

APPENDIX G
MITIGATION MEASURES



MITIGATION MONITORING AND REPORTING PROGRAM FOR THE LOCALLY PREFERRED ALTERNATIVE

REGIONAL CONNECTOR TRANSIT CORRIDOR PROJECT

All mitigation measure herein shall be implemented and monitored by Metro. A mitigation measure field report (see attached form) for each mitigation measure shall be filed at least twice annually as needed. A summary of mitigation monitoring activities shall be provided to the Metro Board of Directors twice annually. Issues identified during monitoring shall be discussed with the Regional Connector Community Leadership Council (RCCLC) monthly.

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
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 via existing or temporary driveways at all times during business hours, and residences at all times. Metro shall provide signage to indicate new ways to access businesses and community facilities affected by construction. Metro shall post advance notice signs prior to construction in areas where business access could be affected. Metro shall also notify Los Angeles Department of Transportation (LADOT) in advance of street closures, detours, or temporary lane reductions. Metro shall also inform advisory committees of known road closures during regularly scheduled meetings. If, for whatever reason, Metro is unable to maintain access to the Japanese Village Parking garage from the existing entry and exit points on Central Avenue at all times, Metro shall provide valet parking from vehicle pickup/drop-off points immediately adjacent to Japanese Village Plaza.	Check design contract documents for compliance	Metro	Final Design	Traffic Control Plans	LADOT/Metro
		Monitor construction activities for compliance.	Metro	Construction	Traffic Control Plans	LADOT/Metro
See also CN-1 through CN-3 and CN-5.						
Construction haul routes along project area streets would be needed.	TR-2: Haul routes for trucks shall be confirmed during the final design phase of the project. The 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. Lighted or reflective signage shall direct truck drivers to the haul routes. 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. Haul routes shall be discussed with and approved by the City of Los Angeles through the Transportation Construction Traffic Management Committee (TCTMC).	Verify that community input into hauling schedule has occurred	Metro	Final Design	Haul Routes	LADOT/Metro
		Verify that TCTMC input into haul routes has occurred.	Metro, City of Los Angeles TCTMC	Final Design	Haul Routes	LADOT/Metro
		Check design contract documents for compliance.	Metro	Final Design	Haul Routes	LADOT/Metro
		Monitor construction activities for compliance.	Metro	Construction	Haul Routes	LADOT/Metro
		Verify whether roadway deterioration due to project traffic has occurred, and ensure that it is repaired.	Metro	Construction		Metro
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.	Check design contract documents for compliance.	Metro	Final Design	Parking Plans	Metro
		Monitor construction activities for compliance.	Metro	Construction		Contractor/Metro
		See also DR-4 and DR-5.				
Re-routing of pedestrian and bicycle traffic would be needed during construction.	TR-4: Safe pedestrian detours with handrails, fences, k-rail, canopies, and walkways shall be provided as needed. When a crosswalk is closed due to construction activities, pedestrians shall be directed to nearby alternate crosswalks. Access shall be Americans with Disabilities Act (ADA) accessible at all times per existing Metro policy.	Check design contract documents for compliance.	Metro	Final Design	Pedestrian Access Plan	Contractor/Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	TR-5: Bicyclists shall be encouraged through signage to ride carefully in streets near construction activities, ride carefully on sidewalks (as City of Los Angeles municipal code permits), or choose nearby alternate routes around construction sites. 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.	Check design contract documents for compliance.	Metro	Final Design	Bicycle Plans	LADOT/Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro

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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.	Verify that LADOT coordination has occurred.	Metro	Final Design	Design Drawings	LADOT/Metro
		Check design contract documents for compliance.	Metro	Final Design	Design Documents	LADOT/Metro
		Verify that the restriping has occurred after the street has been restored from cut and cover activities.	Metro	Construction		Metro
	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.	Verify that LADOT coordination has occurred.	Metro	Final Design	Design Drawings	LADOT/Metro
		Check design contract documents for compliance.	Metro	Final Design	Design Drawings	Metro
		Verify that restriping has occurred after the street has been restored from cut and cover activities.	Metro	Construction		Metro
	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.	Verify that LADOT coordination has occurred.	Metro	Final Design	Design Drawings	LADOT/Metro
		Check design contract documents for compliance.	Metro	Final Design	Design Drawings	Metro
		Verify that the restriping has occurred after the street has been restored from cut and cover activities.	Metro	Construction		Metro
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.	Check design contract documents for compliance.	Metro	Final Design	Design Drawings	Metro
		Verify that the restriping has occurred after the street has been restored from cut and cover activities.	Metro	Construction		Metro
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.	Check design contract documents for compliance.	Metro	Final Design	Design Drawings	Metro
	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.	Check design contract documents for compliance.	Metro	Final Design	Design Drawings	Metro

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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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Construction Notices	Metro
		Monitor construction activities and bus stop operation for compliance.	Metro	Construction		Metro
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: As needed, 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. Metro shall provide notices of relocations on its website, smart phone apps, and other modes typically used to communicate service announcements. Metro shall coordinate with municipal transit providers to temporarily relocate non-Metro bus stops. When bus re-routing is necessary, buses shall be re-routed to adjacent streets in a manner that minimizes inconvenience to bus passengers and to affected neighborhoods.	Check design contract documents for compliance.	Metro	Final Design	Construction Notices	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
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: For parcels in which parking is displaced by the project, Metro shall provide replacement parking elsewhere on the parcel or on a nearby parcel during construction.	Check design contract documents for compliance.	Metro	Final Design	Design Drawings	Metro
		Monitor construction activities and parking lot use to ensure that replacement parking is maintained.	Metro	Construction		Metro
	DR-2: In using parcel APN 5151014032 for construction staging, Metro shall maintain access to the Central Plant located on that parcel at all times during construction.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Drawings	LADOT/Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
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.	Oversee Metro Joint Development Program and ensure compliance.	Metro	Post-Construction	Joint Development Documents	Metro
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. This would include, but is not limited to, restriping the existing street to allow for diagonal parking, reducing the number of restricted parking areas, phasing construction activities in a way that minimizes parking disruption, and increasing the time limits for on-street parking. Restriping would occur on portions of Temple Street, Alameda Street, 1st Street, 2nd Street, Central Avenue, San Pedro Street, Judge John Aiso Street, 3rd Street, and Traction Avenue. Such parking mitigation shall be implemented on a temporary, tiered basis pending findings of the annual parking analysis described in EJ-11.	Check design contract documents for compliance.	Metro, LADOT	Final Design	Parking Plans	LADOT/Metro
		Monitor construction activities for compliance.	Metro, LADOT	Construction		LADOT/Metro

