building materials (i.e., asbestos, lead-based paint, PCB-light ballasts) in accordance with appropriate laws and regulations such as the Toxic Substances Control Act (refer to Section 4.9.1).	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Water Resources		
Potential exists for excess erosion to occur during construction.	WR-1: An erosion control plan shall be prepared prior to construction and shall specify procedures for implementing mitigation measures WR-2 through WR-5. WR-2: Natural drainage, detention ponds, sediment ponds, or infiltration pits shall be used to allow runoff to collect and reduce or prevent erosion. WR-3: Barriers shall be used to direct and slow the rate of runoff and to filter out large-sized sediments. WR-4: Down-drains or chutes shall be used to carry runoff from the top of a slope to the bottom. WR-5: Use of water for irrigation and dust control shall be controlled so as to avoid off-site runoff.	Not Adverse/Less than Significant
Impacts to water quality stemming from both construction and operation of the project could occur.	WR-6: Project design shall include properly designed and maintained biological oil and grease removal systems in new storm drain systems to treat water before it leaves project sites. WR-7: Hazardous materials shall be stored properly to prevent contact with precipitation and runoff. WR-8: An effective monitoring and cleanup program for spills and leaks of hazardous materials shall be developed and maintained. WR-9: Equipment to be repaired or maintained shall be placed in covered areas on a pad of absorbent material to contain leaks, spills, or small discharges. WR-10: Periodic and consistent removal of landscape and construction debris shall be performed. WR-11: Any significant chemical residue on the project sites shall be removed through appropriate methods. WR-12: Non-toxic alternatives for any necessary applications of herbicides or fertilizers shall be used.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	WR-13: Detention basins shall be installed to remove suspended solids by settlement. WR-14: Water quality or runoff shall be periodically monitored before discharge from project sites and into the storm drainage system.	
Cultural Resources - Built Environment		
Construction-related direct and indirect adverse impacts to historical resources could occur.	CR/B-1: Documentation of historic properties and historical resources adversely affected by the project shall consist of the development of individual Historic American Building Survey/Historic American Engineering Record (HABS/HAER) submissions. The appropriate level of recordation shall be established in consultation with the California SHPO and formalized as a part of a MOA as described in Section 4.12.1.4.5 of the Draft EIS/EIR and included in Appendix 3 of this Final EIS/EIR. CR/B-2: A survey of historic properties and/or historical resources within 21 feet of vibration producing construction activity shall be conducted to confirm the building category, and to provide a baseline for monitoring of GBV and the potential for GBV to cause damage. • The survey shall also be used to establish baseline, pre-construction conditions for historic properties and historical resources. • During preliminary engineering and final design of the project, additional subsurface (geotechnical) investigations shall be undertaken to further evaluate soil, groundwater, seismic, and environmental conditions along the alignment. • The subsurface investigation shall also identify areas that could experience differential settlement as a result of using a TBM in close proximity to historic properties and/or historical resources. • An architectural historian or historical architect who meets the Secretary of Interior's Professional Qualification Standards shall provide input and review of design contract documents prior to implementation of the mitigation measures.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	CR/B-3: The historic property and historical resource protection measures as well as the geotechnical and vibration monitoring program shall be reviewed by an architectural historian or historical architect who meets the Secretary of Interior's Professional Qualification Standards to ensure that the measures would adequately protect the properties/resources. A post-construction survey shall also be undertaken to ensure that adverse effects or significant impacts have not occurred to historic properties or historical resources. CR/B-4: For those historic properties and historical resources where adverse impacts are anticipated, a MOA has been developed to resolve those adverse effects consistent with 36 CFR 800. This agreement, developed by FTA and Metro in consultation with the California SHPO and other consulting parties shall resolve and/or avoid, minimize, or mitigate potential effects to historic properties and/or historical resources. CR/B-5: The S. Kamada Restaurant, Atomic Café, Señor Fish, and Coast Imports building (to be removed) shall be offered for a period of one year following certification of the Final EIS/EIR for the price of $1 to any party willing to move it off of the 1st/Central Avenue station site at their own expense. Should no parties come forward, Metro shall: • incorporate materials from the building into the project facilities. • explore keeping portions of the building intact for use in the 1st/Central Avenue station. • offer to provide an exhibit commemorating the building at the JANM, the 1st/Central Avenue station site, or other suitable location. CR/B-6: Facades of historic buildings adjacent to the construction areas shall be protected from accumulation of excessive dirt or shall be cleaned in an appropriate manner periodically while construction activities are occurring nearby. See also GT-1 through GT-5.	