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	DR-5: Metro shall not hinder access to other public parking lots during construction.	Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro	Construction		
See also EJ-2 through EJ-9, EJ-11, and EF-1.						
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.	Check design contract documents for compliance.	Metro	Final Design	Construction Plans	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Ensure that an adequate Construction Mitigation Program has been developed.	Metro	Final Design	Community Outreach Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
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.	Verify qualifications of property appraiser.	Metro	Pre-Construction	Reacquisition Plans	Metro
		Ensure provision of relocation assistance and payment of affected owners just compensation not less than the appraised market value for their property.	Metro	Pre-Construction		Metro
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.	Check design contract documents for compliance and documentation of consultation with LADWP.	Metro, LADWP	Final Design		DWP/Metro
		Monitor construction activities for compliance.	Metro, LADWP	Construction		
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. Signs shall mark detours in accordance with the Manual on Uniform Traffic Control Devices, and other applicable local and state requirements. Detours shall be designed to minimize cut-through traffic in adjacent residential areas.	Check design contract documents for compliance.	Metro	Final Design	Traffic Control Plans	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Verify that plans were developed in conjunction with emergency responders.	Metro, emergency service providers	Final Design	Traffic Control Plans	Metro
		Monitor construction activities for compliance.	Metro, emergency service providers	Construction		

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	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. Crossing guards and other temporary traffic controls shall be provided in the vicinity of construction sites, haul routes, and other relevant sites as proposed in California DOT Traffic Manual, Section 10-07.3, Warrants for Adult Crossing Guards, and as appropriate to maintain traffic flow during construction.	Monitor Final Design process and check documents for compliance.	Metro, LADOT	Final Design	Traffic Control Plans	LADOT/Metro	
		Monitor construction activities for compliance.	Metro, LADOT	Construction		LADOT/Metro	
	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.	Verify continuous operation of hotline and construction office.	Metro	Construction	Community Outreach Plan	Metro	
	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. Metro shall coordinate with local communities during preparation of the traffic management plans to minimize potential construction impacts to community resources and special events. Construction activities shall be coordinated with special events.	Verify preparation of community outreach plan.	Metro	Final Design	Community Outreach Plan	Metro	
		Verify preparation of traffic management plans in conjunction with community stakeholders.	Metro	Final Design	Traffic Management Plans	LADOT/Metro	
		Check design contract documents for compliance.	Metro	Final Design		Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	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 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.	Establish RCCLC.	Metro, Community stakeholders	Preliminary Engineering	Community Outreach Plan	Metro	
		Verify preparation of construction mitigation plan and outreach plan in conjunction with community stakeholders.	Metro	Final Design	Community Outreach Plan	Metro	
		Check design contract documents for compliance.	Metro	Final Design	Design Documents	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	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.	Verify incorporation of community input into artwork and design feature plans.	Metro	Final Design	Traffic Control Plans	Metro
			Check design contract documents for compliance.	Metro	Final Design	Design Documents	Metro
Monitor construction activities for compliance.			Metro	Construction		Metro	

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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. The path shall include sidewalk enhancements, design elements, way finding signage, and crosswalk improvements. The design of the station shall enhance pedestrian circulation.	Verify incorporation of Arts District input into art path design.	Metro	Preliminary Engineering, Final Design	Design Documents	Metro
	CN-9: Design of the 1st/Central Avenue station shall encourage connections and pedestrian travel to the Japanese Village Plaza (JVP), Los Angeles Homba Hongwanji Temple, the JANM, and businesses south of 2nd Street.	Check design contract documents for compliance.	Metro	Final Design	Design Documents	Metro
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.	Check design contract documents for compliance.	Metro	Final Design	Utility Plans	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Verify that utility provider coordination has occurred.	Metro	Final Design	Utility Plans	Metro
		Check design contract documents for compliance.	Metro	Final Design	Design Documents	Metro
	Monitor construction activities for compliance.	Metro	Construction		Metro	
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.	Verify that community input has been incorporated into urban design.	Metro	Preliminary Engineering	Design Documents	Metro
		Check preliminary engineering and design contract documents for compliance.	Metro	Preliminary Engineering and Final Design		Metro
	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. Designs might address elements such as materials and colors. This process has already begun with community urban design workshops, and Metro shall continue to involve communities in this process. Metro shall coordinate with the City of Los Angeles Department of Planning staff during the design process and regarding urban design elements.	Check preliminary engineering and Final Design drawings for compliance.	Metro	Preliminary Engineering and Final Design	Design Documents	Metro Community Outreach
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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Construction Documents	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Documents	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro

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	VA-5: Temporary construction sheds and barricades shall be located so as to avoid obscuring significant views of historic properties.	Compare design contract documents and construction specifications to Final EIS/EIR to determine compliance.	Metro	Final Design	Design Documents	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
Air Quality						
Construction emissions of VOC, NOx, CO, PM2.5, and dust 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). Examples of how the contractors could ensure adherence include retrofitting off-road engines with add-on control devices such as catalytic oxidizers and diesel particulate filters where feasible.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	AQMD Regulations	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	BMPs	AQMD/Metro
		Monitor construction activities for compliance.	Metro	Construction		AQMD/Metro
	AQ-3: Contractors shall be required to adhere to SCAQMD standards for dust emissions such as SCAQMD Rule 403. Examples of how the contractors could ensure adherence include applying water or a stabilizing agent to exposed surfaces in sufficient quantity to prevent generation of dust plumes.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	BMPs	AQMD/Metro
		Monitor construction activities for compliance.	Metro	Construction		AQMD/Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	BMPs	AQMD/Metro
		Monitor construction activities for compliance.	Metro	Construction		AQMD/Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	BMPs	AQMD/Metro
		Monitor construction activities for compliance.	Metro	Construction		AQMD/Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	BMPs	AQMD/Metro
		Monitor construction activities for compliance.	Metro	Construction		AQMD/Metro

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	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).	Check design contract documents and construction specifications for compliance.	Metro	Final Design	BMPs	AQMD/Metro
		Monitor construction activities for compliance.	Metro	Construction		AQMD/Metro
	AQ-8: Traffic speeds on unpaved roads shall be limited to 15 MPH.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Contract Documents	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	AQ-9: To control fugitive dust, especially during high wind situations, Metro shall require the contractor to implement the following provisions, consistent with the requirements of SCAQMD Rule 403, as they apply to each of the construction activities identified below: When wind gusts exceed 25 MPH, in areas where earth-moving activities are occurring: (1A) Cease all active operations; or (2A) Apply water to soil not more than 15 minutes prior to moving such soil. Disturbed surface areas: (OB) On the last day of active operations prior to a weekend or holiday: apply water with a mixture of chemical stabilizer diluted with not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; or (1B) Apply chemical stabilizers prior to wind event; or	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Contract Documents	Metro
	(2B) Apply water to all unstabilized disturbed areas three times per day. If there is evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; or (3B) Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; or (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas. Unpaved roads: (1C) Apply chemical stabilizers prior to wind event expected to exceed 25 MPH; or (2C) Apply water twice per hour during active operation; or (3C) Stop all vehicular traffic. Open storage piles: (1D) Apply water twice per hour; or (2D) Install temporary coverings. Paved road track-out: (1E) Cover all haul vehicles; or (2E) Comply with vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads. All categories: (1F) Any other control measures approved by the Executive Officer and the United States Environmental Protection Agency as equivalent to the methods specified may be used.	Monitor construction activities for compliance.	Metro	Construction	BMPs	AQMD/Metro

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	AQ-10: Heavy equipment operations shall be suspended during second stage smog alerts as issued by SCAQMD.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	BMPs	AQMD/Metro
		Monitor construction activities for compliance.	Metro	Construction		AQMD/Metro
	AQ-11: On-site stockpiles of debris, dirt, or rusty materials shall be covered or watered at least two times per day.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	BMPs	AQMD/Metro
		Monitor construction activities for compliance.	Metro	Construction		AQMD/Metro
	AQ-12: Contractors shall utilize electricity supplied by LADWP rather than temporary diesel or gasoline generators, as feasible.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Construction Documents	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	BMPs	AQMD/Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	AQ-14: Construction worker parking shall be configured to minimize traffic interference. This measure would minimize vehicle idling time, which would reduce emissions generated from construction vehicles.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Contract Documents	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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. This measure would minimize vehicle idling time, which would reduce emissions generated from construction vehicles.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Traffic Plans	LADOT/Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	AQ-16: Metro shall require ongoing maintenance and adherence to manufacturer's specifications for all construction equipment engines and vehicles.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Construction Documents	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
AQ-17: Dedicated turn lanes for the movement of trucks and equipment to and from construction sites shall be provided where appropriate. This measure would minimize vehicle idling time, which would reduce emissions generated from construction vehicles.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Traffic Plans	Metro	
	Monitor construction activities for compliance.	Metro	Construction		Metro	

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	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Construction Documents	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	AQ-19: Metro shall maintain and clean all trucks and construction equipment as needed.	Monitor construction activities for compliance.	Metro	Construction		Contractor/ Metro	
	AQ-20: Metro shall use low-sulfur fuel where possible.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Contract Documents	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	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 and Metro's Sustainability Implementation Plan).	Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	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/CO2 standards.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Traffic Control Plans	Metro
			Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Verify that an adequate survey of sensitive properties has been performed.	Metro	Preliminary Engineering	Noise and Vibration Control Plan	Contractor/ Metro	
	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.	Verify that pre-construction surveys have been performed where needed.	Metro	Final Design	Noise and Vibration Control Plan	Contractor/ Metro	
		Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro	
	Monitor construction activities for compliance.	Metro	Construction		Metro		

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	NV-4: Less vibration-intensive construction equipment or techniques shall be used near vibration-sensitive locations.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Contractor/ Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	NV-5: Heavily laden vehicles shall be routed away from vibration-sensitive locations.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	NV-6: Earthmoving equipment shall be operated as far as possible from vibration-sensitive locations.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	NV-8: Nighttime construction activities that produce noticeable vibration shall be avoided near vibration-sensitive locations.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	City of LA/Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	NV-9: Devices with the least impact shall be used to accomplish necessary tasks.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro	
	Monitor construction activities for compliance.	Metro	Construction		Metro	

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing	
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	NV-12: Pavement breakers, vibratory rollers, and packers shall operate as far as possible from vibration-sensitive locations.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
Noise may inadvertently exceed FTA significance criteria during construction.	NV-13: The construction mitigation plan shall prohibit noise levels generated during construction from exceeding the FTA construction noise criteria. This could include prohibiting simultaneous operation of major pieces of construction equipment if simultaneous operation exceeds FTA construction noise criteria. If a noise complaint is filed during project construction, noise monitoring shall be conducted in the vicinity of the area in question. Although it is not expected to do so with the application of appropriate BMPs, if monitored noise levels exceed FTA construction noise criteria, the contractor shall use all or a combination of the following measures (NV-14 through NV-17) to reduce construction noise levels below FTA construction noise criteria.	Monitor construction activities for compliance.	Metro	Construction	Noise Variance	City of LA/Metro	
		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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro
			Monitor construction activities for compliance.	Metro	Construction		Metro
	NV-15: Alternative back-up alarms/warning procedures shall be used where feasible as needed.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	NV-16: Higher performance mufflers shall be used on equipment used during nighttime hours as needed near sensitive land uses.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	NV-17: Portable noise sheds for smaller, noisy equipment, such as air compressors, dewatering pumps, and generators shall be provided as needed.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Noise and Vibration Control Plan	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing	
<p>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.</p> <p>Mitigation for the Walt Disney Concert Hall has been modified to cover the Colburn School as well, in an abundance of caution.</p>	<p>NV-18: Construction of the project, 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 between the lead federal agency and consulting parties, specify the level of Historic American Building Survey/Historic American Engineering Record (HABS/HAER) recordation, 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).</p>	Confirm provisions of the MOA.	Metro	Preliminary Engineering	MOA	SHPO/Metro	
		Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Documents	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	Tunnel Boring Machine:						
	<p>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.</p>	Monitor construction activities for compliance.	Metro	Construction	Noise and Vibration Control Plan	Metro	
		<p>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.</p>	Monitor construction activities for compliance.	Metro	Construction	Noise and Vibration Control Plan	Metro
	Delivery Train:						
	<p>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. At the Japanese Village Plaza, one of the following or similar mitigations shall be used: a resilient mat or limiting train speeds to 5 MPH.</p> <p>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. Such as system shall include a) resilient mat under the tracks and b) a resilient grommet or bushing under the heads of any track fasteners (assuming some kind of anchor or bolt system). The hardness of the resilient mat shall be in the 40 to 50 durometer range, and be about one to two inches thick, depending on how heavily loaded the cars would be. The contractor shall select the mat thickness so that the rail does not bottom out during a car pass-by.</p> <p>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. At the Japanese Village Plaza, one of the following or a similar method shall be used: a resilient mat, slower train speeds, or a conveyor system.</p> <p>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.</p>	Monitor construction activities for compliance.	Metro	Construction	MOA	SHPO/Metro	
		Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Documents	Metro	
		Monitor construction activities for compliance.	Metro	Construction			
		Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Documents	Metro	
		Monitor construction activities for compliance.	Metro	Construction			
Monitor construction activities for compliance.		Metro	Construction	Design Documents	Metro		