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Significant GBN impacts could occur during construction and operations at Walt Disney Concert Hall.	See NV-18 through NV-24 and NV-27.	Not Adverse/Less than Significant
Built environment mitigation measures included in the MOA between the SHPO, Metro, and FTA shall be implemented.	See MOA.	N/A
Cultural Resources - Archaeology		
Unknown archaeological resources could be disturbed during construction.	CR/A-1: Construction personnel shall be trained on proper procedures by a qualified lead archaeologist. CR/A-2: An archaeological monitor shall be present during ground-disturbing activities. The archaeological monitor shall have authority to halt operations to examine potential resources and recover artifacts using professional archaeological methods. CR/A-3: A Native American cultural resources consultant from the Gabrielino/Tongva San Gabriel Band of Mission Indians and/or the Tongva Ancestral Territorial Tribal Nation shall be contacted to monitor ground-disturbing work if Native American cultural resources are discovered. CR/A-4: Work shall stop if human remains are found, and the Los Angeles County Coroner shall be notified immediately. CR/A-5: If no cultural resources are discovered during construction monitoring, the archaeological monitor shall submit a brief letter to that effect. If previously unidentified cultural resources are discovered in the course of construction monitoring, a report shall be prepared following Archaeological Resource Management Report (OHP 1990) guidelines that documents field and analysis results and interprets the data within an appropriate research context.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Disturbance of the Los Angeles Zanja System (CA-LAN-887H and other unnumbered zanjas), and sites CA-LAN-3588, P-19-003338, and P-19-003339 could occur during construction.	CR/A-6: A proactive identification and documentation program that would facilitate preservation or mitigation in a cost-effective manner shall be undertaken. This shall include: • Using documentary research to identify, as accurately as possible, the precise alignments of the zanjas within the area of potential effect. • Where these alignments are expected to be affected by the proposed project a full-time archaeological monitoring would be instituted to ensure documentation consistent with EIS/EIR Section 4.12.2.4.2 of the Draft EIS/EIR.	Not Adverse/Less than Significant
Archaeological mitigation measures included in the MOA between the SHPO, Metro, and FTA shall be implemented.	See MOA.	N/A
Cultural Resources - Paleontology		
Previously undiscovered paleontological resources may be disturbed during construction.	CR/P-1: A qualified paleontologist shall prepare a Paleontological Monitoring and Mitigation Plan for the proposed project and supervise monitoring of construction excavations within sensitive geologic sediments. CR/P-2: All project-related ground disturbances that could potentially affect geologic sediments determined to have a high paleontological sensitivity would be monitored by a qualified paleontological monitor on a full-time basis (where feasible). Very shallow surficial excavations (less than five feet) within Quaternary younger alluvium would be monitored on a part-time basis to ensure that underlying sensitive units are not adversely affected. CR/P-3: At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. CR/P-4: Due to the likelihood of the presence of microfossils, matrix samples shall be collected and tested within the Puente Formation and Fernando Formation.	The LPA could have adverse effects/ significant impacts on paleontological resources. With implementation of mitigation, potential construction and cumulative impacts would not be adverse under NEPA or significant under CEQA. The LPA would not have adverse effects/significant impacts on paleontological resources with implementation of proposed mitigation measures with the exception of areas where tunneling operations cannot be mitigated. In areas where new underground TBM segments would be constructed, mitigation

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	CR/P-5: Recovered fossils shall be prepared to the point of curation, identified by qualified experts listed in a database to facilitate analysis, and reposited in a designated paleontological curation facility such as the Natural History Museum of Los Angeles County. CR/P-6: The paleontologist shall prepare a final monitoring and mitigation report to be filed, at a minimum, with Metro and the identified repository.	for paleontological resources would not be feasible and thus construction and cumulative impacts would be adverse/significant and unavoidable. The LPA would not result in significant/adverse operational impacts to paleontological resources.