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
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.	Monitor construction activities for compliance.	Metro	Construction	Design Documents	Metro
	NV-26: Metro shall provide advanced notification and coordination by doing the following: <ul style="list-style-type: none"> Metro shall 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. Metro shall monitor GBN and GBV levels in the 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. 	Monitor construction activities for compliance.	Metro	Construction	Community Outreach Plan	Metro Community Relations
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.	Verify that preliminary engineering studies have been completed.	Metro	Preliminary Engineering	Design Documents	Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
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.	Verify that Final Design studies have been completed.	Metro	Preliminary Engineering	Engineering Study	Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design	Specifications	Metro
	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.	Verify that Final Design studies have been completed.	Metro	Preliminary Engineering	Engineering Study	Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design	Contract Documents	Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Documents Landscape Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Landscape Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	EB-3: The construction contractor shall replant or replace disturbed or removed trees as soon as practicable.	Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Landscape Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	EB-5: If it is not feasible to avoid tree removal and trimming related to construction during the breeding bird season from February 1 to August 31, breeding bird surveys shall be conducted as recommended by the California Department of Fish and Game. 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 prepare survey reports documenting the presence or absence of active nests of any protected native bird (as identified in the Migratory Bird Treaty Act) in the habitat to be removed and any other such habitat within 300 feet of the construction work area (within 500 feet for raptors).	Verify qualifications of biologist.	Metro	Pre-Construction	Landscape Plan Bird Survey	Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Bird Survey	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
		Verify concurrence of qualified biologist.	Metro	Construction		Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
Some of the trees that need to be removed may be native trees.	EB-7: After detailed engineering and design plans are prepared, a tree survey shall be conducted by a qualified arborist to identify native trees that could be affected by project construction. If construction of the project requires removal of any of the native trees located along the proposed alignment and stations for the approved project, the following mitigation measure shall be applied: 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. If construction would require pruning of any protected native tree, the pruning shall be performed in a manner that does not cause permanent damage or adversely affect the health of the trees.	Verify that permit has been obtained.	Metro	Final Design	Tree Survey	Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
See also E-J-30.						
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: While engineering designs are being finalized, but 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.	Verify that design criteria have been established.	Metro	Final Design	Structures Survey	Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Verify that additional geotechnical studies have been completed.	Metro	Final Design		Metro
	GT-1 (Continued): 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. For buildings, these threshold values will be based on the relationship of building damage to angular distortion and horizontal strain consistent with Boscardin and Cording (1989) and qualitative factors including but not limited to the type of structure and its existing condition. For utility mains, these threshold values shall be those established by the utility owners. Additional data and survey information shall be gathered during final design for each building and utility main to enable assessment of the tolerance of potentially affected structures and utilities. Additional engineering and design level geotechnical studies shall be performed to define the nature of the soils and to refine the means of achieving each performance specification.	Monitor construction activities for compliance.	Metro	Construction	Structures Survey	Metro
		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. The criteria for implementing grouting or ground improvement measures shall be based on the analysis described in mitigation measure GT-1.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Structures Survey
	Monitor construction activities for compliance.		Metro	Construction		Metro
	GT-3: The tunnel alignment shall be grouted in advance to provide adequate soil support and minimize settlement as geotechnical conditions require.	Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing	
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Structures Survey	Metro	
		Verify that adequate leveling surveys have been completed.	Metro	Pre-Construction		Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	GT-5: Tunnel construction monitoring requirements shall be described and defined in design contract documents. Additional geotechnical provisions shall be included to the extent feasible, including use of an Earth Pressure Balance or Slurry TBM for tunnel construction to minimize ground loss. During tunnel construction, the soils encountered shall be monitored relative to anticipated soil conditions as described in a Geotechnical Baseline Report.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Contract	Metro	
		Verify that an adequate Geotechnical Baseline Report has been prepared.	Metro	Final Design		Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	See also CR/B-2.						
	Contaminated soil or groundwater may be encountered during construction.	GT-6: Once a specific alignment is selected, and detailed engineering plans are being prepared a Contaminated Soil/Groundwater Management Plan shall be implemented during construction to establish procedures to follow if contamination is encountered in order to minimize associated risks to assure that applicable statutory and regulatory standards and requirements are satisfied. The plan shall be prepared during the final design phase of the project, and the construction contractor shall be held to the level of performance specified in the plan. The plan shall include procedures for the implementation of mitigation measures GT-7 through GT-11.	Verify that an adequate Contaminated Soil/Groundwater Management Plan has been prepared.	Metro	Final Design	Contaminated Soil / Ground Water Plan	DTSC/Metro
			Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
Monitor construction activities for compliance.			Metro	Construction		Metro	
GT-7: Appropriate regulatory agencies, identified in the Contaminated Soil/Groundwater Management Plan, shall be contacted if contaminated soil or groundwater is encountered.		Check construction specifications for compliance.	Metro	Final Design		Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
GT-8: Sampling and analysis of soil and/or groundwater known or suspected to be impacted by hazardous materials shall be conducted in accordance with the procedures detailed in the Contaminated Soil/Groundwater Management Plan.		Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
	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 as explained with specificity in the Contaminated Soil/Groundwater Management Plan.	Verify that consultation with appropriate regulatory agencies has occurred.	Metro, regulatory agencies	Final Design	Contaminated Soil / Ground Water Plan	DTSC/Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	GT-10: Dust control measures such as soil wetting, wind screens, etc. shall be implemented for contaminated soil.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Dust Control Plan	AQMD/Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	GT-11: Groundwater collection, treatment, and discharge shall be performed according to applicable standards and procedures (refer to Section 4.10.1).	Check design contract documents and construction specifications for compliance and consistency with Contaminated Soil/Groundwater Management Plan.	Metro	Final Design	RWQCB/Regulations	RWQCB/Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	GT-12: Worker Health and Safety Plan shall be implemented prior to the start of construction activities. All workers shall be required to review the plan, receive training if necessary, and sign the plan prior to starting work. The plan shall identify properties of concern, the nature and extent of contaminants that could be encountered during excavation activities, appropriate health and environmental protection procedures and equipment, emergency response procedures including the most direct route to a hospital, contact information for the Site Safety Officer.	Verify that an adequate Contaminated Soil/Groundwater Management Plan has been prepared.	Metro	Final Design	Health and Safety Plan	Contractor/Metro
		Verify that training has occurred and workers have signed the plan.	Metro	Pre-Construction		Contractor/Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Hazardous Waste Soils/ Ground Water Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
Subsurface gases associated with oilfields in the vicinity of the project area may be encountered during construction.	GT-14: Testing for subsurface gases particularly methane shall be conducted before and during construction along all portions of the underground alignment.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Hazardous Waste Soils/ Ground Water Plan	Metro
		Verify that adequate testing has occurred.	Metro	Final Design		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Hazardous Waste Soils/ Ground Water Plan	City / Metro
		Monitor construction activities for compliance.	Metro	Construction	Methane Mitigation	City / Metro
	GT-16: Specialized excavation methods shall be implemented to protect workers and the public from exposure to toxic gases and prevent explosions. For instance, pressurized closed-face TBMs and other equipment outfitted with ventilation systems would be used, as needed, to excavate the tunnels associated with the project, including Slurry Face Machines (SFMs) and Earth Pressure Balance Machines (EPBMs). During tunneling, the volume of gas (or water containing dissolved gas) released from the soil is confined to the excavated material chamber of the TBM because of the closed-face and gas-tight lining that is installed immediately behind the TBM. The project shall also be consistent with the City's Methane Mitigation Standards, which include provisions to protect workers and the public.	Check design contract documents and construction specifications for compliance.	Metro	Final Design		City / Metro
Monitor construction activities for compliance.		Metro	Construction		City / Metro	
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. If necessary, destructive sampling shall be used. 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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Lead and Asbestos Surveys	Metro
		Verify that adequate surveys have been completed.	Metro	Final Design		Metro
		Monitor construction activities for compliance and verify that any necessary abatement has been completed before demolition begins.	Metro	Construction		Metro
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; spill control and countermeasures, including employee spill prevention/response training; vehicle fueling procedures to avoid overtopping construction equipment fuel tanks; procedures for routine maintenance of construction equipment, including the proper containment and removal of grease and oils; procedures for the proper disposal of discarded containers of fuels and other chemicals.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Hazardous Waste Management Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing	
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. These measures may include the use of gas-impermeable liners and venting to reduce or eliminate gas intrusion into stations and along the length of the underground segments.	Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
		Verify that gas concentration and pressure testing is performed according to specified frequency.	Metro	Operation		Metro	
Potential exists for hazardous materials to be encountered during excavation and construction activities.	GT-20: Prior to the onset of demolition and construction, 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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Environmental Site Assessment Report	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
Potential exists for hazardous building materials to be encountered during demolitions.	GT-21: Prior to the onset of demolition and construction, 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).	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Hazardous Material / Lead and Asbestos Removal Plans	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
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.	Verify that an adequate erosion control plan has been prepared.	Metro	Final Design		Metro	
		Check design contract documents and construction specifications for compliance.	Metro	Final Design	SWPPP/SUSMPS	Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	WR-2: Natural drainage, detention ponds, sediment ponds, or infiltration pits shall be used to allow runoff to collect and reduce or prevent erosion.		Check design contract documents and construction specifications for compliance.	Metro	Final Design	SWPPP/SUSMPS	City / Metro
			Monitor construction activities for compliance.	Metro	Construction		Metro
	WR-3: Barriers shall be used to direct and slow the rate of runoff and to filter out large-sized sediments.		Check design contract documents and construction specifications for compliance.	Metro	Final Design	SWPPP	Metro
			Monitor construction activities for compliance.	Metro	Construction		Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
	WR-4: Down-drains or chutes shall be used to carry runoff from the top of a slope to the bottom.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	SWPPP	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	WR-5: Use of water for irrigation and dust control shall be controlled so as to avoid off-site runoff.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	SWPPP	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	SUSMPS	City / Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	WR-7: Hazardous materials shall be stored properly and in accordance with applicable law to prevent contact with precipitation and runoff.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Hazardous Material Management Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
		Monitor operations and maintenance for compliance.	Metro	Operation		Metro
	WR-8: Prior to the onset of demolition or construction an effective monitoring and cleanup program for spills and leaks of hazardous materials shall be developed and maintained.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Hazardous Material Management Plan	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
		Monitor operations and maintenance for compliance.	Metro	Operation		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Hazardous Material Management Plan + SWPPP	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
	WR-10: Periodic and consistent removal of landscape and construction debris shall be performed.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Contract Specifications	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
		Monitor operations and maintenance for compliance.	Metro	Operation		Metro
	WR-11: Any significant chemical residue on the project sites shall be removed through appropriate methods.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Hazardous Material Management Plan + SWPPP	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
		Monitor operations and maintenance for compliance.	Metro	Operation		Metro
	WR-12: Non-toxic alternatives for any necessary applications of herbicides or fertilizers shall be used.	Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
		Monitor operations and maintenance for compliance.	Metro	Operation		Metro
	WR-13: Detention basins shall be installed to remove suspended solids by settlement.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	SUSMPS	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	WR-14: Water quality or runoff shall be periodically monitored before discharge from project sites and into the storm drainage system.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	SWPPP	Metro
Monitor construction activities for compliance.		Metro	Construction		Metro	

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
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 HABS/HAER submissions. The appropriate level of recordation shall be established in consultation with the California SHPO and formalized as a part of a Memorandum of Agreement as described in Section 4.12.1.4.5 of the Draft EIS/EIR and included in Appendix 3 of this Final EIS/EIR. The HABS/HAER documents shall be offered to the Library of Congress and the documents shall be prepared so that the original archival-quality documentation would be suitable for inclusion in the Library of Congress if the National Park Service accepts these materials. Archival copies of the documentation shall also be offered for donation to local repositories, including the Los Angeles Central Library and the Los Angeles Conservancy.	Verify that adequate HABS/HAER documents have been prepared.	Metro, SHPO	Preliminary Engineering	CRMMP / Historic Properties Inventory	SHPO / Metro
		Verify level of recordation established by SHPO and MOA has been met.	Metro, SHPO	Preliminary Engineering	CRMMP / SHPO MOA	SHPO / Metro
	CR/B-2: During preliminary engineering and final design of the project, a more detailed 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 analysis shall assist in the selection and development of appropriate support mechanisms for cut and cover construction areas and any sequential excavation method (mining) construction areas, in accordance with industry standards and the Building Code. 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.	Verify that an adequate survey of historic properties and/or historical resources has been performed.	Metro	Preliminary Engineering	CRMMP / Historic Properties Inventory	SHPO / Metro
		Verify that adequate subsurface investigations have occurred.	Metro	Preliminary Engineering		Metro
		Verify qualifications of architectural historian or historical architect, and ensure that review of design contract documents occurs prior to implementation of mitigation measures.	Metro	Final Design		Metro
	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.	Verify qualifications of architectural historian or historical architect, and ensure that review of protection measures has occurred.	Metro	Final Design	CRMMP	SHPO / Metro
		Verify that post-construction survey has occurred and no adverse effects or significant impacts would occur.	Metro	Post-Construction		Metro
	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. The agreement includes stipulations that outline the specific requirements for consultation and decision-making between the lead federal agency and consulting parties, specify the level of HABS/HAER recordation, and outline specific requirements for pre- and post-construction surveys, geotechnical investigations, building protection measures, and TBM specifications. See Appendix 3 (MOA) of this Final EIS/EIR for specific requirements.	Confirm provisions of the MOA.	Metro, FTA, SHPO	Preliminary Engineering	CRMMP/ MOA	Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
	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. Metro shall explore keeping portions of the building intact for use in the 1st/Central Avenue station. Metro shall also offer to provide an exhibit commemorating the building at the JANM, the 1st/Central Avenue station site, or other suitable location. An individual HABS/HAER submission shall be developed.	Verify that the offer to sell is extended for one year.	Metro	Pre-Construction	Real Estate / Construction Specifications	Metro
		Verify that HABS/HAER submission is completed.	Metro	Pre-Construction		Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Monitor construction activities for compliance.	Metro	Construction, Post-Construction		Metro
See also GT-1 through GT-5.						
Significant GBN impacts could occur during construction and operations at Walt Disney Concert Hall.	See NV-18 through NV-24 and NV-27.					
Built environment mitigation measures included in the MOA between the SHPO, Metro, and FTA shall be implemented as part of this MMRP. The full text of the MOA is attached to this MMRP.	See attached MOA.					
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.	Verify qualifications of lead archaeologist.	Metro	Pre-Construction	CRMMP	Metro
		Verify that training occurs.	Metro	Pre-Construction		Metro
	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.	Verify qualifications of archaeological monitor.	Metro	Pre-Construction	CRMMP	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
	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.	Identify a qualified Native American cultural resources consultant.	Metro, Gabrielino/Tongva San Gabriel Band of Mission Indians, and Tongva Ancestral Territorial Tribal Nation	Pre-Construction	CRMMP	Metro
		Monitor construction activities for compliance.	Metro	Pre-Construction		Metro
	CR/A-4: Work shall stop if human remains are found, and the Los Angeles County Coroner shall be notified immediately. If the remains are determined to be prehistoric, the Coroner shall notify the Native American Heritage Commission (NAHC), which will arrange for a Most Likely Descendent (MLD) to inspect the site within 48 hours and issue recommendations for scientific removal and nondestructive analysis.	Monitor construction activities for compliance.	Metro	Construction	CRMMP	Metro
		Identify MLD and ensure timely inspection occurs.	NAHC	Construction		Metro
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.	Verify that a letter or report has been prepared as appropriate.	Metro	Post-Construction	CRMMP	Metro	
Disturbance of the Los Angeles Zanja System (CA-LAN-887H and other unnumbered zanjás), 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 zanjás within the area of potential effect. Where these alignments are expected to be affected by the proposed project, particularly where cut and cover or other near-surface construction techniques are planned in the vicinity of mapped zanja segments, full-time archaeological monitoring would be instituted to ensure documentation consistent with Section 4.12.2.4.2 of the Draft EIS/EIR.	Verify that the identification and documentation program has been prepared.	Metro	Final Design	CRMMP	Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
Archaeological mitigation measures included in the MOA between the SHPO, Metro, and FTA shall be implemented as part of this MMRP. The full text of the MOA is attached to this MMRP.	See attached MOA.	Verify implementation of MOA mitigation measures.	Metro	Final Design, Construction	CRMMP	Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
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. The monitor shall have authority to temporarily divert grading away from exposed fossils to professionally and efficiently recover the fossil specimens and collect associated data.	Verify qualifications of paleontologist.	Metro	Final Design		Metro
		Verify that an adequate Paleontological Monitoring and Mitigation Plan has been prepared.	Metro	Final Design	CRMMP	Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro, Paleontological monitor	Construction		Metro
	CR/P-2: All project-related ground disturbances that could potentially affect the Puente Formation, Fernando Formation, and Quaternary older alluvium and terrace deposits would be monitored by a qualified paleontological monitor on a full-time basis (where feasible) because these geologic sediments are determined to have a high paleontological sensitivity. 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. Construction monitoring during any tunneling activity is not warranted as any potential fossil specimens present within sensitive geologic units would be crushed and destroyed by the nature of tunneling methodology.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	CRMMP	Metro
		Monitor construction activities for compliance.	Metro	Construction	CRMMP	Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	CRMMP	Metro
		Monitor construction activities for compliance.	Metro, Paleontological monitor	Construction		Metro
	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. Testing for microfossils shall consist of screen-washing samples (approximately 30 pounds) to determine if significant fossils are present. Productive tests shall result in screen-washing of additional bulk matrix up to a maximum of 2,000 pounds per locality to ensure recovery of a scientifically significant sample.	Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro, Paleontological monitor	Construction		Metro
	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 repositied in a designated paleontological curation facility such as the Natural History Museum of Los Angeles County.	Verify that a suitable repository has been identified and recovered fossils are repositied appropriately.	Metro	Construction		Metro
	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.	Verify that an adequate report has been filed.	Metro	Post-Construction		Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Documents	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Traffic Control Plans	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
See also AQ-15, CN-1, CN-3, CN-5, CN-6, TR-4, TR-5, DR-6, and EJ-1.						
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.	Oversee joint working group between Metro and affected business owners. Work individually with each business.	Metro, Joint working group	Preliminary Engineering, Final Design	Metro Community Outreach Plan	Metro
		Verify that all feasible, appropriate measures identified by the joint effort are implemented.	Metro, Joint working group	Construction		Metro
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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Verify that system is maintained in working order.	Metro	Operation		Metro
	SS-2: A minimum of two fire emergency routes shall be provided from each station as required by applicable laws, regulations, and standards.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Fire Life Safety Criteria	Metro
		Maintain exits in working order.	Metro	Operation		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Fire Life Safety Criteria	Metro
		Verify that system is maintained in working order.	Metro	Operation		Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
	SS-4: Communication systems between adjoining fire agencies shall be provided as required by applicable laws, regulations, and standards.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Fire Life Safety Criteria	Metro
		Verify that system is maintained in working order.	Metro	Operation		Metro
	SS-5: A methane detection system shall be provided in each station as required by applicable laws, regulations, and standards.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Fire Life Safety Criteria	Metro
		Verify that system is maintained in working order.	Metro	Operation		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Specifications	Metro
	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. A combination of the following measures shall be implemented as indicated by the Threat and Vulnerability Assessment: closed-circuit television system, emergency push-button call system for patrons, intrusion detection system, dedicated security patrol protocols and procedures, and crime prevention through environmental design.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Fire Life Safety Criteria	Metro
	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. The following criteria shall be used when designing project sidewalks: 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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Specifications	Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Specifications	Metro
	SS-10: Adequate pedestrian queuing and refuge areas shall be provided at the proposed stations to facilitate pedestrian mobility. Adequately wide crosswalks shall be provided in the areas immediately around the proposed stations.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Specifications	Metro