Parklands and Other Community Facilities		
Restriction of access to public services could occur due to construction activities.	PC-1: Where feasible, temporary restriping of the roadway to maximize the vehicular capacity at locations affected by construction closures shall be performed. Metro shall provide notices of closures and relocations on its website, smart phone apps, and other modes typically used to communicate service announcements. PC-2: Where feasible and necessary, temporary removal of on-street parking to maximize the vehicular capacity at locations affected by construction closures shall be performed. Where temporarily eliminated, parking spaces will be restored to their prior striped or signed condition at the conclusion of the construction period. See also AQ-15, CN-1, CN-3, CN-5, CN-6, TR-4, TR-5, DR-6, and EJ-1.	Not Adverse/Less than Significant
Economic and Fiscal Impacts		
Economic and fiscal impacts of business and parking displacement due to project acquisitions.	See DR-4 through DR-8. EF-1: Metro shall develop measures to assist business owners significantly impacted by construction. These shall include temporary parking, marketing programs, and other measures developed jointly between Metro and affected businesses.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Safety and Security		
Safety and security concerns should be further minimized during operations through BMPs.	SS-1: Fire alarm protection shall be provided within station areas as required by applicable laws, regulations, and standards. SS-2: A minimum of two fire emergency routes shall be provided from each station as required by applicable laws, regulations, and standards. SS-3: Adequate emergency ventilation and lighting shall be provided in each station in accordance with Metro Fire/Life Safety Standards and City of Los Angeles building codes. SS-4: Communication systems between adjoining fire agencies shall be provided as required by applicable laws, regulations, and standards. SS-5: A methane detection system shall be provided in each station as required by applicable laws, regulations, and standards. SS-6: Building construction for underground stations shall not be less than Type I Construction as defined in the Uniform Building Code. All stations with more than two levels below-grade or where the lowest occupied level is more than 80 feet below-grade shall have protected level separation or other protection features to provide safe egress to exits. SS-7: All proposed mitigation measures regarding safety and security shall be implemented in a manner conformant to Metro's Rail Transit Design Criteria and Standards and Fire/Life Safety Criteria. SS-8: Proposed station designs shall not include design elements that obstruct visibility or observation, nor provide discrete locations favorable to crime. • Proposed stations shall be lighted to avoid shadows. • Pedestrian pathways shall include clear sight lines whenever feasible. • Project sidewalk widths and placements shall be appropriately designed to accommodate a wide variety of users.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	• Sidewalk and pedestrian bridge widths shall be designed with the widest dimensions feasible (at least ten feet) in conformance with Metro's adopted land use and transportation policies. • Minimum sidewalk widths shall not be less than those allowed by the State of California Title 24 access requirements or the ADA design recommendations. • Where practicable, pedestrian movements and flows shall be favored over other transportation modes, such as automobile access; and stations shall be fully accessible as defined by ADA. SS-9: An ADA accessible connection for the 2nd/Hope Street station to Upper Grand Avenue shall be provided. The future Broad Art Foundation Museum, currently under construction, is projected to include a plaza above General Thaddeus Kosciuszko Way connecting to Upper Grand Avenue. In order to provide access from the 2nd/Hope Street station to Upper Grand Avenue, an elevator from the station entrance to the plaza shall be built as part of this alternative if one is not already provided. If the plaza is not built, a pedestrian connection (such as a pedestrian bridge) shall be constructed. The connection shall reduce conflicts between pedestrians and vehicles. SS-10: Adequate pedestrian queuing and refuge areas shall be provided at the proposed stations to facilitate pedestrian mobility. SS-11: All proposed stations shall be equipped with monitoring equipment. SS-12: Metro shall implement a security plan for LRT operations to include both in-car and station surveillance by Metro security or other local jurisdiction security personnel. SS-13: Trains and/or platforms shall be equipped with safety features that reduce the potential for persons to contact the vehicle coupler and/or fall under the train. SS-14: Fire separations shall be provided and maintained in public occupancy areas as required by regulation.	