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
Safety and security concerns should be further minimized during construction through BMPs.	SS-11: All proposed stations shall be equipped with monitoring equipment, which shall primarily consist of video surveillance to monitor strategic areas of the stations and walkways and/or be monitored by Metro security personnel on a regular basis.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design Specifications	Metro
		Verify that system is maintained in working order.	Metro	Operation		
	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. Metro shall coordinate and consult with the Los Angeles Fire Department, Los Angeles Police Department, and the Los Angeles County Sheriff Department as appropriate to develop safety and security plans for the proposed alignment and station areas.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Fire Life Safety Criteria	Metro
		Verify that system is maintained in working order.	Metro	Operation		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Verify that features are maintained in working order.	Metro	Operation		Metro
	SS-14: Fire separations shall be provided and maintained in public occupancy areas as required by regulation.	Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Verify that features are maintained in working order.	Metro	Operation		Metro
	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. Metro shall keep sidewalks, entrances to buildings, lobbies, corridors, aisles, doors, or exits that remain in use by the public clear of obstructions. Metro shall post appropriate warnings, signs, and instructional safety signs. These requirements shall be included in the construction specifications.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Construction Specifications	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
		SS-16: An education safety and outreach campaign shall be implemented during construction to address public safety awareness in the vicinity of the project. The campaign would target the diverse community in the project area to educate them on proper system use and benefits of LRT ridership. See also CN-1 through CN-3, TR-4, and DR-7.	Monitor construction activities for compliance.	Metro	Construction	

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
Environmental Justice						
Temporary bus re-routing or stop closures may be needed in Little Tokyo during construction.	See TR-12 and TR-13.					
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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Traffic Control Plans	City / Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Traffic Control Plans	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	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. The number of spaces provided would range from 200 standard spaces to approximately 300 spaces when supplemental parking services are operating. Any parking services shall be operated by a licensed/bonded parking company and shall be selected through a competitive request for proposal (RFP) process. Cost to park shall be comparable with current cost to park. The appropriate parking service provided will be determined with the participation of the Regional Connector Community Leadership Council (RCCLC) and/or other subcommittee. Through the RCCLC, LTCC, and other community groups it shall be assessed the feasibility of establishing a shuttle service connecting local parking lots and Little Tokyo/Arts District with destinations in downtown. This shall offset the temporary loss of parking available to patrons of Little Tokyo businesses, and other visitors, during construction.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Lease	Metro/Real Estate
		Monitor construction activities for compliance.	Metro, Parking Contractor	Construction		Metro
	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.	Verify implementation of noticing procedures.	Metro	Construction	Community Outreach Plan	Metro Community Relations
	EJ-5: Metro shall support efforts to curb non-legitimate use of disabled parking spaces.	Verify agency support.	Metro	Construction, Operation		Metro
	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.	Verify that agency and community coordination has occurred.	Metro, LADOT, Little Tokyo stakeholders	Final Design		LADOT / Metro
		Verify implementation and maintenance of system.	Metro	Construction		LADOT / Metro
	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.	Verify that agency coordination has occurred.	Metro	Final Design		LADOT / Metro
		Verify parking lot adherence to extended hours.	Metro	Construction		LADOT / Metro
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.	Verify that agency coordination has occurred.	Metro	Final Design		LADOT / Metro	

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing	
	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.	Verify that agency coordination has occurred.	Metro	Final Design		LADOT / Metro	
		Monitor implementation of any financial incentive parking programs.	Metro	Construction		Metro	
	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.	Verify that community and City of Los Angeles coordination has occurred.	Metro, LADOT, Little Tokyo stakeholders	Final Design	Community Outreach Plan	Metro	
		Check design contract documents for compliance.	Metro	Final Design		Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	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. Metro shall work with Little Tokyo and surrounding communities to educate visitors and residents where parking is available during construction. Metro shall monitor parking, and the parking analysis shall be conducted on an annual basis throughout the duration of construction. This effort shall include new signage and other wayfinding features as appropriate.	Verify that an independent parking needs assessment has been performed.	Metro	Final Design	Parking Plan	Metro	
		If demand exceeds supply, check design contract documents for permanent replacement parking provisions.	Metro	Final Design		Metro	
		If demand exceeds supply, verify that replacement parking has been opened.	Metro	Pre-Construction		Metro	
		If demand exceeds supply, verify that replacement parking is maintained.	Metro	Construction		Metro	
		If supply exceeds demand, verify that meetings with the Little Tokyo community and surrounding communities have occurred.	Metro	Final Design		Metro	
		If supply exceeds demand, verify that signage and any other appropriate way finding features have been placed and are maintained.	Metro	Pre-Construction, Construction		Metro	
	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.	Verify that signage and advertisements have been placed and are maintained.	Metro	Construction	Traffic Control Plans	Metro
		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.					

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
Disproportionate reductions of access to community facilities and businesses could occur in Little Tokyo during construction.	See TR-1 and EJ-1.					
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.	Verify that community input has been incorporated into redevelopment proposals.	Metro, Little Tokyo stakeholders	Construction, Post-Construction		Metro
	See also DR-8 and EJ-15.					
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. This could include development at the 1st/Central Avenue station site. Depending on the type of new development, it would potentially create at least as many jobs as had been displaced.	Verify that opportunities for development of the 1st/Central Avenue station site and the Mangrove property are being actively sought.	Metro	Post-Construction		Metro / Joint Development
	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.	Verify that input from CRA/LA and the Little Tokyo community has been received and incorporated into potential joint development opportunities.	Metro, CRA/LA, Little Tokyo stakeholders	Construction, Post-Construction		Metro / Joint Development
	See also EJ-13.					
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.					
Disproportionate GBV impacts could occur in Little Tokyo during construction.	See NV-25 and NV-26.					

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing	
Disproportionate 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. Metro shall provide free technical support assistance (i.e., website development) to local businesses on strategies for business development that can minimize any adverse impacts of construction. This can include, but not be limited to, assistance with accounting or advertising. Metro shall 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 committee shall work to develop an implementation plan for these services and determine their content. The committee shall also be kept apprised of construction progress and upcoming transit, parking, or access changes. Metro shall provide maps showing existing and planned access during all phases of construction. Metro shall also provide directional signage to temporary parking facilities. An MOU agreement shall be developed to implement and compensate the process. The MOU will include but not be limited to provide the following: marketing and merchant support, technical and business assistance, Business Interruption Program to provide an expeditious standard for claims resolution and reimbursement, marketing services and branding campaign, merchant discounts and incentives/rewards program, signage (for business and access), and special event planning (including support). These activities shall be conducted in a manner consistent with the similar program developed for the Crenshaw Transit Corridor Project.	Verify that community input has been incorporated into implementation plan.	Metro, Little Tokyo stakeholders	Final Design	Community Outreach Plan	Metro / Community Relations	
		Verify implementation of specified services and ongoing involvement of the RCCLC.	Metro	Construction		Metro / Community Relations	
	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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro / Community Relations	
		Verify that community has provided a schedule of events.	Metro, Little Tokyo stakeholders	Final Design, Construction		Metro	
		Monitor construction activities for compliance.	Metro	Construction		Metro	
	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).	Verify that community input has been incorporated into implementation plan.	Metro, Little Tokyo stakeholders	Final Design		Metro / Community Relations	
		Verify implementation of specified services.	Metro	Construction		Metro	
	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.	Verify that community input has been incorporated into implementation plan.	Metro, Little Tokyo stakeholders	Final Design		Metro	
		Verify implementation of specified services.	Metro	Construction		Metro	

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Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
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. Metro shall also place these advertisements on construction site walls if the community desires.	Verify implementation of advertisement services.	Metro	Construction		Metro
	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.	Verify that community input into haul routes has occurred.	Metro	Final Design	Haul Routes	Metro
		Check design contract documents and construction specifications for compliance.	Metro	Final Design		Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
See also EJ-1, EJ-2 through EJ-12, EJ-16, EJ-17, CN-3, and CN-7.						
Construction activities would be disproportionately centered in Little Tokyo, as would the 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.	Verify implementation and maintenance of signage and announcements.	Metro	Construction, Operation	Safety and Security Plans	Metro / Community Outreach
	EJ-23: Metro shall publish materials for the project's safety education campaign in Japanese, Korean, and Spanish.	Verify publication of materials.	Metro	Construction, Operation		Metro / Community Outreach
	EJ-24: Metro shall involve the Little Tokyo Public Safety Association in the development of safety and security plans.	Verify that input from Little Tokyo Public Safety Association has been incorporated.	Metro, Little Tokyo Public Safety Association	Final Design, Construction	Safety and Security Plans	Metro
		Monitor construction and operation for compliance.	Metro	Construction, Operation		Metro
	EJ-25: Metro shall monitor and ensure implementation of committed mitigation measures designed to address safety and security concerns.	Verify implementation and maintenance of measures.	Metro	Construction		Metro
See also EJ-18.						
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.	Check design contract documents and construction specifications for compliance.	Metro	Final Design	Design	Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
Construction activities would be disproportionately centered in Little Tokyo, as would the associated air quality impacts.	EJ-27: Metro shall implement receptor-based mitigation where needed to reduce construction-related pollutant levels below significance thresholds. This could include installation of high efficiency particulate air filters on HVAC equipment at downwind receptors during construction activities.	Verify implementation of receptor-based mitigation measures.	Metro	Pre-Construction, Construction		Metro
		Monitor construction activities for compliance.	Metro	Construction		Metro
	See also AQ-1 through AQ-5, AQ-7, AQ-8, AQ-10, EJ-17, and EJ-26.					