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Safety and security concerns should be further minimized during construction through BMPs.	SS-15: Metro shall protect public use of work areas involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, and vehicular roadways with appropriate guardrails, barricades, temporary fences, overhead protection, temporary partitions, shields, and adequate visibility and keep them clear of obstructions. SS-16: An education safety and outreach campaign shall be implemented during construction to address public safety awareness in the vicinity of the project. See also CN-1 through CN-3, TR-4, and DR-7.	Not Adverse/Less than Significant
Environmental Justice		
Temporary bus re-routing or stop closures may be needed in Little Tokyo during construction.	See TR-12 and TR-13.	Not Adverse/Less than Significant
Disproportionate amounts of parking spaces would be temporarily removed in Little Tokyo during construction (i.e., more parking spaces would be removed in Little Tokyo than in other parts of the project area). This could impact the community, including businesses.	EJ-1: The temporary displacement of three bus loading spaces on Alameda Street for the JANM shall be replaced nearby for the duration of construction activities. Metro shall work with JANM to confirm locations of temporary loading spaces. EJ-2: Any unmet demand for parking spaces eliminated in Little Tokyo during construction shall be temporarily replaced within one block of the land uses that rely on those spaces, or through a combination of measures DR-4, and EJ-3 through EJ-9. EJ-3: Metro shall provide two acres of land on the Mangrove property (northeast of 1st and Alameda Streets) for the purposes of providing alternative parking services during construction, which could include satellite parking served by shuttle buses, valet parking from vehicle pick-up/drop-off in the central business areas of Little Tokyo, and standard self-parking. EJ-4: Metro shall provide notices of traffic control plans and parking relocations on its website, smart phone apps, and other modes typically used to communicate service announcements. EJ-5: Metro shall support efforts to curb non-legitimate use of disabled parking spaces.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	EJ-6: Metro shall work with LADOT, owners of private parking lots, and businesses to develop an advanced parking reservation system at cooperative and suitable locations during construction. EJ-7: Metro shall work with LADOT to open city parking lots for short-term use on evenings and weekends during construction in the vicinity of Little Tokyo. EJ-8: Metro shall work with the City of Los Angeles to reduce impacts of government vehicles parking on 2nd Street during construction, such as identification of alternate parking areas. EJ-9: Metro shall work with the City of Los Angeles and the Little Tokyo Business Improvement District to facilitate creation of financial incentives such as parking validation programs to prioritize parking for Little Tokyo customers, residents, and businesses during construction. EJ-10: Metro shall identify which restaurants within Little Tokyo would be interested in establishing curbside pickup. Metro shall work with the City of Los Angeles to allow temporary curbside parking during construction, which would allow Metro to establish curbside pickup for Little Tokyo restaurants. EJ-11: Prior to construction, Metro shall conduct an annual parking needs assessment in Little Tokyo. Metro shall provide replacement parking for spaces lost as a result of the project as described in EJ-3 and to respond to the needs identified in the parking needs assessment. See also DR-4 through DR-5.	
Disproportionate community and neighborhood impacts could occur in Little Tokyo during construction.	EJ-12: Metro shall provide assistance for businesses to maintain visibility during construction, including signage and advertisements. See also CN-1 through CN-7, DR-6, DR-7, TR-1, TR-2, TR-4, TR-5, EJ-2 through EJ-10, EJ-15, EJ-16, EJ-17, and EJ-19.	Not Adverse/Less than Significant
Disproportionate reductions of access to community facilities and businesses could occur in Little Tokyo during construction.	See TR-1 and EJ-1.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Disproportionate property acquisitions and business relocations would occur in Little Tokyo.	EJ-13: Should parcels used for construction staging be proposed for redevelopment in the future, Metro is committed to involving the community in the redevelopment of construction staging areas following completion of construction activities. Metro shall do this through its established Joint Development Policy. See also DR-8 and EJ-15.	Not Adverse/Less than Significant
Disproportionate long-term displacement of commercial space could result in Little Tokyo.	EJ-14: Displaced commercial space in Little Tokyo shall be replaced with high quality commercial development opportunities consistent with Little Tokyo's community identity. EJ-15: Metro shall work with the Little Tokyo and Arts District communities and the Community Redevelopment Agency of the City of Los Angeles (CRA/LA) to create joint development opportunities for the 1st/Central Avenue station site. See also EJ-13.	Not Adverse/Less than Significant
Disproportionate visual alteration of the Little Tokyo neighborhood could occur due to removal of structures for the 1st/Central Avenue station.	See CN-7, EJ-14 and EJ-15.	Not Adverse/Less than Significant
Disproportionate GBV impacts could occur in Little Tokyo during construction.	See NV-25 and NV-26.	Not Adverse/Less than Significant
Economic and fiscal impacts to businesses in Little Tokyo could occur during construction.	EJ-16: Metro shall provide services to support affected Little Tokyo businesses and organizations during construction such as: • Targeted advertising and marketing campaigns; • Metro-sponsored coupons; • Incentives for construction worker patronage, and Metro-sponsored community events;	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
	• Free technical support assistance (i.e., website development) to local businesses on strategies for business development that can minimize any adverse impacts of construction; • Provide maps showing existing and planned access during all phases of construction; • Provide directional signage to temporary parking facilities; • Work with the RCCLC including businesses, tenants, property owners, and government agencies with jurisdiction to make policy to resolve issues arising from adverse business issues during all phases of construction; • The RCCLC shall work to develop an implementation plan for these services and determine their content; and • The RCCLC shall also be kept apprised of construction progress and upcoming transit, parking, or access changes. EJ-17: Surface level construction activities shall be curtailed to the extent feasible during major Little Tokyo festivals and outdoor events to ensure that noise, air quality, traffic, and parking issues do not adversely affect these economically vital events. Metro shall request a list of events and festivities from the Little Tokyo community. See also CN-3 and EJ-2 through EJ-12. EJ-18: Metro shall work with the Little Tokyo Business Association to help offset the neighborhood impacts associated with reduced revenue from the Business Improvement District funds during construction due to the removal of acquired businesses. Metro shall also offer the services described in EJ-16. Metro shall use Metro's existing claims process to address physical damage (utility interruption, for example). EJ-19: Metro shall work with the Little Tokyo community businesses to minimize adverse impacts to business operations associated with utility relocation and protection of existing utilities. Metro shall offer the services described in TR-4, EJ-12, and CN-4.	