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
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.	Verify implementation of program.	Metro	Final Design, Construction		Metro
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.	Check preliminary engineering documents for compliance.	Metro	Preliminary Engineering	Design	Metro
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.	Monitor trees. Verify incorporation of Little Tokyo Community Council input into landscape plans.	Metro Metro	Operation Preliminary Engineering, Final Design	Landscape Plan Landscape Plan	Metro ECSD Metro ECSD
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.	Verify provision of information in Japanese and Korean.	Metro	Ongoing		Metro Community Relations
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.	Monitor construction activities for compliance.	Metro	Construction	Contract Documents	Metro
	EJ-34: Metro shall prepare a procedure for rapid shut-down of construction should maximum acceptable vibration thresholds be reached.	Check design contract documents and construction specifications for compliance. Monitor construction activities for compliance.	Metro Metro	Final Design Construction		Metro Metro
	EJ-35: Metro shall prepare a cost-benefit analysis of using one versus two TBMs, and shall select the least impactful cost-effective solution.	Check preliminary engineering documents for compliance.	Metro	Preliminary Engineering		Metro
Construction Impacts						
Mitigation measures for construction-related impacts are discussed in the preceding sections.						

Mitigation Monitoring and Reporting Program

Impact	Mitigation Measure(s)	Monitoring Action(s)	Responsible Party	Project Phase	Deliverable	Enforcement Agency/Timing
Per Board Action (April 26, 2012)						
74.A.1	Create an enhanced pedestrian walkway along the east side of Flower Street between 4th and 7th Streets.					
74.A.2	Relocate the Little Tokyo/Arts District underground station to minimize property required and eliminate the cut-and-cover segment on 2nd Street in Little Tokyo originally required for construction.					
74.A.3	Launch TBM from northeast corner of 1st and Alameda (Mangrove) instead of 2nd Street.					
74.A.4	Tunnel to Flower and 4th Streets in the Financial District to further reduce cut/cover in the area.					
74.A.5	Maintain access from Flower Street between 5th and 6th Streets to the West Lawn Garage.					
74.A.6	Any areas adjacent to the Maguire Gardens and Central Library impacted by construction will be returned to their original or improved state, with oversight by the Library Gardens Committee.					
74.A.7	The width and length of any construction worksite on Flower Street south of 4th Street will be minimized to the greatest extent feasible.					
74.A.8	South of 4th Street, construction decking shall be no higher than 10", if feasible, above the existing grade, and flush with existing curb on the east and west side of Flower Street with a maximum cross gradient of 3%.					
74.A.9	No construction worker parking on Flower and adjacent streets during construction. Consider obtaining temporary parking in the West Lawn Garage for construction workers.					
74.A.10	Enhancements to the pedestrian walkway along the east side of Flower Street between 4th and 7th Streets shall not permanently eliminate a southbound traffic lane on Flower Street.					
74.A.11	Preserve the opportunity to install a future station north of 5th and Flower Streets.					
74.A.12	Restore Flower Street travel lanes after construction to the existing six lane condition from 4th to 6th Streets and the existing four lane condition from 6th to 7th Streets.					
74.A.13	Along Flower Street, accelerate the construction schedule to the greatest extent feasible, consistent with budgetary and other constraints.					
74.A.14	Minimize surface disruptions along Flower Street from truck trips, utility relocation, decking installation and removal, street restoration, or TBM removal, when feasible.					
74.A.15	Detailed surveys of Flower Street properties shall be performed prior to and at the end of construction.					
74.A.16	Shoring design for cut and cover construction along Flower Street will account for adjacent buildings.					
74.A.17	Noise and vibration levels will be monitored at Flower Street properties.					
74.A.18	If construction and/or operational ground-borne noise limits or ground-borne vibration limits are exceeded according to CEQA's significance thresholds, Metro will take action to reduce noise and vibration to less than significant levels at the property lines of sensitive uses.					
74.A.19	No pile drivers will be used along Flower Street during construction. If necessary, piles will be drilled or vibrated, but not driven.					
74.A.20	With property owners' consent, install and monitor deformation monitoring systems along Flower Street during construction.					
74.A.21	Reduced noise mufflers, air-inlet silencers, shrouds or sound walls will be used for generators, compressors, fans, exhaust systems and other inherently noisy construction equipment.					
74.A.22	Provide assistance for Flower Street businesses to maintain visibility during construction, including signage and advertisements.					
74.A.23	Ensure there is daily cleaning/washing during non-peak hours of Financial District streets affected by excavation and hauling.					
74.A.24	Provide protective measures, such as pipe and conduit support systems, vibration and settlement monitoring, trench sheeting, and shoring to avoid potential damage to utilities during construction.					
74.A.25	Maintain access to utilities for technicians, at all times during construction.					
74.A.26	Assign a full-time ombudsperson who is authorized to resolve complaints relative to the Project.					
74.C.1	Extend the use of a tunnel boring machine (TBM) under Flower Street to include the area between 4th and 5th Streets up to the intersection of 5th Street and Flower Street.					
74.C.2	On Flower Street between 5th and 6th Streets, where cut and cover is necessary, maintain four travel lanes between 6 AM and 8PM during weekdays during the "steady state". The steady state is defined as the period between the completion of the decking installation to the commencement of removal of decking.					
74.C.3	On Flower Street between 5th and 6th Streets, maintain no less than two travel lanes between 8pm and 6am, except for those times when further street restrictions are required to facilitate decking installation and removal.					
74.C.4	Require that any public spaces, gardens, plaza, walkways, sidewalks, trees, street furniture, landscaping, hardscaping or pedestrian areas, including but not limited to the Library Gardens and the Citigroup Plaza, which are impacted, damaged or altered as a result of construction activity and/or staging, be reconstructed, replanted, repaired, and replaced like-for-like at the end of construction activity in that vicinity.					
74.C.5	Conduct various value engineering and cost methods determine if the aforementioned mitigation methods can be incorporated without an increase in the Life of Project 9 (LOP) Budget and report back in 60 days.					
74.C.6	Amend the LPA to include the design features if it can be completed within the current LOP budget. If staff determines that inclusion of these design features will exceed the LOP budget, the design features shall be included as proposal options during the construction procurement to allow proposers a process to include each feature and determine if it can be accomplished within the LOP budget.					
74.D.5	The designation of a Construction Relations Manager to serve as the point person for all community concerns regarding the project prior to construction. This person will be responsible for the entire project area and funded from the project budget.					
74.D.6	Reports will be made to the Board in June and August 2012 with the implementation strategy for the above activities, with quarterly reports to the Board thereafter, and throughout the duration of the construction period.					