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Disproportionate adverse transportation impacts could occur in Little Tokyo during construction.	EJ-20: Metro shall provide advertising on its transit buses and other typical means of communication publicizing construction plans and alternatives to travel and park in Little Tokyo during the construction period. EJ-21: Metro shall avoid haul routes along 1st Street or along Alameda Street between 3rd Street and US 101 where possible. Haul routes shall be confirmed with the input of the community. See also EJ-1, EJ-2 through EJ-12, EJ-16, EJ-17, CN-3, and CN-7.	Not Adverse/Less than Significant
Construction activities would be disproportionately centered in Little Tokyo, which would have associated safety and security needs.	EJ-22: Metro shall publish safety and security information at stations in Japanese, Korean, and Spanish. This includes both written and verbal announcements at stations. EJ-23: Metro shall publish materials for the project's safety education campaign in Japanese, Korean, and Spanish. EJ-24: Metro shall involve the Little Tokyo Public Safety Association in the development of safety and security plans. EJ-25: Metro shall monitor and ensure implementation of committed mitigation measures designed to address safety and security concerns.	Not Adverse/Less than Significant
More operation noise may be audible in Little Tokyo than other parts of the alignment due to the portals and open-roof station.	EJ-26: Depending on the potential location and scope of the system's ventilation equipment, orient the exhaust away from downwind receptors to minimize noise from ventilation as well as underground train horns and related operational sounds.	Not Adverse/Less than Significant
Construction activities would be disproportionately centered in Little Tokyo, which would have associated air quality impacts.	EJ-27: Metro shall implement receptor-based mitigation where needed to reduce construction-related pollutant levels below significance thresholds. See also AQ-1 through AQ-5, AQ-7, AQ-8, AQ-10, EJ-17, and EJ-26.	Not Adverse/Less than Significant
Land use impacts could occur in Little Tokyo.	EJ-28: Metro shall maximize opportunities to the extent feasible for enhancing access from existing land uses to the new station. See also EJ-15 and EJ-26.	Not Adverse/Less than Significant

Table ES-2. Summary of Impacts and Mitigation Measures for the Locally Preferred Alternative (continued)

Adverse Effect (NEPA)/ Significant Impact (CEQA) Before Mitigation	Mitigation Measure(s)	Adverse Effect (NEPA)/ Significant Impact (CEQA) After Mitigation
Tunneling beneath existing buildings in Little Tokyo would introduce the potential risk of subsurface impacts.	EJ-29: Design of underground facilities shall avoid potential subsurface impacts to adjacent buildings. See also GT-1 through GT-5.	Not Adverse/Less than Significant
Tree removal would occur in Little Tokyo.	EJ-30: New trees planted at station locations shall be regularly monitored by Metro to ensure healthy growth and development. Metro shall replace trees as close as possible to original locations. EJ-31: Metro shall provide the Little Tokyo and Arts District communities with opportunities for input into the development of landscape plans for the 1st/Central Avenue station throughout the Preliminary Engineering and Final Design processes.	Not Adverse/Less than Significant
Foreign-language speakers would need to access project meetings and information.	EJ-32: Information shall be made available in Japanese and Korean, and flyers for project meetings shall indicate that there will be both Japanese and Korean translators present.	Not Adverse/Less than Significant
TBM operations would be disproportionately concentrated in the vicinity of Little Tokyo.	EJ-33: Metro shall require the construction contractor to perform TBM operations for a period not extending beyond 48 months. This limit may need to be raised should circumstances arise that are beyond the control of Metro and the construction contractor. The community shall be notified if such a situation occurs. EJ-34: Metro shall prepare a procedure for rapid shut-down of construction should maximum acceptable vibration thresholds be reached. EJ-35: Metro shall prepare a cost-benefit analysis of using one versus two TBMs, and shall select the least impactful cost-effective solution.	Not Adverse/Less than Significant
Construction Impacts		
Mitigation measures for construction-related impacts are discussed in the preceding sections.		